

## PASSERINE BIRDS

- Absil, P. C., Balthazart, J., Ball, G. F., Pinxten, R. & Eens, M. (2001). Seasonal plasticity of the catecholaminergic innervation of song nuclei in blue tits. *Soc. Neurosci. Abstr.*, **27**, 1708.
- Adhikerana, A. S. & Slater, P. J. B. (1993). Singing interactions in coal tits, *Parus ater*: an experimental approach. *Anim. Behav.*, **46**, 1205-1211.
- Adhikerana, A. S. (1992). *The singing Behaviour of coal tits (Parus ater)*. PhD Thesis. University of St Andrews, UK.
- Adkins-Regan, E. (1999). Testosterone increases singing and aggression but not male-typical sexual partner preference in early estrogen treated female zebra finches. *Horm. Behav.*, **35**, 63-70.
- Adkins-Regan, E., Mansukhani, V., Seiwert, C. & Thompson, R. (1994). Sexual differentiation of brain and behavior in the zebra finch: Critical periods for effects of early estrogen treatment. *J. Neurobiol.*, **25**, 865-877.
- Adret-Hausberger, M., Guettinger, H. R. & Merkel, F. W. (1990). Individual life history and song repertoire changes in a colony of starlings (*Sturnus vulgaris*). *Ethology*, **84**, 265-280.
- Adret-Hausberger, M. (1986). Temporal dynamics of dialects in the whistled songs of starlings. *Ethology*, **71**, 140-152.
- Adret, P. (1993). Operant conditioning, song learning, and imprinting to taped song in the zebra finch. *Anim. Behav.*, **46**, 149-159.
- Adret, P. & Margoliash, D. (2000). Early development of auditory selectivity in the song system nucleus robustus archistriatalis. *Soc. Neurosci. Abstr.*, **26**.
- Adret-Hausberger, M. (1988). Species specificity and dialects in starlings' whistles. *Acta XIX Congressus Internationalis Ornithologici. National Museum of National Sciences. Ottawa*, 1585-1597.
- Adret-Hausberger, M. (1988). Song differentiation and population structure: the example of the whistled song in an introduced population of European starlings *Sturnus vulgaris* in Australia. *Ethology*, **79**, 104-115.
- Adret, P. (1993). Vocal learning induced with operant techniques: an overview. *Neth. J. Zool.*, **43**, 125-142.
- Agate, R. J., Mann, S., Schanen, C., Palotie, A. & Arnold, A. P. (2001). A zebra finch gynandromorph with masculine song system and lateralized expression of sex chromosome genes. *Soc. Neurosci. Abstr.*, **27**, 368.
- Airey, D. C., Castillo-Juarez, H., Casella, G., Pollak, E. J. & DeVoogd, T. J. (2000). Variation in the volume of zebra finch song control nuclei is heritable: Developmental and evolutionary implications. *Proc. Roy. Soc. Lond. B.*, **267**, 2099-2104.
- Airey, D. C. & DeVoogd, T. J. (2000). Greater song complexity is associated with augmented song system anatomy in zebra finches. *NeuroReport*, **11**, 2339-2344.
- Airey, D. C. (2000). Erratum: Greater song complexity is associated with augmented song system anatomy in zebra finches. *NeuroReport*, **11**, x.
- Airey, D. C., Buchanan, K. L., Szekely, R., Catchpole, C. K. & DeVoogd, T. J. (2000). Song, sexual selection, and a song control nucleus (HVC) in the brains of European sedge warblers. *J. Neurobiol.*, **44**, 1-6.
- Airey, D. C., Kroodsma, D. E. & DeVoogd, T. J. (2000). Differences in the complexity of song tutoring cause differences in the amount learned and in dendritic spine density in a songbird telencephalic song control nucleus. *Neurobiol. Learn. Memory*, **73**, 274-281.
- Airey, D. C., Castillo, H. J., Pollak, E. J., Casella, G. & DeVoogd, T. J. (1999). Phenotypic and quantitative genetic description of NISSL-defined volumes of song control nuclei in zebra finches. *Soc. Neurosci. Abstr.*, **25**, 1368.
- Akutagawa, E. & Konishi, M. (2001). A monoclonal antibody specific to a song system nuclear antigen in estrildine finches. *Neuron*, **31**, 545-556.
- Akutagawa, E. & Konishi, M. (1998). Transient expression and transport of brain-derived neurotrophic factor in the male zebra finch's song system during vocal development. *Proc. Natl. Acad. Sci. USA*, **95**, 11429-11434.
- Akutagawa, E. & Konishi, M. (1994). Two separate areas of the brain differentially guide the development of a song control nucleus in the zebra finch. *Proc. Natl. Acad. Sci. USA*, **91**, 12413-12417.
- Alatalo, R. & Helle, P. (1990). Alarm calling by individual willow tits, *Parus montanus*. *Anim. Behav.*, **40**, 437-442.
- Albrecht, D. J. & Oring, L. W. (1995). Song in chipping sparrows, *Spizella passerina*: structure and function. *Anim. Behav.*, **50**, 1233-1241.
- Albrecht, D. J. (1991). *Function of song in chipping sparrows (Spizella passerina)*. M.S. Thesis, University of North Dakota.
- Aleksandrov, L. I. (1997). Delay in the development of auditory sensitivity in nestlings and reorganization of feeding behavior. *Neurosci. Behav. Physiol.*, **27**, 27-29.
- Alexandrov, L. I. & Korneeva, E. V. (1994). Species-specific acoustic signals affect the auditory development in

- altricial nestlings. *J. Ornithol.*, **135** (Sonderheft), 155.
- Allan, S. E. & Suthers, R. A. (1994). Lateralization and motor stereotypy of song production in the brown-headed cowbird. *J. Neurobiol.*, **25**, 1154-1166.
- Allenbacher, R., Boehner, J. & Hammerschmidt, K. (1995). Individually distinctive "krah" calls of the hooded crow (*Corvus corone cornix*). *J. Ornithol.*, **136**, 441-446 (German).
- Alvarez-Buylla, A. & Nottebohm, F. (1988). Migration of young neurons in adult avian brain. *Nature*, **335**, 353-354.
- Alvarez-Buylla, A. (1994). Neurogenesis and the unique anatomy of the song control nuclei. *J. Ornithol.*, **135**, 426.
- Alvarez-Buylla, A. & Mateo, A. (1992). Progressive development of the projection from HVC to area X in canaries. *Soc. Neurosci. Abstr.*, **18**, 529.
- Alvarez-Buylla, A. & Kirn, J. R. (1997). Birth, migration, incorporation, and death of vocal control neurons in adult songbirds. *J. Neurobiol.*, **33**, 585-601.
- Alvarez, F. (1996). Variation in song rate during the breeding cycle of the rufous bush chat, *Cercotrichas galactotes*. *Ardeola*, **43**, 49-56.
- Ammer, F. K. & Capp, M. S. (1999). Song versatility and social context in the bobolink. *Condor*, **101**, 686-688.
- Anderson, S. E., Dave, A. S. & Margoliash, D. (1996). Template-based automatic recognition of birdsong syllables from continuous recordings. *J. Acoust. Soc. Am.*, **100**, 1-11.
- Apel, K. M. & Weise, C. M. (1986). The hiss-display of nestling black-capped chickadees in captivity. *Wilson Bull.*, **98**, 320-321.
- Appeltants, D., Ball, G. F. & Balthazart, J. (2002). The origin of catecholaminergic inputs to the song control nucleus RA in canaries. *NeuroReport*, **13**, 649-653.
- Appeltants, D., Absil, P., Balthazart, J. & Ball, G. F. (2000). Identification of the origin of catecholaminergic inputs to HVC in canaries by retrograde tract tracing combined with tyrosine hydroxylase immunocytochemistry. *J. Chem. Neuroanat.*, **18**, 117-133.
- Appeltants, D., Ball, G. F. & Balthazart, J. (2000). Sex differences in the catecholaminergic innervation of song control nuclei in the canary. *Soc. Neurosci. Abstr.*, **26**.
- Appeltants, D., Ball, G. F. & Balthazart, J. (2001). The distribution of tyrosine hydroxylase in the canary brain: demonstration of a specific and sexually dimorphic catecholaminergic innervation of the telencephalic song control nuclei. *Cell Tissue Res.*, **304**, 237-259.
- Armstrong, T. A. (1995). Patterns of vocalization use by female red-winged blackbirds (Aves: Emberizidae, Icterinae): variation and context. *Ethology*, **100**, 331-351.
- Arnold, A. P. & Schlinger, B. A. (1993). Sexual differentiation of brain and behavior: The zebra finch is not just a flying rat. *Brain Behav. Evol.*, **42**, 231-241.
- Arnold, A. P. (1991). Developmental plasticity in neuronal circuits controlling birdsong: sexual differentiation and the neural basis of learning. *J. Neurobiol.*, **23**, 1506-1528.
- Arnold, A. P. (1992). Developmental plasticity in neural circuits controlling birdsong: sexual differentiation and the neural basis of learning. *J. Neurobiol.*, **23**, 1506-1528.
- Arnold, A. P. (1997). Experimental analysis of sexual differentiation of the zebra finch brain: An investigation of sex and regional differences. *Brain Res. Bull.*, **44**, 503-507.
- Arnold, A. P. (1997). Sexual differentiation of the zebra finch song system: positive evidence, negative evidence, nullhypotheses, and a paradigm shift. *J. Neurobiol.*, **33**, 572-584.
- Ashby, V. (1992). The alarm call of the starling. *Birding World*, **6(5)**, 234.
- Ashiya, T. & Nakagawa, M. (1993). A proposal of a recognition system for the species of birds receiving birdcalls: an application of recognition systems for environmental sound. *Ieice Trans. Fundam. Electron. Comm. Comput. Sci.*, **E76A**, 1858-1860.
- Atienza, J. C. & Illera, J. C. (1997). Tree species selection to perform singing and foraging behaviour by great and blue tits: A trade-off between food gathering and territorial behaviour? *Bird Study*, **44**, 117-119.
- Atkinson, E. C. (1997). Singing for your supper: Acoustical luring of avian prey by northern shrikes. *Condor*, **99**, 203-206.
- Atwood, J. L., Fitz, V. L. & Bamesberger, J. F. (1991). Temporal patterns of singing activity at leks of the white-bellied emerald. *Wilson Bull.*, **103**, 373-386.
- Aubin, T. & Mathevon, N. (1995). Adaptation to severe conditions of propagation: long-distance distress calls; and courtship calls of a colonial seabird. *Bioacoustics*, **6**, 153-161.
- Aubin, T. (1994). Adaptation in transfer of information in the environment. Role of temporal parameters in the distress call of the starling (*Sturnus vulgaris*). *Revue d'Ecologie (Terre & Vie)*, **49**, 57-67.
- Auger, C. J., Bentley, G. E., Auger, A. P., Ramamurthy, M. & Ball, G. F. (2000). Expression of CREB-binding protein immunoreactivity in song control nuclei of European starlings. *Soc. Neurosci. Abstr.*, **26**.
- Aweida, M. K. (1995). Repertoires, territory size and mate attraction in western meadowlarks. *Condor*, **97**, 1080-1083.

- Badyaev, A. V., Hill, G. E. & Weckwort, B. V. (2002). Species divergence in sexually selected traits: increase in song elaboration is related to decrease in plumage ornamentation in finches. *Evolution*, **56**, 412-419.
- Badyaev, A. V. & Leaf, E. S. (1997). Habitat associations of song characteristics in *Phylloscopus* and *Hippolais* warblers. *Auk*, **114**, 40-46.
- Bailey, D. J., Rosebush, J. C. & Wade, J. (2002). The hippocampus and caudomedial neostriatum show selective responsiveness to conspecific song in the female zebra finch. *J. Neurobiol.*, **52**, 43-51.
- Bailey, D. J., Rosebush, J. C. & Wade, J. (2001). The hippocampus and caudal medial neostriatum show selective responsiveness to conspecific song in the adult female zebra finch. *Soc. Neurosci. Abstr.*, **27**, 843.
- Baker, M. C., Howard, T. M. & Sweet, P. W. (2000). Microgeographic variation and sharing of the gargle vocalization and its component syllables in black-capped chickadee (Aves, Paridae, *Poecile atricapillus*) populations. *Ethology*, **106**, 819-838.
- Baker, M. C. (1996). Female buntings from hybridizing populations prefer conspecific males. *Wilson Bull.*, **108**, 771-775.
- Baker, M. C. & Boylan, J. T. (1999). Singing behavior, mating associations and reproductive success in a population of hybridizing lazuli and indigo buntings. *Condor*, **101**, 493-504.
- Baker, M. C., Baker, E. M. & Baker, M. S. A. (2001). Island and island-like effects on vocal repertoire of singing honeyeaters. *Anim. Behav.*, **62**, 767-774.
- Baker, M. C. (2001). Bird song research: The past 100 years. *Bird Behavior*, **14**, 3-50.
- Baker, M. C. (1986). Sexual selection and size of repertoire in songbirds. *Proc. Int. Ornithol. Congr. XIX*, 1358-1365.
- Baker, M. C. (1996). Depauperate meme pool of vocal signals in an island population of singing honeyeaters. *Anim. Behav.*, **51**, 853-858.
- Baker, M. C., Tracy, T. T. & Miyasato, L. E. (1996). Gargle vocalizations of black-capped chickadees: test of repertoire and video stimuli. *Anim. Behav.*, **52**, 1171-1175.
- Baker, M. C. (1993). Evidence of intraspecific vocal imitation in singing honeyeaters (Meliphagidae) and golden whistlers (Pachycephalidae). *Condor*, **95**, 1044-1048.
- Baker, M. C. & Boylan, J. T. (1995). A catalog of song syllables of indigo and lazuli buntings. *Condor*, **97**, 1028-1040.
- Baker, M. C. (1994). Loss of function in territorial song: Comparison of island and mainland populations of the singing honeyeater (*Meliphaga virescens*). *Auk*, **111**, 178-184.
- Baker, M. C. (1994). Does exposure to heterospecific males affect sexual preferences of female buntings (*Passerina*)? *Anim. Behav.*, **48**, 1349-1355.
- Baker, M. C. (1994). Does exposure to heterospecific males affect sexual preferences of female buntings (*Passerina*)? *Anim. Behav.*, **48**, 1349-1355.
- Balaban, E. (1986). *Cultural and genetic variation in swamp sparrows (Melospiza georgiana)*. Ph.D. dissertation. The Rockefeller University, New York.
- Ball, G. F. (1994). Neurochemical specializations associated with vocal learning and production in songbirds and budgerigars. *Brain Behav. Evol.*, **44**, 234-246.
- Ball, G. F. & Hulse, S. H. (1998). Birdsong. *American Psychologist*, **53**, 37-58.
- Ball, G. F. & Balthazar, J. (2001). Ethological concepts revisited: immediate early gene induction in response to sexual stimuli in birds. *Brain Behav. Evol.*, **57**, 252-270.
- Ball, G. F. (2000). Learning to like your voice: developing selectivity to birdsong. *Neuron*, **25**, 4-5
- Ball, G. F. (1999). The neuroendocrine basis of seasonal changes in vocal behavior among songbirds. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). A Bradford Book. The MIT Press; Cambridge, Massachusetts, pp. 213-253.
- Ball, G. F. & Bentley, G. E. (1999). Lesions directed at HVc block the gonado-stimulatory effects of conspecific vocalizations in female canaries. *Soc. Neurosci. Abstr.*, **25**, 864.
- Ball, G. F. (1994). Comparative studies of the avian vocal control circuit reveal neural specializations associated with vocal learning and production. *J. Ornithol.*, **135**, 420.
- Ball, G. F. & Macdougall-Shackleton, S. A. (2001). Sex differences in songbirds 25 years later: What have we learned and where do we go? *Microsc. Res. Tech.*, **54**, 327-334.
- Ball, G. F. & Ritters, L. V. (2000). Seasonal variation in alpha-two adrenergic receptor densities in the song control system of European starlings. *Soc. Neurosci. Abstr.*, **26**.
- Ball, G. F., Ritters, L. V. & Balthazar, J. (2002). Neuroendocrinology of song behavior and avian brain plasticity: Multiple sites of action of sex steroid hormones. *Front. Neuroendocrinol.*, **23**, 137-178.
- Ball, G. F., Casto, J. M. & Bernard, D. J. (1994). Sex differences in the volume of avian song control nuclei: comparative studies and the issue of brain nucleus delineation. *Psychoneuroendocrinology*, **19**, 485-504.
- Balsby, T. J. S. (2000). Song activity and variability in relation to male quality and female choice in whitethroats

- Sylvia communis*. *J. Avian Biol.*, **31**, 56-62.
- Balsby, T. J. S. & Dabelsteen, T. (1999). Do males perceive differences in song repertoire size in whitethroats *Sylvia communis*? Proc. XVII Int. Bioac. Council, at www.cb.u-ppsud.fr/cb/.
- Balsby, T. J. S. & Dabelsteen, T. (2001). The meaning of song repertoire size and song length to male whitethroats *Sylvia communis*. *Behav. Processes.*, **56**, 75-84.
- Balsby, T. J. S. & Dabelsteen, T. (2002). Female behaviour affects male courtship in whitethroats, *Sylvia communis*: an interactive experiment using visual and acoustic cues. *Anim. Behav.*, **63**, 251-257.
- Balsby, T. J. S. (1997). Function of song, and song in relation to male quality and female choice in whitethroats (*Sylvia communis*). Cand. scient. thesis. Natural History Museum and University of Aarhus, Denmark.
- Balsby, T. (2000). The function of song in whitethroats *Sylvia communis*. *Bioacoustics*, **11**, 17-30.
- Balsby, T. J. S. (1996). Repertoire and colouration (carotenoid pigmentation) in the linnet *Carduelis cannabina*. *Bioacoustics*, **6**, 313.
- Balsby, T. J. S. (1997). Does song variability reflect male quality in whitethroats? *Adv. Ethol.*, **32**, 121.
- Balthazart, J., Absil, P., Fiasse, V. & Ball, G. F. (1994). Effects of the aromatase inhibitor R76713 on sexual differentiation on brain and behavior in zebra finches. *Behaviour*, **131**, 225-260.
- Balzer, A. L. & Williams, T. D. (1998). Do female zebra finches vary primary reproductive effort in relation to mate attractiveness? *Behaviour*, **135**, 297-309.
- Baptista, L. F., Bell, D. A. & Trail, P. W. (1993). Song learning and production in the white-crowned sparrow: parallels with sexual imprinting. *Neth. J. Zool.*, **43**, 17-33.
- Baptista, L. F. & Gaunt, S. L. L. (1994). Advances in studies of avian sound communication. *Condor*, **96**, 817-830.
- Baptista, L. F. (1998). Advances in avian bioacoustics studies. *Bioacoustics*, **9**, 149.
- Baptista, L. F. & Krebs, R. (2000). Vocalizations and relationships of brown creepers *Certhia americana*: a taxonomic mystery. *Ibis*, **142**, 457-465.
- Baptista, L. F., Jesse, A., Bell, D. A. & Cebrian, C. (1997). Acquisition and recall of Gambel's sparrow dialects by Nuttall's white-crowned sparrows in the wild. *Wilson Bull.*, **109**, 516-521.
- Baptista, L. F. (1990). Song learning in white-crowned sparrows (*Zonotrichia leucophrys*): sensitive phases and stimulus filtering revisited. In *Current Topics in Avian Biology. Proc. Int. 100. DO-G Meeting, Bonn* (R. van Elzen, K. L. Schuchmann & K. Schmidt-Koenig, eds.). Verlag DO-G, Garmisch-Partenkirchen, pp. 143-152.
- Baptista, L. F. & Gaunt, S. L. L. (1997). The role of social interaction on vocal development in birds. In *Social Influences on Vocal Development* (C. Snowdon & M. Hausberger, eds.). Cambridge University Press; London, pp. 23-40.
- Baptista, L. F. (1996). Nature and its nurturing in avian vocal development. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 39-60.
- Baptista, L. F., Trail, P. W., DeWolfe, B. B. & Morton, M. L. (1993). Singing and its functions in female white-crowned sparrows. *Anim. Behav.*, **46**, 511-524.
- Baptista, L. F. (1988). Song learning in white-crowned sparrows (*Zonotrichia leucophrys*): sensitive phases and stimulus filtering revisited. *Proc. Int. 100. DO-G Meeting, Current Topics in Avian Biology, Bonn*.
- Baptista, L. F. (1990). Dialectal variation in the raincall of the chaffinch (*Fringilla coelebs*). *Vogelwarte*, **35**, 249-256.
- Barclay, S. R. & Harding, C. F. (1990). Differential modulation of monoamine levels and turnover rates by estrogen and/or androgen in hypothalamic vocal control nuclei of male zebra finches. *Brain Res.*, **523**, 251-262.
- Bard, S. C., Hau, M., Wikelski, M. & Wingfield, J. C. (2002). Vocal distinctiveness and response to conspecific playback in the spotted antbird, a neotropical suboscine. *Condor*, **104**, 387-394.
- Barg, J. J. & Mumme, R. L. (1994). Parental recognition of juvenile begging calls in the Florida scrub jay. *Auk*, **111**, 459-464.
- Baril, C. T. & barlow, J. C. (2000). Pacific coast and southwest interior populations of the Hutton's vireo differ in basic song parameters. *Condor*, **102**, 911-914.
- Bartlett, P. (1998). Social aspects of call learning in the zebra finch (*Taeniopygia guttata*) and budgerigar (*Melopsittacus undulatus*). Ph.D. Thesis. University of St Andrews.
- Basham, M. E., Noordeen, E. J. & Nordeen, K. W. (1996). Blockade of NMDA receptors in the anterior forebrain impairs sensory acquisition in the zebra finch (*Poephila guttata*): *Neurobiol. Learn. Memory*, **66**, 295-304.
- Bastian, A. & Bastian, H.-V. (1990). The calling behaviour of ringed birds after releasing. *J. Ornithol.*, **131**, 361-369 (German).
- Bauer, H.-G. (1989). On the dialect discrimination in the short-toed treecreeper (*Certhia brachydactyla*). In *Current Topics in Avian Biology* (R. van den Elzen, K. L. Schuchmann & K. Schmidt-Koenig, eds).

- Proc. Int. 100 Deutschen Ornithologen-Gesellschaft Meeting, 1988, Bonn, Germany, pp. 133-142 (German).
- Bautista, L. M. & Lane, S. J. (2000). Coal tits increase evening body mass in response to tawny owl calls. *Acta Ethol.*, **2**, 105-110.
- Bay, M. D. (1999). The type B song of the northern parula: Structure and geographic variation along proposed sub-species boundaries. *Wilson Bull.*, **111**, 505-514.
- Bay, M. D. (1987). Singing behavior and geographic variation in the type B song of the northern parula (*Parula americana*). M.A. thesis. Sam Houston State University, Huntsville, Texas.
- Bay, M. D. (1999). Notes on the singing behavior and use of atypical songs in the northern parula warbler, *Parula americana* (Aves: Emberizidae). *Texas J. Sci.*, **51**, 20-24.
- Beck, M. J. & George, T. L. (2000). Song post and foraging site characteristics of breeding varied thrushes in northwestern California. *Condor*, **102**, 93-103.
- Beck, M. J. (1997). Song post and foraging location characteristics of breeding varied thrushes in coastal redwood forests of northwestern California. M. Sc. thesis. Humboldt State University. Arcata, California.
- Beebee, M. D. (2002). Song sharing by yellow warblers differs between two modes of singing: Implications for song function. *Condor*, **104**, 146-155.
- Beecher, M. D., Medvin, M. B., Stoddard, P. K. & Loesche, P. (1986). Acoustic adaptations for parent-offspring recognition in swallows. *Exp. Biol.*, **45**, 179-193.
- Beecher, M. D., Campbell, S. E. & Burt, J. M. (1994). Song perception in the song sparrow: Birds classify by song type, but not by singer. *Anim. Behav.*, **47**, 1343-1351.
- Beecher, M. D., Nordby, J. C., Campbell, S. E., Burt, J. M., Hill, C. E. & O'Loughlen, A. L. (1997). What is the function of song learning in songbirds? In *Perspectives in Ethology. Vol. 12: Communication* (D. H. Owings, M. D. Beecher and N. S. Thompson, eds.). Plenum Press; New York, pp. 77-97.
- Beecher, M. D. & Stoddard, P. K. (1990). The role of bird song and calls in individual recognition: contrasting field and laboratory perspectives. In *Comparative Perception, Vol. 2* (W. C. Stebbins & M. A. Berkley, eds). Wiley; New York, pp. 375-408.
- Beecher, M. D. & Campbell, S. E. (1994). The song learning strategy of the song sparrow. *J. Ornithol.*, **135**, 427.
- Beecher, M. D. (1990). Evolution of parent-offspring recognition in swallows. In *Contemporary Issues in Comparative Psychology* (D. A. Dewsbury, ed). Sinauer, Sunderland, MA, pp. 360-380.
- Beecher, M. D., Stoddard, P. K., Campbell, S. E. & Horning, C. L. (1996). Repertoire matching between neighbouring song sparrows. *Anim. Behav.*, **51**, 917-923.
- Beecher, M. D., Campbell, S. E., Burt, J. M., Hill, C. E. & Nordby, J. C. (2000). Song-type matching between neighbouring song sparrows. *Anim. Behav.*, **59**, 21-27.
- Beecher, M. D., Campbell, S. E. & Nordby, J. C. (2000). Territory tenure in song sparrows is related to song sharing with neighbours, but not to repertoire size. *Anim. Behav.*, **59**, 29-37.
- Beecher, M. D., Campbell, S. E. & Stoddard, P. K. (1994). Correlation of song learning and territory establishment strategies in a songbird. *Proc. Natl. Acad. Sci. USA*, **91**, 1450-1454.
- Beecher, M. D. (1996). Birdsong learning in the laboratory and field. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 61-78.
- Beguín, N., Leboucher, G. & Kreutzer, M. (1998). Sexual preferences for mate song in female canaries (*Serinus canaria*). *Behaviour*, **135**, 1185-1196.
- Béguin, N., Leboucher, G. & Kreutzer, M. (1997). Song preferences in female canaries are modified by reproductive experience. *Adv. Ethol.*, **32**, 202.
- Beier, J., Leisler, B. & Wink, M. (1997). A great reed x reed warbler (*Acrocephalus arundinaceus x A. scirpaceus*) hybrid and its parentage. *J. Orn.*, **138**, 51-60 (German).
- Bell, D. A., Trail, P. W. & Baptista, L. F. (1998). Song learning and vocal tradition in Nuttall's white-crowned sparrows. *Anim. Behav.*, **55**, 939-956.
- Beme, I. R. (1994). Formation of acoustic repertoire in the Turdidae. *J. Ornithol.*, **135** (Sonderheft), 157.
- Benney, K. S. & Braaten, R. F. (2000). Auditory scene analysis in estrildid finches (*Taeniopygia guttata* and *Lonchura striata domestica*): A species advantage for detection of conspecific song. *J. Comp. Psychol.*, **114**, 174-182.
- Bensch, S. & Hasselquist, D. (1992). Evidence for female choice in a polygynous warbler. *Anim. Behav.*, **44**, 301-311.
- Bensch, S., Nilsson, L. G. R., Nothagen, P., Olsson, P. & Aakesson, M. (2001). A chiffchaff *Phylloscopus c. collybita* with mixed chiffchaff and willow warbler *P. trochilus* song - genetic evidence. *Ornis Svecica*, **11**, 108-111.
- Bentley, G. E., Wingfield, J. C., Morton, M. L. & Ball, G. F. (2000). Stimulatory effects on the reproductive axis in female songbirds by conspecific and heterospecific male song. *Horm. Behav.*, **37**, 179-189.

- Bentley, G. E., Auger, C. J., Hanlon, K., Mirzadeh, Z. Z. & Ball, G. F. (2000). Seasonal variation in melatonin receptor density is correlated with variation in the phosphorylation of CREB in area x of European starlings. *Soc. Neurosci. Abstr.*, **26**.
- Benton, S., Nelson, D. A., Marler, P. & DeVoogd, T. J. (1998). Anterior forebrain pathway is needed for stable song expression in adult male white-crowned sparrows (*Zonotrichia leucophrys*). *Behav. Brain Res.*, **96**, 135-150.
- Bergen, F. & Abs, M. (1997). Etho-ecological study of the singing activity of the blue tit (*Parus caeruleus*), great tit (*Parus major*) and chaffinch (*Fringilla coelebs*). *J. Orn.*, **138**, 451-467 (German).
- Bergmann, H.-H. (1992). Song and calls of our birds. An introduction to bioacoustics, exemplified by the robin. *Wildtiere*, **1/1992**, 1-8 (German).
- Bergmann, H.-H., Flottmann, E., Heitkamp, W., Stehn-Nix, K.-P. & Ubozak, F. (1988). The Osnabrueck dialect map of rain calls in the chaffinch *Fringilla coelebs*. *Vogelk. Ber. Niedersachsen*, **20**, 89-96 (German).
- Bernard, D. J., Wilson, F. E. & Ball, G. F. (1997). Testis-dependent and -independent effects of photoperiod on volumes of song control nuclei in American tree sparrows (*Spizella arborea*). *Brain Res.*, **760**, 163-169.
- Bernard, D. J., Casto, J. M. & Ball, G. F. (1993). Sexual dimorphism in the volume of song control nuclei in European starlings: assessment by a Nissl stain and autoradiography for muscarinic cholinergic receptors. *J. Comp. Neurol.*, **334**, 559-570.
- Bernard, D. J. (1995). *The effects of testosterone, photoperiod, and season on plasticity in the song control system of European starlings (Sturnus vulgaris)*. Ph.D. thesis. The Johns Hopkins University; Baltimore.
- Bernard, D. J. & Ball, G. F. (1995). Two histological markers reveal a similar photoperiodic difference in the volume of the high vocal center of male European starlings. *J. Comp. Neurol.*, **360**, 726-734.
- Bernard, D. J., Eens, M. & Ball, G. F. (1996). Age- and behavior-related variation in volumes of song control nuclei in male European starlings. *J. Neurobiol.*, **30**, 329-339.
- Bernard, D. J., Bentley, G. E., Balthazart, J., Turek, F. W. & Ball, G. F. (1999). Androgen receptor, estrogen receptor alpha, and estrogen receptor beta show distinct patterns of expression in forebrain song control nuclei of European starlings. *Endocrinology*, **140**, 4633-4643.
- Bernard, D. J. & Ball, G. F. (1997). Photoperiodic condition modulates the effects of testosterone on song control nuclei volumes in male European starlings. *Gen. Comp. Endocrinol.*, **105**, 276-283.
- Bernard, D. J., Casto, J. M. & Ball, G. F. (1992). Sexual dimorphism in the volume of song control nuclei of European starlings: assessment by a Nissl stain and autoradiography for muscarinic cholinergic receptors. *Soc. Neurosci. Abstr.*, **18**, 528.
- Bhatt, D., Kumar, A., Singh, Y. & Payne, R. B. (2000). Territorial songs and calls of the oriental magpie robin *Copsychus saularis*. *Curr. Sci. New Delhi*, **78**, 722-728.
- Bigot, E., Hausberger, M. & Clergeau, P. (1994). Dialects and social organisation within roosts in starlings. *J. Ornithol.*, **135** (Sonderheft), 157.
- Birkhead, T. R., Buchanan, K. L., DeVoogd, T. J., Pellatt, E. J., Szekely, T. & Catchpole, C. K. (1997). Song, sperm quality and testes asymmetry in the sedge warbler. *Anim. Behav.*, **53**, 965-971.
- Bjoerklund, M., Westman, B. & Allander, K. (1989). Song in Swedish great tits: intra- or intersexual communication. *Behaviour*, **111**, 257-269.
- Blaich, C. F., Steury, K. R., Pettengill, P., Mahoney, K. T. & Guha, A. (1996). Temporal patterns of contact call interactions in pair-bonded domestic zebra finches (*Taeniopygia guttata*). *Bird Behavior*, **11**, 59-69.
- Blaich, C. F., Kovacevic, R., Tansinsin, S. L., Van Hoy, B. & Syud, F. A. (1995). The effects of domestication on the distance call of zebra finches. *Int. J. Comp. Psychol.*, **8**, 1-15.
- Blaich, C. F., Norman, M., Syud, F. A., Benitez, G., Frost, J., Ravenscroft, J., Smith, T., Tansinsin, S. & Ware, P. (1996). The use of distance calls to maintain pair contact in zebra finches (*Taeniopygia guttata*). *Bird Behavior*, **11**, 25-30.
- Blumenrath, S. H., Dabelsteen, T. & Pedersen, S. B. (2001). Song degradation of shared song types in the great tit: Potentials for individual discrimination. *Adv. Ethol.*, **36**, 123.
- Boco, T. & Margoliash, D. (2001). Nif is a major source of auditory and spontaneous drive to HVc. *Soc. Neurosci. Abstr.*, **27**, 841.
- Boehner, J., Jakobi, I., Podsiadlowski, L., Sieben, S., Adameczak, V. & Luetzkendorf, A. (1993). Diurnal changes in song activity in the nightingale (*Luscinia megarhynchos*) during the second half of the breeding period. *Berliner Orn. Ber.*, **3**, 20-30 (German).
- Boehner, J. & Hammerschmidt, K. (1996). Computer-aided acoustic analysis of complex bird calls. *Bioacoustics*, **6**, 313-314.
- Boehner, J. (1993). The song of the starling (*Sturnus vulgaris*): Studies on form and acquisition. *Sber. Ges. Naturf. Freunde Berlin*, **32**, 133-147 (German).
- Boehner, J. (1986). The timing of song acquisition in zebra finches (*Taeniopygia guttata*). *Verh. Dtsch. Zool.*

*Ges.*, **79** (German)

- Boehner, J. & Veit, F. (1993). Song structure and patterns of wing movement in the European starling *Sturnus vulgaris*. *J. Ornithol.*, **134**, 309-315 (German).
- Boehner, J. & Todt, D. (1996). Influence of auditory stimulation on the development of syntactical and temporal features in European starling song. *Auk*, **113**, 450-456.
- Boettiger, C. A. & Doupe, A. J. (2001). Developmentally restricted synaptic plasticity in a songbird nucleus required for song learning. *Neuron*, **31**, 809-818.
- Boettiger, C. A. & Doupe, A. J. (2000). Developmentally restricted synaptic plasticity in a songbird nucleus required for song learning. *Soc. Neurosci. Abstr.*, **26**.
- Bolhuis, J. J. & Macphail, E. M. (2001). A critique of the neuroecology of learning and memory. *Trends Cogn. Sci.*, **5**, 426-433.
- Bolhuis, J. J., Hetebrij, E., Den Boer-Visser, A. M., De Groot, J. H. & Zijlstra, G. G. (2001). Localized immediate early gene expression related to the strength of song learning in socially reared zebra finches. *Eur. J. Neurosci.*, **13**, 2165-2170.
- Bolhuis, J. J., van Mil, D. P. & Houx, B. B. (1999). Song learning with audiovisual compound stimuli in zebra finches. *Anim. Behav.*, **58**, 1285-1292.
- Bolhuis, J. J., Zijlstra, G. G. O., Boer-Visser, A. M. den & Zee, E. A. van der (2000). Localized neuronal activation in the zebra finch brain is related to the strength of song learning. *Proc. Natl. Acad. Sci. USA*, **97**, 2282-2285.
- Bolsinger, J. S. (2000). Use of two song categories by golden-cheeked warblers. *Condor*, **102**, 539-552.
- Borowiec, M. & Lontkowski, J. (2000). Sexual selection and the evolution of song in birds of the genus *Acrocephalus*. *Biol. Bull. Poznan*, **37**, 69-77.
- Bostwick, K. S. & Zyskowski, K. (2001). Mechanical sounds and sexual dimorphism in the crested doradito. *Condor*, **103**, 861-865.
- Botas, A., Espino, G., Rosenfield, D. B. & Helekar, S. A. (2001). Reduction of female-directed song motifs induced by repeated singing in laboratory-bred zebra finches. *Neurosci. Lett.*, **297**, 203-206.
- Bottjer, S. W. (1993). The distribution of tyrosine hydroxylase immunoreactivity in the brains of male and female zebra finches. *J. Neurobiol.*, **24**, 51-69.
- Bottjer, S. W. & Arnold, A. P. (1986). The ontogeny of vocal learning in songbirds. In *Handbook of Behavioral Neurobiology* (E. M. Blass, ed). Plenum; New York, pp. 129-161.
- Bottjer, S. W., Roselinsky, H. & Tran, N. B. (1997). Sex differences in neuropeptide staining of song-control nuclei in zebra finch brains. *Brain Behav. Evol.*, **50**, 284-303.
- Bottjer, S. W. & Arnold, A. P. (1997). Developmental plasticity in neural circuits for a learned behavior. *Annu. Rev. Neurosci.*, **20**, 459-481.
- Bottjer, S. W. (1991). Neural and hormonal substrates for song learning in zebra finches. *Semin. Neurosci.*, **3**, 481-488.
- Bottjer, S. W. & Alexander, G. (1995). Localization of met-enkephalin and vasoactive intestinal polypeptide in the brains of male zebra finches. *Brain Behav. Evol.*, **45**, 153-177.
- Bottjer, S. W., Brady, J. D. & Walsh, J. P. (1998). Intrinsic and synaptic properties of neurons in the vocal control nucleus IMAN from in vitro slice preparations of juvenile and adult zebra finches. *J. Neurobiol.*, **37**, 642-658.
- Bottjer, S. W. (1997). Building a bird brain: Sculpting neural circuits for a learned behavior. *Bioessays*, **19**, 1109-1116.
- Bottjer, S. W. & Johnson, F. (1997). Circuits, hormones, and learning: vocal behavior in songbirds. *J. Neurobiol.*, **33**, 602-618.
- Bottjer, S. W., Brady, J. D. & Cribbs, B. (2000). Connections of a motor cortical region in zebra finches: Relation to pathways for vocal learning. *J. Comp. Neurol.*, **420**, 244-260.
- Bowey, K. (1995). Apparent female moustached warbler singing. *Brit. Birds*, **88**, 113.
- Brackenbury, J. H. (1989). Functions of the syrinx and control of sound production. In *Form and Function in Birds, Vol. 4* (A. S. King & J. McLelland, eds). Academic Press; San Diego, pp. 193-220.
- Bradley, R. A. (1994). Cultural change and geographic variation in the songs of the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*). *Bull. South. Calif. Acad. Sci.*, **93**, 91-109.
- Brainard, M. S. & Doupe, A. J. (2000). Auditory feedback in learning and maintenance of vocal behaviour. *Nature Reviews. Neuroscience*, **1**, 31-40.
- Brainard, M. S. & Doupe, A. J. (2001). Postlearning consolidation of birdsong: Stabilizing effects of age and anterior forebrain lesions. *J. Neurosci.*, **21**, 2501-2517.
- Brainard, M. S. & Doupe, A. J. (2002). What songbirds teach us about learning. *Nature*, **417**, 351-358.
- Brainard, M. S. & Doupe, A. J. (2000). Interruption of a basal ganglia-forebrain circuit prevents plasticity of learned vocalizations. *Nature*, **404**, 762-766.
- Brainard, M. S. & Doupe, A. J. (1997). Anterior forebrain lesions eliminate deafening-induced song plasticity in

- adult finches. *Soc. Neurosci. Abstr.*, **23**, 796.
- Brainard, M. S. & Doupe, A. J. (2000). Alteration of auditory feedback causes both acute and lasting changes to Bengalese finch song. *Soc. Neurosci. Abstr.*, **26**.
- Bremond, J. C. (1986). Role of the carrier frequency in the territorial song of oscines. *Ethology*, **73**, 128-135.
- Brenowitz, E. A. (2001). Brain morphometry and behavior in the avian song control system. *Horm. Behav.*, **39**, 314.
- Brenowitz, E. A. & Lent, K. (1999). Seasonal growth of adult avian song nuclei requires afferent input. *Soc. Neurosci. Abstr.*, **25**, 864.
- Brenowitz, E. A. & Lent, K. (2000). Intracerebral implants of testosterone induce seasonal-like growth of adult avian song control circuits. *Soc. Neurosci. Abstr.*, **26**.
- Brenowitz, E. A. & Kroodsma, D. E. (1996). The neuroethology of birdsong. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 285-304.
- Brenowitz, E. A., Nalls, B., Kroodsma, D. E. & Horning, C. (1994). Female marsh wrens do not provide evidence of anatomical specializations of song nuclei for perception of male song. *J. Neurobiol.*, **25**, 197-208.
- Brenowitz, E. A. (1991). Evolution of the vocal control system in the avian brain. *Semin. Neurosci.*, **3**, 399-407.
- Brenowitz, E. A. & Lent, K. (2001). Afferent input is necessary for seasonal growth and maintenance of adult avian song control circuits. *J. Neurosci.*, **21**, 2320-2329.
- Brenowitz, E. A., Arnold, A. P. & Loesche, P. (1996). Steroid accumulation in song nuclei of a sexually dimorphic duetting bird, the rufous and white wren. *J. Neurobiol.*, **31**, 235-244.
- Brenowitz, E. A., Lent, K. & Kroodsma, D. E. (1995). Brain space for learned song in birds develops independently of song learning. *J. Neurosci.*, **15**, 6281-6286.
- Brenowitz, E. A. (1997). Comparative approaches to the avian song system. *J. Neurobiol.*, **33**, 517-531.
- Brenowitz, E. A., Baptista, L. F., Lent, K. & Wingfield, J. C. (1998). Seasonal plasticity of the song control system in wild Nuttall's white-crowned sparrows. *J. Neurobiol.*, **34**, 69-82.
- Breton, F. (1994). The bird and its meistersinger. *Recherche*, **25**, 220-221 (French).
- Breutel, G., del Negro, C. & Gahr, M. (1997). Changes in the motivation to sing and to react to song correlate with neurophysiological changes in the song control system of birds. *Adv. Ethol.*, **32**, 20.
- Briskie, J. V., Martin, P. R. & Martin, T. E. (1999). Nest predation and the evolution of nestling begging calls. *Proc. Roy. Soc. Lond. B.*, **266**, 2153-2159.
- Briskie, J. V. (1999). Song variation and the structure of local song dialects in the polygynandrous Smith's longspur. *Can. J. Zool.*, **77**, 1587-1594.
- Brouwer, J. (1993). Singing frequency over the year of skylarks and brown songlarks at Gatum, Western Victoria. *Austral. Bird Watcher*, **15**, 35-37.
- Brown, S. D. & Bottjer, S. W. (1992). Blocking steroid hormones during song learning extends the sensitive period for lesions of LMAN in juvenile male zebra finches. *Soc. Neurosci. Abstr.*, **18**, 529.
- Brown, E. D. & Farabaugh, S. M. (1997). What birds with complex social relationships can tell us about vocal learning: Vocal sharing in avian groups. In *Social Influences on Vocal Development* (C. T. Snowdon and M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 98-127.
- Brown, T. J. & Handford, P. (1996). Acoustic signal amplitude patterns: a computer simulation investigation of the acoustic adaptation hypothesis. *Condor*, **98**, 608-623.
- Brown, J. L. (1997). Long-term memory of an auditory stimulus for food in a natural population of the Mexican jay. *Wilson Bull.*, **109**, 749-752.
- Brown, S. D., Johnson, F. & Bottjer, S. W. (1993). Neurogenesis in adult canary telencephalon is independent of gonadal hormone levels. *J. Neurosci.*, **13**, 2024-2032.
- Brumm, H. & Hultsch, H. (2001). Pattern amplitude is related to pattern imitation during song development of nightingales. *Anim. Behav.*, **61**, 747-754.
- Brumm, H. & Hultsch, H. (2001). The ontogeny of song intensity in nightingales: Pattern amplitude varies with pattern quality. *Adv. Ethol.*, **36**, 129.
- Brumm, H. & Todt, D. (2002). Noise-dependent song amplitude regulation in a territorial songbird. *Anim. Behav.*, **63**, 891-897.
- Braaten, R. F. (2000). Multiple levels of representation of song by European starlings (*Sturnus vulgaris*): Open-ended categorization of starling song types and differential forgetting of song categories and exemplars. *J. Comp. Psychol.*, **114**, 61-72.
- Braaten, R. F., Hulse, S. H. & Page, S. C. (1990). Discrimination and classification of rising and rorising pitch patterns by the European starling. *Anim. Learn. Beh.*, **18**, 352-364.
- Braaten, R. F. & Reynolds, K. (1999). Auditory preference for conspecific song in isolation-reared zebra finches. *Anim. Behav.*, **58**, 105-111.
- Buchanan, K. L. & Catchpole, C. K. (2000). Song as an indicator of male parental effort in the sedge warbler.



- Proc. Roy. Soc. Lond. B.*, **267**, 321-326.
- Buchanan, K. L. & Catchpole, C. K. (2000). Extra-pair paternity in the socially monogamous sedge warbler *Acrocephalus schoenobaenus* as revealed by multilocus DNA fingerprinting. *Ibis*, **142**, 12-20.
- Buchanan, K. L., Catchpole, C. K., Lewis, J. W. & Lodge, A. (1999). Song as an indicator of parasitism in the sedge warbler. *Anim. Behav.*, **57**, 307-314.
- Buchanan, K. L. & Catchpole, C. K. (1997). Female choice in the sedge warbler *Acrocephalus schoenobaenus*: multiple cues from song and territory quality. *Proc. R. Soc. Lond. B.*, **264**, 521-526.
- Buchfellner, E., Leppelsack, H.-J., Klump, G. M. & Haeusler, U. (1989). Gap detection in the starling (*Sturnus vulgaris*). II. Coding of gaps by forebrain neurons. *J. Comp. Physiol. A.*, **164**, 539-549.
- Budden, A. E. & Wright, J. (2001). Falling on deaf ears: the adaptive significance of begging in the absence of a parent. *Behav. Ecol. Sociobiol.*, **49**, 474-481.
- Bugnyar, T., Kijne, M. & Kotrschal, K. (2001). Food calling in ravens: are yells referential signals? *Anim. Behav.*, **61**, 949-958.
- Bugnyar, T. & Kotrschal, K. (2001). Movement coordination and signalling in ravens (*Corvus corax*): an experimental field study. *Acta Ethol.*, **3**, 101-109.
- Burek, M. J., Nordeen, K. W. & Nordeen, E. J. (1995). Estrogen promotes neuron addition to an avian song-control nucleus by regulating post-mitotic events. *Dev. Brain Res.*, **85**, 220-224.
- Burek, M. J., Nordeen, K. W. & Nordeen, E. J. (1995). DNA fragmentation characterizes sexually dimorphic cell death in the avian song system. *Neurosci. Abstr.*, **21**, 39.
- Burek, M. J., Nordeen, K. W. & Nordeen, E. J. (1994). Initial sex differences in neuron growth and survival within an avian song nucleus develop in the absence of afferent input. *J. Neurobiol.*, **27**, 85-96.
- Burek, M. J., Nordeen, K. W. & Nordeen, E. J. (1994). Ontogeny of sex differences among newly generated neurons of the juvenile avian brain. *Dev. Brain Res.*, 57-64.
- Burek, M. J., Nordeen, K. W. & Nordeen, E. J. (1995). Initial sex differences in neuron growth and survival within an avian song nucleus develop in the absence of afferent input. *J. Neurobiol.*, **27**, 85-96.
- Burford, J. E., Friedrich, T. J. & Yasukawa, K. (1998). Response to playback of nestling begging in the red-winged blackbird, *Agelaius phoeniceus*. *Anim. Behav.*, **56**, 555-561.
- Burnell, K. (1998). Cultural variation in savannah sparrow, *Passerculus sandwichensis*, songs: an analysis using the meme concept. *Anim. Behav.*, **56**, 995-1003.
- Burnell, K. & Rothstein, S. I. (1994). Variation in the structure of female brown-headed cowbird vocalizations and its relation to vocal function and development. *Condor*, **96**, 703-715.
- Burns, K. J. (1998). Molecular phylogenetics of the genus *Piranga*: Implications for biogeography and the evolution of morphology and behavior. *Auk*, **115**, 621-634.
- Burt, J. M., Trillo, P. A. & Vehrencamp, S. L. (2001). Two-way and multi-way vocal interactions in a territorial songbird. *Adv. Ethol.*, **36**, 93.
- Burt, J. M. (2000). Use of a radio microphone array to study banded wren song interactions at the neighborhood level. *J. Acoust. Soc. Am.*, **108**, 2583.
- Burt, J. M. (1999). Birdsong communication and perception: field and laboratory studies. Ph.D. dissertation. University of Washington, Seattle.
- Burt, J. M., Lent, K. L., Beecher, M. D. & Brenowitz, E. A. (2000). Lesions of the anterior forebrain song control pathway in female canaries affect song perception in an operant task. *J. Neurobiol.*, **42**, 1-13.
- Burt, J. M., Campbell, S. E. & Beecher, M. D. (2001). Song type matching as threat: a test using interactive playback. *Anim. Behav.*, **62**, 1163-1170.
- Burt, J. M., Lent, K. L., Beecher, M. D. & Brenowitz, E. A. (2000). Lesions of the anterior forebrain song control pathway in female canaries affect song perception in an operant task (erratum). *J. Neurobiol.*, **42**, 487-490.
- Butlin, R. K., Guilford, T. & Krebs, J. R., eds. (1993). The evolution and design of animal signalling systems. *Philos. Trans. R. Soc. Lond. B.*, **340**, 161-255.
- Byers, B. E. (1996). Geographic variation of song form within and among chestnut-sided warbler populations. *Auk*, **113**, 288-299.
- Byers, B. E. (1996). Messages encoded in the songs of chestnut-sided warblers. *Anim. Behav.*, **52**, 691-705.
- Byers, B. E. (1995). Song types, repertoires and song variability in a population of chestnut-sided warblers. *Condor*, **97**, 390-401.
- Byers, B. E. & King, D. I. (2000). Singing by female chestnut-sided warblers. *Wilson Bull.*, **112**, 547-550.
- Calhoun, S., Hulse, S. H., Braaten, R. F., Page, S. C. & Nelson, R. J. (1993). Responsiveness to conspecific and alien song by canaries *Serinus canaria* and European starlings *Sturnus vulgaris* as a function of photoperiod. *J. Comp. Psychol.*, **107**, 235-241.
- Cardin, J. A., Nealen, P. M. & Schmidt, M. F. (2001). Behavioral state-dependent modulation of HVC auditory responses in a restrained recording paradigm. *Soc. Neurosci. Abstr.*, **27**, 842.
- Carr, C. (2000). Locating an error correction signal for adult birdsong. *Nature Neuroscience*, **3**, 419-421.

- Casey, R. M. & Baker, M. C. (1993). Aggression and song development in white-crowned sparrows. *Condor*, **95**, 723-728.
- Casey, R. M. & Baker, M. C. (1993). Social tutoring of adult male white-crowned sparrows. *Condor*, **95**, 718-723.
- Cassidy, A. L. (1993). Song variation and learning in island populations of song sparrows. Ph.D. dissertation. University of British Columbia, Canada.
- Casto, J. M., Smulders, T. V., DeVoogd, T. J., Nolan, V., Jr. & Ketterson, E. D. (2001). Experimental manipulation of testosterone during the breeding season influences the song system of male dark-eyed juncos. *Soc. Neurosci. Abstr.*, **27**, 1708.
- Casto, J. M., Absil, P., Balthazart, J. & Hall, G. F. (1992). Autoradiographic localization of beta-adrenergic receptors in the songbird vocal control system. *Soc. Neurosci. Abstr.*, **18**, 459.
- Casto, J. M. & Ball, G. F. (1994). Characterization and localization of D1 dopamine receptors in the sexually dimorphic vocal control nucleus, area X, and the basal ganglia of European starlings. *J. Neurobiol.*, **25**, 767-780.
- Castro, J. M. & Ball, G. F. (1994). Characterization and localization of D1 dopamine receptors in the sexually dimorphic vocal control nucleus, area X, and the basal ganglia of European starlings. *J. Neurobiol.*, **25**, 767-780.
- Catchpole, C. K. (1992). Integrating playback: a wider context. In *Playback and Studies of Animal Communication: Problems and Prospects* (P. K. McGregor, ed). Plenum press; New York, pp. 35-46.
- Catchpole, C. K., Leisler, B. & Dittami, J. (1986). Sexual differences in the responses of captive great reed warblers (*Acrocephalus arundinaceus*) to variation in song structure and size. *Ethology*, **73**, 69-77.
- Catchpole, C. K. & Slater, P. J. B. (1995). *Bird Song: Biological Themes and Variations*. Cambridge University Press; Cambridge.
- Catchpole, C. K. & Leisler, B. (1996). Female aquatic warblers (*Acrocephalus paludicola*) are attracted by playback of longer and more complicated songs. *Behaviour*, **133**, 1153-1164
- Catchpole, C. K. & Komdeur, J. (1993). The song of the Seychelles warbler *Acrocephalus sechellensis*: an island endemic. *Ibis*, **135**, 190-195.
- Catchpole, C. K. (1989). Responses of male sedge warblers to playback of different repertoire sizes. *Anim. Behav.*, **37**, 1046-1047.
- Catchpole, C. K. (1996). Song and female choice: good genes and big brains? *Trends Ecol. Evol.*, **11**, 358-360.
- Catchpole, C. K. & Rowell, A. (1993). Song sharing and local dialects in a population of the European wren *Troglodytes troglodytes*. *Behaviour*, **125**, 67-78.
- Catchpole, C. K. (1988). Sexual selection and the song of the great reed warbler. In *Acta XIX Congressus Internationalis Ornithologici* (H. Ouellet, ed.). Ottawa, pp. 1366-1372.
- Catchpole, C. K. & Phillips, J. F. (1994). Song output and reproductive success in the Dartford warbler (*Sylvia undata*). *Etologia*, **4**, 77-83.
- Cate, C. ten, Slater, P. J. B. & Kruijt, J. P. (1993). Conference on song learning and imprinting: an inquiry into mechanisms of behavioural development, Haven, Netherlands, July 22-24, 1992. *Neth. J. Zool.*, **43**, 1-234.
- Cate, C. ten, Slater, P. J. B. & Kruijt, J. P. (1993). Song learning and imprinting: an inquiry into mechanisms of behavioural development. *Neth. J. Zool.*, **43**, 2-5.
- Cate, C. ten (2000). How learning mechanisms might affect evolutionary processes. *Trends Ecol. Evol.*, **15**, 179-181.
- Cate, C. ten, Vos, D. R. & Mann, N. (1993). Sexual imprinting and song learning: two of one kind? *Neth. J. Zool.*, **43**, 34-45.
- Cate, C. ten & Ballintijn, M. (1997). Behavioural mechanisms underlying vocal control in birds. *Adv. Ethol.*, **32**, 32.
- Cate, C. ten (1994). Perceptual mechanisms in imprinting and song learning. In *Causal Mechanisms of Behavioural Development* (J. A. Hogan & J. J. Bolhuis, eds.). Cambridge University Press; Cambridge, pp. 116-146.
- Chaiken, M. (2000). Rehabilitation of isolate song in adult European starlings, *Sturnus vulgaris*. *Soc. Neurosci. Abstr.*, **26**.
- Chaiken, M., Gentner, T. Q. & Hulse, S. H. (1997). Effects of social interaction on the development of starling song and the perception of these effects by conspecifics. *J. Comp. Psychol.*, **111**, 379-392.
- Chaiken, M., Boehner, J. & Marler, P. (1994). Repertoire turnover and the timing of song acquisition in European starlings. *Behaviour*, **128**, 25-39.
- Chaiken, M., Boehner, J. & Marler, P. (1993). Song acquisition in European starlings, *Sturnus vulgaris*: a comparison of the songs of live tutored, tape tutored, untutored, and wild caught males. *Anim. Behav.*, **46**, 1079-1090.
- Chandler, C. R. & Rose, R. K. (1988). Comparative analysis of the effects of visual and auditory stimuli on

- avian mobbing behavior. *J. Field Ornithol.*, **59**, 269-277.
- Cheon, S. M. & Park, S. R. (1995). Signal value of partial song (composed of 1 phrase unit) in great tits, *Parus major*: Evidence from playback experiments. *Korean J. Zool.*, **38**, 230-237.
- Chernichovski, O. & Nottebohm, F. (1998). Social inhibition of song imitation among sibling male zebra finches. *Proc. Natl. Acad. Sci. USA*, **95**, 8951-8956.
- Chew, S. J., Vicario, D. S. & Nottebohm, F. (1996). A large-capacity memory system that recognizes the calls and songs of individual birds. *Proc. Natl. Acad. Sci. USA*, **93**, 1950-1955.
- Chew, S. J., Mello, C. V., Nottebohm, F., Jarvis, E. & Vicario, D. S. (1995). Decrements in auditory responses to a repeated conspecific song are long-lasting and require two periods of protein synthesis in the songbird forebrain. *Proc. Natl. Acad. Sci. USA*, **92**, 3406-3410.
- Chew, S. J., Jarvis, E. D., Mello, C. V., Vicario, D. S. & Nottebohm, F. (1995). Long-term neuronal memories for novel conspecific songs require new gene expression in songbird auditory forebrain. *Soc. Neurosci. Abstr.*, **21**, 959.
- Chew, S. J., Vicario, D. S. & Nottebohm, F. (1996). Quantal duration of auditory memories. *Science*, **274**, 1909-1914.
- Chi, Z. & Margoliash, D. (2001). Temporal precision and temporal drift in brain and behavior of zebra finch song. *Neuron*, **32**, 899-910.
- Chi, Z. & Margoliash, D. (2000). Neural and behavioral drift in timing of zebra finch song: a circadian component to song maintenance? *Soc. Neurosci. Abstr.*, **26**.
- Chilton, G., Wiebe, M. O. & Handford, P. (2002). Large-scale geographic variation in songs of Gambel's white-crowned sparrows. *Condor*, **104**, 387-386.
- Chilton, G. & Lein, M. R. (1996). Songs and sexual responses of female white-crowned sparrows (*Zonotrichia leucophrys*) from a mixed-dialect population. *Behaviour*, **133**, 173-198.
- Chilton, G. & Lein, M. R. (1996). Long-term changes in songs and song dialect boundaries of Puget Sound white-crowned sparrows. *Condor*, **98**, 567-580.
- Chilton, G. & Lein, M. R. (1996). Song repertoires of Puget Sound white-crowned sparrows *Zonotrichia leucophrys pugetensis*. *J. Avian Biol.*, **27**, 31-40.
- Chu, M. (2001). Heterospecific responses to scream calls and vocal mimicry by phainopeplas (*Phainopepla nitens*) in distress. *Behaviour*, **138**, 775-787.
- Chu, M. (2001). Vocal mimicry in distress calls of phainopeplas. *Condor*, **103**, 389-395.
- Cicero, C. & Benowitz-Fredericks, Z. M. (2000). Song types and variation in insular populations of Lincoln's sparrow (*Melospiza lincolni*), and comparisons with other *Melospiza*. *Auk*, **117**, 52-54.
- Clark, C. W., Marler, P. & Beeman, K. (1987). Quantitative analysis of animal vocal phonology: an application to swamp sparrow song. *Ethology*, **76**, 101-115.
- Clark, A. B. & Lee, W.-H. (1998). Red-winged blackbird females fail to increase feeding in response to begging call playbacks. *Anim. Behav.*, **56**, 563-570.
- Clayton, N. S. (1987). Song learning in Bengalese finches: a comparison with zebra finches. *Ethology*, **76**, 247-255.
- Clayton, D. F. (1997). Role of gene regulation in song circuit development and song learning. *J. Neurobiol.*, **33**, 549-571.
- Cleal, K. S., Allan, S., King, A. P., Sengelaub, D. R. & West, M. J. (1996). IMAN volume correlates with female selectivity in cowbirds. *Soc. Neurosci. Abstr.*, **22**, 1401.
- Clemmons, J. & Howitz, J. L. (1990). Development of early vocalizations and the chick-a-dee call in the black-capped chickadee, *Parus atricapillus*. *Ethology*, **86**, 203-223.
- Clemmons, J. R. (1995). Development of a selective response to an adult vocalization in nestling black-capped chickadees. *Behaviour*, **132**, 1-20.
- Clemmons, J. R. (1995). Vocalizations and other stimuli that elicit gaping in nestling black-capped chickadees (*Parus atricapillus*). *Auk*, **112**, 603-612.
- Clemmons, J. R. (1997). The structural significance of a vocalization that stimulates gaping in black-capped chickadees. *Behav. Ecol. Sociobiol.*, **40**, 243-251.
- Clotfelter, E. D. (1998). What cues do brown-headed cowbirds use to locate red-winged blackbird host nests? *Anim. Behav.*, **55**, 1181-1189.
- Coleman, M. J., Sule, P. J. & Vu, E. T. (1999). Recovery of impaired songs following unilateral but not bilateral lesions of nucleus uvaeformis of adult zebra finches. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Coleman, M. J. & Vu, E. T. (2001). Uva lesions affect the auditory responsiveness of Hvc neurons in awake zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Coleman, M. J. & Vu, E. T. (2000). Neural activity in HVC of adult zebra finches during the song recovery following unilateral lesion of nucleus uvaeformis. *Soc. Neurosci. Abstr.*, **26**.
- Collias, N. E. (2000). Vocal signals of the willage weaver: a spectrographic key and the communication code. *Condor*, **102**, 60-80.

- Collins, C. E. & Houtman, A. M. (1999). Tan and white color morphs of white-throated sparrows differ in their non-song vocal responses to territorial intrusion. *Condor*, **101**, 842-845.
- Collins, S. A. (1999). Is female preference for male repertoires due to sensory bias? *Proc. Roy. Soc. Lond. B.*, **266**, 2309-2314.
- Collins, C. E., Wallhaeusser-Franke, E., Clower, R. P. & DeVoogd, T. J. (1993). Development of song system nucleus HVC in juvenile male zebra finches deprived of song. *Soc. Neurosci. Abstr.*, **19**, 1449.
- Collins, S. A., Hubbard, C. & Houtman, A. M. (1994). Female mate choice in the zebra finch - the effect of male beak colour and male song. *Behav. Ecol. Sociobiol.*, **35**, 21-25.
- Comolet-Tirman, J. (1994). Does the redstart *Phoenicurus phoenicurus* mimic bird species heard during migration? *Bioacoustics*, **6**, 73-79.
- Conover, M. R. (1994). Stimuli eliciting distress calls in adult passerines and response of predators and birds to their broadcast. *Behaviour*, **131**, 19-37.
- Conrads, K. (1986). Stability and changes in a song dialect of the chaffinch (*Fringilla coelebs*) in the period 1964/66 to 1982/83 in Ostwestfalen. *Ber. Naturwiss. Verein Bielefeld u. Umgegend*, **28**, 191-212 (German).
- Cooney, R. & Cockburn, A. (1995). Territorial defence is the major function of female song in the superb fairy-wren, *Malurus cyaneus*. *Anim. Behav.*, **49**, 1635-1647.
- Coopmans, P., Krabbe, N., & Schulenberg, T. S. (2001). Vocal evidence of species rank for nominate unicolor tapaculo *Scytalopus unicolor*. *Bull. Brit. Ornithol. Club*, **121**, 208-213.
- Cotanche, D. A. (1999). Structural recovery from sound and aminoglycoside damage in the avian cochlea. *Audiol. Neuro-Otol.*, **4**, 271-285.
- Cresswell, W. (1994). Song as a pursuit deterrent signal, and its occurrence relative to other anti-predation Behaviours of skylark (*Alauda arvensis*) on attack by merlins (*Falco columbarius*). *Behav. Ecol. Sociobiol.*, **34**, 217-223.
- Cucco, M. & Malacarne, G. (2000). Delayed maturation in passerine birds: an examination of plumage effects and some indications of a related effect in song. *Ethol. Ecol. Evol.*, **12**, 291-308.
- Cucco, M. & Malacarne, G. (1999). Is the song of the black redstart males an honest signal of status? *Condor*, **101**, 689-693.
- Cugurra, F. (1998). Effects of two anti-anxiety drugs on the memory of *Gracula religiosa intermedia* (Passeriformes, Sturnidae): a preliminary note. *Ital. J. Zool.*, **65**, 175-176.
- Cunningham, R. B., Lindenmayer, D. B., Nix, H. A. & Lindenmayer, B. D. (1999). Quantifying observer heterogeneity in bird counts. *Aust. J. Ecol.*, **24**, 270-277.
- Curio, E. (1998). Alarm calls and chick reaction: comments on Kleindorfer et al. (1996). *Anim. Behav.*, **56**, 260-261.
- Currie, D. R., Burke, T., Whitney, R. L. & Thompson, D. B. A. (1998). Male and female behaviour and extra-pair paternity in the wheatear. *Anim. Behav.*, **55**, 689-703.
- Cuthill, I. C. & Macdonald, W. A. (1990). Experimental manipulation of the dawn and dusk chorus in the blackbird *Turdus merula*. *Behav. Ecol. Sociobiol.*, **26**, 209-216.
- Cygan, J. P. & Jablonski, P. G. (2000). Painted redstart (*Myioborus pictus*) song: Preliminary analysis of song production rate. *Biol. Bull. Poznan*, **37**, 79-82.
- Cynx, J. (1995). Similarities in absolute and relative pitch perception in songbirds (starling and zebra finch) and a nonsongbird (pigeon). *J. Comp. Psychol.*, **109**, 261-267.
- Cynx, J. (1993). Auditory frequency generalization and a failure to find octave generalization in a songbird, the European starling (*Sturnus vulgaris*). *J. Comp. Psychol.*, **107**, 140-146.
- Cynx, J., Hulse, S. H. & Polyzois, S. (1986). A psychophysical measure of pitch discrimination loss resulting from a frequency range constraint in European starlings (*Sturnus vulgaris*). *J. Exp. Psychol. Anim. Behav. Processes*, **12**, 394-402.
- Cynx, J., Williams, H. & Nottebohm, F. (1990). Timbre discrimination in zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **107**, 303-308.
- Cynx, J. (1993). Conspecific song perception in zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **107**, 395-402.
- Cynx, J. & von Rad, U. (2001). Immediate and transitory effects of delayed auditory feedback on bird song production. *Anim. Behav.*, **62**, 305-312.
- Cynx, J., Lewis, R., Tavel, B. & Tse, H. (1998). Amplitude regulation of vocalizations in noise of a songbird, *Taeniopygia guttata*. *Anim. Behav.*, **56**, 107-113.
- Cynx, J. (1990). Experimental determination of a unit of song production in the zebra finch (*Taeniopygia guttata*). *J. Comp. Psychol.*, **104**, 3-10.
- Cynx, J. (2001). Effects of humidity on reproductive behavior in male and female zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **115**, 196-200.
- Cynx, J. & Clark, S. (1998). The laboratory use of conditional and natural responses in the study of avian

- auditory perception. In *Animal Acoustic Communication* (S. L. Hopp, M. J. Owren and C. S. Evans, eds.). Springer-Verlag; Berlin, pp. 353-377.
- Dabelsteen, T., McGregor, P., Lampe, H. M., Langmore, N. & Holland, J. (1998). Quiet song in song birds: An overlooked phenomenon. *Bioacoustics*, **9**, 89-105.
- Dabelsteen, T. & McGregor, P. K. (1996). Dynamic acoustic communication and interactive playback. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 398-408.
- Dabelsteen, T., McGregor, P. K., Holland, J., Tobias, J. A. & Pedersen, S. B. (1997). The signal function of overlapping singing in male robins. *Anim. Behav.*, **53**, 249-256.
- Dabelsteen, T., Larsen, O. N. & Pedersen, S. B. (1989). Quantification of sound degradation in the biotope. In *Neural Mechanisms of Behaviour: Proceedings of the 2nd International Congress of NeuroEthology* (J. Erber, R. Menzel, H.-J. Pflueger & D. Todt, eds.). Georg Thieme Verlag; Stuttgart, New York, p. 112.
- Dabelsteen, T. & Pedersen, S. B. (1993). Song based species discrimination and behaviour assessment by female blackbirds *Turdus merula*. *Anim. Behav.*, **45**, 759-771.
- Dabelsteen, T. & Mathevon, N. (2002). Why do songbirds sing intensively at dawn? A test of the acoustic transmission hypothesis. *Acta Ethol.*, **4**, 65-72.
- Dabelsteen, T., Larsen, O. N. & Pedersen, S. B. (1993). Habitat induced degradation of sound signals: quantifying the effects of communication sounds and bird location on blur ratio, excess attenuation and signal-to-noise ratio in blackbird song. *J. Acoust. Soc. Am.*, **93**, 2206-2220.
- Dabelsteen, T., McGregor, P. K., Shepherd, M., Whittaker, X. & Pedersen, S. B. (1996). Is the signal value of overlapping different from that of alternating during matched singing in great tits? *J. Avian Biol.*, **27**, 189-194.
- Dale, S., Amundsen, T., Lifjelt, J. T. & Slagsvold, T. (1990). Mate sampling behaviour of female pied flycatchers: evidence for active mate choice. *Behav. Ecol. Sociobiol.*, **27**, 87-91.
- Daley, M. A. & Goller, F. (2000). Tracheal length changes and upper vocal tract resonances during zebra finch song. *Soc. Neurosci. Abstr.*, **26**.
- Date, E. M. & Lemon, R. E. (1993). Sound transmission: a basis for dialects in birdsong? *Behaviour*, **124**, 291-312.
- Dave, A. S. & Margoliash, D. (2000). Song replay during sleep and computational rules for sensorimotor vocal learning. *Science*, **290**, 812-816.
- Dave, A. S. & Margoliash, D. (2000). Sensorimotor mapping and neuronal replay of song during sleep: a model of reinforcement learning for birdsong. *Soc. Neurosci. Abstr.*, **26**.
- Dave, A., Yu, A. C. & Margoliash, D. (1998). Behavioral state modulation of auditory activity in a vocal motor system. *Science*, **282**, 2250-2254.
- Davidson, W. R. & Langmore, N. E. (1991). Variation in the male whip-crack of the eastern whipbird *Psophodes olivaceus*. *Austral. Bird Watcher*, **14**, 82-84.
- Davis, W. E. (1991). Evolution of distress calls in birds: still an enigma. *Bird. Obs.*, **19**, 187-190.
- Dearborn, D. C. (1999). Brown-headed cowbird nestling vocalizations and risk of nest predation. *Auk*, **116**, 448-457.
- Del Negro, C. & Edeline, J. M. (2001). Differences in auditory and physiological properties of HVC neurons between reproductively active male and female canaries (*Serinus canaria*). *Eur. J. Neurosci.*, **14**, 1377-1389.
- Del Negro, C., Kreutzer, M. & Gahr, M. (2000). Sexually stimulating signals of canary (*Serinus canaria*) songs: Evidence for a female-specific auditory representation in the HVC nucleus during the breeding season. *Behav. Neurosci.*, **114**, 526-542.
- Del Negro, C. & Edeline, J. M. (2001). Sexual differences in HVC neuron properties in canary. *Soc. Neurosci. Abstr.*, **27**, 1709.
- Del Negro, C., Gahr, M., Leboucher, G. & Kreutzer, M. (1998). The selectivity of sexual responses to song displays: effects of partial chemical lesion of the HVC in female canaries. *Behav. Brain Res.*, **96**, 151-159.
- Delman, S. & Lotem, A. (1997). Variations in the structure of begging vocalisations in relation to hunger and body posture in house sparrow (*Passer domesticus*) nestlings. *Adv. Ethol.*, **32**, 241.
- Deng, C., Kaplan, G. & Rogers, L. J. (2001). Similarity of the song nuclei of male and female Australian magpies (*Gymnorhina tibicen*). *Behav. Brain Res.*, **123**, 89-102.
- Denisenko-Nehrbass, N. I. & Mello, C. V. (2001). Molecular targets of disulfiram action on song maturation in zebra finches. *Mol. Brain Res.*, **87**, 246-250.
- Denisenko-Nehrbass, N. I., Jarvis, E., Scharff, C., Nottebohm, F. & Mello, C. V. (2000). Site-specific retinoic acid production in the brain of adult songbirds. *Neuron*, **27**, 359-370.
- Depraz, V., Leboucher, G., Nagle, L. & Kreutzer, M. (1997). Sexy songs of male canaries: are they necessary for

- female nest-building? *Adv. Ethol.*, **32**, 122.
- Depraz, V., Leboucher, G. & Kreutzer, M. (2000). Early tutoring and adult reproductive behaviour in female domestic canary (*Serinus canaria*). *Anim. Cogn.*, **3**, 45-51.
- Derrickson, K. C. (1987). Yearly and situational changes in the estimate of repertoire size in northern mockingbirds (*Mimus polyglottos*). *Auk*, **104**, 198-207.
- Deviche, P., Dlaniak, S. M. & Ebbesson, S. E. (1999). Effects of testosterone and photoperiodic condition on vocal control region plasticity and song production in a male passerine bird. *Soc. Neurosci. Abstr.*, **25**, 865.
- Deviche, P. J., Bentley, G. E. & Ball, G. F. (2000). Photoperiod-dependent and -independent regulation of melatonin receptors in area X of songbirds: effect of reproductive state and interpretation of sex and species differences. *Soc. Neurosci. Abstr.*, **26**.
- Deviche, P. & Gullledge, C. C. (2000). Vocal control region sizes of an adult female songbird change seasonally in the absence of detectable circulating testosterone concentrations. *J. Neurobiol.*, **42**, 202-211.
- Devoogd, T. J., Krebs, J. R., Healy, S. D. & Purvis, A. (1993). Relations between song repertoire size and the volume of brain nuclei related to song: comparative evolutionary analyses amongst oscine birds. *Proc. Roy. Soc. Lond. Ser. B. Biol. Sci.*, **254**, 75-82.
- DeVoogd, T. J. & Szekely, T. (1998). Causes of avian song: using neurobiology to integrate proximate and ultimate levels of analysis. In *Animal Cognition in Nature* (R. P. Balda and I. M. Pepperberg, eds.). Academic Press; San Diego, pp. 337-380.
- DeVoogd, T. J., Houtman, A. M. & Falls, J. B. (1995). White-throated sparrow morphs that differ in song production rate also differ in the anatomy of some song-related brain areas. *Neurobiology*, **28**, 202-213.
- DeVoogd, T. J. (1994). The neural basis for the acquisition and production of bird song. In *Causal Mechanisms of Behavioural Development* (J. A. Hogan & J. L. Bolhuis, eds.). Cambridge University Press; Cambridge, pp. 49-81.
- DeWolfe, B. B. & Baptista, L. F. (1995). Singing behavior, song types on their wintering grounds and the question of leap-frog migration in Puget Sound white-crowned sparrows. *Condor*, **97**, 376-389.
- DeWulf, V. & Bottjer, S. W. (2002). Age and sex differences in mitotic activity within the zebra finch telencephalon. *J. Neurosci.*, **22**, 4080-4094.
- Dhondt, A. A., Lambrechts, M. M. & Bijmens, L. (1989). Acoustic communication in birds and its differences from human language. In *Studies of Language Origins* (J. Wind, E. G. Pulleyblank, E. de Grolier & B. H. Bichakjian, eds.). John Benjamins; Amsterdam, pp. 273-281.
- Diamond, J. (1998). Geographic variation in vocalisations of the white-eye superspecies *Zosterops [Griseotinctus]* in the New Georgia group. *Emu*, **98**, 70-74.
- Dierschke, V. (1994). Calling activity of migrating tree pipits *Anthus trivialis* and yellow wagtails *Motacilla flava*. *Vogelwelt*, **115**, 15-18 (German).
- Ding, L. & Perkel, D. J. (2001). Physiological actions of dopamine in area X of the zebra finch in vitro. *Soc. Neurosci. Abstr.*, **27**, 1424.
- Dittrich, F., Feng, Y., Metzendorf, R. & Gahr, M. (1999). Estrogen-inducible, sex-specific expression of brain-derived neurotrophic factor mRNA in a forebrain song control nucleus of the juvenile zebra finch. *Proc. Natl. Acad. Sci. USA*, **96**, 8241-8246.
- Dlaniak, S. M. & Deviche, P. (1999). Chronic opioid receptor blockade does not affect song production or vocal control region volumes in adult male dark-eyed juncos (*Junco hyemalis*). *Soc. Neurosci. Abstr.*, **25**, 865.
- Dlaniak, S. M. & Deviche, P. (2001). Effects of testosterone and photoperiodic condition on song production and vocal control region volumes in adult male dark-eyed juncos (*Junco hyemalis*). *Horm. Behav.*, **39**, 95-105.
- Donaghey, B. A. (1995). Individual recognition in response to song playback in male and female wild mockingbirds (*Mimus polyglottos*). Unpubl. master's thesis. Emory University; Atlanta, Georgia.
- Dooling, R. J. (1991). Hearing in birds. In *The Evolutionary Biology of Hearing* (D. Webster, R. Fay & A. Popper, eds.). Springer Verlag; New York, pp. 545-559.
- Dooling, R. J. & Okanoya, K. (1995). The method of constant stimuli in testing auditory sensitivity in small birds. In *Methods in Comparative Psychoacoustics* (G. M. Klump, R. J. Dooling, R. R. Fay & W. C. Stebbins, eds.). Birkhaeuser; Basel, pp. 155-164.
- Dooling, R. J., Best, C. T. & Brown, S. D. (1995). Discrimination of synthetic full-formant and sinewave /ra-la/ continua by budgerigars (*Melopsittacus undulatus*) and zebra finches (*Taeniopygia guttata*). *J. Acoust. Soc. Am.*, **97**, 1839-1846.
- Dooling, R. J. & Ryals, B. M. (1997). Auditory perception and plasticity in the avian auditory system. *J. Acoust. Soc. Am.*, **101**, 3191.
- Doupe, A. J. & Solis, M. M. (1997). Song- and order-selective neurons develop in the songbird anterior

- forebrain during vocal learning. *J. Neurobiol.*, **33**, 694-709.
- Doupe, A. J. (1997). Song- and order-selective neurons in the songbird anterior forebrain and their emergence during vocal development. *J. Neurosci.*, **17**, 1147-1167.
- Doupe, A. J. & Kuhl, P. K. (1999). Birdsong and human speech: common themes and mechanisms. *Ann. Rev. Neurosci.*, **22**, 567-631.
- Doupe, A. J. & Solis, M. M. (1999). Song- and order-selective auditory response emerge in neurons of the songbird anterior forebrain during vocal learning. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 343-368.
- Doupe, A. J. & Konishi, M. (1992). Song selective auditory neurons emerge during vocal learning in the zebra finch. *Soc. Neurosci. Abstr.*, **18**, 527.
- Doupe, A. J. (1994). Specialized neural circuits for song learning: Song-selective neurons and their emergence during vocal development. *J. Ornithol.*, **135**, 425.
- Doupe, A. J. (1993). A neural circuit specialised for vocal learning. *Curr. Opin. Neurobiol.*, **3**, 104-111.
- Doutrelant, C. & Lambrechts, M. M. (2001). Macrogeographic variation in song: A test of competition and habitat effects in blue tits. *Ethology*, **107**, 533-544.
- Doutrelant, C., Blondel, J., Perret, P. & Lambrechts, M. M. (2000). Blue tit song repertoire size, male quality and interspecific competition. *J. Avian Biol.*, **31**, 360-366.
- Doutrelant, C., Leitao, A., Otter, K. & Lambrechts, M. M. (2000). Effect of blue tit song syntax on great tit territorial responsiveness: An experimental test of the character shift hypothesis. *Behav. Ecol. Sociobiol.*, **48**, 119-124.
- Doutrelant, C., Lemaitre, O. & Lambrechts, M. M. (2001). Song variation in blue tit *Parus caeruleus* populations from Corsica and mainland southern France. *Ardea*, **89**, 375-385.
- Doutrelant, C., Leitao, A., Giorgi, M., Lambrechts, M. M. (1999). Geographical variation in blue tit song, the result of an adjustment to vegetation type? *Behaviour*, **136**, 481-494.
- Doutrelant, C., Aubin, T., Hitier, S. & Lambrechts, M. M. (1998). Two distinct song populations of blue tit *Parus caeruleus* in the French Mediterranean. *Bioacoustics*, **9**, 1-16.
- Dowsett-Lemaire, F. (1994). The song of the Seychelles warbler *Acrocephalus sechellensis* and its African relatives. *Ibis*, **136**, 489-491.
- Drew, P. J. & Abbott, L. F. (2001). Modeling temporal combination selective neurons in the songbird. *Soc. Neurosci. Abstr.*, **27**, 842.
- Dudzinski, K. M. et al. (1991). The pine warbler song repertoire: a preliminary description and analysis. *Bull. Texas Ornithol. Soc.*, **24**, 30-38.
- Duffy, D. L. & Ball, G. F. (2002). Song predicts immunocompetence in male European starlings (*Sturnus vulgaris*). *Proc. Roy. Soc. Lond. B.*, **269**, 847-852.
- Duffy, D. L., Bentley, G. E. & Ball, G. F. (1999). Does sex or photoperiodic condition influence ZENK induction in response to song in European starlings? *Brain Res.*, **844**, 78-82.
- Dufty Jr., A. M. & Hanson, A. (1999). Vocal and behavioral responses of brown-headed cowbirds to flight whistles from different dialects. *Condor*, **101**, 484-492.
- Dufty, A. M., Jr. (1994). Vocalizations and brown-headed cowbird behavior. *J. Ornithol.*, **135**, 463.
- Dufty, A. M. Jr. (1986). Singing and the establishment and maintenance of dominance hierarchies in captive brown-headed cowbirds. *Behav. Ecol. Sociobiol.*, **19**, 49-55.
- Dufty, A. M., Jr. & Pugh, J. K. (1994). Response of male brown-headed cowbirds to broadcast of complete or partial flight whistles. *Auk*, **111**, 734-739.
- Duguay, J. P. & Ritchison, G. (1998). A contextual analysis of singing behavior in male tufted titmice. *J. Field Ornithol.*, **69**, 85-94.
- Dunn, A. M. & Zann, R. A. (1997). Effects of pair bond and presence of conspecifics on singing in captive zebra finches. *Behaviour*, **134**, 127-142.
- Dunn, A. M. & Zann, R. A. (1996). Undirected song in wild zebra finch flocks: Contexts and effects of mate removal. *Ethology*, **102**, 529-539.
- Dunn, A. M. & Zann, R. A. (1996). Undirected song encourages the breeding female zebra finch to remain in the nest. *Ethology*, **102**, 540-548.
- Durand, S. E., Zuo, M. X., Zhou, S. L. & Cheng, M. F. (1993). Avian auditory pathways show met-enkephalin-like immunoreactivity. *NeuroReport*, **4**, 727-730.
- Duyse, E. van, Pinxten, R. & Eens, M. (2000). Does testosterone affect the trade-off between investment in sexual/territorial behaviour and parental care in male great tits? *Behaviour*, **137**, 1503-1515.
- Duyse, E. van, Pinxten, R. & Eens, M. (2002). Effects of testosterone on song, aggression, and nestling feeding behavior in male great tits, *Parus major*. *Horm. Behav.*, **41**, 178-186.
- Eberhardt, L. S. (1996). Energy expenditure during singing: A reply to Gaunt et al. *Auk*, **113**, 721-723.
- Eberhardt, L. S. (1994). Oxygen consumption during singing by male Carolina wrens (*Thryothorus ludovicianus*). *Auk*, **111**, 124-130.

- Eens, M. (1997). Understanding the complex song of the European starling: an integrated approach. *Adv. Study Behav.*, **26**, 355-434.
- Eens, M., Pinxten, R. & Verheyen, R. F. (1993). Function of the song and song repertoire in the European starling *Sturnus vulgaris*: an aviary experiment. *Behaviour*, **125**, 51-66.
- Eens, M., Pinxten, R. & Verheyen, R. F. (1994). Variation in singing activity during the breeding cycle of the European starling *Sturnus vulgaris*. *Belg. J. Zool.*, **124**, 167-174.
- Eens, M., Pinxten, R. & Verheyen, R. F. (1992). Song learning in captive European starlings, *Sturnus vulgaris*. *Anim. Behav.*, **44**, 1131-1143.
- Eens, M. & Pinxten, R. (1998). Female song for mate attraction: an overlooked phenomenon? *Trends Ecol. Evol.*, **13**, 322-323.
- Einstein, J. (1995). Abnormal song in garden warbler (*Sylvia borin*) in two breeding seasons at Federsee. *Orn. Jh. Bad.-Wuertt.*, **11**, 229-230 (German).
- Elekovich, M. M. (1998). Song sparrow males use female-typical vocalizations in fall. *Condor*, **100**, 145-148.
- Elmberg, J. (1993). Song differences between North American and European white-winged crossbills (*Loxia leucoptera*). *Auk*, **110**, 385.
- Elmberg, J. (1992). Song-types of two-barred crossbills. *Birding World*, **5(5)**, 193.
- Enggist, P. (1997). Dialects in ravens *Corvus corax*: new aspects of an old problem. *Bioacoustics*, **8**, 255.
- Enggist-Dueblin, P. & Pfister, U. (1997). Communication in ravens (*Corvus corax*): call use in interactions between pair partners. *Adv. Ethol.*, **32**, 122.
- Eriksson, D. (1991). *The significance of song for species recognition and mate choice in the pied flycatcher, Ficedula hypoleuca*. Ph.D. dissertation. Uppsala University; Uppsala.
- Ernst, S. (1991). On the song of the willow tit *Parus montanus* in eastern Altai. *Monticola*, **6**, 178-182 (German).
- Espino, G. G., Botas, A., Rosenfield, D. B. & Helekar, S. A. (2000). Adult phase song plasticity in zebra finches triggered by a change in song patterns in their social environment. *Soc. Neurosci. Abstr.*, **26**.
- Espino, G. G., Lewis, C., Rosenfield, D. B. & Helekar, S. A. (2001). Modulation of predominant alpha/theta frequency profiles in slow auditory evoked responses of zebra finches. *Soc. Neurosci. Abstr.*, **27**, 843.
- Espmark, Y. O. & Lampe, H. M. (1993). Variations in the song of the pied flycatcher within and between breeding seasons. *Bioacoustics*, **5**, 33-65.
- Espmark, Y. (1999). Song of the snow bunting (*Plectrophenax nivalis*) in areas with and without sympatric passerines. *Can. J. Zool.*, **77**, 1385-1392.
- Espmark, Y. (1995). Individual and local variations in the song of the snow bunting (*Plectrophenax nivalis*) on Spitsbergen. *Bioacoustics*, **6**, 117-133.
- Etman, E. & ten Cate, C. (2001). Is there a role for 'peak-shift' in the evolution of song? *Adv. Ethol.*, **36**, 150.
- Evans, W. R. (1994). Nocturnal flight call of Bicknell's thrush. *Wilson Bull.*, **106**, 55-61.
- Ewert, D. N. & Kroodsma, D. E. (1994). Song sharing and repertoires among migratory and resident rufous-sided towhees. *Condor*, **96**, 190-196.
- Fairbairn, S. (1993). Superb lyrebirds in territorial dispute. *Astral. Birds*, **17**, 11.
- Falls, J. B. (1992). Playback: A historical perspective. In *Playback and Studies of Animal Communication: Problems and Prospects* (P. K. McGregor, ed.). Plenum Press; New York, pp. 11-34.
- Farries, M. A. & Perkel, D. J. (2002). A telencephalic nucleus essential for song learning contains neurons with physiological characteristics of both striatum and globus pallidus. *J. Neurosci.*, **22**, 3776-3787.
- Farries, M. A. (2001). The oscine song system considered in the context of the avian brain: lessons learned from comparative neurobiology. *Brain Behav. Evol.*, **58**, 80-100.
- Farries, M. A., Ding, L. & Perkel, D. J. (2000). Physiological properties of synapses in area X of the zebra finch. *Soc. Neurosci. Abstr.*, **26**.
- Fee, M. S., Shraiman, B., Pesaran, B. & Mitra, P. P. (1998). The role of nonlinear dynamics of the syrinx in the vocalizations of a songbird. *Nature*, **395**, 67-71.
- Fenske-Crawford, T. J. (1995). Red-eyed vireo incorporates call of broad-winged hawk. *Loon*, **67**, 249.
- Fessl, B. & Hoi, H. (1996). The significance of a two part song in the moustached warbler (*Acrocephalus melanopogon*). *Ethol. Ecol. Evol.*, **8**, 265-278.
- Fessl, B. & Hoi, H. (2000). Song complexity and song structure in the moustached warbler *Acrocephalus melanopogon*. *J. Avian Biol.*, **31**, 144-150.
- Few, P., Nowicki, S., Woolley, S. & Peters, S. (1996). Attrition during song learning in the absence of imitation is facilitated by a socially enriched environment. *Am. Zool.*, **36**, 92A.
- Ficken, M. S., Hailman, E. D. & Hailman, J. P. (1994). The chick-a-dee call system of the Mexican chickadee. *Condor*, **96**, 70-82.
- Ficken, M. S. & Popp, J. (1996). A comparative analysis of passerine mobbing calls. *Auk*, **113**, 370-380.
- Ficken, M. S. & Popp, J. W. (1995). Long-term persistence of a culturally transmitted vocalization of the black-capped chickadee. *Anim. Behav.*, **50**, 683-693.
- Ficken, M. S. (1989). Acoustic characteristics of alarm calls associated with predation risk in chickadees. *Anim.*



- Behav.*, **39**, 400-401.
- Fieder, M. & Dittami, J. P. (1994). The role of testosterone in chaffinch song learning. *J. Ornithol.*, **135** (Sonderheft), 159.
- Fiore, M., Clayton, N. S., Pistillo, L., Angelucci, F., Alleva, E. & Aloe, L. (1999). Song behavior, NGF level and NPY distribution in the brain of adult male zebra finches. *Behav. Brain Res.*, **101**, 85-92.
- Fischer, S. (1993). An atypically singing chaffinch (*Fringilla coelebs*) at Lake Mueggelsee (Berlin). *Berliner Orn. Ber.*, **3**, 38-43.
- Fischer, S., Frommolt, K.-H. & Tembrock, G. (1996). Variability of song in the great reed warbler *Acrocephalus arundinaceus*. *J. Orn.*, **137**, 503-513 (German).
- Fischer, S. (1994). Temporal and sequential organization of song in the great reed warbler *Acrocephalus arundinaceus*. *Bioacoustics*, **6**, 70-71.
- Fischer, S. (1993). Seasonal patterns of breeding and song production of the great reed warbler (*Acrocephalus arundinaceus*): With indications to the methods of mapping. *Berliner Orn. Ber.*, **3**, 9-20 (German).
- Fitch, W. T. (1999). Acoustic exaggeration of size in birds via tracheal elongation: Comparative and theoretical analyses. *J. Zool.*, **248**, 31-48.
- Fitri, L. L., Kreutzer, M., Bemé, I. & Durand, J. L. (1997). Dominance hierarchy, testosterone, behaviour, and singing performance in male canaries (*Serinus canarius*). *Adv. Ethol.*, **32**, 63.
- Fitri, L. L., Beme, I. & Kreutzer, M. (1997). The measurement of hierarchy of the canary *Serinus canaria* in the laboratory. *Bioacoustics*, **8**, 269-270.
- Fitter, R. S. R. (1996). Aberrant song of common whitethroat. *Brit. Birds*, **89**, 240.
- Fletcher, N. H. & Tarnopolsky, A. (1999). Acoustics of the avian vocal tract. *J. Acoust. Soc. Am.*, **105**, 35-56.
- Fletcher, N. H. (1989). Acoustics of bird song - some unresolved problems. *Comments Theor. Biol.*, **1**, 237-251.
- Floody, O. R. & Arnold, A. P. (1997). Song lateralization in the zebra finch. *Horm. Behav.*, **31**, 25-34.
- Foidart, A. & Balthazart, J. (1995). Sexual differentiation of brain and behavior in quail and zebra finches: Studies with a new aromatase inhibitor, R76713. *J. Steroid Biochem. Mol. Biol.*, **53**, 267-275.
- Forsman, J. T. & Moenkkonen, M. (2001). Responses by breeding birds to heterospecific song and mobbing call playbacks under varying predation risk. *Anim. Behav.*, **62**, 1067-1073.
- Forstmeier, W. & Balsby, T. J. S. (2002). Why mated dusky warblers sing so much: Territory guarding and male quality announcement. *Behaviour*, **139**, 89-111.
- Fortune, E. S. & Margoliash, D. (1992). Multiple auditory pathways into HVC. *Soc. Neurosci. Abstr.*, **18**, 1193.
- Fortune, E. S. & Margoliash, D. (1995). Parallel pathways and convergence onto HVC and adjacent neostriatum of adult zebra finches (*Taeniopygia guttata*). *J. Comp. Neurol.*, **360**, 413-441.
- Fortune, E. S. & Margoliash, D. (1992). Cytoarchitectonic organization and morphology of cells of the Field L complex in male zebra finches (*Taeniopygia guttata*). *J. Comp. Neurol.*, **325**, 388-404.
- Foster, E. F. & Bottjer, S. W. (1992). Axonal connections of a forebrain nucleus in male zebra finches. *Soc. Neurosci. Abstr.*, **18**, 528.
- Foster, E. F. & Bottjer, S. W. (2001). Lesions of a telencephalic nucleus in male zebra finches: Influences on vocal behavior in juveniles and adults. *J. Neurobiol.*, **46**, 142-165.
- Fotheringham, J. R., Martin, P. R. & Ratcliffe, L. (1997). Song transmission and auditory perception of distance in wood warblers (Parulinae). *Anim. Behav.*, **53**, 1271-1285.
- Fotheringham, J. (1993). *Analysis of signal degradation in transmission of black-capped chickadee song and response of males to the playback of "near" and "far" conspecific song*. BSc. (Honours) Thesis, Queen's University; Kingston, Ontario.
- Fotheringham, J. R. (1995). Differences in singing behavior between rufous-collared sparrows in Costa Rica and northwestern Argentina. *Condor*, **97**, 821-826.
- Fotheringham, R. J. & Ratcliffe, L. (1995). Song degradation and estimation of acoustic distance in black-capped chickadees (*Parus atricapillus*). *Can. J. Zool.*, **73**.
- Franz, M. & Goller, F. (2002). Respiratory units of motor production and song imitation in the zebra finch. *J. Neurobiol.*, **51**, 129-141.
- Freeberg, T. M., King, A. P. & West, M. J. (1995). Social malleability in cowbirds: species and mate recognition in the first two years of life. *J. Comp. Psychol.*, **109**, 357-367.
- Freeberg, T. M. & Lucas J. R. (2002). Receivers respond differently to chick-a-dee calls varying in note composition in Carolina chickadees, *Poecile carolinensis*. *Anim. Behav.*, **63**, 837-845.
- Freeberg, T. M., King, A. P. & West, M. J. (2001). It takes a village to raise a communicative culture: Vocal traditions and courtship patterns in cowbirds. *Dev. Psychobiol.*, **38**, 202.
- Freeberg, T. M., King, A. P. & West, M. J. (2001). Cultural transmission of vocal traditions in cowbirds (*Molothrus ater*) influences courtship patterns and mate preferences. *J. Comp. Psychol.*, **115**, 201-211.
- Freeberg, T. M. & Lucas, J. R. (2001). Chick-a-dee calls and chickadee social organization: Analogue to language evolution? *Adv. Ethol.* **36**, 32.
- Freeberg, T. M. (1998). The cultural transmission of courtship patterns in cowbirds, *Molothrus ater*. *Anim.*

*Behav.*, **56**, 1063-1073.

- Freeberg, T. M. (2000). Culture and courtship in vertebrates: a review of social learning and transmission of courtship systems and mating patterns. *Behav. Process.*, **51**, 177-192.
- Frith, C. B. & Frith, D. W. (1994). Courts and seasonal activities at them by male tooth-billed bowerbirds, *Scenopoeetes dentirostris* (Ptilonorhynchidae). *Mem. Queensl. Mus.*, **37**, 121-145.
- Frith, C. B., Borgia, G. & Frith, D. W. (1996). Courts and courtship behaviour of Archbold's bowerbird *Archboldia papuensis* in Papua, New Guinea. *Ibis*, **138**, 204-211.
- Frith, C. B. & McGuire, M. (1996). Visual evidence of vocal avian mimicry by male tooth-billed bowerbirds *Scenopoeetes dentirostris* (Ptilonorhynchidae). *Emu*, **96**, 12-16.
- Frith, C. B. (1994). Adaptive significance of tracheal elongation in manucodes (Paradisaeidae). *Condor*, **96**, 552-555.
- Frommolt, K.-H. (1996). Intra- and interindividual variations in the song of the little bunting *Emberiza pusilla*. *Bioacoustics*, **6**, 315.
- Frommolt, K.-H. & Ernst, S. (1996). Greenish warbler (*Phylloscopus trochiloides*) imitates the song of a chaffinch (*Fringilla coelebs*). *Mitt. Ver. Saechs. Orn.*, **8**, 15-22.
- Fry, C. L. (1996). How perception guides production in birdsong learning. *Adv. Neural. Inf. Process. Syst.* **8**. Proceedings of the 1995 Conference, pp. 110-116.
- Fujita, K. (1994). The function of song in varied tits, who maintain a strong pair bond. *J. Ornithol.*, **135** (Sonderheft), 159.
- Fusani, L., Metzendorf, R., Wozniak, A., Hutchison, J. B. & Gahr, M. (1996). Estrogen dependence of vocal patterns in canaries. *Italian J. Anat. Embryol.*, **101**, 124.
- Fusani, L., Van't Hof, T., Hutchison, J. B. & Gahr, M. (2000). Seasonal expression of androgen receptors, estrogen receptors, and aromatase in the canary brain in relation to circulating androgens and estrogens. *J. Neurobiol.*, **43**, 254-268.
- Fuszara, M. & Matyjasiak, P. (2000). Possible interspecific song matching in male blackcaps. *Biol. Bull. Poznan*, **37**, 171-172.
- Gahr, M. & Metzendorf, R. (1999). The sexually dimorphic expression of androgen receptors in the song nucleus hyperstriatalis ventrale pars caudale of the zebra finch develops independently of gonadal steroids. *J. Neurosci.*, **19**, 2628-2636.
- Gahr, M. & Kosar, E. (1996). Identification, distribution, and developmental changes of a melatonin binding site in the song control system of the zebra finch. *J. Comp. Neurol.*, **367**, 308-318.
- Gahr, M., Guettinger, H. R. & Kroodsma, D. E. (1993). Estrogen receptors in the avian brain: survey reveals general distribution and forebrain areas unique to songbirds. *J. Comp. Neurol.*, **327**, 112-122.
- Gahr, M. & Guettinger, H.-R. (1986). Functional aspects of singing in male and female *Uraeginthus bengalus* (Estrildidae). *Ethology*, **72**, 123-131.
- Gahr, M. (1994). The role of estrogen in the differentiation of the vocal control system of songbirds. In *Perspectives in Comprehensive Endocrinology* (K. G. Davey, R. E. Peter & S. S. Tobe, eds.). National Council of Canada; Ottawa, pp. 455-463.
- Gahr, M., Sonnenschein, E. & Wickler, W. (1998). Sex differences in the size of the neural song control regions in a duetting songbird with similar song repertoire size of males and females. *J. Neurosci.*, **18**, 1124-1131.
- Gahr, M. (1998). Hormones make songs sexually attractive: hormone-dependent neural changes in the vocal control system of songbirds. *Zoology*, **100**, 260-272.
- Gahr, M. (2000). Neural song control system of hummingbirds: Comparison to swifts, vocal learning (songbirds) and nonlearning (suboscines) passerines, and vocal learning (budgerigars) and nonlearning (dove, owl, gull, quail, chicken) nonpasserines. *J. Comp. Neurol.*, **426**, 182-196.
- Gahr, M. & Metzendorf, R. (1997). Distribution and dynamics in the expression of androgen and estrogen receptors in vocal control systems of songbirds. *Brain Res. Bull.*, **44**, 509-517.
- Galeotti, P., Saino, N., Sacchi, R. & Moeller, A. P. (1997). Song correlates with social context, testosterone and body condition in male barn swallows. *Anim. Behav.*, **53**, 687-700.
- Galis, F. & van Alphen, J. J. M. (2000). How fast do crossbills speciate? On assortative mating and vocalizations. *Trends Ecol. Evol.*, **15**, 357.
- Garamszegi, L. Z., Boulinier, T., Moeller, A. P., Toeroek, J., Michl, G. & Nichols, J. D. (2002). The estimation of size and change in composition of avian song repertoires. *Anim. Behav.*, **63**, 623-630.
- Gardner, T. J., Cecchi, G., Magnasco, M., Laje, R. & Mindlin, G. B. (2001). Simple motor gestures for birdsong: A model of the minimum syringeal control necessary to produce canary song. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Gardner, T., Cecchi, G., Magnasco, M., Laje, R. & Mindlin, G. B. (2001). Simple motor gestures for birdsongs. *Phys. Rev. Lett.*, **87**, 208101.
- Gaunt, A. S. & Nowicki, S. (1996). Birdsong: Acoustics and physiology revisited. In *Acoustic Communication in*

- Animals: Recent Technical Advances* (S. L. Hopp, M. Owren & C. S. Evans, eds.). Springer-Verlag; Heidelberg.
- Gaunt, A. S. (1988). Interaction of syringeal structure and airflow in avian phonation. In *Acta XIX Congressus Internationalis Ornithologici* (H. Ouellet, ed.). Ottawa, Ontario, 1986. National Museum of Natural Science; Ottawa, pp. 915-924.
- Gaunt, A. S. (1986). Interaction of syringeal structure and airflow in avian phonation. *Acta XIX Congr. Int. Ornithol.*, pp. 915-924.
- Gaunt, A. S. (1987). Phonation. In *Bird Respiration* (T. J. Seller, ed.). CRC Press; Boca Raton, Florida, pp. 71-94.
- Gaunt, A. S., Bucher, T. L., Gaunt, S. L. L. & Baptista, L. F. (1996). Is singing costly? *Auk*, **113**, 718-721.
- Geberzahn, N., Hultsch, H. & Todt, D. (2001). Vocal matching in nightingales (*Luscinia megarhynchos*) in relation to the sequencing of song-types. *Adv. Ethol.*, **36**, 162.
- Gehr, D. D., Hofer, S. B., Marquardt, D. & Leppelsack, H. (2000). Functional changes in field L complex during song development of juvenile male zebra finches. *Dev. Brain Res.*, **125**, 153-165.
- Gentner, T. Q., Hulse, S. W., Duffy, D. & Ball, G. F. (2001). Response biases in auditory forebrain regions of female songbirds following exposure to sexually relevant variation in male song. *J. Neurobiol.*, **46**, 48-58.
- Gentner, T. Q. & Hulse, S. H. (1998). Perceptual mechanisms for individual vocal recognition in European starlings, *Sturnus vulgaris*. *Anim. Behav.*, **56**, 579-594.
- Gentner, T. Q., Hulse, S. H., Bentley, G. E. & Ball, G. F. (2000). Individual vocal recognition and the effect of partial lesions to HVC on discrimination, learning and categorization of conspecific song in adult songbirds. *J. Neurobiol.*, **42**, 117-133.
- Gentner, T. Q. & Hulse, S. H. (2000). Female European starling preference and choice for variation in conspecific male song. *Anim. Behav.*, **59**, 443-458.
- Gentner, T. Q. & Hulse, S. H. (2000). Perceptual classification based on the component structure of song in European starlings. *J. Acoust. Soc. Am.*, **107**, 3369-3381.
- Gentner, T. Q., Hulse, S. H. & Ball, G. F. (1999). IEG ZENK expression in songbirds during individual vocal recognition. *Soc. Neurosci. Abstr.*, **25**, 624.
- Gentner, T. Q. & Margoliash, D. (2001). Perception in songbirds: Defining a role for the forebrain region CHV. *Soc. Neurosci. Abstr.*, **27**, 842.
- Gentner, T. Q., Duffy, D. L., Kalondis, P., Ellis, E. & Hall, G. F. (1998). Behaviorally relevant variation in male song induces differential expression of the IEG ZENK in a sub-region of NCM in female starlings. *Soc. Neurosci. Abstr.*, **24**, 700.
- George, I., Cousillas, H., Richard, J.-P. & Hausberger, M. (2001). Perception of song in the European starling is lateralized. *Adv. Ethol.*, **36**, 163.
- George, I., Cousillas, H., Richard, J.-P. & Hausberger, M. (2002). Song perception in the European starling: hemispheric specialisation and individual variations. *C. R. Biol.*, **325**, 197-204.
- Gibbs, J. P. & Wenny, D. G. (1993). Song output as a population estimator: effect of male pairing status. *J. Field Ornithol.*, **64**, 316-322.
- Gil, D. (1998). Song characteristics and sexual selection in the willow warbler (*Phylloscopus trochilus*). Ph.D. thesis. University of St Andrews.
- Gil, D., Cobb, J. L. S. & Slater, P. J. B. (2001). Song characteristics are age dependent in the willow warbler, *Phylloscopus trochilus*. *Anim. Behav.*, **62**, 689-694.
- Gil, D., Graves, J. A. & Slater, P. J. B. (1999). Seasonal patterns of singing in the willow warbler: evidence against the fertility announcement hypothesis. *Anim. Behav.*, **58**, 995-1000.
- Gil, D. & Slater, P. J. B. (2000). Song organisation and singing patterns of the willow warbler, *Phylloscopus trochilus*. *Behaviour*, **137**, 759-782.
- Gil, D. (1997). Increased response of the short-toed treecreeper *Certhia brachydactyla* in sympatry to the playback of the song of the common treecreeper *C. familiaris*. *Ethology*, **103**, 632-641.
- Gil, D. & Slater, P. J. B. (1997). Song repertoire and mate choice in the willow warbler, *Phylloscopus trochilus*. *Adv. Ethol.*, **32**, 197.
- Gil, D. & Gahr, M. (2002). The honesty of bird song: multiple constraints for multiple traits. *Trends Ecol. Evol.*, **17**, 133-141.
- Gil, D. & Slater, P. J. B. (2000). Multiple song repertoire characteristics in the willow warbler (*Phylloscopus trochilus*): correlations with female choice and offspring viability. *Behav. Ecol. Sociobiol.*, **47**, 319-326.
- Gilbert, W. M. & Carroll, A. F. (1999). Singing in a mated female Wilson's warbler. *Wilson Bull.*, **111**, 134-137.
- Gill, S. A., Neudorf, D. L. & Sealy, S. G. (1997). Host responses to cowbirds near the nest: cues for recognition. *Anim. Behav.*, **53**, 1287-1293.
- Glass, G. J. (1992). Dawn call of the pied butcherbird near Toowoomba. *Sunbird*, **22**, 19-20.

- Glasse, B. & Forbes, S. (2002). Muting individual nestlings reduces parental foraging for the brood. *Anim. Behav.*, **63**, 779-786.
- Godard, R. (1993). Red-eyed vireos have difficulty recognizing individual neighbors' songs. *Auk*, **110**, 857-862.
- Godard, R. & Wiley, R. H. (1995). Individual recognition of song repertoires in two wood warblers. *Behav. Ecol. Sociobiol.*, **37**, 119-123.
- Goldman, S. A., Zukhar, A. & Mikawa, T. (1992). In vitro neurogenesis by multipotential precursor cells of the adult avian brain. *Soc. Neurosci. Abstr.*, **18**, 770.
- Goller, F. & Daley, M. A. (2001). Novel motor gestures for phonation during inspiration enhance the acoustic complexity of birdsong. *Proc. Roy. Soc. Lond. B.*, **268**, 2301-2305.
- Goller, F. & Suthers, R. A. (1995). Implications for lateralization of bird song from unilateral gating of bilateral motor patterns. *Nature*, **373**, 63-66.
- Goller, F. & Larsen, O. N. (1997). A new mechanism of sound generation in songbirds. *Proc. Natl. Acad. Sci. USA*, **94**, 14787-14791.
- Goller, F. & Suthers, R. A. (1992). Activity of syringeal muscles during song in mimic thrushes. *Soc. Neurosci. Abstr.*, **18**, 527.
- Goller, F. (1999). Contributions of expiratory muscles to song production in zebra finches. *Soc. Neurosci. Abstr.*, **25**, 1366.
- Goller, F. & Suthers, R. A. (1996). The role of syringeal muscles in gating airflow and sound production in singing brown thrashers. *J. Neurophysiol.*, **75**, 867-876.
- Goller, F. & Suthers, R. A. (1999). Bilaterally symmetrical respiratory activity during lateralized birdsong. *J. Neurobiol.*, **41**, 513-523.
- Gong, A., Freking, F. W., Wingfield, J., Schlinger, B. A. & Arnold, A. P. (1999). Effects of embryonic treatment with fadrozole on phenotype of gonads, syrinx, and neural song system in zebra finches. *Gen. Comp. Endocrinol.*, **115**, 346-353.
- Goodson, J. L., Eibach, R., Sakata, J. & Adkins-Regan, E. (1999). Effect of septal lesions on male song and aggression in the colonial zebra finch (*Taeniopygia guttata*) and the territorial field sparrow (*Spizella pusilla*). *Behav. Brain Res.*, **98**, 167-180.
- Goodson, J. L. (1998). Territorial aggression and dawn song are modulated by septal vasotocin and vasoactive intestinal polypeptide in male field sparrows (*Spizella pusilla*). *Horm. Behav.*, **34**, 67-77.
- Goodson, J. L. & Adkins-Regan, E. (1999). Effect of intraseptal vasotocin and vasoactive intestinal polypeptide infusions on courtship song and aggression in the male zebra finch (*Taeniopygia guttata*). *J. Neuroendocrinol.*, **11**, 19-25.
- Gorenzel, W. P. & Salmon, T. P. (1993). Tape-recorded calls disperse American crows from urban roosts. *Wildl. Soc. Bull.*, **21**, 334-338.
- Goretskaia, M. J. & Korbut, V. V. (2001). Birds' acoustic relations influence on their song structure. *Adv. Ethol.*, **36**, 166.
- Gossip, P. W. (1995). Strange calls of stone swallowing rook. *Scott. Bird News*, **39**, 6.
- Grace, J. A. & Theunissen, F. E. (2000). Processing of natural and synthetic sounds in the avian auditory forebrain. *Soc. Neurosci. Abstr.*, **26**.
- Grammer, M. K. & Bottjer, S. W. (2001). Silent synapses at neural substrates important for song learning in zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1424.
- Grant, P. R. & Grant, B. R. (1995). The founding of a new population of Darwin's finches. *Evolution*, **49**, 229-240.
- Grant, P. R. & Grant, B. R. (1997). Mating patterns of Darwin's finch hybrids determined by song and morphology. *Biol. J. Linn. Soc.*, **60**, 317-343.
- Grant, P. R., Grant, B. R. & Petren, K. (2000). The allopatric phase of speciation: the sharp-beaked ground finch (*Geospiza difficilis*) on the Galapagos islands. *Biol. J. Linn. Soc.*, **69**, 287-317.
- Grant, B. R. & Grant, P. R. (2002). Lack of premating isolation at the base of a phylogenetic tree. *Am. Natur.*, **160**, 1-19.
- Grant, P. R., Grant, B. R. & Petren, K. (2000). Vocalizations of Darwin's finch relatives. *Ibis*, **142**, 680-682.
- Grant, B. R. & Grant, P. R. (1996). Cultural inheritance of song and its role in the evolution of Darwin's finches. *Evolution*, **50**, 2471-2487.
- Gray, C. (1994). Categorical perception of species typical song in European starlings. Ph.D. thesis. Johns Hopkins University.
- Gray, D. A. & Hagelin, J. C. (1996). Song repertoires and sensory exploitation: reconsidering the case of the common grackle. *Anim. Behav.*, **52**, 795-800.
- Green, J. A. (1992). *The transmission of male song in Darwin's medium ground finch Geospiza fortis*. B. A. Thesis. Princeton University, Princeton, N. J.
- Greene, E. (1999). Toward an evolutionary understanding of song diversity in Oscines. *Auk*, **116**, 299-301.
- Greenlaw, J. S., Shackelford, C. E. & Brown, R. E. (1998). Call mimicry by eastern towhees and its significance

- in relation to auditory learning. *Wilson Bull.*, **110**, 431-434.
- Greenlaw, J. S. (1993). Behavioral and morphological diversification in sharp-tailed sparrows (*Ammodramus caudacutus*) of the Atlantic coast. *Auk*, **110**, 286-303.
- Griessmann, B. & Naguib, M. (2001). Sharing of song repertoire in neighboring and non-neighboring thrush nightingales, *Luscinia luscinia*. *Zoology* (Jena), **103**, Suppl., 3, 42.
- Grisham, W. & Arnold, A. P. (1994). Distribution of GABA-like immunoreactivity in the song system of the zebra finch. *Brain Res.*, **651**, 115-122.
- Grisham, W. & Arnold, A. P. (1995). A direct comparison of the masculinizing effects of testosterone, androstenedione, estrogen and progesterone on the development of the zebra finch song system. *J. Neurobiol.*, **26**, 163-170.
- Grisham, W., Lee, J., McCormick, M. E., Yang-Stayner, K., Kakar, N. R. & Arnold, A. P. (1999). Antiandrogen substantially blocks the estrogen-induced masculinization of the song system in female zebra finches. *Soc. Neurosci. Abstr.*, **25**, 865.
- Grisham, W., Mathews, G. A. & Arnold, A. P. (1994). Local intracerebral implants of estrogen masculinize some aspects of the zebra finch song system. *J. Neurobiol.*, **25**, 185-196.
- Grisham, W. & Arnold, A. P. (1992). GABA like immunoreactivity in the song system of the zebra finch. *Soc. Neurosci. Abstr.*, **18**, 528.
- Grisham, W., Lee, J., McCormick, M. E., Yang-Stayner, K. & Arnold, A. P. (2002). Antiandrogen blocks estrogen-induced masculinization of the song system in female zebra finches. *J. Neurobiol.*, **51**, 1-18.
- Groothuis, T. G. G. (1993). The ontogeny of social displays: Form development, form fixation, and change in context. *Adv. Study Behav.*, **22**, 269-322.
- Groothuis, T. G. G., Morimando, F., Hutchison, R. & Vos, D. (1997). Aspects of vocal development in doves, gulls, and zebra finches. *Adv. Ethol.*, **32**, 30.
- Groothuis, T. G. G. (1993). A comparison between development of bird song and development of other displays. *Neth. J. Zool.*, **43**, 172-192.
- Groth, J. G. (1993). Evolutionary differentiation in morphology, vocalizations, and allozymes among nomadic sibling species in the North American red crossbill (*Loxia curvirostra*) complex. *Univ. Calif. Publ. Zool.*, **127**, 1-143.
- Groth, J. G. (1993). Call matching and positive assortative mating in red crossbills. *Auk*, **110**, 398-401.
- Guettinger, H. R., Schwager, G., Pesch, A., Heid, P. & Wachel, K. (1990). Hormones and sensitive phases for song learning in the canary (*Serinus canaria*). In *Proc. 19th Int. Ornithol. Congr., Ottawa* (E. H. Quillet, ed). University of Ottawa Press; Ottawa, pp. 905-914.
- Gulledge, C. C. & Deviche, P. (1998). Photoperiod and testosterone independently affect vocal control region volumes in adolescent male songbirds. *J. Neurobiol.*, **36**, 550-558.
- Gulledge, C. C. & Deviche, P. (1999). Age- and sex-related differences in opioid receptor densities in the songbird vocal control system. *J. Comp. Neurol.*, **404**, 505-514.
- Gulledge, C. C. & Deviche, P. (1997). Androgen control of vocal control region volumes in a wild migratory songbird (*Junco hyemalis*) is region and possibly age dependent. *J. Neurobiol.*, **32**, 391-402.
- Gutzwiller, K. J., Wiedenmann, R. T., Clements, K. L. & Anderson, S. H. (1994). Effects of human intrusion on song occurrence and singing consistency in sub-alpine birds. *Auk*, **111**, 28-37.
- Gutzwiller, K. J., Kroese, E. A., Anderson, S. H. & Wilkins, C. A. (1997). Does human intrusion alter the seasonal timing of avian song during breeding periods? *Auk*, **114**, 55-65.
- Gwinner, H. & Gwinner, E. (1994). Effects of testosterone on nest-box occupation and associated behaviours by male European starlings (*Sturnus vulgaris*). *Behaviour*, **129**, 141-147.
- Haeusler, U. (1989). *The structural and functional organisation of the auditory pathway in the caudal forebrain of the starling*. Dissertation. Zoological Institute, Technical University; Munich (German).
- Haftorn, S. (1999). Calls by willow tits (*Parus montanus*) during ringing and after release. *J. Ornithol.*, **140**, 51-56.
- Haftorn, S. (1995). Coal tit *Parus ater* song repertoires and the Beau Geste hypothesis. *J. Ornithol.*, **136**, 279-283.
- Haftorn, S., Huang, W.-C., Griswold, C. K. & Hailman, J. P. (1998). Independent discoveries of a new apparently homologous call in the willow tit *Parus montanus* and black-capped chickadee *Parus atricapillus*. *Ibis*, **140**, 174-176.
- Haftorn, S. (1993). Ontogeny of the vocal repertoire in the willow tit *Parus montanus*. *Ornis Scand.*, **24**, 267-289.
- Haftorn, S. (1997). A unique local call in the willow tit *Parus montanus*. *Bioacoustics*, **7**, 267-280.
- Haftorn, S., Hailman, J. P. & Hailman, E. D. (1996). Heterospecific imitation by great tits *Parus major*. *Fauna Norv., Ser. C. Cinclus*, **19**, 39-48.
- Haftorn, S. & Hailman, J. P. (1997). Do the Siberian tits *Parus cinctus* in Scandinavia and Siberia speak the same language? *Bioacoustics*, **8**, 223-247.

- Haftorn, S. (1993). Willow warbler *Phylloscopus trochilus* imitating the song of the chiffchaff *P. collybita*. *Bull. Brit. Ornithol. Club*, **113**, 216-224.
- Haftorn, S. (1993). A brambling *Fringilla montifringilla* imitating the chaffinch *Fringilla coelebs* and greenfinch *Carduelis chloris*. *Ornis. Fenn.*, **70**, 119-123.
- Hahn, I. & Mattes, H. (2000). Vocalisations of the masafuera rayadito *Aphrastura masafuerae* on Isla Alejandro Selkirk, Chile. *Bioacoustics*, **11**, 149-158.
- Hahnloser, R. H. R. & Fee, M. S. (2001). The dynamics of HVC neurons in awake and sleeping zebra finch: The role of HVC in generating burst sequences in premotor nucleus RA. *Soc. Neurosci. Abstr.*, **27**, 841.
- Hailman, J. P. (1994). Constrained permutation in chick-a-dee-like calls of a black-lored tit *Parus xanthogenys*. *Bioacoustics*, **6**, 33-50.
- Hailman, J. P. & Griswold, C. K. (1996). Syntax of black-capped chickadee (*Parus atricapillus*) gargles sorts many types into few groups: Implications for geographic variation, dialect drift, and vocal learning. *Bird Behavior*, **11**, 39-57.
- Hailman, J. P., Ficken, M. S. & Ficken, R. W. (1987). Constraints on the structure of combinatorial 'chick-a-dee' calls. *Ethology*, **75**, 62-80.
- Hailman, E. D. & Hailman, J. P. (1990). Willow warblers *Phylloscopus trochilus* silently mob stuffed pygmy owl *Glaucidium passerinum*. *Fauna Norv., Ser. C., Cinclus*, **13**, 85-86.
- Hailman, J. P., Haftorn, S. & Hailman, E. D. (1994). Male Siberian tit *Parus cinctus* dawn serenades: suggestion for the origin of song. *Fauna Norv. Ser. C., Cinclus*, **17**, 15-26.
- Hailman, J. P. & Ficken, M. S. (1996). Comparative analysis of vocal repertoires, with reference to chickadees. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 136-159.
- Halkin, S. L. (1997). Nest-vicinity song exchanges may coordinate biparental care of northern cardinals. *Anim. Behav.*, **54**, 189-198.
- Halkin, S. L. (1990). Singing from the nest: intrapair communication in cardinals. Ph.D. thesis. University of Wisconsin at Madison.
- Hall, M. L. (2000). The function of duetting in magpie-larks: conflict, cooperation, or commitment? *Anim. Behav.*, **60**, 667-677.
- Hall, M. L. & Magrath, R. D. (2000). Duetting and mate-guarding in Australian magpie-larks (*Grallina cyanoleuca*). *Behav. Ecol. Sociobiol.*, **47**, 180-187.
- Hall, G. F. (1999). The neuroendocrine basis of seasonal changes in vocal behavior among songbirds. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 213-253.
- Halle, F., Gahr, M., Pieneman, A. W. & Kreutzer, M. (2002). Recovery of song preferences after excitotoxic HVC lesion in female canaries. *J. Neurobiol.*, **52**, 1-13.
- Halsema, K. A. & Bottjer, S. W. (1992). Chemical lesions of a thalamic nucleus disrupt song development in male zebra finches. *Soc. Neurosci. Abstr.*, **18**, 529.
- Halupka, K. & Halupka, L. (1998). Alarm calls and chick reaction: comments on Kleindorfer et al. (1996). *Anim. Behav.*, **55**, 502-503.
- Halupka, K. & Borowiec, M. (2001). Characteristics and functions of song flights in whitethroats *Sylvia communis*. *Adv. Ethol.*, **36**, 169.
- Halupka, K. (1998). Vocal begging by nestlings and vulnerability to nest predation in meadow pipits *Anthus pratensis*; to what extent do predation costs of begging exist? *Ibis*, **140**, 144-149.
- Hamao, S. & Ueda, K. (2000). Simplified song in an island population of the bush warbler *Cettia diphone*. *J. Ethol.*, **18**, 53-57.
- Hamao, S. (2000). When do males sing songs?: Costs and benefits of singing during a breeding cycle. *Jap. J. Ornithol.*, **49**, 87-98.
- Hamilton, K. S., King, A. P., Sengelaub, D. R. & West, M. J. (1997). A brain of her own: A neural correlate of song assessment in a female songbird. *Neurobiol. Learn. Mem.*, **68**, 325-332.
- Hamilton, K. S., King, A. P., Sengelaub, D. R. & West, M. J. (1998). Visual and song nuclei correlate with courtship skills in brown-headed cowbirds. *Anim. Behav.*, **56**, 973-982.
- Hansen, L. H., Klump, G. M. & Friedl, T. W. P. (2001). Vocal repertoires and element sharing in the red bishop (*Euplectes orix*). *Adv. Ethol.*, **36**, 170.
- Hansen, P. (1999). Long-term stability of song elements in the yellowhammer *Emberiza citrinella*. *Bioacoustics*, **9**, 281-295.
- Hanski, I. K. & Laurila, A. (1993). Variation in song rate during the breeding cycle of the chaffinch *Fringilla coelebs*. *Ethology*, **93**, 161-169.
- Hansson, M. C., Bensch, S. & Brannstrom, O. (2000). Range expansion and the possibility of an emerging contact zone between two subspecies of chiffchaff *Phylloscopus collybita* ssp. *J. Avian Biol.*, **31**, 548-558.

- Harbison, H., Nelson, D. A. & Hahn, T. P. (1999). Long-term persistence of song dialects in the mountain white-crowned sparrow. *Condor*, **101**, 133-148.
- Harding, C. F., Barclay, S. R. & Waterman, S. A. (1998). Changes in catecholamine levels and turnover rates in hypothalamic, vocal control, and auditory nuclei in male zebra finches during development. *J. Neurobiol.*, **34**, 329-346.
- Harding, C. F. & Whildin, S. L. (1999). The effects of altering noradrenergic function on song learning in finches. *Soc. Neurosci. Abstr.*, **25**, 865.
- Hartley, R. S., Chinn, M. S. & Ullrich, N. F. E. (1997). Left syringeal dominance in testosterone-treated female canaries. *Neurobiol. Learn. Mem.*, **67**, 248-253.
- Hartman, V. N., Miller, M. A., Clayton, D. F., Liu, W. C., Kroodsma, D. E. & Brenowitz, E. A. (2001). Testosterone regulates alpha-synuclein mRNA in the avian song system. *NeuroReport*, **12**, 943-946.
- Haskell, D. G. (1999). The effect of predation on begging-call evolution in nestling wood warblers. *Anim. Behav.*, **57**, 893-901.
- Haskell, D. (1994). Experimental evidence that nestling begging behaviour incurs a cost due to nest predation. *Proc. R. Soc. Lond. B.*, **257**, 161-164.
- Hasselquist, D., Bensch, S. & Ottosson, U. (1993). Diurnal song pattern in the great reed warbler *Acrocephalus arundinaceus*. *Ornis Svecica*, **3**, 125-136.
- Hasselquist, D. (1990). *Bird song and sexual selection*. Introductory Paper 56, University of Lund; Lund, 33 pp.
- Hasselquist, D., Bensch, S. & von Schantz, T. (1996). Correlation between male song repertoire, extra-pair paternity and offspring survival in the great reed warbler. *Nature*, **381**, 229-232.
- Hasselquist, D. (1998). Polygyny in great reed warblers: A long-term study of factors contributing to male fitness. *Ecology*, **79**, 2376-2390.
- Hatchwell, B. J., Ross, D. J., Fowlie, M. K. & McGowan, A. (2001). Kin discrimination in cooperatively breeding long-tailed tits. *Proc. Roy. Soc. Lond. B.*, **268**, 885-890.
- Hauber, M. E., Clayton, N. S., Kacelnik, A., Reboreda, J. C. & DeVoogd, T. J. (1999). Sexual dimorphism and species differences in HVC volumes of cowbirds. *Behav. Neurosci.*, **113**, 1095-1099.
- Hauber, M. E., Russo, S. A. & Sherman, P. W. (2001). A password for species recognition in a brood-parasitic bird. *Proc. Roy. Soc. Lond. B.*, **268**, 1041-1048.
- Hausberger, M., Henry, L. & Richard, M. A. (1995). Testosterone-induced singing in female European starlings (*Sturnus vulgaris*). *Ethology*, **99**, 193-208.
- Hausberger, M. (1993). How studies on vocal communication in birds contribute to a comparative approach to cognition. *Ethologia*, **3**, 171-185.
- Hausberger, M., Richard-Yris, M. A., Henry, L., Lepage, L. & Schmidt, I. (1995). Song sharing reflects the social organization in a captive group of European starlings (*Sturnus vulgaris*). *J. Comp. Psychol.*, **109**, 222-241.
- Hausberger, M. & Cousillas, H. (1996). Categorization in birdsong: from behavioural to neuronal responses. *Behav. Processes*, **35**, 83-91.
- Hausberger, M. & Jenkins, P. F. (1990). Song categories and their functions in the European starling. *Acta XX Congressus Internationalis Ornithologici II*, 1262-1272.
- Hausberger, M., Leppelsack, E., Richard, J.-P. & Leppelsack, H. J. (2000). Neuronal bases of categorization in starling song. *Behav. Brain Res.*, **114**, 89-95.
- Hausberger, M., Henry, L. & Richard, M. A. (1996). Testosterone-induced singing in female starlings (*Sturnus vulgaris*). *Ethology*, **99**, 193-208.
- Hausberger, M. (1997). Social influences on song acquisition and sharing in the European starling (*Sturnus vulgaris*). In *Social Influences on Vocal Development* (C. T. Snowdon and M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 128-156.
- Hauser, M. D. & Caffrey, C. (1994). Anti-predator response to raptor calls in wild crows, *Corvus brachyrhynchos hesperis*. *Anim. Behav.*, **48**, 1469-1471.
- Hayden, B. Y., Singh, N. C., Amin, N. & Theunissen, F. E. (2001). Hierarchical processing of natural sounds in the avian auditory forebrain. *Soc. Neurosci. Abstr.*, **27**, 1921.
- Heather, W. & Mehta, N. (1999). Changes in adult zebra finch song require a forebrain nucleus that is not necessary for song production. *J. Neurobiol.*, **38**, 14-28.
- Heckenlively, D. B. (1986). Descriptive analysis of simulated bird songs. *Collegiate Microcomputer*, **4**, 193-199.
- Hedenstroem, A. & Alerstam, T. (1996). Skylark optimal flight speeds for flying nowhere and somewhere. *Behav. Ecol.*, **7**, 121-126.
- Hedenstroem, A. (1995). Song flight performance in the skylark *Alauda arvensis*. *J. Avian Biol.*, **26**, 337-342.
- Hegelbach, J. (1996). Song ontogeny and repertoire size in ornithological bioacoustics: Different points of view or interspecific differences? *Ornithol. Beob.*, **93**, 111-118 (German).
- Hegelbach, J. & Spaar, R. (2000). Annual variation in singing activity of the song thrush (*Turdus philomelos*), with comments on high postbreeding song output. *J. Ornithol.*, **141**, 425-434 (German).

- Hegelbach, J. & Nabulon, T. (1998). A male common redstart *Phoenicurus phoenicurus* as mixed singer and breeding partner of a female black redstart *Ph. ochruros*. *Ornithol. Beob.*, **95**, 129-136 (German).
- Heid, P. (1988). *Organisation and hormonal regulation of song behaviour outside the breeding season in the canary (Serinus canaria)*. Ph.D. thesis, University of Kauserslautern.
- Heinrich, B. & Marzluff, J. M. (1991). Do common ravens yell because they want to attract others? *Behav. Ecol. Sociobiol.*, **28**, 13-21.
- Heinrich, B., Marzluff, J. M. & Marzluff, C. S. (1993). Common ravens are attracted by appeasement calls of food discoverers when attacked. *Auk*, **110**, 247-254.
- Heinrich, J. E., Nordeen, K. & Nordeen, E. (2001). An early decline in NMDAR2B mRNA levels within IMAN does not prevent extended learning in zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1424.
- Heinrich, J. E., Singh, T. D., Nordeen, K. W. & Nordeen, E. J. (2000). Developmental and hormonal regulation of NR2A mRNA in forebrain regions controlling avian vocal learning. *Soc. Neurosci. Abstr.*, **26**.
- Heinrich, J. E., Singh, T. D., Sohrabji, F., Nordeen, K. W. & Nordeen, E. J. (2002). Developmental and hormonal regulation of NR2A mRNA in forebrain regions controlling avian vocal learning. *J. Neurobiol.*, **51**, 149-159.
- Helb, H.-W. & Wallschlaeger, D. (1996). Geographical variation of the song of the scarlet rosefinch *Carpodacus erythrinus*. *Bioacoustics*, **6**, 316.
- Helb, H.-W. & Wallschlaeger, D. (1994). Geographic variation of song structure in the scarlet grosbeak. *J. Ornithol.*, **135** (Sonderheft), 160.
- Helbig, A. J., Martens, J., Seibold, I., Henning, F., Schottler, B. & Wink, M. (1996). Phylogeny and species limits in the Palearctic chiffchaff *Phylloscopus collybita* complex: mitochondrial genetic differentiation and bioacoustic evidence. *Ibis*, **138**, 650-666.
- Helekar, S. A., Marsh, S., Viswanath, N. S. & Rosenfield, D. B. (2000). Acoustic pattern variations in the female-directed birdsongs of a colony of laboratory-bred zebra finches. *Behav. Process.*, **49**, 99-110.
- Helekar, S. A., Botas, A., Espino, G. & Rosenfield, D. B. (1999). The induction of adaptation of song motifs by repeated singing in zebra finches. *Soc. Neurosci. Abstr.*, **25**, 1366.
- Henning, F., Schottler, B. & Martens, J. (1994). Island specific calls in Canary Islands chiffchaffs (*Phylloscopus collybita canariensis*). *Verh. Dtsch. Zool. Ges.*, **87**, 43 (German).
- Henning, F., Schottler, B. & Martens, J. (1994). Song and call differentiation of the Canary Island's chiffchaffs. *J. Ornithol.*, **135** (Sonderheft), 161.
- Henry, L. (1998). Influence of context on the vocal behaviour of birds. *Bull. Soc. Zool. France*, **123**, 231-238 (French).
- Henry, L. & Hausberger, M. (1994). Social influences on song learning in male and female European starlings. *J. Ornithol.*, **135** (Sonderheft), 161.
- Henry, L. (1994). *Influence of context on the vocal and socio-sexual behaviour of the female starling (Sturnus vulgaris)*. Ph.D. dissertation, Univ. Rennes, France (French).
- Henry, L., Hausberger, M. & Jenkins, P. F. (1994). The use of song repertoire changes with pairing status in male European starlings. *Bioacoustics*, **5**, 261-266.
- Henry, L. & Hausberger, M. (2001). Differences in the social context of song production in captive male and female European starlings. *Compt. R. Acad. Sci., Ser. III*, **324**, 1167-1174.
- Herremans, M. & Herremans, D. (1992). The imitative repertoire of a Kalahari robin *Erythropygia paena*. *Babbler*, **24**, 22-23.
- Herrmann, K. & Arnold, A. (1991). The development of afferent projections to the robust archistriatal nucleus in male zebra finches: a quantitative electron microscopic study. *J. Neurosci.*, **11**, 2063-2074.
- Hessler, N. A. & Doupe, A. J. (1999). Singing related neural activity in a dorsal forebrain basal ganglia circuit of adult zebra finches. *J. Neurosci.*, **19**, 10461-10481.
- Hessler, N. A. & Doupe, A. J. (1999). Social context modulates singing-related neural activity in the songbird forebrain. *Nature Neurosci.*, **2**, 209-211.
- Heuwinkel, H. (1990). The effect of vegetation on the transmission of songs of selected European Passeriformes. *Acta Biol. Benrodis*, **2**, 133-150.
- Hienz, R. D. & Sachs, M. B. (1987). Effects of noise on pure-tone thresholds in blackbirds (*Agelaius phoeniceus* and *Molothrus ater*) and pigeons (*Columba livia*). *J. Comp. Psychol.*, **101**, 16-24.
- Highsmith, R. T. (1989). *Function, form, and recognition of the songs of the golden-winged (Vermivora chrysoptera) and blue-winged (Vermivora pinus) warblers*. Ph.D. dissertation. University of Massachusetts; Amherst.
- Hill, C. E., Campbell, S. E., Nordby, J. C., Bur, J. M. & Beecher, M. D. (1999). Song sharing in two populations of song sparrows. *Behav. Evol. Sociobiol.*, **46**, 341-349.
- Hintz, V., Kreck, G. & Nixdorf-Bergweiler, B. E. (1999). Deprivation of memory formation for song in female birds severely affects neuronal structure in song system nuclei. *Soc. Neurosci. Abstr.*, **25**, 1891.
- Ho, C. E., Pesaran, B., Fee, M. S. & Mitra, P. P. (1998). Characterization of the structure and variability of zebra



- finch song elements. *Proc. Joint Symp. Neural Comp.*, **5**, 76-83.
- Hoag, D. J. (1999). Hybridization between clay-colored sparrow and field sparrow in Northern Vermont. *Wilson Bull.*, **111**, 581-584.
- Hoax, B. B. & ten Cate, C. (1999). Do stimulus-stimulus contingencies affect song learning in zebra finches (*Taeniopygia guttata*)? *J. Comp. Psychol.*, **113**, 235-241.
- Hodos, W. (1999). Avian behavioural neuroscience: Past, present and future perspectives. *Behav. Brain Res.*, **98**, 181-182.
- Hoese, W. J., Mooney, R. & Nowicki, S. (2000). Neural encoding of multiple song types in the swamp sparrow HVC. *Am. Zool.*, **40**, 1059-1060.
- Hoese, W. J., Nowicki, S., Moore, J. & Mooney, R. (2000). Auditory encoding of multiple song types in the swamp sparrow HVC. *Soc. Neurosci. Abstr.*, **26**.
- Hoese, W. J., Podos, J., Boetticher, N. C. & Nowicki, S. (2000). Vocal tract function in birdsong production: Experimental manipulation of beak movements. *J. Exp. Biol.*, **203**, 1845-1855.
- Hofstad, E., Espmark, Y., Moksnes, A., Haugan, T. & Ingebrigtsen, M. (2002). The relationship between song performance and male quality in snow buntings (*Plectrophenax nivalis*). *Can. J. Zool.*, **80**, 524-531.
- Hogstad, O. (1995). Alarm calling by willow tits, *Parus montanus*, as mate investment. *Anim. Behav.*, **49**, 221-225.
- Hoi-Leitner, M., Hoi, H., Valera, F. & Romero-Pujante, M. (1997). Multi-male display sites in serins (*Serinus serinus*). *Adv. Ethol.*, **32**, 211.
- Hoi-Leitner, M., Nechtelberger, H. & Hoi, H. (1995). Song rate as a signal for nest site quality in blackcaps (*Sylvia atricapilla*). *Behav. Ecol. Sociobiol.*, **37**, 399-405.
- Hoi-Leitner, M., Nechtelberger, H. & Dittami, J. (1993). The relationship between individual differences in male song frequency and parental care in blackcaps. *Behaviour*, **126**, 1-12.
- Holland, J., Dabelsteen, T. & Paris, A. L. (2000). Coding in the song of the wren: importance of rhythmicity, syntax and element structure. *Anim. Behav.*, **60**, 463-470.
- Holland, J. & McGregor, P. K. (1996). Disappearing song dialects? The case of Cornish corn buntings. In *The Ecology and Conservation of Corn Buntings Miliaria calandra* (P. F. Donald & N. J. Aebischer, eds.). Peterborough, Joint Nature Conservation Committee. (UK Nature Conservation No. 13).
- Holland, J., McGregor, P. K. & Rowe, C. I. (1996). Changes in microgeographic song variation of the corn bunting *Miliaria calandra*. *J. Avian Biol.*, **27**, 47-55.
- Holland, J., Dabelsteen, T., Pedersen, S. B. & Larsen, O. N. (1997). Degradation of song in the wren, *Troglodytes troglodytes*. *Adv. Ethol.*, **32**, 115.
- Holland, J., Dabelsteen, T., Bjoern, C. P. & Pedersen, S. B. (2001). The location of ranging cues in wren song: evidence from calibrated interactive playback experiments. *Behaviour*, **138**, 189-206.
- Holland, J., Dabelsteen, T., Pedersen, S. B. & Paris, A. L. (2001). Potential ranging cues contained within the energetic pauses of transmitted wren song. *Bioacoustics*, **12**, 3-20.
- Holland, J. & McGregor, P. K. (1997). Disappearing song dialects? The case of Cornish corn buntings. In *The Ecology and Conservation of Corn Buntings Miliaria calandra* (P. F. Donald and N. J. Aebischer, eds.). Joint nature Conservation Committee; Peterborough, pp. 181-185.
- Holland, J., Dabelsteen, T., Paris, A. L. & Pedersen, S. B. (1999). Energetic tails: potential cues for ranging? *Adv. Ethol.*, **34**, 136.
- Holland, J., Dabelsteen, T., Pedersen, S. B. & Larsen, O. N. (1998). Degradation of wren *Troglodytes troglodytes* song: Implications for information transfer and ranging. *J. Acoust. Soc. Am.*, **103**, 2154-2166.
- Holland, J. (2000). *Song communication and degradation in the wren*. Ph.D. thesis. University of Copenhagen.
- Holloway, C. C. & Clayton, D. F. (2001). Estrogen synthesis in the male brain triggers development of the avian song control pathway in vitro. *Nature Neurosci.*, **4**, 170-175.
- Honda, E. & Okanoya, K. (1999). Acoustical and syntactical comparisons between songs of the white-backed munia (*Lonchura striata*) and its domesticated strain, the Bengalese finch (*Lonchura striata* var. *domestica*). *Zool. Sci. (Tokyo)*, **16**, 319-326.
- Hopp, S. L., Jablonski, P. & Brown, J. L. (2001). Recognition of group membership by voice in Mexican jays, *Aphelocoma ultramarina*. *Anim. Behav.*, **62**, 297-303.
- Horn, A. & Falls, J. B. (1991). Song switching in mate attraction and territory defense by western meadowlarks (*Sturnella neglecta*). *Ethology*, **87**, 262-268.
- Horn, A. G. & Falls, J. B. (1988). Repertoires and countersinging in western meadowlarks. *Ethology*, **77**, 337-343.
- Horn, A. G. & Falls, J. B. (1996). Categorization and the design of signals: The case of song repertoires. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 121-135.
- Horn, A. G. (1992). Field experiments on the perception of song types by birds: an overview. In *Playback and*

- Studies of Animal Communication* (P. K. McGregor, ed.). Plenum Press; New York, pp. 191-200.
- Horn, A. G. (1987). *Repertoires and song switching in western meadowlarks (Sturnella neglecta)*. Ph. D. dissertation, University of Toronto; Toronto.
- Horn, A. & Falls, J. B. (1987). Responses of western meadowlarks to song repetition and contrast. *Anim. Behav.*, **36**, 291-293.
- Horn, A. G., Dickinson, T. E. & Falls, J. B. (1993). Male quality and song repertoires in western meadowlarks *Sturnella neglecta*. *Can. J. Zool.*, **71**, 1059-1061.
- Horn, A. G., Leonard, M. L., Ratcliffe, L., Shackleton, S. A. & Weisman, R. G. (1992). Frequency variation in songs of black-capped chickadees *Parus atricapillus*. *Auk*, **109**, 847-852.
- Horn, A. G. (1996). Dawn song repertoires of tree swallows (*Tachycineta bicolor*). *Can. J. Zool.*, **74**, 1084-1091.
- Horne, B. van (1995). Assessing vocal variety in the winter wren, a bird with a complex repertoire. *Condor*, **97**, 39-49.
- Horning, C. L., Beecher, M. D., Stoddard, P. K. & Campbell, S. E. (1993). Song perception in the song sparrow: importance of different parts of the song in song type classification. *Ethology*, **94**, 46-58.
- Hosino, T. & Okanoya, K. (2000). Lesion of a higher-order song nucleus disrupts phrase level complexity in Bengalese finches. *NeuroReport*, **11**, 2091-2096.
- Hough II, G. E. & Volman, S. F. (2002). Short-term and long-term effects of vocal distortion on song maintenance in zebra finches. *J. Neurosci.*, **22**, 1177-1186.
- Hough, G. E., Nelson, D. A. & Volman, S. F. (2000). Re-expression of songs deleted during development in a closed-ended songbird, the white-crowned sparrow. *Soc. Neurosci. Abstr.*, **26**.
- Hough II, G. E. & Volman, S. F. (1996). Long-term effects of song perturbation on song production in zebra finches. *Soc. Neurosci. Abstr.*, **22**, 693.
- Hough II, G. E. & Volman, S. F. (1997). Auditory responses in songbird nucleus HVC to songs deleted during learning. *Soc. Neurosci. Abstr.*, **23**, 245.
- Hough II, G. E., Nelson, D. A. & Volman, S. F. (2000). Re-expression of songs deleted during vocal development in white-crowned sparrows, *Zonotrichia leucophrys*. *Anim. Behav.*, **60**, 279-287.
- Houx, B. B., ten Cate, C. & Feuth, E. (2000). Variations in zebra finch song copying: An examination of the relationship with tutor song quality and pupil behaviour. *Behaviour*, **137**, 1377-1389.
- Houx, B. B. & ten Cate, C. (1999). Song learning from playback in zebra finches: is there an effect of operant contingency? *Anim. Behav.*, **57**, 837-845.
- Houx, B. B. & ten Cate, C. (1999). Do stimulus-stimulus contingencies affect song learning in zebra finches (*Taeniopygia guttata*)? *J. Comp. Psychol.*, **113**, 235-242.
- Houx, B. & ten Cate, C. (1997). Can't zebra finches copy songs from tutor-tape? *Adv. Ethol.*, **32**, 79.
- Houx, B. B. & ten Cate, C. (1998). Do contingencies with tutor behaviour influence song learning in zebra finches? *Behaviour*, **135**, 599-614.
- Hovekamp, N. R. (1996). Intersexual vocal communication in the red-winged blackbird. *J. Field Ornithol.*, **67**, 376-383.
- Hudec, K. (1993). Song-types of the willow tit (*Parus montanus*) in the Czech and Slovak Republics. *Sylvia*, **29**, 69-71.
- Hughes, M., Nowicki, S. & Lohr, B. (1998). Call learning in black-capped chickadees (*Parus atricapillus*): The role of experience in the development of "chick-a-dee" calls. *Ethology*, **104**, 232-249.
- Hughes, M., Hultsch, H. & Todt, D. (2002). Imitation and invention in song learning in nightingales (*Luscinia megarhynchos* B., Turdidae). *Ethology*, **108**, 97-113.
- Hughes, M. & Hultsch, H. (1997). Is stereotypy in the song of the nightingale (*Luscinia megarhynchos*) learned? *Adv. Ethol.*, **32**, 116.
- Hughes, M., Nowicki, S., Searcy, W. A. & Peters, S. (1998). Song-type sharing in song sparrows: implications for repertoire function and song learning. *Behav. Ecol. Sociobiol.*, **42**, 437-446.
- Hulse, S. H., MacDougall-Shackleton, S. A. & Wisniewski, A. B. (1997). Auditory scene analysis by songbirds: stream segregation of bird song by European starlings. *J. Comp. Psychol.*, **111**, 3-13.
- Hultsch, H. (1991). Song ontogeny in birds: closed or open developmental programs? In *Synapse-Transmission, modulation* (N. Elsner & H. Penzlin, eds.). Thieme Verlag; Stuttgart, p. 576.
- Hultsch, H. & Todt, D. (1988). Song acquisition and acquisition constraints in the nightingale, *Luscinia megarhynchos*. *Naturwissenschaften*, **76**, 83-85.
- Hultsch, H. (1990). Recombination of acquired songs as a correlate of package formation. In *Brain-Perception-Cognition* (N. Elsner & G. Roth, eds.). Georg Thieme Verlag; Stuttgart, p. 433.
- Hultsch, H., Schleuss, F. & Todt, D. (1999). Auditory-visual stimulus pairing enhances perceptual learning in a songbird. *Anim. Behav.*, **58**, 143-149.
- Hultsch, H. (1993). Ecological versus psychobiological aspects of song learning in birds. *Etologia*, **3**, 309-323.
- Hultsch, H. & Todt, D. (1996). Rules of parameter variation in homotype series of birdsong can indicate a "sollwert" significance. *Behav. Processes*, **38**, 175-182.

- Hultsch, H. (1989). Ontogeny of song patterns and their performance mode in nightingales. In *Neural Mechanisms of Behaviour* (J. Erber, R. Menzel, H.-J. Pflueger and D. Todt, eds.). Thieme; Stuttgart, p. 113.
- Hultsch, H. (1994). Functional properties of hierarchy formation in song learning. *J. Ornithol.*, **135**, 423.
- Hultsch, H. & Todt, D. (2001). Stimulus primacy in the auditory song acquisition of nightingales. *Adv. Ethol.*, **36**, 182.
- Hultsch, H. & Todt, D. (1996). Discontinuous and incremental processes in the song learning of birds: evidence for a primer effect. *J. Comp. Physiol. A.*, **179**, 291-299.
- Hultsch, H. (1993). Tracing the memory mechanisms in the song acquisition of nightingales. *Neth. J. Zool.*, **43**, 155-171.
- Hultsch, H. (1991). Correlates of repertoire constriction in the song ontogeny of nightingales (*Luscinia megarhynchos*). *Verh. Dtsch. Zool. Ges.*, **84**, 474.
- Hultsch, H. & Todt, D. (1997). Effects of visual stimuli on the song acquisition of nightingales. *Adv. Ethol.*, **32**, 80.
- Hunsaker, D. (2000). Statistical requirements to demonstrate subtle impacts of noise on passerine bird populations. *J. Acoust. Soc. Am.*, **108**, 2515.
- Hunt, K., Wingfield, J. C., Astheimer, L. B., Buttemer, W. A. & Hahn, T. P. (1995). Temporal patterns of territorial behavior and circulating testosterone in the Lapland longspur and other arctic passerines. *Am. Zool.*, **35**, 274-284.
- Hunt, K. E., Hahn, T. P. & Wingfield, J. C. (1997). Testosterone implants increase song but not aggression in male Lapland longspurs. *Anim. Behav.*, **54**, 1177-1192.
- Hurd, C. R. (1996). Interspecific attraction to the mobbing calls of black-capped chickadees (*Parus atricapillus*). *Behav. Ecol. Sociobiol.*, **38**, 287-292.
- Hurly, T. A., Ratcliffe, L., Weary, D. M. & Weisman, R. (1992). White-throated sparrows *Zonotrichia albicollis* can perceive pitch change in conspecific song by using the frequency ratio independent of the frequency difference. *J. Comp. Psychol.*, **106**, 388-391.
- Hurly, T. A., Ratcliffe, L. & Weisman, R. G. (1990). Relative pitch recognition in white-throated sparrows (*Zonotrichia albicollis*). *Anim. Behav.*, **40**, 176-181.
- Hutchinson, J. M. C., McNamara, J. M. & Cuthill, I. C. (1993). Song, sexual selection, starvation and strategic handicaps. *Anim. Behav.*, **45**, 1153-1177.
- Hwang, B. Y. & Park, S. R. (1996). Neighbor-stranger discrimination of yellow-throated buntings (*Emberiza elegans*) and gray-headed buntings (*Emberiza fucata*) to playback of song. *Korean J. Zool.*, **39**, 89-97.
- Hylton, R. & Godard, R. D. (2001). Song properties of indigo buntings in open and forested habitats. *Wilson Bull.*, **113**, 243-245.
- Ikebuchi, M. & Okanoya, K. (1999). Song-releasing properties of video projected images in zebra finches and Bengalese finches: TFT monitors are more effective than CRT monitors. *Soc. Neurosci. Abstr.*, **25**, 1364.
- Ikebuchi, M. & Okanoya, K. (2000). Limited auditory memory for conspecific songs in a non-territorial songbird. *NeuroReport*, **11**, 3915-3919.
- Ikebuchi, M. & Okanoya, K. (2000). The site of hearing-induced gene expression in the avian telencephalon (NCM) is responsible for behaviorally mediated auditory memory retrieval. *Soc. Neurosci. Abstr.*, **26**.
- Ikebuchi, M. & Okanoya, K. (1999). Male zebra finches and Bengalese finches emit directed songs to the video images of conspecific females projected onto a TFT display. *Zool. Sci. (Tokyo)*, **16**, 63-70.
- Ikebuchi, M. (2000). Auditory memory formation and plastic changes in higher-order auditory areas in birds. *Jap. J. Anim. Psychol.*, **50**, 75-86.
- Ikeda, M., Takeuchi, H.-A. & Aoki, K. (1994). The role of sex steroid in two avian song behaviours differing in ontogenetic process. *Experientia*, **50**, 972-974.
- Ilyichev, V. & Silayeva, O. (1992). *Talking Birds*. John P. Kent, Ballyrichard Farm, Arklow, County Wicklow, Rep. of Ireland.
- Ilyina, T. A. & Ivankina, E. V. (2001). Seasonal variation of singing activity and relative effect of the advertising behaviour of males with different plumage colour in the pied flycatcher *Ficedula hypoleuca*. *Acta Ornithologica (Warsaw)*, **36**, 85-89.
- Irwin, D. E., Bensch, S. & Price, T. D. (2001). Speciation in a ring. *Nature*, **409**, 333-337.
- Irwin, D. E. (2000). Song variation in an avian ring species. *Evolution*, **54**, 998-1010.
- Irwin, D. E., Irwin, J. H. & Price, T. D. (2001). Ring species as bridges between microevolution and speciation. *Genetica*, **112-113**, 223-243.
- Isler, M. L., Isler, P. R. & Whitney, B. M. (1998). Use of vocalizations to establish species limits in antbirds (Passeriformes: Thamnophilidae). *Auk*, **115**, 577-590.
- Isler, M. L., Alonso, J. A., Isler, P. R., Valqui, T., Begazo, A. & Whitney, B. M. (2002). Rediscovery of a cryptic species and description of a new subspecies in the *Myrmeciza hemimelaena* complex

- (Thamnophilidae) of the Neotropica. *Auk*, **119**, 362-378.
- Isler, M. L., Alonso, J. A., Isler, P. R. & Whitney, B. M. (2001). A new species of *Percnostola* antbird (Passeriformes: Thamnophilidae) from Amazonian Peru, and an analysis of species limits within *Percnostola rufifrons*. *Wilson Bull.*, **113**, 164-176.
- Ivanitskii, V. V. (2001). The study of vocal and spatial interrelations between Blyth's reed warblers (*Acrocephalus dumetorum*) and marsh warblers (*A. palustris*). *Vestnik Moskovskogo Universiteta Seriya XVI Biologiya*, **1**, 3-8.
- Iyengar, S., Viswanathan, S. S. & Bottjer, S. W. (1999). Development of topography within song control circuitry of zebra finches during the sensitive period for song learning. *J. Neurosci.*, **19**, 6037-6057.
- Iyengar, S. & Bottjer, S. W. (2002). The role of auditory experience in the formation of neural circuits underlying vocal learning in zebra finches. *J. Neurosci.*, **22**, 946-958.
- Iyengar, S. & Bottjer, S. W. (2002). Development of individual axon arbors in a thalamocortical circuit necessary for song learning in zebra finches. *J. Neurosci.*, **22**, 901-911.
- Jacobs, E. C., Grisham, W. & Arnold, A. P. (1995). Lack of a synergistic effect between estradiol and dihydrotestosterone in the masculinization of the zebra finch song system. *J. Neurobiol.*, **27**, 513-319.
- Janata, P. (2001). Quantitative assessment of vocal development in the zebra finch using self-organizing neural networks. *J. Acoust. Soc. Am.*, **110**, 2593-2603.
- Janata, P. & Margoliash, D. (1999). Gradual emergence of song selectivity in sensorimotor structures of the male zebra finch song system. *J. Neurosci.*, **19**, 5108-5118.
- Janik, V. M. & Slater, P. J. B. (2000). The different roles of social learning in vocal communication. *Anim. Behav.*, **60**, 1-11.
- Jarvis, E. D. (2001). Insights from vocal learning birds into the neurobiology of human language. *Soc. Neurosci. Abstr.*, **27**, 843.
- Jarvis, E. D., Mello, C. M. & Nottebohm, F. (1995). Stimulus and behavior variables that influence the song-induced expression of an immediate early gene in the canary forebrain. *Learning Mem.*, **2**, 62-80.
- Jarvis, E. D., Schwabl, H., Ribeiro, S. & Mello, C. V. (1997). Brain gene regulation by territorial singing behavior in freely ranging songbirds. *Neuroreport*, **8**, 2073-2077.
- Jarvis, E. D. (1995). *A window into the molecular biology of song associative learning and memory in songbirds*. Doctoral Dissertation. The Rockefeller University; New York.
- Jarvis, E. D., Scharff, C., Grossman, M. R., Ramos, J. A. & Nottebohm, F. (1998). For whom the bird sings: context-dependent gene expression. *Neuron*, **21**, 775-788.
- Jenkins, D. & Watson, A. (2000). Dates of first arrival and song of birds during 1974-99 in mid-Deeside, Scotland. *Bird Study*, **47**, 249-251.
- Jesse, A. (1994). Song dialects and origins of insular populations of white-crowned sparrows. *J. Ornithol.*, **135** (Sonderheft), 162.
- Jie, Z. Z., Nickel, H. & Groh, G. (1994). On the occurrence and song of Jankowski's bunting (*Emberiza jankowskii*) in the Chinese province of Jilin. *J. Ornithol.*, **135**, 617-620 (German).
- Jin, H. & Clayton, D. F. (1997). Localized changes in immediate-early gene regulation during sensory and motor learning in zebra finches. *Neuron*, **19**, 1049-1059.
- Jin, H. & Clayton, D. F. (1997). Synelfin regulation during the critical period for song learning in normal and isolated juvenile zebra finches. *Neurobiol. Learn. Mem.*, **68**, 271-284.
- Johnsen, T. S. (1998). Behavioural correlates of testosterone and seasonal changes of steroids in red-winged blackbirds. *Anim. Behav.*, **55**, 957-965.
- Johnson, F., Sablan, M. M. & Bottjer, S. W. (1995). Topographic organization of a forebrain pathway involved with vocal learning in zebra finches. *J. Comp. Neurol.*, **358**, 260-278.
- Johnson, F. & Bottjer, S. W. (1994). Afferent influences on cell death and birth during development of a cortical nucleus necessary for learned vocal behavior in zebra finches. *Development*, **120**, 13-24.
- Johnson, L. S. & Searcy, W. A. (1996). Female attraction to male song in house wrens (*Troglodytes aedon*). *Behaviour*, **133**, 357-366.
- Johnson, F. & Rashotte, M. E. (2002). Food availability but not cold ambient temperature affects undirected singing in adult male zebra finches. *Physiol. Behav.*, **76**, 9-20.
- Johnson, F. & Bottjer, S. W. (1992). Growth and regression of thalamic efferents in the song control system of male zebra finches. *J. Comp. Neurol.*, **326**, 442-450.
- Johnson, F. & Bottjer, S. W. (1995). Differential estrogen accumulation among populations of projection neurons in the higher vocal center of male canaries. *J. Neurobiol.*, **26**, 87-108.
- Johnson, F. & Sellix, M. (2000). Reorganization of a telencephalic motor region during sexual differentiation and vocal learning in zebra finches. *Dev. Brain Res.*, **121**, 253-263.
- Johnson, F. & Bottjer, S. W. (1993). Hormone induced changes in identified cell populations of the higher vocal center in male canaries. *J. Neurobiol.*, **24**, 400-418.
- Johnson, F. & Rashotte, M. E. (2001). Song production in adult zebra finches is sensitive to food and water

- availability, but not ambient temperature variation. *Soc. Neurosci. Abstr.*, **27**, 1427.
- Johnson, T. D. (1988). Developmental explanation and the ontogeny of bird song: nature/nurture redux. *Behav. Brain Sci.*, **11**, 617-663.
- Johnson, F. & Soderstrom, K. (2000). Increased expression of endogenous biotin, but not BDNF, in telencephalic song regions during zebra finch vocal learning. *Dev. Brain Res.*, **120**, 113-123.
- Johnson, F., Conigliaro, T. & Foster, E. F. (2000). Organization and quantity of singing during zebra finch vocal learning. *Soc. Neurosci. Abstr.*, **26**.
- Johnson, F., Soderstrom, K. & Whitney, O. (2002). Quantifying song bout production during zebra finch sensory-motor learning suggests a sensitive period for vocal practice. *Behav. Brain Res.*, **131**, 57-65.
- Johnsrude, I. S., Weary, D. M., Ratcliffe, L. M. & Weisman, R. G. (1994). Effect of motivational context on conspecific song discrimination by brown-headed cowbirds (*Molothrus ater*). *J. Comp. Psychol.*, **108**, 172-178.
- Jones, A. E., ten Cate, C. & Slater, P. J. B. (1996). Early experience and plasticity of song in adult male zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **110**, 354-369.
- Jones, A. E. (1994). *Social influences on song and call note learning in the zebra finch (Taeniopygia guttata)*. Ph.D. thesis, University of St Andrews.
- Jones, A. E. & Slater, P. J. B. (1996). The role of aggression in song tutor choice in the zebra finch: cause or effect? *Behaviour*, **133**, 103-115.
- Jones, A. E. & Slater, P. J. B. (1993). Do young male zebra finches prefer to learn songs that are familiar to females with which they are housed? *Anim. Behav.*, **46**, 616-617.
- Jones, A. E., ten Cate, C. & Bijleveld, C. C. J. H. (2001). The interobserver reliability of scoring sonagrams by eye: a study on methods, illustrated on zebra finch songs. *Anim. Behav.*, **62**, 791-801.
- Jung, R. E., Morton, E. S. & Fleischer, R. C. (1994). Behavior and parentage of a white-throated sparrow x dark-eyed junco hybrid. *Wilson Bull.*, **106**, 189-202.
- Jurisevic, M. A. (1997). Acoustic perception of alarm and distress vocalisations by Australian raptors. *Adv. Ethol.*, **32**, 116.
- Jurisevic, M. A. & Sanderson, K. J. (1994). The vocal repertoires of six honeyeater (Meliphagidae) species from Adelaide, South Australia. *Emu*, **94**, 141-148.
- Jurisevic, M. & Sanderson, K. J. (1998). Acoustic perception of passerine anti-predator signals by Australian raptors. *Aust. J. Zool.*, **46**, 369-380.
- Jurisevic, M. A. (1999). Structural change of begging vocalisations and vocal repertoires in two hand-raised Australian passerines, the little raven *Corvus mellori* and white-winged chough *Corcorax melanorhamphos*. *Emu*, **99**, 1-8.
- Jurisevic, M. A., Sanderson, K. J. & Baudinette, R. V. (1999). Metabolic rates associated with distress and begging calls in birds. *Physiol. Biochem. Zool.*, **72**, 38-43.
- Jurisevic, M. A. & Sanderson, K. J. (1998). A comparative analysis of distress call structure in Australian passerine and non-passerine species: influence of size and phylogeny. *J. Avian Biol.*, **29**, 61-71.
- Kafitz, K. W., Guettinger, H. R. & Mueller, C. M. (1999). Seasonal changes in astrocytes parallel neuronal plasticity in the song control area HVC of the canary. *Glia*, **27**, 88-100.
- Katsir, Z. (1995). The meaning of the "variations" in the babbler "shout": A musical-ethological approach. *Behav. Processes*, **34**, 213-232.
- Katti, M. (2001). Vocal communication and territoriality during the non-breeding season in a migrant warbler. *Curr. Sci. (Bangalore)*, **80**, 419-423.
- Kay, J. N., Hannigan, P. & Kelley, D. B. (1999). Trophic effects of androgen: Development and hormonal regulation of neuron number in a sexually dimorphic vocal motor nucleus. *J. Neurobiol.*, **40**, 375-385.
- Kayser, B. (1999). Diurnal and seasonal variation in song activity. *Dansk Orn. Foren. Tidsskr.*, **93**, 91-103.
- Keast, A. (1994). The annual cycle in a vocalisation context: a comparison of the Eastern yellow robin *Eopsaltria australis* and Jacky winter *Microeca leucophaea*. *Emu*, **94**, 230-238.
- Keast, A. (1994). Temporal vocalisation patterns in members of a eucalypt forest bird community: The effects of weather on song production. *Emu*, **94**, 172-180.
- Keast, A. (1995). Diel temporal vocalisation patterns in the mistletoe bird (*Dicaeum hirundinaceum*) and seasonal abundance relative to the flowering and fruiting of the mistletoe *Dendrophthoe vitellina*. *Corella*, **19**, 2-7.
- Keast, A. (1993). Song structures and characteristics: Members of a Eucalypt forest bird community compared. *Emu*, **93**, 259-268.
- Keast, A. (1994). The dawn chorus in a eucalypt forest bird community, seasonal shifts in timing and contribution of individual species. *Corella*, **18**, 133-140.
- Kelley, D. B. (2001). Is song special? *Neuron*, **31**, 508-510.
- Kelley, D. B. (1997). Generating sexually differentiated songs. *Curr. Opin. Neurobiol.*, **7**, 839-843.
- Kempnaers, B., Verheyen, G. R. & Dhondt, A. A. (1997). Extrapair paternity in the blue tit (*Parus caeruleus*):

- Female choice, male characteristics and offspring quality. *Behav. Ecol.*, **8**, 481-492.
- Kentish, B., Harvey, J., Roberts, L. & Ross, J. (2001). Multivariate statistical analysis of songs of the male common blackbird (*Turdus merula*): An example from western Victoria, Australia. *Emu*, **101**, 335-340.
- Kershner, E. L. & Bollinger, E. K. (1999). Aggressive response of chickadees towards black-capped and Carolina chickadee calls in central Illinois. *Wilson Bull.*, **111**, 363-367.
- Kessler, P. & Martens, J. (1997). Territorial song tradition in the scarlet rosefinch (*Carpodacus erythrinus*). *Verhandl. Deutsch. Zool. Ges.*, **90**, 364.
- Keulen, C., Praxaysombath, B. & Ruwet, J. C. (1999). Reed bunting vocalizations: Individual and geographic variation of songs from 1982 to 1997. *Cahiers d'Ethologie*, **19**, 17-56.
- Keulen, C. (1999). Vocal communication in birds: Functions and roles of songs. *Cahiers d'Ethologie*, **19**, 175-220.
- Khanna, H. (1997). Comparing degradation in the Eastern towhee's (*Pipilo erythrophthalmus*) song introduction and trill. *Adv. Ethol.*, **32**, 117.
- Khayutin, S. N., Grinchenko, Yu. V. & Dmitrieva, L. P. (1986). Dependence of defensive behavior of altricial nestlings upon alarm-signal parameters: Neuroethological approach. *Neurosci. Behav. Physiol.*, **16**, 104-110.
- Kilner, R. (1998). Primary and secondary sex ratio manipulation by zebra finches. *Anim. Behav.*, **56**, 155-164.
- Kilner, R. M., Noble, D. G. & Davies, N. B. (1999). Signals of need in parent-offspring communication and their exploitation by the common cuckoo. *Nature*, **397**, 667-672.
- Kim, K. W. & Park, S. R. (1993). Intraindividual and interindividual variations of stereotyped songs in gray-headed bunting (*Emberiza fucata*). *Korean J. Zool.*, **36**, 476-486.
- Kimpo, R. R. & Doupe, A. J. (1997). FOS is induced by singing in distinct neuronal populations in a motor network. *Neuron*, **18**, 315-325.
- King, A. P., West, M. J. & White, D. J. (2002). The presumption of sociality: social learning in diverse contexts in brown-headed cowbirds (*Molothrus ater*). *J. Comp. Psychol.*, **116**, 173-181.
- King, A. S. (1989). Functional anatomy of the syrinx. In *Form and Function in Birds, Vol. 4*. (A. S. King & J. McLelland, eds.). Academic Press; New York, pp. 107-192.
- King, A. P., Freeberg, T. M. & West, M. J. (1996). Social experience affects the process and outcome of vocal ontogeny in two populations of cowbirds. *J. Comp. Psychol.*, **110**, 276-285.
- Kim, J., O'Loughlin, B., Kasparian, S. & Nottebohm, F. (1994). Cell death and neuronal recruitment in the high vocal center of adult male canaries are temporally related to changes in song. *Proc. Natl. Acad. Sci. USA*, **91**, 7844-7848.
- Kim, J. R., Fishman, Y., Sasportas, K., Alvarez-Buylla, A. & Nottebohm, F. (1999). Fate of new neurons in adult canary high vocal center during the first 30 days after their formation. *J. Comp. Neurol.*, **411**, 487-494.
- Kim, J. R. & Nottebohm, F. (1993). Direct evidence for loss and replacement of projection neurons in adult canary brain. *J. Neurosci.*, **13**, 1654-1663.
- Kittelberger, J. M. & Mooney, R. (2001). Acute BDNF injections that reversibly disrupt adult birdsong stability induce a rapid decrease in Trk receptor phosphorylation. *Soc. Neurosci. Abstr.*, **27**, 1425.
- Kittelberger, J. M. & Mooney, R. (2000). Acute BDNF injections in a vocal premotor nucleus in the avian song system reversibly disrupt adult song stability. *Soc. Neurosci. Abstr.*, **26**.
- Kittelberger, J. M. & Mooney, R. (1999). Lesions of LMAN that disrupt song development act trans-synaptically to modify synaptic connections in the vocal motor pathway. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Kittelberger, J. M. & Mooney, R. (1999). Lesions of an avian forebrain nucleus that disrupt song development alter synaptic connectivity and transmission in the vocal premotor pathway. *J. Neurosci.*, **19**, 9385-9398.
- Kleindorfer, S., Hoi, H. & Fessl, B. (1998). Alarm calls and chick reactions: distinguishing between levels of analysis. A reply to Curio. *Anim. Behav.*, **56**, 262-264.
- Kleindorfer, S., Hoi, H. & Fessl, B. (1998). Clarification of the chick reaction hypothesis. *Anim. Behav.*, **55**, 504-507.
- Kleindorfer, S., Hoi, H. & Fessl, B. (1996). Alarm calls and chick reactions in the moustached warbler, *Acrocephalus melanopogon*. *Anim. Behav.*, **51**, 1199-1206.
- Klinke, R. & Smolders, J. W. T. (1993). Performance of the avian inner ear. *Prog. Brain Res.*, **97**, 31-43.
- Klit, I. (1996). Function of the song in the lesser whitethroat *Sylvia curruca*. *Bioacoustics*, **6**, 300.
- Klit, I. (1997). The function of song forms in lesser whitethroat (*Sylvia curruca*). Cand. scient. thesis. Natural History Museum and University of Aarhus, Denmark.
- Klit, I. (1999). The function of song forms in the lesser whitethroat *Sylvia curruca*. *Bioacoustics*, **10**, 31-45.
- Kloubec, B. & Capek, M., Jr. (2000). Diurnal, nocturnal, and seasonal patterns of singing activity in marsh warblers. *Biologia (Bratislava)*, **55**, 185-193.

- Klump, G. M. (1996). Bird communication in the noisy world. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 321-338.
- Klump, G. M. & Nieder, A. (2001). Release from masking in fluctuating background noise in a songbird's auditory forebrain. *NeuroReport*, **12**, 1825-1829.
- Klump, G. M. & Maier, E. H. (1990). Temporal summation in the European starling (*Sturnus vulgaris*). *J. Comp. Psychol.*, **104**, 94-100.
- Klump, G. M. & Maier, E. H. (1991). Gap detection in the starling (*Sturnus vulgaris*). III. Coding of gaps by the auditory periphery. *J. Comp. Physiol. A.*, **168**, 469-476.
- Klump, G. M. & Maier, E. H. (1989). Gap detection in the starling (*Sturnus vulgaris*). I. Psychophysical thresholds. *J. Comp. Physiol. A.*, **164**, 531-538.
- Klump, G. M. (1996). Sound localization studies in non-specialized birds. In *Methods in Comparative Psychoacoustics* (G. M. Klump, R. J. Dooling, R. R. Fay and W. C. Stebbins, eds.). Birkhaeuser Verlag; Basel, pp. 221-233.
- Klump, G. M. & Langemann, U. (1995). Comodulation masking release in a songbird. *Hear. Res.*, **87**, 157-164.
- Kobayashi, K., Uno, H. & Okanoya, K. (2000). Lesioning the anterior forebrain pathway affects the production of learned song in adult Bengalese finches. *Soc. Neurosci. Abstr.*, **26**.
- Kobayashi, K., Uno, H. & Okanoya, K. (2001). Partial lesions in the anterior forebrain pathway affect song production in adult Bengalese finches. *NeuroReport*, **12**, 353-358.
- Koelliker, M., Brinkhof, M. W., Heeb, P., Fitze, P. S. & Richner, H. (2000). The quantitative genetic basis of offspring solicitation and parental response in a passerine bird with biparental care. *Proc. Roy. Soc. Lond. B.*, **267**, 2127-2132.
- Koepl, C., Manley, G. A. & Konishi, M. (2000). Auditory processing in birds. *Curr. Opin. Neurobiol.*, **10**, 474-481.
- Kogan, J. A. & Margoliash, D. (1998). Automated recognition of bird song elements from continuous recordings using dynamic warping and hidden Markov models: a comparative study. *J. Acoust. Soc. Am.*, **103**, 2185-2196.
- Kohl, I. & Sasvari, L. (1994). Singing and territorial behaviour of scarlet grosbeaks. *J. Ornithol.*, **135** (Sonderheft), 162.
- Kolb, H. (1990). Comparative studies on the songs of the blue-throat (*Luscinia svecica cyaneacula*) and the thrush nightingale (*Luscinia luscinia*) with special reference to the song structure. Diploma thesis. Freie Universität Berlin (German).
- Komdeur, J. & Hatchwell, B. J. (1999). Kin recognition: function and mechanism in avian societies. *Trends Ecol. Evol.*, **14**, 237-241.
- Konishi, M. (1994). Pattern generation in birdsong. *Curr. Opinion Neurobiol.*, **4**, 827-831.
- Konishi, M. (1994). An outline of recent advances in birdsong neurobiology. *Brain Behav. Evol.*, **44**, 279-285.
- Konishi, M. & Akutagawa, E. (1987). Hormonal control of cell death in a sexually dimorphic song nucleus in the zebra finches. In *Selective Neuronal Death* (Ciba Foundation Symposium 126). Wiley; Chichester, pp. 173-185.
- Kopachena, J. G. & Falls, J. B. (1993). Re-evaluation of morph-specific variations in parental behavior of the white-throated sparrow. *Wilson Bull.*, **105**, 48-59.
- Kopachena, J. G. & Crist, C. J. (2000). Microhabitat features associated with the song perches of painted and indigo buntings (Passeriformes: Cardinalidae) in northeast Texas. *Texas J. Sci.*, **52**, 133-144.
- Kopp, M. L. (1996). Ontogenetic changes in the temporal structure of the nightingale song. Ph.D. Thesis. Free University of Berlin (German).
- Korsia, S. & Bottjer, S. W. (1989). Developmental changes in the cellular composition of a brain nucleus involved with song learning in zebra finches. *Neuron*, **3**, 451-460.
- Krabbe, N. & Coopmans, P. (2000). Rediscovery of *Grallaria alleni* (Formicariidae) with notes on its range, song and identification. *Ibis*, **142**, 183-187.
- Krams, I. (2000). Long-range call use in dominance-structured crested tit *Parus cristatus* winter groups. *J. Avian Biol.*, **31**, 15-19.
- Krams, I. (2001). Communication in crested tits and the risk of predation. *Anim. Behav.*, **61**, 1065-1068.
- Kreutzer, M., Beme, I., Vallet, E. & Kiosseva, L. (1999). Social stimulation modulates the use of the "A" phrase in male canary songs. *Behaviour*, **136**, 1325-1334.
- Kreutzer, M., Vallet, E. & Nagle, L. (1996). Female canaries display to songs of early isolated males. *Experientia*, **52**, 277-280.
- Kreutzer, M. (1987). Reactions of cirl buntings (*Emberiza cirulus*) to playback of an atypical natural song: the use of own and neighbor's repertoire for song recognition. *J. Comp. Psychol.*, **101**: 382-386.
- Kreutzer, M., Vallet, E. & Nagle, L. (1994). Sexual responsiveness of female canaries to song bout organization. *Behaviour*, **129**, 293-305.

- Krokene, C., Anthonisen, K., Lifjeld, J. T. & Amundsen, T. (1996). Paternity and paternity assurance behaviour in the bluethroat, *Luscinia s. svecica*. *Anim. Behav.*, **52**, 405-417.
- Kroodsma, D. E. (1989). Male eastern phoebes (*Sayornis phoebe*: Tyrannidae, Passeriformes) fail to imitate songs. *J. Comp. Psychol.*, **103**, 227-232.
- Kroodsma, D. E. & James, F. C. (1994). Song variation within and among populations of red-winged blackbirds. *Wilson Bull.*, **106**, 156-162.
- Kroodsma, D. E. & Catchpole, C. K. (1988). Symposium 21: Intrasexual and intersexual functions of bird songs. *Acta XIX Int. Ornithol. Congr. (Ottawa)*, 1, 1356-1404.
- Kroodsma, D. E., Woods, R. W. & Goodwin, E. A. (2002). Falkland Island sedge wrens (*Cistothorus platensis*) imitate rather than improvise large song repertoires. *Auk*, **119**, 523-528.
- Kroodsma, D. E., Vielliard, J. M. E. & Stiles, F. G. (1996). Study of bird sounds in the Neotropics: Urgency and opportunity. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 269-281.
- Kroodsma, D. E. (1988). Contrasting styles of song development and their consequences among passerine birds. In *Evolution and Learning* (R. C. Bolles & M. D. Beecher, eds.). Lawrence Erlbaum Associates; Hillsdale, New Jersey, pp. 157-184.
- Kroodsma, D. E. (1996). Ecology of passerine song development. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 3-19.
- Kroodsma, D. E., Houlihan, P. W., Fallon, P. A. & Wells, J. A. (1997). Song development by grey catbirds. *Anim. Behav.*, **54**, 457-464.
- Kroodsma, D. E. & Miller, E. H., eds. (1996). *Ecology and Evolution of Acoustic Communication in Birds*. Comstock Publishing Associates, Cornell University Press; Ithaca and London.
- Kroodsma, D. E., Albano, D. J., Houlihan, P. W. & Wells, J. A. (1995). Song development by black-capped chickadees (*Parus atricapillus*) and Carolina chickadees (*P. carolinensis*). *Auk*, **112**, 29-43.
- Kroodsma, D. E. (1991). Contrasting styles of song development and their consequences among passerine birds. In *Evolution and Learning* (R. C. Bolles & M. D. Beecher, eds.). Lawrence Erlbaum; Hillsdale, New Jersey, pp. 157-184.
- Kroodsma, D. E., Sanchez, J., Stemple, D. W., Goodwin, E., da Silva, M. L. & Vielliard, J. M. E. (1999). Sedentary life style of Neotropical sedge wrens promotes song imitation. *Anim. Behav.*, **57**, 855-863.
- Kroodsma, D. E., Wilda, K., Salas, V. & Muradian, R. (2001). Song variation among *Cistothorus* wrens, with a focus on the Merida wren. *Condor*, **103**, 855-861.
- Kroodsma, D. E. (1999). Making ecological sense of song development by songbirds. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 319-342.
- Kroodsma, D. E. (1988). Song types and their use: developmental flexibility of the male blue-winged warbler. *Ethology*, **79**, 235-247.
- Kroodsma, D. E. (1990). How the mismatch between the experimental design and the intended hypothesis limits confidence in knowledge, as illustrated by an example from bird-song dialects. In *Interpretation and Explanation in the Study of Animal Behavior* (M. Bekoff and D. Jamieson, eds.). Westview Press; Boulder, Colorado, pp. 226-245.
- Kroodsma, D. E. (1993). Ecological aspects of passerine song development: A personal perspective. *Etologia*, **3**, 113-123.
- Kroodsma, D. E., Byers, B. E., Halkin, S. L., Hill, C., Minis, D., Bolsinger, J. R., Dawson, J.-A., Donelan, E., Farrington, J., Gill, F. B., Houlihan, P., Innes, D., Keller, G., Macaulay, L., Marantz, C. A., Ortiz, J., Stoddard, P. K. & Wilda, K. (1999). Geographic variation in black-capped chickadee songs and singing behavior. *Auk*, **116**, 387-402.
- Kroodsma, D. E., Liu, W.-C., Goodwin, E. & Bedell, P. A. (1999). The ecology of song improvisation as illustrated by North American sedge wrens. *Auk*, **116**, 373-386.
- Kruse, A. A., Stripling, R. & Clayton, D. F. (2001). Sex differences in the zenk gene response to song in zebra finches. *Soc. Neurosci. Abstr.*, **27**, 844.
- Kruse, A. A., Stripling, R. & Clayton, D. F. (2000). Minimal experience required for immediate early gene induction in zebra finch neostriatum. *Neurobiol. Learn. Memory*, **74**, 179-184.
- Kruse, A. A., Stripling, R. & Clayton, D. F. (2000). Brief song presentations induce zenk gene expression but not habituation in zebra finches. *Soc. Neurosci. Abstr.*, **26**.
- Kuczynski, L. (2000). Recognition of individuals of ortolan bunting *Emberiza hortulana* using image processing procedures. *Biol. Bull. Poznan*, **37**, 107-112.
- Kumar, A. & Bhatt, D. (2000). Vocal signals in a tropical avian species, the redvented bulbul *Pycnonotus cafer*: Their characteristics and importance. *J. Biosci.*, **25**, 387-396.



- Kumar, A. & Bhatt, D. (2001). Characteristics and significance of calls in oriental magpie robin. *Curr. Sci.* (Bangalore), **80**, 77-82.
- Kunc, H. P., Poesel, A. & Kempenaers, B. (2001). Changes in the dawn chorus of blue tits in relation to time of season and male age. *Adv. Ethol.*, **36**, 198.
- Lachlan, R. F., Verzijden, M., Lachlan, C., O'Brien, M. & Slater, P. (2001). Divergence of song in chaffinch (*Fringilla coelebs*) populations from the Canary Islands: Gene-culture coevolution in a natural laboratory? *Adv. Ethol.*, **36**, 200.
- Lachlan, R. F. & Slater, P. J. B. (1999). The maintenance of vocal learning by gene-culture interaction: The cultural trap hypothesis. *Proc. Roy. Soc. Lond. B.*, **266**, 701-706.
- Lachlan, R. F. & Slater, P. J. B. (1997). Investigating why birds use vocal learning by combining spatial game theory with cultural simulations. *Adv. Ethol.*, **32**, 82.
- Laiolo, P., Palestini, C. & Rolando, A. (2000). A study of choughs' vocal repertoire: variability related to individuals, sexes and ages. *J. Ornithol.*, **141**, 168-179.
- Lambrechts, M. M. (1996). Organization of birdsong and constraints on performance. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 305-320.
- Lambrechts, M. M. (1992). Male quality and playback in the great tit. In *Playback and Studies of Animal Communication* (P. K. McGregor, ed.). Plenum Press; New York, pp. 135-152.
- Lambrechts, M. M. & Dhondt, A. A. (1994). Individual voice discrimination in birds. *Curr. Ornithol.*, **12**, 115-139.
- Lambrechts, M. M. (1997). Song frequency plasticity and composition of phrase versions in great tits *Parus major*. *Ardea*, **85**, 99-109.
- Lampe, H. M. & Saetre, G.-P. (1995). Female pied flycatchers prefer males with larger song repertoires. *Proc. R. Soc. Lond., B.*, **262**, 163-167.
- Lampe, H. M. & Espmark, Y. O. (1994). Song structure reflects male quality in pied flycatchers, *Ficedula hypoleuca*. *Anim. Behav.*, **47**, 869-876.
- Lampe, H. M. & Slagsvold, T. (1994). Individual recognition based on male song in a female bird. *J. Ornithol.*, **135** (Sonderheft), 163.
- Lampe, H. M., Balsby, T. J. S., Espmark, Y. O., Dabelsteen, T., Pedersen, S. B. & McGregor, P. K. (2001). The function of twitter in the song of European redwings using interactive playback. *Adv. Ethol.*, **36**, 200-201.
- Lampe, H. M. & Slagsvold, T. (1998). Female pied flycatchers respond differently to songs of mates, neighbours and strangers. *Behaviour*, **135**, 269-285.
- Lampe, H. M., Lyngby, L., Kruszewicz, A., Dale, S. & Slagsvold, T. (1997). Blood parasites and song in the pied flycatcher, *Ficedula hypoleuca*. *Adv. Ethol.*, **32**, 194.
- Lampe, H. M. & Baker, M. C. (1994). Behavioural response to song playback by male and female white-crowned sparrows of two subspecies. *Bioacoustics*, **5**, 171-185.
- Lampe, H. M. (1987). The function of bird song in mate attraction and territorial defence, and the importance of song repertoires. D. Sc. Thesis, University of Trondheim.
- Lang, A. L. & Barlow, J. C. (1997). Cultural evolution in the Eurasian tree sparrow: divergence between introduced and ancestral populations. *Condor*, **99**, 413-423.
- Langemann, U., Gauger, B. & Klump, G. M. (1998). Auditory sensitivity in the great tit: perception of signals in the presence and absence of noise. *Anim. Behav.*, **56**, 763-769.
- Langemann, U., Tavares, J. & McGregor, P. K. (1997). Interactive playback with great tits: relationships between response pattern and male quality. *Adv. Ethol.*, **32**, 125.
- Langemann, U., Klump, G. M. & Dooling, R. J. (1995). Critical bands and critical-ratio bandwidth in the European starling. *Hear. Res.*, **84**, 167-176.
- Langemann, U. & Klump, G. M. (1994). Acoustic perception in birds: Can they profit from atmospheric turbulences to improve signal detection? *J. Ornithol.*, **135**, 422.
- Langemann, U. & Klump, G. M. (2001). Signal detection in amplitude-modulated maskers. I. Behavioural auditory thresholds in a songbird. *Eur. J. Neurosci.*, **13**, 1025-1032.
- Langemann, U. & Klump, G. M. (1992). Frequency discrimination in the European starling *Sturnus vulgaris*: a comparison of different measures. *Hear. Res.*, **63**, 43-51.
- Langmore, N. E. (1998). Functions of duet and solo songs of female birds. *Trends Ecol. Evol.*, **13**, 136-140.
- Langmore, N. E. (1995). Song and the variable mating systems of the dunnoek *Prunella modularis* and the alpine accentor *Prunella collaris*. Ph.D. thesis. University of Cambridge.
- Langmore, N. E., Davis, N. B., Hatchwell, B. J. & Hartley, I. R. (1996). Female song attracts males in the alpine accentor *Prunella collaris*. *Proc. R. Soc. Lond. B.*, **263**, 141-146.
- Langmore, N. E. (1999). Song tutor choice in polyandrous dunnoeks. *Ethology*, **105**, 125-136.
- Langmore, N. E. (1998). Reply from N. E. Langmore. *Trends Ecol. Evol.*, **13**, 323.

- Langmore, N. E. (1998). Dunnocks discriminate between the songs of familiar individuals without directional cues. *Behaviour*, **135**, 287-296.
- Langmore, N. (2000). Why female birds sing. In *Animal Signals. Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen and G. Rosenqvist, eds.). Tapir Academic Press; Trondheim, pp. 317-327.
- Langmore, N. E. (1996). Territoriality and song as flexible paternity guards in the dunnock and the alpine accentor. *Behav. Ecol.*, **7**, 183-188.
- Langmore, N. E. (1997). Song switching in monandrous and polyandrous dunnocks, *Prunella modularis*. *Anim. Behav.*, **53**, 757-766.
- Langmore, N. E. & Davies, N. B. (1997). Female dunnocks use vocalizations to compete for males. *Anim. Behav.*, **53**, 881-890.
- Larsen, O. N. & Goller, F. (1998). Vibratory behavior of the sound generating structures in the bird syrinx. *Soc. Neurosci. Abstr.*, **24**, 1187.
- Larsen, O. N. & Goller, F. (1999). Role of syringeal vibrations in bird vocalizations. *Proc. Roy. Soc. Lond. B.*, **266**, 1609-1616.
- Larsen, O. N. & Goller, F. (2002). Direct observation of syringeal muscle function in songbirds and a parrot. *J. Exp. Biol.*, **205**, 25-35.
- Larsen, O. N. & Dabelsteen, T. (1986). Directionality of blackbird song. In *Sensomotorik Identifizierte Neurone* (N. Elsner and W. Rathmayer, eds.). Georg Thieme Verlag; Stuttgart, pp. 217-221.
- Larsen, O. N. & Goller, F. (1997). Muscular control and biomechanics of the songbird syrinx. *Soc. Neurosci. Abstr.*, **23**, 243.
- Larsen, O. N., Dabelsteen, T., Pedersen, S. B., Bang-Moeller, M. & Nogales, M. (1997). Competitive release of song in the Tenerifean robin, *Erithacus rubecula superbus*. *Adv. Ethol.*, **32**, 117.
- Latruffe, C. & McGregor, P. K. (2001). Signal value of part songs and overlapping in corn buntings investigated by interactive playback. *Adv. Ethol.*, **36**, 201.
- Latruffe, C., McGregor, P. K., Tavares, J. P. & Mota, P. G. (2000). Microgeographic variation in corn bunting (*Miliaria calandra*) song: quantitative and discrimination aspects. *Behaviour*, **137**, 1241-1255.
- Lauay, C., Pflaster, A. & DeVogd, T. J. (2001). Neuroanatomical correlates of perceptual learning in female zebra finches (*Poephila guttata*). *Soc. Neurosci. Abstr.*, **27**, 843.
- Lauch, M. & Wallschlaeger, D. (1986). On the geographic variation in the song of the scarlet grosbeak (*Carpodacus erythrinus*). In *Verhaltensbiologie. Internat. Symp. Berlin 1983* (G. Tembrock, R. Siegmund and M. Nichelmann, eds.). Wiss. Schriftenr. Humboldt-Univ. Berlin, pp. 52-54. (German)
- Laussmann, H. (1991). *Inter- and intraspecific territoriality in reed warblers (Acrocephalus, Sylviinae) during the breeding season: Playback experiments*. Master Thesis. Julius-Maximilians-University; Würzburg (German).
- Lavenex, P. B., Lavenex, P. & Clayton, N. S. (2001). Comparative studies of postnatal neurogenesis and learning: A critical review. *Avian and Poultry Biology Reviews*, **12**, 103-125.
- Leader, N., Wright, J. & Yom-Tov, Y. (2002). Dialect discrimination by male orange-tufted sunbirds (*Nectarinia osea*): Reactions to own vs. neighbor dialects. *Ethology*, **108**, 367-376.
- Leader, N., Wright, J. & Yom-Tov, Y. (2000). Microgeographic song dialects in the orange-tufted sunbird (*Nectarinia osea*). *Behaviour*, **137**, 1613-1627.
- Leboucher, G., Depraz, V., Kreutzer, M. & Nagle, L. (1998). Male song stimulation of female reproduction in canaries: Features relevant to sexual displays are not relevant to nest-building or egg-laying. *Ethology*, **104**, 613-624.
- Leboucher, G., Kreutzer, M. & Dittami, J. (1994). Copulation-solicitation displays in female canaries (*Serinus canaria*): are oestradiol implants necessary? *Ethology*, **97**, 190-197.
- Lee, J., Mankowski, J. L., Arnold, A. P. & Grisham, W. (2000). Female zebra finch song system is masculinized by high but not low doses of estrogen. *Soc. Neurosci. Abstr.*, **26**.
- Leech, S. M. & Leonard, M. L. (1997). Begging and the risk of predation in nestling birds. *Behav. Ecol.*, **8**, 644-646.
- Leech, S. M. & Leonard, M. L. (1996). Is there an energetic cost to begging in nestling tree swallows (*Tachycineta bicolor*)? *Proc. R. Soc. Lond. B.*, **263**, 983-987.
- Leger, D. W., Brooks, K. E. & O'Brien, J. E. (2000). Versatility from a single song: The case of the nightingale wren. *Auk*, **117**, 1038-1042.
- Leisler, B., Beier, J., Staudter, H. & Wink, M. (2000). Variation in extra-pair paternity in the polygynous great reed warbler (*Acrocephalus arundinaceus*). *J. Ornithol.*, **141**, 77-84.
- Leitner, S., Gahr, M. & Voigt, C. (1997). Seasonal changes of song behaviour and brain structure in wild canaries, *Serinus canaria*. *Adv. Ethol.*, **32**, 118.
- Leitner, S., Voigt, C. & Gahr, M. (2001). Seasonal changes in the song pattern of the non-domesticated island canary (*Serinus canaria*), a field study. *Behaviour*, **138**, 885-904.

- Leitner, S., Voigt, C., Garcia-Segura, L. M., Van't Hof, T. & Gahr, M. (2001). Seasonal activation and inactivation of song motor memories in wild canaries is not reflected in neuroanatomical changes of forebrain song areas. *Horm. Behav.*, **40**, 160-168.
- Lemon, R. E., Falls, J. B., Dickinson, T., Perreault, S. & Tittler, R. (2000). Song clustering by meadowlarks: is it related to repertoire size? *Behaviour*, **137**, 75-92.
- Lemon, R. E., Dobson, C. W. & Clifton, P. G. (1993). Songs of American redstarts *Setophaga ruticilla*: sequencing rules and their relationships to repertoire size. *Ethology*, **93**, 198-210.
- Lemon, R. E., Perreault, S. & Weary, D. M. (1994). Dual strategies of song development in American redstarts, *Setophaga ruticilla*. *Anim. Behav.*, **47**, 317-329.
- Lemon, R. E., Perreault, S. & Weary, D. (1994). Strategies of song learning by American redstarts *Setophaga ruticilla*. *J. Ornithol.*, **135** (Sonderheft), 163.
- Lemon, R. E., Monette, S. & Roff, D. (1987). Song repertoires of American warblers (Parulinae): honest advertising or assessment? *Ethology*, **74**, 265-284.
- Leonard, M. L. & Horn, A. G. (2001). Begging calls and parental feeding decisions in tree swallows (*Tachycineta bicolor*). *Behav. Ecol. Sociobiol.*, **49**, 170-175.
- Leonard, M. L. & Horn, A. G. (2001). Acoustic signalling of hunger and thermal state by nestling tree swallows. *Anim. Behav.*, **61**, 87-93.
- Leonard, M. L., Horn, A. G., Brown, C. R. & Fernandez, N. J. (1997). Parent-offspring recognition in tree swallows, *Tachycineta bicolor*. *Anim. Behav.*, **54**, 1107-1116.
- Leonard, M. L., Fernandez, N. & Brown, G. (1997). Parental calls and nestling behavior in tree swallows. *Auk*, **114**, 668-672.
- Leonardo, A. & Konishi, M. (1999). Decrystallization of adult birdsong by perturbation of auditory feedback. *Nature*, **399**, 466-470.
- Leonardo, A. & Fee, M. S. (2000). Precise neural population dynamics underlying vocal control of a songbird. *Soc. Neurosci. Abstr.*, **26**.
- Levin, R. N., Paris, T. I. & Bester, J. K. (1996). Social versus innate influences on the development of sex-specific song in a tropical duetting wren. *Am. Zool.*, **36**, 92A.
- Levin, R. N. (1996). Song behaviour and reproductive strategies in a duetting wren, *Thryothorus nigricapillus*: I. Removal experiments. *Anim. Behav.*, **52**, 1093-1106.
- Levin, R. N. (1996). Song behaviour and reproductive strategies in a duetting wren, *Thryothorus nigricapillus*. II. Playback experiments. *Anim. Behav.*, **52**, 1107-1117.
- Levin, R. N. (1988). *The adaptive significance of song in the bay wren, Thryothorus nigricapillus*. Ph.D. dissertation, Cornell University; Ithaca, N.Y.
- Lewicki, M. S. & Konishi, M. (1995). Mechanisms underlying the sensitivity of songbird forebrain neurons to temporal order. *Proc. Natl. Acad. Sci. USA*, **12**, 5582-5586.
- Lewis, M. (1994). Song complexity in the golden whistler: The result of interspecific competition? *J. Ornithol.*, **135** (Sonderheft), 164.
- Li, R., Zuo, M.-X. & Sakaguchi, H. (1999). Auditory-vocal cholinergic pathway in zebra finch brain. *NeuroReport*, **10**, 165-170.
- Li, X. & Jarvis, E. (2001). Sensory- and motor-driven BDNF expression in a vocal communication system. *Soc. Neurosci. Abstr.*, **27**, 1425.
- Li, R., Taniguchi, I. & Sakaguchi, H. (2000). Auditory-vocal cholinergic pathway in the songbird brain. *Can. J. Physiol. Pharmacol.*, **78**, 1072-1076.
- Li, X. C., Jarvis, E. D., Alvarez-Borda, B., Lim, D. A. & Nottebohm, F. (2000). A relationship between behavior, neurotrophin expression, and new neuron survival. *Proc. Natl. Acad. Sci. USA*, **97**, 8584-8589.
- Li, R. & Sakaguchi, H. (1997). Cholinergic innervation of the song control nuclei by the ventral paleostriatum in the zebra finch: a double-labeling study with retrograde fluorescent tracers and choline acetyltransferase immunohistochemistry. *Brain Res.*, **763**, 239-246.
- Lieshoff, C., Proeve, E. & Bischof, H.-J. (2000). Testosterone-dependent plasticity of avian forebrain neurons is not restricted to the song control system. *NeuroReport*, **11**, 2479-2483.
- Lind, H., Dabelsteen, T. & McGregor, P. K. (1996). Female great tits can identify mates by song. *Anim. Behav.*, **52**, 667-671.
- Lindell, C. (1998). Limited geographic variation in the vocalizations of a neotropical furnariid, *Synallaxis albescens*. *Wilson Bull.*, **110**, 368-374.
- Linden, A. van der, Verhoye, M., van Meir, V., Tindemans, I., Eens, M., Absil, P. & Balthazart, J. (2002). In vivo manganese-enhanced magnetic resonance imaging reveals connections and functional properties of the songbird vocal control system. *Neurosci.*, **112**, 467-474.
- Lints, T., Tchernichovski, O. & Nottebohm, F. (1999). Induction of rapid song imitation for studying the molecular bases of song learning. *Soc. Neurosci. Abstr.*, **25**, 1366.

- Liu, W.-C. & Kroodsma, D. E. (1999). Song development by chipping sparrows and field sparrows. *Anim. Behav.*, **57**, 1275-1286.
- Livingston, F. S., White, S. A. & Mooney, R. (2000). Slow NMDA-EPSCs at synapses critical for song development are not required for song learning in zebra finches. *Nature Neurosci.*, **3**, 482-488.
- Livingston, F. S. & Mooney, R. (2000). Testosterone and isolation differentially affect the intrinsic properties of IMAN neurons. *Soc. Neurosci. Abstr.*, **26**.
- Livingston, F. S. & Mooney, R. (1997). Development of intrinsic and synaptic properties in a forebrain nucleus essential to avian song learning. *J. Neurosci.*, **17**, 8997-9009.
- Livingston, F. S. & Mooney, R. (2001). Androgens and isolation from adult tutors differentially affect the development of songbird neurons critical to vocal plasticity. *J. Neurophysiol.*, **85**, 34-42.
- Lloyd, P., Craig, A. J. F. K. & Hulley, P. E. (1993). A structural and functional analysis of the dawn announcement song of the black-eyed bulbul *Pycnonotus barbatus*. In *Koninklijk Museum voor Midden Afrika, Tervuren, Belgie, Annalen Zoologische Wetenschappen, Vol. 268. Birds and the African Environment* (R. T. Wilson, ed.). Royal Museum for Central Africa; Tervuren, Belgium, pp. 60.
- Logan, C. A. (1994). Fluctuations in intra-pair calling across breeding phases in northern mockingbirds (*Mimus polyglottos*). *Behaviour*, **130**, 123-141.
- Logan, C. A. (1994). Changes in intra-pair calling with breeding phase in northern mockingbirds. *J. Ornithol.*, **135** (Sonderheft), 164.
- Logan, C. A. & Derrickson, K. C. (1996). Aggressive harassment by male northern mockingbirds (*Mimus polyglottos*) directed at their incubating mates. *Bird. Behav.*, **11**, 71-80.
- Logan, C. A. & Donaghey, B. A. (1997). Fledgling age affects female reactions to mate song in free-living northern mockingbirds (*Mimus polyglottos*). *Bird Behaviour*, **12**, 1-6.
- Lohmann, R. & Gahr, M. (2000). Muscle-dependent and hormone-dependent differentiation of the vocal control premotor nucleus robustus archistriatalis and the motornucleus hypoglossus pars tracheosyringalis of the zebra finch. *J. Neurobiol.*, **42**, 220-231.
- Lohr, B. & Dooling, R. J. (1998). Detection of changes in timbre and harmonicity by zebra finches (*Taeniopygia guttata*) and budgerigars (*Melopsittacus undulatus*). *J. Comp. Psychol.*, **112**, 36-47.
- Lohr, B., Weisman, R. & Nowicki, S. (1994). The role of pitch cues in song recognition by Carolina chickadees (*Parus carolinensis*). *Behaviour*, **130**, 1-15.
- Lohr, B. (1995). Gaps, ranges, and sequencing in bird song: Acoustic frequency cues and song recognition in Carolina chickadees. *Am. Zool.*, **35**, 87A.
- Lohr, B. S. (1989). *The organization of song elements in the gray catbird*. M.S. thesis. University of Wisconsin-Milwaukee.
- Lohrberg, A. (1994). Categorisation and sensitization effects examined by interactional playback in nightingales. *J. Ornithol.*, **135** (Sonderheft), 169.
- Lombardino, A. J. & Nottebohm, F. (2000). Age of deafening affects the stability of learned song in adult male zebra finches. *J. Neurosci.*, **20**, 5054-5064.
- Lopez, A. (2001). Vocal response of male redwing blackbirds (*Agelaius phoeniceus*) during simultaneous exposures to digitally remastered conspecific song playback and mounts. *Ohio J. Sci.*, **101**, page A.
- Lotem, A. (1999). Manipulative begging by parasitic cuckoo nestlings and paradoxical host behaviour: a reply to Redondo. *Trends Ecol. Evol.*, **14**, 107.
- Lotem, A. (1998). Manipulative begging calls by parasitic cuckoo chicks: why should true offspring not do the same? *Trends Ecol. Evol.*, **13**, 342-343.
- Lougheed, S. C. & Handford, P. (1993). Covariation of morphological and allozyme frequency characters in populations of the rufous-collared sparrow (*Zonotrichia capensis*). *Auk*, **110**, 179-188.
- Lougheed, S. C., Handford, P. & Baker, A. J. (1993). Mitochondrial DNA hyperdiversity and vocal dialects in a subspecies transition of the rufous-collared sparrow. *Condor*, **95**, 889-895.
- Lovaty, F. (2000). Goldcrest *Regulus regulus* and firecrest *Regulus ignicapillus* holding separated breeding territories in small continental pockets. *Alauda*, **68**, 193-200.
- Lucas, J. R., Schraeder, A. & Jackson, C. (1999). Carolina chickadee (*Aves*, Paridae, *Poecile carolinensis*) vocalization rates: Effects of body mass and food availability under aviary conditions. *Ethology*, **105**, 503-520.
- Lueps, P., Biber, O. & Nussbaumer, M. A. (1993). Does the songflight of the skylark *Alauda arvensis* explain the sex dimorphism in wing size? *Jahrb. Naturhist. Mus. Bern*, **11**, 117-124 (German).
- Luo, M., Ding, L. & Perkel, D. J. (1999). Topographic mapping throughout the anterior forebrain pathway of the zebra finch song system. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Luo, M. & Perkel, D. J. (1999). Long-range GABAergic projection in a circuit essential for vocal learning. *J. Comp Neurol.*, **403**, 68-84.
- Luo, M., Ding, L. & Perkel, D. J. (2001). An avian basal ganglia pathway essential for vocal learning forms a

- closed topographic loop. *J. Neurosci.*, **21**, 6836-6845.
- Luo, M. & Perkel, D. J. (1999). A GABAergic, strongly inhibitory projection to a thalamic nucleus in the zebra finch song system. *J. Neurosci.*, **19**, 6700-6711.
- Luschi, P. & del Seppia, C. (1996). Song-type function during territorial encounters in male Cetti's warblers *Cettia cetti*. *Ibis*, **138**, 479-484.
- Luschi, P. (1993). Improvisation of new notes during singing by male Sardinian warblers *Sylvia melanocephala*. *Bioacoustics*, **4**, 235-244.
- Lynch, A. & Baker, A. J. (1990). Increased vocal discrimination by learning in sympatry in two species of chaffinches. *Behaviour*, **116**, 109-126.
- Lynch, A. & Baker, A. J. (1993). A population memetics approach to cultural evolution in chaffinch song: meme diversity within populations. *Am. Natur.*, **141**, 597-620.
- Lynch, A. (1991). *Cultural evolution in chaffinch song: a population memetics approach*. Ph.D. dissertation, University of Toronto; Toronto.
- Lynch, A. (1996). The population memetics of birdsong. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca and London, pp. 181-197.
- Lynch, A. & Baker, A. J. (1994). A population memetics approach to cultural evolution in chaffinch song: differentiation among populations. *Evolution*, **48**, 351-359.
- MacDougall-Shackleton, S. A., Deviche, P. J., Crain, R. D., Ball, G. F. & Hahn, T. P. (2001). Seasonal changes in brain GnRH immunoreactivity and song-control nuclei volumes in an opportunistically breeding songbird. *Brain Behav. Evol.*, **58**, 38-48.
- MacDougall-Shackleton, S. A. & Ball, G. F. (1999). Comparative studies of sex differences in the song-control system of songbirds. *Trends Neurosci.*, **22**, 432-436.
- MacDougall-Shackleton, S. A., Hulse, S. H. & Ball, G. F. (1998). Neural bases of song preferences in female zebra finches (*Taeniopygia guttata*). *Neuroreport*, **9**, 3047-3052.
- MacDougall-Shackleton, S. A., Hulse, S. H., Gentner, T. Q. & White, W. (1998). Auditory scene analysis by European starlings (*Sturnus vulgaris*): perceptual segregation of tone sequences. *J. Acoust. Soc. Am.*, **103**, 3581-3587.
- MacDougall-Shackleton, E. A. & MacDougall-Shackleton, S. A. (2001). Cultural and genetic evolution in mountain white-crowned sparrows: song dialects are associated with population structure. *Evolution*, **55**, 2568-2575.
- MacDougall-Shackleton, S. A., MacDougall-Shackleton, E. A. & Hahn, T. P. (2001). Physiological and behavioural responses of female mountain white-crowned sparrows to natal- and foreign-dialect songs. *Can. J. Zool.*, **79**, 325-333.
- MacDougall-Shackleton, S. A. (1997). Sexual selection and the evolution of song repertoires. In *Current Ornithology, Vol. 14* (V. Nolan, E. D. Ketterson & C. F. Thompson, eds.). Plenum Press; New York, pp. 81-124.
- MacDougall-Shackleton, E. A., MacDougall-Shackleton, S. A. & Hahn, T. P. (1999). Effects of juvenile and adult experience on song preferences of female mountain white-crowned sparrows. *Am. Zool.*, **39**, 112A.
- MacDougall-Shackleton, S. A., Edmons, E., Ball, G. F. & Hahn, T. P. (2000). Age and sex differences in the song-control system of a songbird with delayed plumage maturation. *Soc. Neurosci. Abstr.*, **26**.
- MacDougall-Shackleton, S. A., Hulse, S. H. & Ball, G. F. (1998). Neural correlates of singing behavior in male zebra finches (*Taeniopygia guttata*). *J. Neurobiol.*, **36**, 421-430.
- Mace, R. (1989). The relationship between daily routines of singing and foraging: an experiment on captive great tits *Parus major*. *Ibis*, **131**, 415-420.
- Mace, R. (1987). The dawn chorus in the great tit *Parus major* is directly related to female fertility. *Nature*, **330**, 745-746.
- Mace, R. (1987). Why do birds sing at dawn? *Ardea*, **75**, 123-132.
- Maier, E. H. & Klump, G. M. (1990). Auditory duration discrimination in the European starling (*Sturnus vulgaris*). *J. Acoust. Soc. Am.*, **88**, 616-621.
- Maijer, S. (1998). Rediscovery of *Hylopezus (macularius) auricularis*: Distinctive song and habitat indicate species rank. *Auk*, **115**, 1072-1073.
- Maijer, S. & Fjeldsaa, J. (1997). Description of a new *Cranioleuca* spinetail from Bolivia and a leapfrog pattern of geographic variation in the genus. *Ibis*, **139**, 606-616.
- Malcher, R. & Mello, C. (1999). Identification of song-regulated genes with novel expression patterns in the brain of zebra finches. *Soc. Neurosci. Abstr.*, **25**, 625.
- Malpede, C. E. & Baker, M. C. (2000). A comparison of gargle calls of black-capped chickadees recorded in the laboratory and in the field. *Wilson Bull.*, **112**, 67-71.
- Manley, G. A. (1990). *Peripheral Hearing Mechanisms in Reptiles and Birds*. Springer Verlag; Heidelberg.

- Mann, N. I. & Slater, P. J. B. (1994). What causes young male zebra finches, *Taeniopygia guttata*, to choose their father as song tutor. *Anim. Behav.*, **47**, 671-677.
- Mann, N. I. (1991). *Visual and behavioural influences on song tutor choice in zebra finches (Taeniopygia guttata)*. Thesis, University of St. Andrews, U.K.
- Mann, N. I. & Slater, P. J. B. (1995). Song tutor choice by zebra finches in aviaries. *Anim. Behav.*, **49**, 811-820.
- Marantz, C. A. (1992). *Evolutionary implications of vocal and morphological variation in the woodcreeper genus Dendrocolaptes (Aves: Dendrocolaptidae)*. M.S. thesis. Louisiana State University; Baton Rouge.
- Marchetti, K. (1998). The evolution of multiple male traits in the yellow-browed leaf warbler. *Anim. Behav.*, **55**, 361-376.
- Marean, G. C., Burt, J. M., Beecher, M. D. & Rubel, E. W. (1993). Hair cell regeneration in the European starling (*Sturnus vulgaris*): recovery of pure tone detection thresholds. *Hear. Res.*, **71**, 125-136.
- Marean, G. C., Burt, J. M., Beecher, M. D. & Rubel, E. W. (1998). Auditory perception following hair cell regeneration in European starling (*Sturnus vulgaris*): Frequency and temporal resolution. *J. Acoust. Soc. Am.*, **103**, 3567-3580.
- Margoliash, D. (2001). Do sleeping birds sing? Population coding and learning in the bird song system. *Progr. Brain Res.*, **130**, 319-331.
- Margoliash, D., Fortune, E. S., Sutter, M. L., Yu, A. C., Wren-Hardin, B. D. & Dave, A. (1994). Distributed representation in the song system of oscines: evolutionary implications and functional consequences. *Brain Behav. Evol.*, **44**, 247-264.
- Margoliash, D. (1987). Neural plasticity in birdsong learning. In *Imprinting and Neural Plasticity: Comparative Aspects of Sensitive Periods* (J. P. Rauschecker & P. Marler, eds.). Wiley; New York, pp. 23-54.
- Margoliash, D., Staicer, C. & Inoue, S. A. (1994). The process of syllable acquisition in adult indigo buntings (*Passerina cyanea*). *Behaviour*, **131**, 39-64.
- Margoliash, D. & Bankes, S. C. (1993). Computations in the ascending auditory pathway in songbirds related to song learning. *Am. Zool.*, **33**, 94-103.
- Margoliash, D. (2001). Neuroscience. The song does not remain the same. *Science*, **291**, 2559-2561.
- Margoliash, D. (1997). Functional organization of forebrain pathways for song production and perception. *J. Neurobiol.*, **33**, 671-693.
- Marler, P. & Peters, S. (1988). Sensitive periods for song acquisition from tape recordings and live tutors in the swamp sparrow, *Melospiza georgiana*. *Ethology*, **77**, 76-84.
- Marler, P. & Peters, S. (1987). A sensitive period for song acquisition in the song sparrow, *Melospiza melodia*: A case of age-limited learning. *Ethology*, **76**, 89-100.
- Marler, P. & Nelson, D. (1994). Neuroselection and song learning in birds: Species universals in a culturally transmitted behavior. *Neurosciences*, **4**, 415-423.
- Marler, P. (1991). The instinct for vocal learning: songbirds. In *Plasticity of Development* (S. E. Brauth, W. S. Hall & R. J. Dooling, eds.). MIT Press; Cambridge, Mass., pp. 107-125.
- Marler, P. (1991). Differences in *Behavioural* development in closely related species: birdsong. In *The Development and Integration of Behaviour. Essays in honour of Robert Hinde* (P. Bateson, ed.). Cambridge University Press, pp. 41-70.
- Marler, P. (1987). Sensitive periods and the role of specific and general sensory stimulation in birdsong learning. In *Imprinting and Cortical Plasticity* (J. P. Rauschecker & P. Marler, eds). Wiley; New York, pp. 99-135.
- Marler, P. & Peters, S. (1988). The role of song phonology and syntax in vocal learning preferences in the song sparrow, *Melospiza melodia*. *Ethology*, **77**, 125-149.
- Marler, P. & Nelson, D. A. (1993). Action based learning: a new form of developmental plasticity in bird song. *Neth. J. Zool.*, **43**, 91-103.
- Marler, P. & Nelson, D. A. (1992). Neuroselection and song learning in birds: species universals in a culturally-transmitted behavior. *Seminars in Neurosciences*, **4**, 415-423.
- Marler, P. (1997). Three models of song learning: Evidence from behavior. *J. Neurobiol.*, **33**, 501-516.
- Marler, P. (1999). On innateness: Are sparrow songs 'learned' or 'innate'? In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 293-318.
- Marler, P. & Doupe, A. J. (2000). Singing in the brain. *Proc. Natl. Acad. Sci. USA*, **97**, 2965-2967.
- Marsh, R. H., MacDougall-Shackleton, S. A. & Hahn, T. P. (1999). Seasonal changes in brain GnRH and song-control nuclei in a late-summer breeding songbird. *Soc. Neurosci. Abstr.*, **25**, 864.
- Martens, J. & Nazarenko, A. A. (1993). Microevolution of eastern palearctic grey tits as indicated by their vocalizations (*Parus Poecile*, Paridae, Aves). I. *Parus montanus*. *Z. Zool. Syst. Evolutionsforsch.*, **31**, 127-143.
- Martens, J. & Geduldig, G. (1988). Acoustic adaptations of birds living close to Himalayan torrents. *Proc. Int.*

- 100 DO-G meeting, *Current Topics Avian Biol., Bonn*, pp. 123-131.
- Martens, J. & Nazarenko, A. A. (1993). Microevolution of eastern palearctic grey tits as indicated by their vocalizations (*Parus [Poecile]: Paridae, Aves*). I. *Parus montanus*. Contributions to the fauna of the Far East, no. 2. *Z. Zool. Syst. Evolutionsforsch.*, **31**, 127-143.
- Martens, J. & Eck, S. (1995). Towards an ornithology of the Himalayas. Systematics, ecology and vocalizations of Nepal birds. *Bonner Zool. Monogr.*, **38**, 1-445.
- Martens, J. (1996). Vocalizations and speciation in Palearctic birds. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 221-240.
- Martens, J. (1993). Sound utterances of songbirds and the evolution of new species. *Forschungsmagazin Univ. Mainz*, **9**, 34-44 (German).
- Martens, J., Ernst, S. & Petri, B. (1995). Territorial songs and intraspecific evolution of East Asian willow tits (*Parus montanus*). *J. Ornithol.*, **136**, 367-388 (German).
- Martens, J. (1994). Vocalizations and microevolution of Eurasian willow tits *Parus montanus*. *J. Ornithol.*, **135** (Sonderheft), 165.
- Martens, J. & Steil, B. (1997). Territorial songs and species differentiation in the lesser whitethroat superspecies *Sylvia [curruca]*. *J. Orn.*, **138**, 1-23 (German).
- Martens, J., Petri, B., Nazarenko, A. A. & Valtchuk, O. (1994). Great tit vocalizations in the Amur hybrid zone. *J. Ornithol.*, **135** (Sonderheft), 166.
- Martens, J. & Kessler, P. (2000). Territorial song and song neighbourhoods in scarlet rosefinch *Carpodacus erythrinus*. *J. Avian Biol.*, **31**, 399-411.
- Martens, J., Boehner, J. & Hammerschmidt, K. (2000). Calls of the jungle crow (*Corvus macrorhynchos* s.l.) as a taxonomic character. *J. Ornithol.*, **141**, 275-284.
- Martens, J. & Gebauer, A. (1993). Remarks on biology, vocalizations and relationships of the white-browed tit *Parus superciliosus* (Aves, Passeriformes, Paridae). *Zool. Abh. (Dres.)*, **47**, 213-222 (German).
- Martens, J. & Geduldig, G. (1990). Acoustic adaptations of birds living close to Himalayan torrents. *Proc. 100th Int. Meeting Deutschen Ornithologen-Gesellschaft, Bonn*, pp. 123-131.
- Martin, P. R., Fotheringham, J. R. & Robertson, R. J. (1995). A prairie warbler with a conspecific and heterospecific song repertoire. *Auk*, **112**, 770-774.
- Martin, D. J. (1993). Song similarity in populations of fox sparrows: a rejection of Naugler's and Smith's conclusions. *Condor*, **95**, 1057-1059.
- Martin, P. R. & Martin, T. E. (2001). Behavioral interactions between coexisting species: Song playback experiments with wood warblers. *Ecology*, **82**, 207-218.
- Martin, P. R., Fotheringham, J. R., Ratcliffe, L. & Robertson, R. J. (1996). Response of American redstarts (suborder Passeri) and least flycatchers (suborder Tyranni) to heterospecific playback: the role of song in aggressive interactions and interference competition. *Behav. Ecol. Sociobiol.*, **39**, 227-235.
- Matessi, G., Pilastro, A. & Marin, G. (2000). Variation in quantitative properties of song among European populations of reed bunting (*Emberiza schoeniclus*) with respect to bill morphology. *Can. J. Zool.*, **78**, 428-437.
- Matessi, G., Grapputo, A., Pilastro, A. & Marin, G. (1997). Song repertoire variability in the reed bunting *Emberiza schoeniclus*. *Bioacoustics*, **8**, 269.
- Matessi, G., Dabelsteen, T. & Pilastro, A. (2000). Responses to playback of different subspecies songs in the reed bunting *Emberiza schoeniclus*. *J. Avian Biol.*, **31**, 96-101.
- Matessi, G., Grapputo, A., Pilastro, A. & Marin, G. (1997). Song variation in relation to subspecies group in the reed bunting. *Avocetta*, **21**, 81.
- Mathevon, N. & Aubin, T. (1997). Reaction to conspecific degraded song by the wren *Troglodytes troglodytes*: Territorial response and choice of song post. *Behav. Processes*, **39**, 77-84.
- Mathevon, N., Aubin, T. & Bremond, J.-C. (1997). Propagation of bird acoustic signals: comparative study of starling and blackbird distress calls. *Compt. Rendus Acad. Sci. Ser. III, Sci. Vie*, **320**, 869-876.
- Mathevon, N. (1998). Degraded temporal sound features as a function of distance and potential as cues for ranging in birds. *Bioacoustics*, **9**, 17-33.
- Mathevon, N. (1996). Avian communication in acoustically extreme environments: degradation of sound signals and adaptive strategies in unfavourable conditions for propagation. Ph.D. thesis. University of Lyon I, France (French).
- Mathevon, N. & Aubin, T. (2001). Sound-based species-specific recognition in the blackcap *Sylvia atricapilla* shows high tolerance to signal modifications. *Behaviour*, **138**, 511-524.
- Mathevon, N., Aubin, T. & Dabelsteen, T. (1996). Song degradation during propagation: importance of song post for the wren *Troglodytes troglodytes*. *Ethology*, **102**, 397-412.
- Mathevon, N. (1996). Song degradation during propagation: importance of song posts and reaction to degraded signal in the wren *Troglodytes troglodytes*. *Bioacoustics*, **6**, 301.

- Mathews, G. A. & Arnold, A. P. (1990). Antiestrogens fail to prevent masculine ontogeny of the zebra finch song system. *Gen. Comp. Endocrinol.*, **80**, 48-58.
- Matthysen, E. (1997). Geographic variation in the occurrence of song types in nuthatch *Sitta europaea* populations. *Ibis*, **139**, 102-106.
- Matyjasiak, P. (2000). Song recognition by interspecifically territorial male blackcaps. *Biol. Bull. Poznan*, **37**, 173-174.
- McCracken, K. G. & Sheldon, F. H. (1997). Avian vocalizations and phylogenetic signal. *Proc. Natl. Acad. Sci. USA*, **94**, 3833-3836.
- McDonald, P. G. (2001). The function of vocalisations and aggressive behaviour used by male rufous whistlers, *Pachycephala rufiventris*. *Emu*, **101**, 65-72.
- McElroy, D. B. & Ritchison, G. (1996). Effect of mate removal on singing behavior and movement patterns of female northern cardinals. *Wilson Bull.*, **108**, 550-555.
- McGregor, P. K. (1994). Sound cues to distance: the perception of range. In *Perception and Motor Control in Birds* (M. Davies & P. R. Green, eds.). Springer; Berlin, pp. 74-94.
- McGregor, P. K. (1988). Pro-active memory interference in neighbour recognition by a songbird. *Proc. XIX Int. Ornithol. Congr.* (H. Ouellet, ed.), pp. 1391-1397.
- McGregor, P. K. & Dabelsteen, T. (1996). Communication networks. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 409-425.
- McGregor, P. K., Holland, J. & Shepherd, M. (1996). The ecology of corn bunting *Miliaria calandra* song dialects and their potential use in conservation. In *The Ecology and Conservation of Corn Buntings Miliaria calandra* (P. F. Donald & N. J. Aebischer, eds.). Joint Nature Conservation Committee; Peterborough (UK Nature Conservation, No. 13).
- McGregor, P. K. (1989). Pro-active memory interference in neighbour recognition by a songbird. *Acta Congr. Int. Ornithol.*, **19**, 1391-1397.
- McGregor, P. K. & Peake, T. M. (1998). The role of individual identification in conservation biology. In *Behavioral Ecology and Conservation Biology* (T. M. Caro, ed.). Oxford University Press; Oxford.
- McGregor, P. K., Anderson, C. M., Harris, J., Seal, J. R. & Soul, J. M. (1995). Individual differences in songs of fan-tailed warblers *Cisticola juncidis* in Portugal. *Airo*, **5**, 17-21.
- McGregor, P. K., Dabelsteen, T. & Holland, J. (1997). Eavesdropping in a territorial songbird communication network: preliminary results. *Bioacoustics*, **8**, 253-254.
- McGregor, P. K., Dabelsteen, T., Clark, C. W., Bower, J. L., Tavares, J. P. & Holland, J. (1997). Accuracy of a passive acoustic location system: empirical studies in terrestrial habitats. *Ethol. Ecol. Evol.*, **9**, 269-286.
- McGregor, P. K., Peake, T. M. & Gilbert, G. (2000). Communication behaviour and conservation: the application of sound science. In *Animal Behaviour and Conservation* (W. J. Sutherland, M. Gosling and M. Avery, eds.). Cambridge University Press; Cambridge.
- McGregor, P. K. (1995). Signalling in the real world: bird song and communication networks. *Bioacoustics*, **6**, 218.
- McGregor, P. K., Tavares, J., Langemann, U., Peake, T. M. & Latruffe, C. (1997). Acoustic communication in territorial bird networks: corn buntings and corn crakes. *Adv. Ethol.*, **32**, 126.
- McGuire, M. (1996). Dialects of the chowchilla *Orthonyx spaldingii* in upland rainforest of north-eastern Australia. *Emu*, **96**, 174-180.
- McIlraith, A. L. & Card, H. C. (1997). Bird song identification using artificial neural networks and statistical analysis. *CCECE '97. Canadian Conference on Electrical and Computer Engineering. Engineering Innovation: Voyage of Discovery. Conference Proceedings, Vol. 1*, pp. 63-66.
- McIlraith, A. L. & Card, H. C. (1995). Birdsong recognition with DSP and neural networks. *IEEE WESCANEX95. Communications, Power, and Computing, Conference Proceedings, Vol. 2.*, pp. 409-414.
- McIlraith, A. L. & Card, H. C. (1997). A comparison of back propagation and statistical classifiers for bird identification. *1997 IEEE Int. Conf. Neural Networks, Vol. 1*, pp. 100-104.
- McIlraith, A. L. & Card, H. C. (1997). Birdsong recognition using backpropagation and multivariate statistics. *IEEE Trans. Signal Process.*, **45**, 2740-2748.
- McLaren, M. A. & Cadman, M. D. (1999). Can novice volunteers provide credible data for bird surveys requiring song identification? *J. Field-Ornithol.*, **70**, 481-490.
- McShea, W. J. & Rappole, J. H. (1997). Variable song rates in three species of passerines and implications for estimating bird populations. *J. Field Ornithol.*, **68**, 367-375.
- McSween, A., McNeil, R. & Lachapelle, P. (2000). Daybreak songs and their relationship with retinal sensitivity in four species of diurnal birds. *IOVS*, **41**, S940.
- Meade, C. A., Bottjer, S. W., Cuthbertson, S. L. & Reiner, A. (2000). Neurons in area X of male zebra finch



- basal ganglia that project to DLM of thalamus show pallidal traits. *Soc. Neurosci. Abstr.*, **26**.
- Medvin, M. B., Stoddard, P. K. & Beecher, M. D. (1993). Signals for parent-offspring recognition: a comparative analysis of the begging calls of cliff swallows and barn swallows. *Anim. Behav.*, **45**, 841-850.
- Meir, V. Van, Van der Linden, A., Verhoye, M., Tindemans, I., Eens, M., Absil, P. & Balthazart, J. (2001). New sex differences in the oscine song control system identified by in vivo magnetic resonance imaging. *Soc. Neurosci. Abstr.*, **27**, 1709.
- Mello, C. V. & Clayton, D. F. (1994). Song-induced ZENK gene expression in auditory pathways of songbird brain and its relation to the song control system. *J. Neurosci.*, **14**, 6652-6666.
- Mello, C. V. & Rebeiro, S. (1998). ZENK protein regulation by song in the brain of songbirds. *J. Comp. Neurol.*, **383**, 426-438.
- Mello, C. V., Scharff, C., Nottebohm, F. & Denisenko-Nehrbass, N. (2000). Activity of a retinoic acid synthesizing enzyme in song nucleus HVC is involved in normal song maturation in zebra finches. *Soc. Neurosci. Abstr.*, **26**.
- Mello, C. V. & Clayton, D. F. (1995). Differential induction of the ZENK gene in the avian forebrain and song control circuit after metrazole-induced depolarization. *J. Neurobiol.*, **26**, 145-161.
- Mello, C., Nottebohm, F. & Clayton, D. (1995). Repeated exposure to one song leads to a rapid and persistent decline in an immediate early gene's response to that song in zebra finch telencephalon. *J. Neurosci.*, **15**, 6919-6925.
- Mello, C. V., Vates, G. E., Okuhata, S. & Nottebohm, F. (1998). Descending auditory pathways in the adult male zebra finch (*Taeniopygia guttata*). *J. Comp. Neurol.*, **395**, 137-160.
- Mello, C. V., Nottebohm, F. & Clayton, D. F. (1992). Expression of an immediate early gene in songbird brain anatomy, connections and effective stimuli. *Soc. Neurosci. Abstr.*, **18**, 529.
- Mello, C. V. (1993). *Analysis of immediate early gene expression in the songbird brain following song presentation*. Doctoral Dissertation, The Rockefeller University, New York, N.Y.
- Melman, D. S. & Searcy, W. A. (1999). Microgeographic song discrimination in a nonterritorial passerine, the boat-tailed grackle. *Condor*, **101**, 845-848.
- Mennill, D. J., Ratcliffe, L. M. & Boag, P. T. (2002). Female eavesdropping on male song contests in songbirds. *Science*, **296**, 873.
- Mennill, D. J. (2001). Song characteristics and singing behavior of the mangrove warbler (*Dendroica petechia bryanti*). *J. Field Ornithol.*, **72**, 327-337.
- Mennill, D. J. & Ratcliffe, L. M. (2000). A field test of 'SYRINX' sound analysis software in interactive playback. *Bioacoustics*, **11**, 77-86.
- Merilae, J. & Sorjonen, J. (1994). Seasonal and diurnal patterns of singing and song-flight activity in bluethroats (*Luscinia svecica*). *Auk*, **111**, 556-562.
- Merten, M. D. P. & Stocker-Buschina, S. (1995). Fadrozole induces delayed-effects on neurons in the zebra finch song system. *Brain Res.*, **671**, 317-320.
- Metzdorf, R., Gahr, M. & Fusani, L. (1999). The distribution of aromatase-, estrogen receptor- and androgen receptor-mRNA in the forebrain of songbirds and non songbirds. *J. Comp. Neurol.*, **405**, 1-15.
- Mills, H. (2000). Geographically distributed acoustical monitoring of migrating birds. *J. Acoust. Soc. Am.*, **108**, 2582.
- Miyasato, L. E. & Baker, M. C. (1999). Discrimination of gargle calls by black-capped chickadees (*Poecile atricapillus*). *Bird Behav.*, **13**, 9-14.
- Miyasato, L. E. & Baker, M. C. (1999). Black-capped chickadee call dialects along a continuous habitat corridor. *Anim. Behav.*, **57**, 1311-1318.
- Moeller, A. P. (1988). False alarm calls as a means of resource usurpation in the great tit *Parus major*. *Ethology*, **79**, 25-30.
- Moeller, A. P., Henry, P.-Y. & Erritsoe, J. (2000). The evolution of song repertoires and immune defence in birds. *Proc. Roy. Soc. Lond. B.*, **267**, 165-169.
- Moeller, A. P. (1988). Spatial and temporal distribution of song in the yellowhammer *Emberiza citrinella*. *Ethology*, **78**, 321-331.
- Moeller, A. P. (1986). On song post selection and the timing of song in the corn bunting (*Miliaria calandra*). *Oekol. Vogel*, **8**, 57-66.
- Moeller, A. P., Saino, N., Taramino, G., Galeotti, P. & Ferrario, S. (1998). Paternity and multiple signaling: Effects of a secondary sexual character and song on paternity in the barn swallow. *Am. Nat.*, **151**, 236-242.
- Molles, L. E. & Vehrencamp, S. L. (2001). Songbird cheaters pay a retaliation cost: evidence for auditory conventional signals. *Proc. Roy. Soc. Lond. B.*, **268**, 2013-2019.
- Molles, L. E. & Vehrencamp, S. L. (2001). Neighbour recognition by resident males in the banded wren, *Thryothorus pleurostictus*, a tropical songbird with high song type sharing. *Anim. Behav.*, **61**, 119-

- Molles, L. E. & Vehrencamp, S. L. (1999). Repertoire size, repertoire overlap, and singing modes in the banded wren, *Thryothorus pleurostictus*. *Auk*, **116**, 677-689.
- Momose, H. (2000). Neighbour-stranger recognition based on song in the Japanese bush warbler (*Cettia diphone*). *Mem. Fac. Sci. Kyoto Univ., Ser. Biol.*, **17**, 25-32.
- Momose, H. (1999). Structure of territorial songs in the Japanese bush warbler (*Cettia diphone*). *Mem. Fac. Sci. Kyoto Univ. Ser. Biol.*, **16**, 55-65.
- Monk, D. S. & Koenig, W. D. (1997). Individual, brood, and sex variation in begging calls of western bluebirds. *Wilson Bull.*, **109**, 328-332.
- Montgomerie, R. D. & Kikkawa, J. (1989). Why do silvereyes sing at dawn? *Abstract XXI Int. Ethol. Conf., Utrecht, The Netherlands*.
- Montgomerie, R. & Weatherhead, P. J. (1997). How robins find worms. *Anim. Behav.*, **54**, 134-151.
- Mooney, R. (1999). Sensitive periods and circuits for learned birdsong. *Curr. Opin. Neurobiol.*, **9**, 121-127.
- Mooney, R. (2000). Erratum: Different subthreshold mechanisms underlie song selectivity in identified HVC neurons of the zebra finch. *J. Neurosci.*, **20**, x.
- Mooney, R. (1999). Intracellular analysis of song-selective auditory responses in identified HVC neurons. *Soc. Neurosci. Abstr.*, **25**, 623.
- Mooney, R., Hoese, W. & Nowicki, S. (2001). Auditory representation of the vocal repertoire in a songbird with multiple song types. *Proc. Natl. Acad. Sci. USA*, **98**, 12778-12783.
- Mooney, R. & Rosen, M. J. (2000). Subthreshold mechanisms of note combination sensitivity in identified zebra finch HVC neurons. *Soc. Neurosci. Abstr.*, **26**.
- Mooney, R. & Doupe, A. J. (1991). Neurobiology of birdsong: circuits, synapses and development. *Discuss. Neurosci.*, **7**, 100-111.
- Mooney, R. (2000). Different subthreshold mechanisms underlie song selectivity in identified HVC neurons of the zebra finch. *J. Neurosci.*, **20**, 5420-5436.
- Morrison, R. G. (1991). *Neural correlates of sensitive periods for song learning in zebra finches*. Doctoral Dissertation, The Rockefeller University, New York, N.Y.
- Morrison, R. G. & Nottebohm, F. (1993). Role of a telencephalic nucleus in the delayed song learning of socially isolated zebra finches. *J. Neurobiol.*, **24**, 1045-1064.
- Morton, E. S. (1996). Why songbirds learn songs: an arms race over ranging? *Poultry Avian Biol. Rev.*, **7**, 65-71.
- Morton, E. S. & Young, K. (1986). A previously undescribed method of song matching in a species with a single song type, the Kentucky warbler (*Oporornis formosus*). *Ethology*, **73**, 334-342.
- Morton, E. S. (1998). Degradation and signal ranging in birds: memory matters. *Behav. Ecol. Sociobiol.*, **42**, 135-137.
- Morton, E. S. & Derrickson, K. C. (1996). Song ranging by the dusky antbird, *Cercomacra tyrannina*: ranging without song learning. *Behav. Ecol. Sociobiol.*, **39**, 195-201.
- Morton, E. S. (2000). An evolutionary view of the origins and functions of avian vocal communication. *Jap. J. Ornithol.*, **49**, 69-78.
- Morton, E. S. (1998). Reply to Naguib and Wiley. *Behav. Ecol. Sociobiol.*, **42**, 147-148.
- Morton, E. S. (1996). A comparison of vocal behavior among tropical and temperate passerine birds. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 258-268.
- Mota, P. G. & Cardoso, G. C. (2001). Song organisation and patterns of variation in the serin (*Serinus serinus*). *Acta Ethol.*, **3**, 141-150.
- Mota, P. G. (1999). The functions of song in the serin. *Ethology*, **105**, 137-148.
- Mota, P. G. (1997). The functions of the song in the serin. *Adv. Ethol.*, **32**, 127.
- Motis, A. (1996). The whistled songs of the European starling *Sturnus vulgaris* and the spotless starling *Sturnus unicolor* in north-east Spain. *Bioacoustics*, **7**, 119-141.
- Mountjoy, D. J. & Lemon, R. E. (1997). Male song complexity and parental care in the European starling. *Behaviour*, **134**, 661-675.
- Mountjoy, D. J. & Lemon, R. E. (1990). Song as an attractant for male and female European starlings, and the influence of song complexity on their response. *Behav. Ecol. Sociobiol.*, **28**, 97-100.
- Mountjoy, D. & Lemon, R. E. (1996). Female choice for complex song in the European starling: a field experiment. *Behav. Ecol. Sociobiol.*, **38**, 65-71.
- Mountjoy, D. J. (1994). *Male song and sexual selection in the European starling*. Ph.D. thesis. McGill University; Montreal.
- Mountjoy, D. J. & Lemon, R. E. (1995). Extended song learning in wild European starlings. *Anim. Behav.*, **49**, 357-366.
- Mountjoy, D. J. & Leger, D. W. (2001). Vireo song repertoires and migratory distance: Three sexual selection hypotheses fail to explain the correlation. *Behav. Ecol.*, **12**, 98-102.

- Mueller-Broese, M. & Todt, D. (1991). Locomotory activity of nightingales (*Luscinia megarhynchos*) during auditory stimulation with species song in the sensitive age period. *Verh. Dtsch. Zool. Ges.*, **84**, 476-477 (German).
- Mullie, A. (1991). *Song of the Lapland longspur (Calcarius lapponicus): social factors contributing to dialect stability*. M.Sc. thesis, Queen's University.
- Mundinger, P. C. (1999). Genetics of canary song learning: Innate mechanisms and other neurobiological considerations. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 369-389.
- Mundinger, P. C. (1988). Conceptual errors, different perspectives, and genetic analysis of song ontogeny. *Behav. Brain Sci.*, **11**, 643-644.
- Mundinger, P. C. (1995). Behaviour-genetic analysis of canary song: inter-strain differences in sensory learning, and epigenetic rules. *Anim. Behav.*, **50**, 1491-1511.
- Mundry, R., Hau, B. & Boehner, J. (1994). Individual and song type specific use of the kit element in the song of chaffinches (*Fringilla coelebs*). *J. Ornithol.*, **135**, 223-231 (German).
- Mundry, R. (1993). Differences between the vocalizations of the nightingale *Luscinia megarhynchos* and the thrush nightingale *Luscinia luscinia*. *Limicola*, **7**, 77-86 (German).
- Nagata, H. (1986). Female choice in Middendorff's grasshopper warbler (*Locustella ochotensis*). *Auk*, **103**, 694-700.
- Nagle, L. & Kreutzer, M. L. (1997). Adult female domesticated canaries can modify their song preferences. *Can. J. Zool.*, **75**, 1346-1350.
- Nagle, L. & Couroux, C. (2000). The influence of song mode on responses of male American redstarts. *Ethology*, **106**, 1049-1055.
- Nagle, L., Kreutzer, M. & Vallet, E. M. (1993). Obtaining copulation solicitation displays in female canaries without estradiol implants. *Experientia*, **49**, 1022-1023.
- Nagle, L. & Kreutzer, M. L. (1997). Song tutoring influences female song preferences in domesticated canaries. *Behaviour*, **134**, 89-104.
- Naguib, M. & Todt, D. (1997). Effects of dyadic vocal interactions on other conspecific receivers in nightingales. *Anim. Behav.*, **54**, 1535-1543.
- Naguib, M., Altenkamp, R. & Griessmann, B. (2001). Nightingales in space: Song and extra-territorial forays of radio tagged song birds. *J. Ornithol.*, **142**, 306-312.
- Naguib, M. & Fichtel, C. (1997). Information gathering by attending to conspecifics' interactions in nightingales. *Adv. Ethol.*, **32**, 127.
- Naguib, M., Altenkamp, R. & Griessmann, B. (2001). Spatial behavior of a territorial song bird: A radio-tracking study. *Zoology (Jena)*, **103**, Suppl. 3, 48.
- Naguib, M., Hammerschmidt, K. & Wirth, J. (2001). Microgeographic variation, habitat effects and individual signature cues in calls of chiffchaffs *Phylloscopus collybita canarensis*. *Ethology*, **107**, 341-355.
- Naguib, M. (1998). Perception of degradation in acoustic signals and its implications for ranging. *Behav. Ecol. Sociobiol.*, **42**, 139-142.
- Naguib, M. (1999). Effects of song overlapping and alternating on nocturnally singing nightingales. *Anim. Behav.*, **58**, 1061-1067.
- Naguib, M. & Todt, D. (1998). Recognition of neighbors' song in a species with large and complex song repertoires: the thrush nightingale. *J. Avian Biol.*, **29**, 155-160.
- Naguib, M., Fichtel, C. & Todt, D. (1999). Nightingales respond more strongly to vocal leaders of simulated dyadic interactions. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **266**, 537-542.
- Naguib, M., Mundry, R., Ostreiher, R., Hultsch, H., Schrader, L. & Todt, D. (1999). Cooperatively breeding Arabian babblers call differently when mobbing in different predator induced situations. *Behav. Ecol.*, **10**, 636-640.
- Naguib, M. (1997). Ranging by songs in Carolina wrens: effects of familiarity with the song type on use of different cues. *Behav. Ecol. Sociobiol.*, **41**, 203-204.
- Naguib, M. (1997). Use of song amplitude for ranging in Carolina wrens, *Thryothorus ludovicianus*. *Ethology*, **103**, 723-731.
- Naguib, M. (1997). Ranging by song in Carolina wrens: effects of familiarity with the song type on use of different cues. *Behav. Ecol. Sociobiol.*, **40**, 385-393.
- Naguib, M. (1995). *Perception of auditory distance in song birds and its implications for long range communication*. Ph.D. dissertation. University of North Carolina; Chapel Hill.
- Naguib, M. (1995). Auditory distance assessment of singing conspecifics in Carolina wrens: the role of reverberation and frequency-dependent attenuation. *Anim. Behav.*, **50**, 1297-1307.
- Naguib, M., Klump, G. M., Hillmann, E., Griessmann, B. & Teige, T. (2000). Assessment of auditory distance in a territorial songbird: accurate feat or rule of thumb? *Anim. Behav.*, **59**, 715-721.
- Naguib, M., Kolb, H. & Hultsch, H. (1991). Hierarchical structures in bird song. *Verh. Dtsch. Zool. Ges.*, **84**, 377

- (German).
- Naguib, M. (1996). Ranging by song in Carolina wrens *Thryothorus ludovicianus*: effects of environmental acoustics and strength of song degradation. *Behaviour*, **133**, 541-559.
- Naguib, M. (1996). Sound degradation and implications for long-distance communication in song birds. *Bioacoustics*, **6**, 302.
- Naguib, M. (1996). Auditory distance estimation in song birds: Implications, methodologies and perspectives. *Behav. Processes*, **38**, 163-168.
- Naguib, M. & Kolb, H. (1992). Comparison of strophe composition and strophe sequence in songs of thrush nightingale (*Luscinia luscinia*) and bluethroat (*Luscinia svecica*). *J. Ornithol.*, **133**, 133-145 (German).
- Naguib, M. & Wiley, R. H. (1994). Perception of auditory distance in song birds: How much information does a listener need? *J. Ornithol.*, **135** (Sonderheft), 167.
- Nakamura, K. & Okanoya, K. (2000). Neural combination selectivity in a voco-auditory nucleus (HVC) correlates with song complexity in Bengalese finches. *Soc. Neurosci. Abstr.*, **26**.
- Nakamura, K. & Okanoya, K. (2001). Specific auditory experiences affect the selectivity responses in the auditory neurons of female Bengalese finches. *Soc. Neurosci. Abstr.*, **27**, 1921.
- Nastiuk, K. L., Mello, C. V., George, J. M. & Clayron, D. F. (1994). Immediate-early gene responses in the avian song control system: Cloning and expression analysis of the canary C-Jun DNA. *Mol. Brain Res.*, **27**, 299-309.
- Nastiuk, K. L. & Clayton, D. F. (1995). The canary androgen receptor mRNA is localized in the song control nuclei of the brain and is rapidly regulated by testosterone. *J. Neurobiol.*, **26**, 213-224.
- Naugler, C. & Ratcliffe, L. (1992). A field test of the sound environment hypothesis of conspecific song recognition in American tree sparrows *Spizella arborea*. *Behaviour*, **123**, 314-324.
- Naugler, C. T. & Smith, P. C. (1993). Similarity breeds confusion: a reply to Martin. *Condor*, **95**, 1059-1060.
- Naugler, C. T. & Ratcliffe, L. (1994). Character release in bird song: a test of the acoustic competition hypothesis using American tree sparrows *Spizella arborea*. *J. Avian Biol.*, **2**, 142-148.
- Naugler, C. T. (1993). Vocalizations of the golden-crowned kinglet in eastern North America. *J. Field Ornithol.*, **64**, 346-351.
- Nealen, P. M. & Schmidt, M. F. (2001). Specificity of auditory responses in nucleus HVc of the song sparrow *Melospiza melodia*. *Soc. Neurosci. Abstr.*, **27**, 842.
- Nealen, P. M. & Perkel, D. J. (2000). Sexual dimorphism in the song system of the Carolina wren *Thryothorus ludovicianus*. *J. Comp. Neurol.*, **418**, 346-360.
- Nelson, D. A., Marler, P. & Palleroni, A. (1995). A comparative approach to vocal learning: intraspecific variation in the learning process. *Anim. Behav.*, **50**, 83-97.
- Nelson, D. A. & Marler, P. (1993). Measurement of song learning behavior in birds. In *Methods in Neurosciences, Vol. 14. Paradigms for the Study of Behavior* (P. M. Conn, ed.). Academic Press; San Diego, pp. 447-465.
- Nelson, D. A. & Marler, P. (1993). Innate recognition of song in white-crowned sparrows: a role in selective vocal learning. *Anim. Behav.*, **46**, 806-808.
- Nelson, B. S. (2000). Avian dependence on sound pressure level as an auditory distance cue. *Anim. Behav.*, **59**, 57-67.
- Nelson, D. A., Marler, P. & Palleroni, A. (1994). Vocal learning mechanisms in sedentary and migratory populations of the white-crowned sparrow. *J. Ornithol.*, **135** (Sonderheft), 167.
- Nelson, D. A., Marler, P. & Morton, M. L. (1996). Overproduction in song development: an evolutionary correlate with migration. *Anim. Behav.*, **51**, 1127-1140.
- Nelson, D. A., Marler, P., Soha, J. A. & Fullerton, A. L. (1997). The timing of song memorization differs in males and females: a new assay for avian vocal learning. *Anim. Behav.*, **54**, 587-597.
- Nelson, D. A. & Marler, P. (1990). The perception of birdsong and an ecological concept of signal space. In *Comparative Perception. Vol. 2* (W. C. Stebbins & M. A. Berkley, eds.). Wiley; New York, pp. 443-478.
- Nelson, D. A. (1992). Song overproduction, song matching and selective attrition during development. In *Playback and Studies of Animal Communication: Problems and Prospects* (P. K. McGregor, ed). Plenum Press; New York, pp. 121-133.
- Nelson, D. A. (1987). Song syllable discrimination by song sparrows (*Melospiza melodia*). *J. Comp. Psychol.*, **101**, 25-32.
- Nelson, D. A. (1989). Song frequency as a cue for recognition of species and individuals in the field sparrow (*Spizella pusilla*). *J. Comp. Psychol.*, **103**, 171-176.
- Nelson, D. A. (2000). A preference for own subspecies' song guides vocal learning in a song bird. *Proc. Natl. Acad. Sci. USA*, **97**, 13348-13353.
- Nelson, D. A. (2000). Song overproduction, selective attrition and song dialects in the white-crowned sparrow.

- Anim. Behav.*, **60**, 887-898.
- Nelson, D. A. (1999). Ecological influences on vocal development in the white-crowned sparrow. *Anim. Behav.*, **58**, 21-36.
- Nelson, D. A. (1998). Geographic variation in song of Gambel's white-crowned sparrow. *Behaviour*, **135**, 321-342.
- Nelson, D. A. (1998). External validity and experimental design: the sensitive phase for song learning. *Anim. Behav.*, **56**, 487-491.
- Nelson, D. A. (1997). Social interaction and sensitive phases for song learning: A critical review. In *Social Influences on Vocal Development* (C. T. Snowdon and M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 7-22.
- Nelson, B. S. & Stoddard, P. K. (1998). Accuracy of auditory distance and azimuth perception by a passerine bird in natural habitat. *Anim. Behav.*, **56**, 467-477.
- Nelson, D. A., Khanna, H. & Marler, P. (2001). Learning by instruction or selection: Implications for patterns of geographic variation in bird song. *Behaviour*, **138**, 1137-1160.
- Nelson, D. A. & Marler, P. (1994). Selection-based learning in bird song development. *Proc. Natl. Acad. Sci. USA*, **91**, 10498-10501.
- Nelson, D. A., Whaling, C. & Marler, P. (1996). The capacity for song memorization varies in populations of the same species. *Anim. Behav.*, **52**, 379-387.
- Nemeth, E. (1994). Individual recognition of song by the female and song activity of the male in the reed bunting (*Emberiza schoeniclus*). *J. Ornithol.*, **135**, 217-222 (German).
- Nemeth, E., Winkler, H. & Dabelsteen, T. (1997). Adaptations in bird songs in a neotropical rainforest. *Adv. Ethol.*, **32**, 119.
- Nemeth, E., Winkler, H. & Dabelsteen, T. (2001). Differential degradation of antbird songs in a neotropical rainforest: adaptation to perch height? *J. Acoust. Soc. Am.*, **110**, 3263-3274.
- Nemeth, E. (1994). Different singing styles of mated and unmated males in the reed bunting *Emberiza schoeniclus*. *Bioacoustics*, **6**, 71.
- Nemeth, E. (1996). Different singing styles in mated and unmated reed buntings *Emberiza schoeniclus*. *Ibis*, **138**, 172-176.
- Nespor, A. A. & Dooling, R. J. (1997). Discrimination among natural and altered motifs of the song of the zebra finch (*Taeniopygia guttata*): a comparative study. *Bird Behaviour*, **12**, 15-28.
- Nespor, A. A. (2000). Comparative neuroendocrine mechanisms mediating sex differences in reproductive and vocal behavior and the related brain regions in songbirds, budgerigars and quail. *Avian Poultry Biol. Rev.*, **11**, 45-62.
- Neubauer, R. L. (1999). Super-normal length song preferences of female zebra finches (*Taeniopygia guttata*) and a theory of the evolution of bird song. *Evol. Ecol.*, **13**, 365-380.
- Neudorf, D. L. & Tarof, S. A. (1998). The role of chip calls in winter territoriality of yellow warblers. *J. Field Ornithol.*, **69**, 30-36.
- Nick, T. A. (2001). Song playback phase-locks ongoing activity during sleep in the birdsong nucleus HVC. *Soc. Neurosci. Abstr.*, **27**, 1921.
- Nick, T. A. & Konishi, M. (2001). Dynamic control of auditory activity during sleep: correlation between song response and EEG. *Proc. Natl. Acad. Sci. USA*, **98**, 14012-14016.
- Nicolai, B. (1992). Song dialect of black redstart (*Phoenicurus ochruros*): Tradition and song learning. *Rudolstaedter Naturhist. Schr.*, **4**, 83-90 (German).
- Nieder, A. & Klump, G. M. (2001). Signal detection in amplitude-modulated maskers. II. Processing in the songbird's auditory forebrain. *Eur. J. Neurosci.*, **13**, 1033-1044.
- Nielsen, B. M. B. & Vehrencamp, S. L. (1995). Responses of song sparrows to song-type matching via interactive playback. *Behav. Ecol. Sociobiol.*, **37**, 109-117.
- Nieminen, M. T., Suhonen, J. & Raetti, O. (1997). Intraspecific alarm call responses in willow tit (*Parus montanus*) flocks. *Adv. Ethol.*, **32**, 128.
- Nixdorf-Bergweiler, B. E., Wallhaeusser-Franke, E. & DeVoogd, T. J. (1995). Regressive development in neuronal structure during song learning in birds. *J. Neurobiol.*, **27**, 204-215.
- Nixdorf-Bergweiler, B. E. (1998). Enlargement of neuronal somata in the IMAN coincides with the onset of sensorimotor learning for song. *Neurobiol. Learn. Mem.*, **69**, 258-273.
- Nixdorf-Bergweiler, B. E., Lips, M. & Heinemann, U. (1993). Neuronal connections on in vitro slice preparation of zebra finch song control areas visualized by rhodamine-dextranamine. *Pfluegers Arch.*, **419** (Suppl. 1), R77.
- Nixdorf, B. E. & DeVoogd, T. J. (1989). Developmental changes in nucleus magnocellularis of the anterior neostriatum (MAN) in zebra finches before and during song acquisition. In *Dynamics and Plasticity in Neuronal Systems. Proceedings of the 17th Goettingen Neurobiology Conference* (N. Elsner & W. Singer, eds.). Thieme-Verlag; Stuttgart, p. 121.

- Nixdorf-Bergweiler, B. E. (1993). Sexual dimorphism in the development of synapses in a song control region in birds: a quantitative electron microscopic analysis. *Soc. Neurosci. Abstr.*, **19**, 808.
- Nixdorf-Bergweiler, B. E., Bindrich, A., Freyer, C. & Hintz, V. (1999). Neuronal and behavioral effects of deprivation of memory formation for song are multifaceted. *Soc. Neurosci. Abstr.*, **25**, 1892.
- Nixdorf-Bergweiler, B. E., Hintz, V., Kreck, G., Schuetze, H. & Schneeweisz, U. (2000). Investigation of postsynaptic density in IMAN in social and song deprived zebra finches. *Soc. Neurosci. Abstr.*, **26**.
- Njegovan, M., Weisman, R., Ito, S. & Mewhort, D. (1993). How grouping improves the categorisation of frequency in song birds and humans and why song birds do it better. *Canad. Acoustics*, **21**, 87-88.
- Njegovan, M., Ito, S., Mewhort, D. & Weisman, R. (1995). Classification of frequencies into ranges by songbirds and humans. *J. Exp. Psychol.: Anim. Behav. Proc.*, **21**, 33-42.
- Norberg, R. A. (1991). The flappet lark *Mirafra ruficinnamomea* doubles its wingbeat rate to 24 Hz in wing-clap display flight: a sexually selected feat. *J. Exp. Biol.*, **159**, 515-529.
- Nordby, J. C., Campbell, S. E., Burt, J. M. & Beecher, M. D. (2000). Social influences during song development in the song sparrow: a laboratory experiment simulating field conditions. *Anim. Behav.*, **59**, 1187-1197.
- Nordby, J. C., Campbell, S. E. & Beecher, M. D. (2002). Adult song sparrows do not alter their song repertoires. *Ethology*, **108**, 39-50.
- Nordby, J. C., Campbell, S. E. & Beecher, M. D. (2001). Late song learning in song sparrows. *Anim. Behav.*, **61**, 835-846.
- Nordby, J. C., Campbell, S. E. & Beecher, M. D. (1999). Ecological correlates of song learning in song sparrows. *Behav. Ecol.*, **10**, 287-297.
- Nordeen, E. J., Singh, T. D., Bruns, M., Sohrabji, F. & Nordeen, K. W. (1999). Sex and age-related differences in BDNF mRNA expression in song control nuclei. *Soc. Neurosci. Abstr.*, **25**, 1368.
- Nordeen, E. J., Voelkel, L. & Nordeen, K. W. (1998). Fibroblast growth factor-2 stimulates cell proliferation and decreases sexually dimorphic cell death in an avian song control nucleus. *J. Neurobiol.*, **37**, 573-581.
- Nordeen, E. J. & Nordeen, K. W. (1996). Sex difference among nonneural cells precedes sexually dimorphic neuron growth and survival in an avian song control nucleus. *J. Neurobiol.*, **30**, 531-542.
- Nordeen, K. W. & Nordeen, E. J. (1993). Long-term maintenance of song in adult zebra finches is not affected by lesions of a forebrain region involved in song learning. *Behav. Neural Biol.*, **59**, 79-82.
- Norstrom, E., Soderstrom, K. & Johnson, F. (1999). Expression of BDNF during zebra finch song development. *Soc. Neurosci. Abstr.*, **25**, 1368.
- Nottebohm, F. (1987). Plasticity in adult avian central nervous system: Possible relation between hormones, learning, and brain repair. In *Handbook of Physiology* (F. Plum, ed.). American Physiological Society; Wash. D. C., pp. 85-108.
- Nottebohm, F. (1999). The anatomy and timing of vocal learning in birds. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 63-110.
- Nottebohm, F. (1993). The search for neural mechanisms that define the sensitive period for song learning in birds. *Neth. J. Zool.*, **43**, 193-234.
- Nottebohm, F. (1988). Hormonal regulation of synapses and cell number in the adult canary brain and its relevance to theories of long-term memory storage. In *Neural Control of Reproductive Function* (J. M. Lakoski, J. R. Perez-Pole & D. K. Rassin, eds.). Alan R. Liss, Inc.
- Nottebohm, F. & Crane, L. A. (1986). Developmental and seasonal changes in canary song and their relation to changes in the anatomy of song-control nuclei. *Behav. Neural Biol.*, **47**, 197-211.
- Nottebohm, F., O'Loughlin, B., Gould, K., Yohay, K. & Alvarez-Buylla, A. (1994). The life span of new neurons in a song control nucleus of the adult canary brain depends on time of year when these cells are born. *Proc. Natl. Acad. Sci. USA*, **91**, 7849-7853.
- Nottebohm, F., Nottebohm, M. E. & Crane, L. (1986). Developmental and seasonal changes in canary song and their relation to changes in the anatomy of song-control nuclei. *Behav. Neural Biol.*, **46**, 445-471.
- Nowicki, S., Peters, S. & Podos, J. (1998). Song learning, early nutrition and sexual selection in songbirds. *Amer. Zool.*, **38**, 179-190.
- Nowicki, S., Westneat, M. W. & Hoese, W. (1992). Birdsong: motor function and the evolution of communication. *Semin. Neurosci.*, **4**, 385-390.
- Nowicki, S., Peters, S., Clayton, C. & Searcy, W. A. (1995). Influence of song type variation on song learning in sparrows. *Am. Zool.*, **35**, 86A.
- Nowicki, S. & Podos, J. (1993). Complexity, coupling and contingency in the production of birdsong. In *Perspectives in Ethology*, Vol. 10 (P. P. G. Bateson, P. Klopfer & N. Thompson, eds.). Plenum Press; New York, pp. 159-186.
- Nowicki, S., Peters, S., Searcy, W. A. & Clayton, C. (1999). The development of within-song type variation in song sparrows. *Anim. Behav.*, **57**, 1257-1264.

- Nowicki, S., Searcy, W. A. & Hughes, M. (1998). The territory defense function of song in song sparrows: A test with the speaker occupation design. *Behaviour*, **135**, 615-628.
- Nowicki, S. & Nelson, D. (1990). Defining natural categories in acoustic signals: comparison of three methods applied to "chick-a-dee" call notes. *Ethology*, **86**, 89-101.
- Nowicki, S., Podos, J. & Valdes, F. (1994). Temporal patterning of within-song type and between-song type variation in song repertoires. *Behav. Ecol. Sociobiol.*, **34**, 329-335.
- Nowicki, S. & Marler, P. (1988). How do birds sing? *Music Perception*, **5**, 391-426.
- Nowicki, S., Searcy, W. A., Hughes, M. & Podos, J. (2001). The evolution of bird song: male and female response to song innovation in swamp sparrows. *Anim. Behav.*, **62**, 1189-1195.
- Nowicki, S., Searcy, W. A., Hughes, M. & Podos, J. (1999). Sexual selection limits evolutionary innovation in birdsong. *Am. Zool.*, **39**, 112A.
- Nowicki, S., Hasselquist, D., Bensch, S. & Peters, S. (2000). Nestling growth and song repertoire size in great reed warblers: Evidence for song learning as an indicator mechanism in mate choice. *Proc. Roy. Soc. Lond. B.*, **267**, 2419-2424.
- Nowicki, S., Peters, S., Wu, D., & Whitley, K. (1992). Role of learning in the ontogeny of vocal tract function in birdsong. *Am. Zool.*, **32**, 6A.
- Nuttall, R. J. (1994). Vocal behaviour of the quail finch *Ortygospiza atricollis*. *Ostrich*, **64**, 97-104.
- Nystroem, K. G. K. (1997). Food density, song rate, and body condition in territory-establishing willow warblers (*Phylloscopus trochilus*). *Can. J. Zool.*, **75**, 47-58.
- O'Loghlen, A. L. & Rothstein, S. I. (1993). An extreme example of delayed vocal development: song learning in a population of wild brown-headed cowbirds. *Anim. Behav.*, **46**, 293-304.
- O'Loghlen, A. L. & Beecher, M. D. (1997). Sexual preferences for mate song types in female song sparrows. *Anim. Behav.*, **53**, 835-841.
- O'Loghlen, A. L. & Rothstein, S. I. (2002). Ecological effects on song learning: delayed development is widespread in wild populations of brown-headed cowbirds. *Anim. Behav.*, **63**, 475-486.
- O'Loghlen, A. L. (1993). *Vocal ontogeny and the maintenance of dialects in wild populations of brown-headed cowbirds*. Ph.D. dissertation. University of California; Santa Barbara.
- O'Loghlen, A. L. (1995). Delayed access to local songs prolongs vocal development in dialect populations of brown-headed cowbirds. *Condor*, **97**, 402-414.
- O'Loghlen, A. L. & Beecher, M. D. (1999). Mate, neighbour and stranger songs: a female song sparrow perspective. *Anim. Behav.*, **58**, 13-20.
- O'Loghlen, A. L. & Rothstein, S. I. (1995). Culturally correct song dialects are correlated with male age and female song preferences in wild populations of brown-headed cowbirds. *Behav. Ecol. Sociobiol.*, **36**, 251-259.
- Oberweger, K. & Goller, F. (2001). The metabolic cost of birdsong production. *J. Exp. Biol.*, **204**, 3379-3388.
- Okanoya, K. & Dooling, R. J. (1990). Detection of gaps in noise by budgerigars (*Melopsittacus undulatus*) and zebra finches (*Poephila guttata*). *Hear. Res.*, **50**, 185-192.
- Okanoya, K., Yoneda, T. & Kimura, T. (1993). Acoustical variations in sexually dimorphic features of distance calls in domesticated zebra finches *Taeniopygia guttata castanotis*. *J. Ethol.*, **11**, 29-36.
- Okanoya, K. & Dooling, R. J. (1987). Strain differences in auditory thresholds in the canary (*Serinus canarius*). *J. Comp. Psychol.*, **101**, 213-215.
- Okanoya, K. & Dooling, R. J. (1990). Temporal integration in zebra finches (*Poephila guttata*). *J. Acoust. Soc. Am.*, **87**, 2782-2784.
- Okanoya, K. (2000). Perception of missing fundamentals in zebra finches and Bengalese finches. *J. Acoust. Soc. Japan*, **21**, 63-68.
- Okanoya, K. (2000). Sexual selection for song complexity and modifications of brain structures in songbirds. *Jap. J. Ornithol.*, **49**, 79-85.
- Okanoya, K. & Ikebuchi, M. (2000). Sex differences in song perception in Bengalese finches and zebra finches as measured by the cardiac response. *Soc. Neurosci. Abstr.*, **26**.
- Okanoya, K. & Yamaguchi, A. (1997). Adult Bengalese finches (*Lonchura striata* var. *domestica*) require real-time auditory feedback to produce normal song syntax. *J. Neurobiol.*, **33**, 343-356.
- Okanoya, K., Ikebuchi, M., Uno, H. & Watanabe, S. (2001). Left-side dominance for song discrimination in Bengalese finches (*Lonchura striata* var. *domestica*). *Anim. Cogn.*, **4**, 241-245.
- Okanoya, K., Nakamura, K. & Hirata, N. (2001). Auditory and motor characteristics of the nucleus RA in Bengalese finches. *Soc. Neurosci. Abstr.*, **27**, 842.
- Okanoya, K., Tsumaki, S. & Honda, E. (2000). Perception of temporal properties in self-generated songs by Bengalese finches (*Lonchura striata* var. *domestica*). *J. Comp. Psychol.*, **114**, 239-245.
- Okuhata, S. & Nottebohm, F. (1992). Nucleus UVA might be part of a feedback circuit for song processing. *Soc. Neurosci. Abstr.*, **18**, 527.
- Osiejuk, T. S. (2001). Acoustic communication in territorial ortolan bunting males. *Adv. Ethol.*, **36**, 233.

- Osiejuk, T. S. & Kuczynski, L. (2000). Mixed and atypical singers among treecreepers *Certhia brachydactyla* and *C. familiaris*: A review and preliminary data from western Poland. *Biol. Bull. Poznan*, **37**, 83-94.
- Osiejuk, T. S. & Kuczynski, L. (2000). Song functions and territoriality in Eurasian treecreeper *Certhia familiaris* and short-toed treecreeper *Certhia brachydactyla*. *Acta Ornithol.* (Warsaw), **35**, 109-116.
- Osiejuk, T. S. (2000). Recognition of individuals by song, using cross-correlation of sonograms of ortolan buntings *Emberiza hortulana*. *Biol. Bull. Poznan*, **37**, 95-106.
- Osiejuk, T. S. & Kuczynski, L. (1997). Factors affecting song-rate in treecreepers *Certhia* spp. *Adv. Ethol.*, **32**, 129.
- Otter, K., McGregor, P. K., Terry, A. M. R., Burford, F. R. L., Peake, T. M. & Dabelsteen, T. (1999). Do female great tits (*Parus major*) assess males by eavesdropping? A field study using interactive playback. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **266**, 1305-1309.
- Otter, K. (1993). *Intersexual selection and song in the black-capped chickadee, Parus atricapillus*. M.S. thesis, Queen's University; Kingston, Canada.
- Otter, K., Chruszcz, B. & Ratcliff, L. (1997). Honest advertisement and song output during the dawn chorus of black-capped chickadees. *Behav. Ecol.*, **8**, 167-173.
- Otter, K. A., Ratcliffe, L., Njegovan, M. & Fotheringham, J. (2002). Importance of frequency and temporal song matching in black-capped chickadees: Evidence from interactive playback. *Ethology*, **108**, 181-191.
- Otter, K. & Ratcliffe, L. (1993). Changes in singing behaviour of male black-capped chickadees (*Parus atricapillus*) following mate removal. *Behav. Ecol. Sociobiol.*, **33**, 409-414.
- Otter, K. & Ratcliffe, L. (1994). Changes in singing behavior of male black-capped chickadees (*Parus atricapillus*) following mate removal. *Behav. Ecol. Sociobiol.*, **33**, 409-414.
- Paeckert, M., Martens, J. & Hofmeister, T. (2001). Vocalizations of firecrests from the islands of Madeira and Mallorca (*Regulus ignicapillus madeirensis*, *R. i. balearicus*). *J. Ornithol.*, **142**, 16-29.
- Palacios, M. G. & Tubaro, P. L. (2000). Does beak size affect acoustic frequencies in woodcreepers? *Condor*, **102**, 553-560.
- Palestrini, C. & Rolando, A. (1996). Differential calls by carrion and hooded crows (*Corvus corone corone* and *C. c. cornix*) in the alpine hybrid zone. *Bird Study*, **43**, 364-370.
- Parisot, M., Vallet, E., Nagle, L. & Kreuzer, M. (2002). Male canaries discriminate among songs: Call rate is a reliable measure. *Behaviour*, **139**, 55-63.
- Park, S.-R. & Park, D. (2000). Song type for intrasexual interactions in the bush warbler. *Auk*, **117**, 228-231.
- Park, K. H., Clayton, D. F. & Ivanco, T. (2001). Contextual modulation of the ZENK gene response to sound in the zebra finch caudomedial neostriatum (NCM). *Soc. Neurosci. Abstr.*, **27**, 844.
- Park, S.-R., Han, E.-D. & Sung, H.-C. (1999). Definition and function of two song types of the bush warbler (*Cettia diphone borealis*). *Korean J. Biol. Sci.*, **3**, 149-151.
- Pavey, C. R. & Smyth, A. K. (1998). Effects of avian mobbing on roost use and diet of powerful owls, *Ninox strenua*. *Anim. Behav.*, **55**, 313-318.
- Payne, R. B. (1996). Song traditions in indigo buntings: Origin, improvisation, dispersal, and extinction in cultural evolution. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 198-220.
- Payne, R. B. & Payne, L. L. (1996). Demography, dispersal and song dialects and the persistence of partnerships in indigo buntings. In *Partnerships in Birds: The Study of Monogamy* (J. M. Black, ed.). Oxford University Press; Oxford, pp. 305-320.
- Payne, R. B., Woods, J. L., Siddall, M. E. & Parr, C. S. (2000). Randomization analyses: Mimicry, geographic variation and cultural evolution of song in brood-parasitic straw-tailed whydahs, *Vidua fischeri*. *Ethology*, **106**, 261-282.
- Payne, R. B. & Payne, L. L. (1995). Song mimicry and association of brood-parasitic indigobirds (*Vidua*) with Dybowski's twinspace (*Eustichospiza dybowskii*). *Auk*, **112**, 649-658.
- Payne, R. B. (1986). Bird songs and avian systematics. *Curr. Ornithol.*, **87**, 126.
- Payne, R. B., Payne, L. L. & Woods, J. L. (1998). Song learning in brood-parasitic indigobirds *Vidua chalybeata*: song mimicry of the host species. *Anim. Behav.*, **55**, 1537-1553.
- Payne, R. B. & Payne, L. L. (1994). Song mimicry and species status of the indigobirds *Vidua*: Associations with quail-finch *Ortygospiza atricollis*, goldbreast *Amandava subflava* and brown twinspace *Clytospiza monteiri*. *Ibis*, **136**, 291-304.
- Payne, R. B. & Payne, L. L. (1997). Field observations, experimental design, at the time and place of learning bird songs. In *Social Influences on Vocal Development* (C. T. Snowdon & M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 57-84.
- Payne, R. B. & Payne, L. L. (1993). Song copying and cultural transmission in indigo buntings. *Anim. Behav.*, **46**, 1045-1065.
- Payne, R. B., Payne, L. L., Woods, J. L. & Sorenson, M. D. (2000). Imprinting and the origin of parasite-host



- species associations in brood-parasitic indigobirds, *Vidua chalybeata*. *Anim. Behav.*, **59**, 69-81.
- Peake, T. M., Terry, A. M. R., McGregor, P. K. & Dabelsteen, T. (2001). Investigating eavesdropping in male great tits: A two speaker approach. *Adv. Ethol.*, **36**, 94.
- Peake, T. M., Terry, A. M., McGregor, P. K. & Dabelsteen, T. (2001). Male great tits eavesdrop on simulated male-to-male vocal interactions. *Proc. Roy. Soc. Lond. B.*, **268**, 1183-1187.
- Pearson, F. D., Mann, N. I. & Slater, P. J. B. (1999). Does leg-ring colour affect song tutor choice in zebra finches? *Anim. Behav.*, **57**, 173-180.
- Pepperberg, I. M. & Neapolitan, D. M. (1988). Second language acquisition: A framework for studying the importance of input and interaction in exceptional song acquisition. *Ethology*, **77**, 150-168.
- Pepperberg, I. M. (1992). What studies on song learning can teach us about playback experiments. In *Playback and Animal Communication: Problems and Prospects* (P. K. McGregor, ed.). Plenum Press; New York, pp. 45-57.
- Pepperberg, I. M. (1988). The importance of social interaction and observation in the acquisition of communicative competence: possible parallels between avian and human learning. In *Social Learning: A Comparative Approach* (T. T. Zentall & B. G. Galef, Jr., eds.). Erlbaum; Hillsdale, N. J., pp. 279-299.
- Perez-Villafana, M., de Silva G., H. G. & DeSucre-Medrano, A. (1999). Sexual dimorphism in the song of Sumichrast's wren. *Wilson Bull.*, **111**, 128-130.
- Perkel, D. J., Farries, M. A., Luo, M. & Ding, L. (2002). Electrophysiological analysis of a songbird basal ganglia circuit essential for vocal plasticity. *Brain Res. Bull.*, **57**, 529-532.
- Perkel, D. J. & Ferries, M. A. (2000). Complementary 'bottom up' and 'top-down' approaches to basal ganglia function. *Curr. Opin. Neurobiol.*, **10**, 725-731.
- Perkel, D. J. (1995). Differential modulation of excitatory synaptic transmission by norepinephrine and baclofen in zebra finch nucleus RA. *Soc. Neurosci. Abstr.*, **20**, 165.
- Peter, J. M. (1993). Vocal mimicry of native species of song thrush *Turdus philomelos*. *Austral. Bird Watcher*, **15**, 92-93.
- Peters, S., Searcy, W. A., Beecher, M. D. & Nowicki, S. (2000). Geographic variation in the organization of song sparrow repertoires. *Auk*, **117**, 936-942.
- Peters, S. & Nowicki, S. (1996). Development of tonal quality in birdsong: Further evidence from song sparrows. *Ethology*, **102**, 323-335.
- Petersen, B. R., Ball, G. F. & Ritters, L. V. (2000). Met-enkephalin immunoreactive fiber density within the medial preoptic area is positively correlated with song expression in the male european starling. *Soc. Neurosci. Abstr.*, **26**.
- Petrinovich, L. (1988). The role of social factors in white-crowned sparrow song development. In *Social learning: Psychological and biological perspectives* (T. R. Zentall & B. G. Galef, eds.). Erlbaum; Hillsdale, N.J., pp. 255-278.
- Pfister, U. (1995). *Raven communication*. Ph.D. thesis. University of Bern (German).
- Pfister, U. (1997). Communication in ravens *Corvus corax*: again new aspects of an old problem. *Bioacoustics*, **8**, 256.
- Phillmore, L. S., Sturdy, C. B., Turyk, M.-R. M. & Weisman, R. G. (2002). Discrimination of individual vocalizations by black-capped chickadees (*Poecile atricapilla*). *Anim. Learn. Behav.*, **30**, 43-52.
- Phillmore, L. S., Sturdy, C. B., Ramsay, S. M. & Weisman, R. G. (1998). Discrimination of auditory distance cues by blackcapped chickadees (*Poecile atricapillus*) and zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **112**, 282-291.
- Pinxten, R. & Eens, M. (1998). Male starlings sing most in the late morning, following egg-laying: A strategy to protect their paternity? *Behaviour*, **135**, 1197-1211.
- Pinxten, R., Eens, M. & de Ridder, E. (1997). Effects of testosterone on social dominance, song activity, mate attraction behaviour and factors affecting survival in captive male European starlings. *Adv. Ethol.*, **32**, 65.
- Pizo, M. A. & Aleixo, A. (1998). Lek behavior of the gray-hooded flycatcher. *Condor*, **100**, 726-731.
- Plummer, T. K. (2001). A motor-guided model of vocal imitation. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Podos, J., Sherer, J. K., Peters, S. & Nowicki, S. (1995). Ontogeny of vocal tract movements during song production in song sparrows. *Anim. Behav.*, **50**, 1287-1296.
- Podos, J. (2001). Correlated evolution of morphology and vocal signal structure in Darwin's finches. *Nature*, **409**, 185-188.
- Podos, J., Nowicki, S. & Peters, S. (1999). Permissiveness in the learning and development of song syntax in swamp sparrows. *Anim. Behav.*, **58**, 93-103.
- Podos, J. (1997). A performance constraint on the evolution of trilled vocalizations in a songbird family (Passeriformes: Emberizidae). *Evolution*, **51**, 537-551.
- Podos, J. (1996). Motor constraints on vocal development in a songbird. *Anim. Behav.*, **51**, 1061-1070.

- Podos, J. (1996). Performance limits on vocal evolution in swamp sparrows. *Am. Zool.*, **36**, 92A.
- Poesel, A. & Dabelsteen, T. (2001). Making yourself heard: A study of masking effects on blue tit *Parus caeruleus* singing interactions. *Adv. Ethol.*, **36**, 240.
- Poesel, A., Foerster, K. & Kempenaers, B. (2001). The dawn song of the blue tit *Parus caeruleus* and its role in sexual selection. *Ethology*, **107**, 521-531.
- Poirier, C., Henry, L., Mathelier, M. & Hausberger, M. (2001). Effect of social experience on song development in starling (*Sturnus vulgaris*). *Adv. Ethol.*, **36**, 241.
- Pomeroy, D. E. (1993). Song in the lives of three common birds in Uganda (*Streptopelia semitorquata*, *Turdus pelios*, *Camaroptera brachyura*). In *Koninklijk Museum voor Midden Afrika Tervuren Belgie Annalen Zoologische Wetenschappen, Vol. 268. Birds and the African Environment* (R. T. Wilson, ed). Royal Museum for Central Afrika; Tervuren, Belgium, pp. 447-452.
- Popp, J. W. (1989). Temporal aspects of singing interactions among territorial ovenbirds (*Seiurus aurocapillus*). *Ethology*, **82**, 127-133.
- Price, J. & Wiley, R. H. (2000). Duets and drawls. *Natural History*, **3/2000**, 50-53
- Price, J. J. (1999). Recognition of family-specific calls in stripe-backed wrens. *Anim. Behav.*, **57**, 483-492.
- Price, K. (1998). Benefits of begging for yellow-headed blackbird nestlings. *Anim. Behav.*, **56**, 571-577.
- Price, J. J. (1998). Family- and sex-specific vocal traditions in a cooperatively breeding songbird. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **265**, 497-502.
- Prum, R. O. (1998). Sexual selection and the evolution of mechanical sound production in manakins (Aves: Pipridae). *Anim. Behav.*, **55**, 977-994.
- Prum, R. O. (1993). Phylogeny, biogeography, and evolution of the broadbills (Eurylaimidae) and asities (Philepittidae) based on morphology. *Auk*, **110**, 304-324.
- Prum, R. O. (1992). Syringeal morphology, phylogeny, and evolution of the neotropical manakins (Aves: Pipridae). *Am. Mus. Novit.*, **3043**, 1-65.
- Pytte, C. L. (1997). Song organization of house finches at the edge of an expanding range. *Condor*, **99**, 942-954.
- Pytte, C. L. & Suthers, R. A. (1999). A bird's own song contributes to conspecific song perception. *NeuroReport*, **10**, 1773-1778.
- Pytte, C. L. & Kirn, J. R. (2001). Neurogenesis may promote song stability in the adult zebra finch. *Soc. Neurosci. Abstr.*, **27**, 1709.
- Pytte, C. L. & Suthers, R. A. (1999). Juvenile vocal experience contributes to adult song perception. *Soc. Neurosci. Abstr.*, **25**, 624.
- Pytte, C. L. & Suthers, R. A. (2000). Sensitive period for sensorimotor integration during vocal motor learning. *J. Neurobiol.*, **42**, 172-189.
- Quaglino, A. E., Craig-Veit, C. B., Viant, M. R., Erichsen, A. L., Fry, D. M. & Millam, J. R. (2002). Oral estrogen masculinizes female zebra finch song system. *Horm. Behav.*, **41**, 236-241.
- Radesaeter, T. S. & Jakobson, S. (1988). Intra- and intersexual functions of song in the willow warbler (*Phylloscopus trochilus*). *Proc. XIX Int. Ornithol. Congr.*, pp. 1382-1390.
- Raetti, O. & Alatalo, R. V. (1993). Determinants of the mating success of polyterritorial pied flycatcher males. *Ethology*, **94**, 137-146.
- Rappole, J. H., McShea, W. J. & Vega-Rivera, J. (1993). Evaluation of two survey methods in upland avian breeding communities. *J. Field Ornithol.*, **64**, 55-70.
- Rashotte, M. E., Sedunova, E. V., Johnson, F. & Pastukhov, I. F. (2001). Influence of food and water availability on undirected singing and energetic status in adult male zebra finches (*Taeniopygia guttata*). *Physiol. Behav.*, **74**, 533-541.
- Rasika, S., Nottebohm, F. & Alvarez-Buylla, A. (1994). Testosterone increases the recruitment and/or survival of new high vocal center neurons in adult female canaries. *Proc. Natl. Acad. Sci. USA*, **91**, 7854-7858.
- Rasmussen, R. (1997). Song repertoire in blackbirds (*Turdus merula*): individuality and song-type sharing. *Adv. Ethol.*, **32**, 130.
- Ratcliffe, L. & Weisman, R. G. (1986). Song sequence discrimination in the black-capped chickadee (*Parus atricapillus*). *J. Comp. Psychol.*, **100**, 361-367.
- Ratcliffe, L. & Weisman, R. G. (1992). Pitch processing strategies in birds: A comparison of laboratory and field studies. In *Playback and Studies of Animal Communication: Problems and Prospects* (P. K. McGregor, ed.). Plenum Press; New York, pp. 211-223.
- Ratcliffe, L. & Otter, K. (1996). Sex differences in song recognition. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 339-355.
- Ratti, O. & Siikamaki, P. (1993). Female attraction behaviour of radio tagged polyterritorial pied flycatcher males. *Behaviour*, **127**, 279-288.
- Rauske, P. L. & Margoliash, D. (1999). Does behavioral state modulate sensorimotor properties in HVC? *Soc. Neurosci. Abstr.*, **25**, 624.

- Rauske, P. L., Dave, A. S. & Margoliash, D. (2001). Sleep in adult zebra finches functionally rewires the song system nucleus RA. *Soc. Neurosci. Abstr.*, **27**, 841.
- Read, M. L. (1987). Costliness and reliability in the singing vigour of Ipswich sparrows. *Anim. Behav.*, **35**, 1735-1743.
- Rebeiro, S., Cecchi, G. A., Magnasco, M. O. & Mello, C. V. (1998). Toward a song code: Evidence for a syllabic representation in the canary brain. *Neuron*, **21**, 359-371.
- Redondo, T. & Castro, F. (1992). The increase in risk of predation with begging activity in broods of magpies *Pica pica*. *Ibis*, **134**, 180-187.
- Redondo, T. (1999). Manipulative begging by parasitic cuckoo nestlings and paradoxical host behaviour. *Trends Ecol. Evol.*, **14**, 107.
- Reeves, B. J., Brenowitz, E. A. & Beecher, M. D. (2001). Seasonal changes in avian song control circuits do not cause seasonal changes in song perception. *Soc. Neurosci. Abstr.*, **27**, 1707.
- Regelski, D. J. & Moldenhauer, R. R. (1996). Discrimination between regional song forms in the northern parula. *Wilson Bull.*, **108**, 335-341.
- Rehsteiner, U., Geisser, H. & Reyer, H.-U. (1998). Singing and mating success in water pipits: one specific song element makes all the difference. *Anim. Behav.*, **55**, 1471-1481.
- Repentigny, Y. de, Ouellet, H. & McNeil, R. (2000). Song versus plumage in some North American oscines: Testing Darwin's hypothesis. *Ecoscience*, **7**, 137-148.
- Revilla, V., Revilla, R. & Fernandez-Lopez, A. (1999). A comparative study of the beta-adrenoceptors in higher song nuclei of birds. *Neurosci. Lett.*, **271**, 9-12.
- Ribeiro, S., Pinaud, R. & Mello, C. V. (1999). Noradrenergic modulation of song-induced ZENK expression in the zebra finch brain. *Soc. Neurosci. Abstr.*, **25**, 865.
- Rich, S. L., Goller, F. & Sengelaub, D. R. (1992). A volumetric study of the song control nuclei of male and female starlings. *Soc. Neurosci. Abstr.*, **18**, 528.
- Riebel, K. & Slater, P. J. B. (1998). Testing female chaffinch song preferences by operant conditioning. *Anim. Behav.*, **56**, 1443-1453.
- Riebel, K. & Slater, P. J. B. (1999). Do male chaffinches *Fringilla coelebs* copy song sequencing and bout length from their tutors? *Ibis*, **141**, 680-686.
- Riebel, K. & Slater, P. J. B. (1997). Song type switching in the chaffinch *Fringilla coelebs*. *Adv. Ethol.*, **32**, 120.
- Riebel, K. & Slater, P. J. B. (1998). Male chaffinches (*Fringilla coelebs*) can copy calls from a tape tutor. *J. Orn.*, **139**, 353-355.
- Riebel, K. & Slater, P. J. B. (1999). Song type switching in the chaffinch, *Fringilla coelebs*: timing or counting? *Anim. Behav.*, **57**, 655-661.
- Riebel, K. & Todt, D. (1997). Light flash stimulation alters the nightingale's singing style: Implications for song control mechanisms. *Behaviour*, **134**, 789-808.
- Riebel, K. (2000). Early exposure leads to repeatable preferences for male song in female zebra finches. *Proc. Roy. Soc. Lond. B.*, **267**, 2553-2558.
- Riebel, K. & Slater, P. J. B. (2000). Testing the flexibility of song type bout duration in the chaffinch, *Fringilla coelebs*. *Anim. Behav.*, **59**, 1135-1142.
- Riebel, K., Smallegange, I. M., Terpstra, N. J. & Bolhuis, J. J. (2002). Sexual equality in zebra finch song preference: evidence for a dissociation between song recognition and production learning. *Proc. Roy. Soc. Lond. B.*, **269**, 729-733.
- Riebel, K., Smallegange, I., Terpstra, N. J. & Bolhuis, J. J. (2001). Female and male zebra finch siblings do not differ in their adult preferences for the father's song. *Adv. Ethol.*, **36**, 251.
- Rimmer, C. C., Atwood, J. L., McFarland, K. P. & Nagy, L. R. (1996). Population density, vocal behavior, and recommended survey methods for Bicknell's thrush. *Wilson Bull.*, **108**, 639-649.
- Rinden, H., Lampe, H. M., Slagsvold, T. & Espmark, Y. O. (2000). Song quality does not indicate male parental abilities in the pied flycatcher *Ficedula hypoleuca*. *Behaviour*, **137**, 809-823.
- Ritchison, G. (1995). Characteristics, use and possible functions of the perch songs and chatter calls of male common yellowthroats. *Condor*, **97**, 27-38.
- Ritchison, G. (1986). The singing behavior of female northern cardinals. *Condor*, **88**, 156-159.
- Riters, L. V. & Ball, G. F. (1999). Lesions to the medial preoptic area affect singing in the male European starling (*Sturnus vulgaris*). *Horm. Behav.*, **36**, 276-286.
- Riters, L. V. & Ball, G. F. (2002). Sex differences in the densities of alpha(2)-adrenergic receptors in the song control system, but not the medial preoptic nucleus in zebra finches. *J. Chem. Neuroanat.*, **23**, 269-277.
- Riters, L. V., Eens, M., Pinxten, R., Duffy, D. L., Balthazart, J. & Ball, G. F. (2000). Seasonal changes in courtship song and the medial preoptic area in male European starlings (*Sturnus vulgaris*). *Horm. Behav.*, **38**, 250-261.
- Riters, L. V., Eens, M., Pinxten, R. & Ball, G. F. (2002). Seasonal changes in the densities of alpha2-

- noradrenergic receptors are inversely related to changes in testosterone and the volumes of song control nuclei in male European starlings. *J. Comp. Neurol.*, **444**, 63-74.
- Riters, L. V., Eens, M., Pinxten, R., Duffy, D. L., Balthazart, J. & Ball, G. F. (2000). Seasonal variation in singing and the medial preoptic area in male European starlings. *Soc. Neurosci. Abstr.*, **26**.
- Rivers, J. W. & Kroodsma, D. E. (2000). Singing behavior of the hermit thrush. *J. Field Ornithol.*, **71**, 467-471.
- Robertson, B. C. (1996). Vocal mate recognition in a monogamous, flock-forming bird, the silvereye, *Zosterops lateralis*. *Anim. Behav.*, **51**, 303-311.
- Robinson, F. N. & Curtis, H. S. (1996). The vocal displays of the lyrebirds (Menuridae). *Emu*, **96**, 258-275.
- Rodrigues, M. (1996). Song activity in the chiffchaff: territorial defence or mate guarding? *Anim. Behav.*, **51**, 709-716.
- Rogers, C. (1995). High resolution analysis of bird sounds. *1995 International Conference on Acoustics, Speech, and Signal Processing, Conference Proceedings, Vol. 5*, pp. 3011-3014.
- Rosado, R., Espino, G. G., Rosenfield, D. B. & Helekar, S. A. (2001). Experience-dependent changes in cytochrome oxidase staining patterns in zebra finch song nuclei. *Soc. Neurosci. Abstr.*, **27**, 1425.
- Rosen, M. J. & Mooney, R. (2000). Intrinsic and extrinsic contributions to auditory selectivity in a song nucleus critical for vocal plasticity. *J. Neurosci.*, **20**, 5437-5448.
- Rosen, M. J. & Mooney, R. (2000). Erratum: Intrinsic and extrinsic contributions to auditory selectivity in a song nucleus critical for vocal plasticity. *J. Neurosci.*, **20**, x
- Rosen, M. J. & Mooney, R. (2000). Local and extrinsic contributions to song-selectivity in the zebra finch song nucleus HVc. *Soc. Neurosci. Abstr.*, **26**.
- Rosen, M. J. & Mooney, R. (2001). Sources of song-evoked inhibition in the zebra finch song nucleus HVc. *Soc. Neurosci. Abstr.*, **27**, 841.
- Rosen, M. J. & Mooney, R. (1999). The contribution of local circuitry to refinement of song-selective responses in a song learning pathway. *Soc. Neurosci. Abstr.*, **25**, 623.
- Rosenfield, D. B., Espino, G., Botas, A., Viswanath, N. & Helekar, S. A. (1999). Distinctive song features in zebra finches producing song syllable repetitions. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Rossell, C. R., Jr. (2001). Song perch characteristics of golden-winged warblers in a mountain wetland. *Wilson Bull.*, **113**, 246-248.
- Rost, R. (1987). *Origin, maintenance and function of song dialects in the marsh tit Parus palustris - a test of models*. Hartung-Gorre Verlag; Konstanz (German).
- Rost, R. (1989). Song dialects of the marsh tit (*Parus palustris*) and their functional significance: a test of models. In *Current Topics in Avian Biology* (R. van den Elzen, K. L. Schuchmann & K. Schmidt-Koenig, eds). Proc. Int. 100 Deutschen Ornithologen-Gesellschaft Meeting, 1988, Bonn, Germany, pp. 111-122.
- Rothstein, S. I., Yokel, D. A. & Fleischer, R. C. (1986). Social dominance, mating and spacing systems, female fecundity, and vocal dialects in captive and free-living brown-headed cowbirds. *Curr. Ornithol.*, **3**, 127-185.
- Roulin, A. (2001). Screaming as a strategy to reduce the predation risk incurred by begging? *Behaviour*, **138**, 615-627.
- Roulin, A. (2001). On the cost of begging vocalization: Implications of vigilance. *Behav. Ecol.*, **12**, 506-512.
- Rui, L. & Hironobu, S. (1999). Auditory-vocal-cholinergic pathway in the zebra finch brain. *Comp. Biochem. Physiol. A.*, **124**, Suppl., S99.
- Rusun, L., Quing, Y. & Fumin, L. (1998). Vocalization of the barred laughing-thrush *Garrulax lunulatus* (Timalidae) in China - a preliminary study. *Acta Ornithologica*, **33**, 127-133.
- Ryals, B. M., Dooling, R. J., Westbrook, E., Dent, M. L., MacKenzie, A. & Larsen, O. N. (1999). Avian species differences in susceptibility to noise exposure. *Hear. Res.*, **131**, 71-88.
- Ryan, M. J. (2001). Food, song and speciation. *Nature*, **409**, 139-140.
- Sacchi, R., Saino, N. & Galeotti, P. (2002). Features of begging calls reveal general condition and need of food of barn swallow (*Hirundo rustica*) nestlings. *Behav. Ecol.*, **13**, 268-273.
- Saino, N., Galeotti, P., Sacchi, R. & Moeller, A. P. (1997). Song and immunological condition in male barn swallows (*Hirundo rustica*). *Behav. Ecol.*, **8**, 364-371.
- Saino, N. & Moeller, A. P. (1995). Testosterone correlates of mate guarding, singing and aggressive behaviour in male barn swallows, *Hirundo rustica*. *Anim. Behav.*, **49**, 465-472.
- Saito, N. & Maekawa, M. (1993). Birdsong: the interface with human language. *Brain Dev.*, **15**, 31-40.
- Sakaguchi, H. (1996). Sex differences in the developmental changes of GABAergic neurons in zebra finch song control nuclei. *Exp. Brain Res.*, **108**, 62-68.
- Sakaguchi, H. & Yamaguchi, A. (1997). Early deafening affects PKC activity during bird song learning. *Neurosci. Res.*, **27-29**, S170.
- Sakaguchi, H., Wada, K., Maekawa, M., Watsuji, T. & Hagiwara, M. (1999). Song-induced phosphorylation of cAMP response element binding protein in the songbird brain. *J. Neurosci.*, **19**, 3973-3981.

- Sakaguchi, H., Kubota, M. & Saito, N. (1992). In vitro release of glutamate and aspartate from zebra finch song control nuclei. *Exp. Brain Res.*, **88**, 560-562.
- Sakaguchi, H., Wada, K. & Hagiwara, M. (1999). Song-induced CREB phosphorylation during avian song learning. *Soc. Neurosci. Abstr.*, **25**, 625.
- Sakaguchi, H., Li, R. & Taniguchi, I. (2000). Sex differences in the ventral paleostriatum of the zebra finch: Origin of the cholinergic innervation of the song control nuclei. *NeuroReport*, **11**, 2727-2731.
- Saldanha, C. J., Schultz, J. D., London, S. E. & Schlinger, B. A. (2000). Telencephalic aromatase but not a song circuit in a sub-oscine passerine: the golden collared manakin (*Manacus vitellinus*). *Brain Behav. Evol.*, **56**, 29-37.
- Salgado-Commissariat, D., Rosenfield, D. B. & Helekar, S. A. (2001). Metabotropic glutamate receptor-mediated modulation of synaptic responses in a song nucleus of zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1425.
- Sanderson, K. & Crouch, H. (1993). Vocal repertoire of the Australian magpie *Gymnorhina tibicen* in South Australia. *Austral. Bird Watcher*, **15**, 162-164.
- Sartor, J. J. & Ball, G. F. (2001). Song output following manipulation of social factors and effects on song control nuclei in European starlings. *Soc. Neurosci. Abstr.*, **27**, 1709.
- Sartor, J. J., Bentley, G. E. & Ball, G. F. (2000). Exogenous melatonin treatment decreases song output and is associated with a decrease in the volume of HVC in European starlings. *Soc. Neurosci. Abstr.*, **26**.
- Saur, B., Maciejok, J. & Bergmann, H.-H. (1996). Where to sing and where to call. Vocalizations of chaffinches *Fringilla coelebs* inside and outside their territories. *Bioacoustics*, **6**, 273-279.
- Scharff, C., Nottebohm, F. & Cynx, J. (1998). Conspecific and heterospecific song discrimination in male zebra finches with lesions in the anterior forebrain pathway. *J. Neurobiol.*, **36**, 81-90.
- Scharff, C., Ramos, J., Garcia-Verdugo, J. M. & Nottebohm, F. (2000). 3-D reconstruction of neuronal clusters in HVC of male zebra finches. *Soc. Neurosci. Abstr.*, **26**.
- Scharff, C., Kirn, J. R., Grosman, M., Macklis, J. D. & Nottebohm, F. (2000). Targeted neuronal death affects neuronal replacement and vocal behavior in adult songbirds. *Neuron*, **25**, 481-492.
- Schaub, M., Schwilch, R. & Jenni, L. (1999). Does tape-luring of migrating Eurasian reed-warblers increase number of recruits or capture probability? *Auk*, **116**, 1047-1053.
- Scheiber, I. B. R. (2001). Song influences female choice in the house wren. *Adv. Ethol.*, **36**, 258.
- Scheich, H. (1990). Representational geometries of telencephalic auditory maps in birds and mammals. In *The Neocortex* (B. L. Finlay, ed.). Plenum Press; New York, pp. 119-136.
- Schekkerman, H. (1999). Sex bias and seasonal patterns in tape-lured samples of migrating skylarks *Alauda arvensis*. *Ringing & Migration*, **19**, 299-305.
- Schimmel, K. L. & Wasserman, F. E. (1994). Individual and species preference in two passerine birds: Auditory and visual cues. *Auk*, **111**, 634-642.
- Schleuss, F. & Hultsch, H. (1998). Vocal ontogeny and the role of song rehearsal in nightingales. *Ostrich*, **69**, 267.
- Schleuss, F. & Hultsch, H. (2001). The development of discontinuous singing in nightingales: Is it based on instruction? *Adv. Ethol.*, **36**, 259.
- Schlinger, B. A. (1994). Estrogens to song: picograms to sonograms. *Horm. Behav.*, **28**, 191-198.
- Schlinger, B. A. & Arnold, A. P. (1992). Plasma sex steroids and tissue aromatization in hatchling zebra finches: implications for the sexual differentiation of singing behavior. *Endocrinol.*, **130**, 289-299.
- Schlinger, B. A. & Arnold, A. P. (1993). Estrogen synthesis in vivo in the adult zebra finch: additional evidence that circulating estrogens can originate in brain. *Endocrinology*, **133**, 2610-2616.
- Schlinger, B. A. (1994). Estrogens and song: Products of the songbird brain. *Bioscience*, **44**, 605-612.
- Schlinger, B. A. (1997). Sex steroids and their actions on the birdsong system. *J. Neurobiol.*, **33**, 619-631.
- Schmidt, V., Schaefer, H. M. & Leisler, B. (1999). Song behaviour and range use in the polygamous aquatic warbler *Acrocephalus paludicola*. *Acta Ornithologica*, **34**, 209-213.
- Schmidt, M. F. & Konishi, M. (1998). Gating of auditory responses in the vocal control system of awake songbirds. *Nature Neurosci.*, **1**, 513-518.
- Schoen, R. (1989). *Dialects, individuality and song learning in the yellowhammer (Emberiza citrinella L.)*. Dissertation. University of Vienna.
- Schottler, B. (1995). Songs of blue tits *Parus caeruleus* palmensis from La Palma (Canary Islands) - a test of hypotheses. *Bioacoustics*, **6**, 135-152.
- Schottler, B. (1993). *The vocalizations of the blue tit (Parus caeruleus) on Canary Islands: Variation, geographical differentiation and history of spreading*. Dissertation, University of Mainz. Hartung Gorre Verlag; Konstanz (German).
- Scott, L. L., Nordeen, E. J. & Nordeen, K. W. (2000). The relationship between rates of Hvc neuron addition and vocal plasticity in adult songbirds. *J. Neurobiol.*, **43**, 79-88.
- Scott, L. L., Nordeen, E. J. & Nordeen, K. W. (2001). NR2B mRNA expression declines in HVC and RA during

- avian song learning. *Soc. Neurosci. Abstr.*, **27**, 1425.
- Searcy, W. A. (1990). Species recognition of song by female red-winged blackbirds. *Anim. Behav.*, **40**, 1119-1127.
- Searcy, W. A., Nowicki, S. & Hughes, M. (1997). The response of male and female song sparrows to geographic variation in song. *Condor*, **99**, 651-657.
- Searcy, W. A. & Yasukawa, K. (1996). Song and female choice. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 454-473.
- Searcy, W. A., Coffman, S. & Raikow, D. F. (1994). Habituation, recovery and the similarity of song types within repertoires in red-winged blackbirds (*Agelaius phoeniceus*) (Aves, Emberizidae). *Ethology*, **98**, 38-49.
- Searcy, W. A. (1988). Song development from evolutionary and ecological perspectives. *Behav. Brain Sci.*, **11**, 647-648.
- Searcy, W. A. (1996). Sound-pressure levels and song preferences in female red-winged blackbirds (*Agelaius phoeniceus*) (Aves, Emberizidae). *Ethology*, **102**, 187-196.
- Searcy, W. A. (1988). Dual intersexual and intrasexual functions of song in red-winged blackbirds. *Proc. XIX Int. Congr. Ornithol.*, 1373-1381.
- Searcy, W. A. (1992). Measuring responses of female birds to male song. In *Playback and Studies of Animal Communication: Problems and Prospects* (P. K. McGregor, ed.). Plenum Press; New York, pp. 175-189.
- Searcy, W. A. & Capp, M. S. (1997). Estradiol dosage and the solicitation display assay in red-winged blackbirds. *Condor*, **99**, 826-828.
- Searcy, W. A., Podos, J., Peters, S. & Nowicki, S. (1995). Discrimination of song types and variants in song sparrows. *Anim. Behav.*, **49**, 1219-1226.
- Searcy, W. A., Nowicki, S. & Peters, S. (1999). Song types as fundamental units in vocal repertoires. *Anim. Behav.*, **58**, 37-44.
- Searcy, W. A. & Nowicki, S. (1999). Functions of song variation in song sparrows. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 577-595.
- Searcy, W. A. & Nowicki, S. (2000). Male-male competition and female choice in the evolution of vocal signalling. In *Animal Signals. Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen and G. Rosenqvist, eds.). Tapir Academic Press; Trondheim, pp. 301-315.
- Searcy, W. A., Nowicki, S. & Hogan, C. (2000). Song type variants and aggressive context. *Behav. Ecol. Sociobiol.*, **48**, 358-363.
- Searcy, W. A., Nowicki, S., Hughes, M. & Peters, S. (2002). Geographic song discrimination in relation to dispersal distances in song sparrows. *Am. Natur.*, **159**, 221-230.
- Secondi, J., Faivre, B. & Kreutzer, M. (1999). Maintenance of male reaction to congeneric song in the *Hippolais warbler* hybrid zone. *Behav. Process.*, **46**, 151-158.
- Sedgwick, J. A. (2001). Geographic variation in the song of willow flycatchers: Differentiation between *Empidonax trailli adustus* and *E. t. extimus*. *Auk*, **118**, 366-379.
- Seibt, U. & Wickler, W. (2000). 'Sympathetic song': the silent and the overt vocal repertoire, exemplified with a duetting pair of the African slate-coloured boubou, *Laniarius funebris*. *Ethology*, **106**, 795-809.
- Sellix, M. T. & Johnson, F. (1999). Reorganization of a motor cortical region during song learning in the zebra finch. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Sen, K., Theunissen, F. E. & Doupe, A. J. (2001). Feature analysis of natural sounds in the songbird auditory forebrain. *J. Neurophysiol.*, **86**, 1445-1458.
- Severinghaus, L. L. (2000). Territoriality and the significance of calling in the Lanyu scops owl *Otus elegans botolensis*. *Ibis*, **142**, 297-304.
- Shackleton, S. A. (1991). *The singing behaviour of the black-capped chickadee (Parus atricapillus)*. Master's Thesis, Queen's University; Kingston, Ontario.
- Shackleton, S. A. & Ratcliffe, L. (1994). Matched counter-singing signals and escalation of aggression in black-capped chickadees *Parus atricapillus*. *J. Ornithol.*, **135** (Sonderheft), 168.
- Shackleton, S. A. & Ratcliffe, L. (1993). Development of song in hand-reared black-capped chickadees. *Wilson Bull.*, **105**, 637-644.
- Shackleton, S. A. & Ratcliffe, L. (1994). Matched counter-singing signals escalation of aggression in black-capped chickadees (*Parus atricapillus*). *Ethology*, **97**, 310-316.
- Shaevitz, S. S. & Theunissen, F. E. (2001). Functional connectivity between field L and Hvc in the male zebra finch. *Soc. Neurosci. Abstr.*, **27**, 1921.
- Shanahan, D. (1992). Notes on calls of breeding Connecticut warblers. *Ont. Birds*, **10**, 115-116.
- Sharman, M. Y., Robertson, R. J. & Ratcliffe, L. M. (1994). Vocalizations of the tree swallow (*Tachycineta*

- bicolor*) during prelaying period: A structural and contextual analysis. *Am. Midl. Nat.*, **132**, 264-274.
- Shea, S. D., Rauske, P. L. & Margoliash, D. (2001). Identification of HVc projection neurons in extracellular records by antidromic stimulation. *Soc. Neurosci. Abstr.*, **27**, 842.
- Shea, S. D. & Margoliash, D. (1999). Multiple neuromodulators may gate auditory responses in the song motor system. *Soc. Neurosci. Abstr.*, **25**, 624.
- Sheldon, B. C. (1994). Song rate and fertility in the chaffinch. *Anim. Behav.*, **47**, 986-987.
- Shy, E. & Morton, E. S. (1986). Adaptation of amplitude structure of songs to propagation in field habitat in song sparrows. *Z. Tierpsychol.*, **72**, 177-184.
- Silva G., H. G. de (1997). Comparative analysis of the vocalizations of *Hylorchilus* wrens. *Condor*, **99**, 981-984.
- Silva, M. L. da, Piqueira, J. R. C. & Vielliard, J. M. E. (2000). Using Shannon entropy on measuring the individual variability in the rufous-bellied thrush *Turdus rufiventris* vocal communication. *J. Theor. Biol.*, **207**, 57-64.
- Silverin, B., Baillien, M., Foidart, A. & Balthazart, J. (2000). Distribution of aromatase activity in the brain and peripheral tissues of passerine and nonpasserine avian species. *Gen. Comp. Endocrinol.*, **117**, 34-53.
- Simpson, H. B. & Vicario, D. S. (1992). Young male songbirds imitate the male typical vocalizations of singing mothers. *Soc. Neurosci. Abstr.*, **18**, 529.
- Simpson, H. B. & Vicario, D. S. (1996). Male zebra finches can learn male-typical vocalizations from hormone-treated female tutors. *Anim. Behav.*, **52**, 1119-1127.
- Singh, T. D., Basham, M. E., Nordeen, E. J. & Nordeen, K. W. (2000). Early sensory and hormonal experience modulate age-related changes in NR2B mRNA within a forebrain region controlling avian vocal learning. *J. Neurobiol.*, **44**, 82-94.
- Singh, T., Heinrich, J., Wissman, A., Brenowitz, E., Nordeen, E. & Nordeen, K. (2001). Seasonal variation in NMDA receptor subunit mRNA in adult canary IMAN. *Soc. Neurosci. Abstr.*, **27**, 1424.
- Skiba, R. (2000). Possible 'rain call' selection in the chaffinch (*Fringilla coelebs*) by noise intensity - an investigation of a hypothesis. *J. Ornithol.*, **141**, 160-167 (German).
- Slabbekoorn, H. & Smith, T. B. (2002). Bird song, ecology and speciation. *Phil. Trans. Roy. Soc. Lond. B.*, **357**, 493-503.
- Slabbekoorn, H. & Smith, T. B. (2000). Does bill size polymorphism affect courtship song characteristics in the African finch *Pyrenestes ostrinus*? *Biol. J. Linn. Soc.*, **71**, 737-753.
- Slagsvold, T., Dale, S. & Saetre, G.-P. (1994). Dawn singing in the great tit (*Parus major*): Mate attraction, mate guarding, or territorial defence? *Behaviour*, **131**, 115-138.
- Slagsvold, T. (1996). Dawn and dusk singing of male American robins in relation to female behavior. *Wilson Bull.*, **108**, 507-515.
- Slater, P. J. B. & Jones, A. E. (1995). The timing of song and distance call learning in zebra finches. *Anim. Behav.*, **49**, 548-550.
- Slater, P. J. B. (1995). Social influences on song learning in zebra finches. *Bioacoustics*, **6**, 217.
- Slater, P. J. (1994). Variation in the calls of migratory and sedentary subspecies of silvereye. *Corella*, **18**, 14-20.
- Slater, P. J. B., Jones, A. & ten Cate, C. (1993). Can lack of experience delay the end of the sensitive phase for song learning? *Neth. J. Zool.*, **43**, 80-90.
- Slater, P. J. B., Richards, C. & Mann, I. (1991). Song learning in zebra finches exposed to a series of tutors during the sensitive phase. *Ethology*, **88**, 163-171.
- Slater, P. J. (1993). The relationship between individual variation in song and ecology in the capricorn silvereye. *Emu*, **93**, 145-155.
- Slater, P. J. B. (1997). Vocal learning in songbirds: origin and maintenance. *Adv. Ethol.*, **32**, 31.
- Slater, P. J. B. & Jones, A. E. (1997). Lessons in bird song. *Biologist*, **44**, 301-303.
- Slater, P. J. B. & Mann, N. I. (1991). Early experience and song learning in zebra finches *Taeniopygia guttata*. *Acta XX Congr. Int. Ornithol.*, 1074-1080.
- Slater, P. J. B. & Jones, A. E. (1998). Practice and song development in zebra finches. *Behaviour*, **135**, 1125-1136.
- Slater, P. J. B. (2001). Is innovation in bird song adaptive? *Adv. Ethol.*, **36**, 38.
- Slater, P. J. B., Lachlan, R. F. & Riebel, K. (2000). The significance of song learning in signal development: The curious case of the chaffinch. In *Animal Signals: Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen & G. Rosenqvist, eds.). Tapir Academic Press; Trondheim, Norway, pp. 341-352.
- Smith, G. T., Brenowitz, E. A., Beecher, M. D. & Wingfield, J. C. (1997). Seasonal changes in testosterone, neural attributes of song control nuclei, and song structure in wild songbirds. *J. Neurosci.*, **17**, 6001-6010.
- Smith, G. T., Brenowitz, E. A., Wingfield, J. C. & Baptista, L. F. (1995). Seasonal changes in song nuclei and song behavior in Gambel's white-crowned sparrows. *J. Neurobiol.*, **28**, 114-125.
- Smith, G. T., Brenowitz, E. A., Beecher, M. D., Campbell, S. E. & Wingfield, J. C. (1995). Hormonal and

- behavioral correlates of seasonal plasticity in the song nuclei of a wild songbird. *Soc. Neurosci. Abstr.*, **21**, 962.
- Smith, W. J. (1996). Using interactive playback to study how songs and singing contribute to communication about behavior. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 377-397.
- Smith, J. I. & Yu, H.-T. (1990). The association between vocal characteristics and habitat type in Taiwanese passerines. *Zool. Sci.*, **9**, 659-664.
- Smith, W. J. & Smith, A. M. (1996). Playback interactions with great crested flycatchers, *Myiarchus crinitus* (Aves, Tyrannidae). *Ethology*, **102**, 724-735.
- Smith, W. J. & Smith, A. M. (1996). Vocal signalling of the great crested flycatcher, *Myiarchus crinitus* (Aves, Tyrannidae). *Ethology*, **102**, 705-723.
- Smith, W. J. & Smith, A. M. (1996). Information about behaviour provided by Louisiana waterthrush, *Seiurus motacilla* (Parulinae), songs. *Anim. Behav.*, **51**, 785-799.
- Smith, G. T., Brenowitz, E. A. & Wingfield, J. C. (1997). Seasonal changes in the size of the avian song control nucleus HVC defined by multiple histological markers. *J. Comp. Neurol.*, **381**, 253-261.
- Smith, V. A., King, A. P. & West, M. J. (2000). A role of her own: female cowbirds, *Molothrus ater*, influence the development and outcome of song learning. *Anim. Behav.*, **60**, 599-609.
- Smith, V. A., King, A. P. & West, M. J. (2002). The context of social learning: association patterns in a captive flock of brown-headed cowbirds. *Anim. Behav.*, **63**, 23-35.
- Smith, G. T., Brenowitz, E. A. & Wingfield, J. C. (1997). Roles of photoperiod and testosterone in seasonal plasticity of the avian song control system. *J. Neurobiol.*, **32**, 426-442.
- Soderstrom, K. (2000). CB1 cannabinoid receptor expression in brain regions associated with zebra finch song control. *Brain Res.*, **857**, 151-157.
- Soderstrom, K. & Johnson, F. (2001). Zebra finch vocal development is impaired by daily cannabinoid exposure. *Soc. Neurosci. Abstr.*, **27**, 1427.
- Sogge, M. K. (1997). Primary song by a juvenile willow flycatcher. *J. Field Ornithol.*, **68**, 630-631.
- Soha, J. A., Shimizu, T. & Doupe, A. J. (1996). Development of the catecholaminergic innervation of the song system of the male zebra finch. *J. Neurobiol.*, **29**, 473-489.
- Soha, J. A. & Marler, P. (2001). Cues for early discrimination of conspecific song in the white-crowned sparrow (*Zonotrichia leucophrys*). *Ethology*, **107**, 813-826.
- Soha, J. A. & Marler, P. (2001). Vocal syntax development in the white-crowned sparrow (*Zonotrichia leucophrys*). *J. Comp. Psychol.*, **115**, 172-180.
- Soha, J. A. & Marler, P. (2000). A species-specific acoustic cue for selective song learning in the white-crowned sparrow. *Anim. Behav.*, **60**, 297-306.
- Sohrabji, F., Nordeen, E. J. & Nordeen, K. W. (1993). Characterization of neurons born and incorporated into a vocal control nucleus during avian song learning. *Brain Res.*, **620**, 335-338.
- Solis, M. M. & Doupe, A. J. (1999). Contributions of both tutor and bird's own song experience to neural selectivity in the songbird anterior forebrain. *J. Neurosci.*, **19**, 4559-4584.
- Solis, M. M. & Doupe, A. J. (1997). Anterior forebrain neurons develop selectivity by an intermediate stage of birdsong learning. *J. Neurosci.*, **17**, 6447-6462.
- Solis, M. M. (2000). Adult neurogenesis in songbirds: A tale of two neurons. *Neuron*, **25**, 256.
- Solis, M. M. & Doupe, A. J. (2000). Compromised neural selectivity for song in birds with impaired sensorimotor learning. *Neuron*, **25**, 109-122.
- Solis, M. M., Brainard, M. S., Hessler, N. A. & Doupe, A. J. (2000). Song selectivity and sensorimotor signals in vocal learning and production. *Proc. Natl. Acad. Sci. USA*, **97**, 11836-11842.
- Soma, K. K., Hartman, V. N., Wingfield, J. C. & Brenowitz, E. A. (1999). Seasonal changes in androgen receptor immunoreactivity in the song nucleus HVC of a wild bird. *J. Comp. Neurol.*, **409**, 224-236.
- Soma, K. K., Wissman, A. M., Brenowitz, E. A. & Wingfield, J. C. (2002). Dehydroepiandrosterone (DHEA) increases territorial song and the size of an associated brain region in a male songbird. *Horm. Behav.*, **41**, 203-212.
- Sommer, C., Mundry, R. & Ostreher, R. (2001). Why do cooperatively breeding Arabian babblers utter far-ranging calls at their nest? *Adv. Ethol.*, **36**, 264.
- Sorjonen, J. (1986). Mixed singing and interspecific territoriality - consequences of secondary contact of two ecologically and morphologically similar nightingale species in Europe. *Ornis Scand.*, **17**, 53-67.
- Sorjonen, J. (1986). *Singing strategies in Northern European passerines*. Univ. Joensuu Public. Sc., **9**, 1-21.
- Sorjonen, J. & Merila, J. (2000). Response of male bluethroats *Luscinia svecica* to song playback: Evidence of territorial function of song and song flights. *Ornis Fennica*, **77**, 43-47.
- Sorjonen, J. (2001). Long-term constancy of two rain-call dialects of the chaffinch *Fringilla coelebs* in Finnish and Russian Karelia: a consequence of site-fidelity? *Ornis Fennica*, **78**, 73-82.



- Spector, D. A. (1992). Wood-warbler song systems: a review of paruline singing behaviors. *Curr. Ornithol.*, **9**, 199-238.
- Spiro, J. E. & Mooney, R. (1999). An intracellular study of auditory responses in the zebra finch song nucleus RA. *Soc. Neurosci. Abstr.*, **25**, 624.
- Spiro, J. E., Dalva, M. B. & Mooney, R. (1999). Long-range inhibition within the zebra finch song nucleus RA can coordinate the firing of multiple projection neurons. *J. Neurophysiol.*, **81**, 3007-3020.
- Staicer, C. A. (1996). Acoustical features of song categories of the Adelaide's warbler (*Dendroica adelaidae*). *Auk*, **113**, 771-783.
- Staicer, C. A., Spector, D. A. & Horn, A. G. (1996). The dawn chorus and other diel patterns in acoustic signaling. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 426-453.
- Staicer, C. A. (1996). Honest advertisement of pairing status: evidence from a tropical resident wood-warbler. *Anim. Behav.*, **51**, 375-390.
- Staicer, C. A. (1991). *The role of male song in the socioecology of the tropical resident Adelaide's warbler (Dendroica adelaidae)*. Ph.D. thesis, University of Massachusetts.
- Stark, L. L. & Perkel, D. J. (1999). Two-stage, input-specific synaptic maturation in a nucleus essential for vocal production in the zebra finch. *J. Neurosci.*, **19**, 9107-9116.
- Stark, L. L. & Perkel, D. J. (1999). Two-stage, input specific synaptic maturation in a nucleus essential for vocal production in the zebra finch. *J. Neurosci.*, **19**, 9107-9116.
- Steidel, G. (1996). Dialect systems of micro-populations in scarlet rosefinches *Carpodacus erythrinus*. *Bioacoustics*, **6**, 308.
- Stelte, W. & Sossinka, R. (1996). Significance of perches in the marsh warbler (*Acrocephalus palustris*) in its breeding habitat. *Vogelwarte*, **38**, 188-193 (German).
- Steve, E., Messenger, E. & Yasukawa, K. (1999). Do red-winged blackbird parents and their nestlings recognize each other? *J. Field Ornithol.*, **70**, 297-309.
- Stoddard, P. K. (1996). Vocal recognition of neighbors by territorial passerines. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 356-376.
- Stoddard, P. K., Beecher, M. D., Loesche, P. & Campbell, S. E. (1992). Memory does not constrain individual recognition in a bird with song repertoires. *Behaviour*, **122**, 274-287.
- Stoddard, P. K. (1989). *Song repertoire use and perception by male song sparrows (Melospiza melodia) in the Puget Sound region*. Ph.D. dissertation. University of Washington.
- Stoehr, A. M. & Hill, G. E. (2000). Testosterone and the allocation of reproductive effort in male house finches (*Carpodacus mexicanus*). *Behav. Ecol. Sociobiol.*, **48**, 407-411.
- Stranek, R. J. (1999). A vocalization of the pale-breasted spintail, *Synallaxis albescens* (Aves, Furnariidae) is similar to the mechanical warning sound of the rattlesnake, *Crotalus durissus terrificus* (Serpentes, Crotalidae). *Rev. Mus. Argent. Cienc. Natur. Nueva Serie*, **1**, 115-119.
- Streidter, G. (1994). The vocal control pathways in budgerigars differ from those in songbirds. *J. Comp. Neurol.*, **343**, 35-56.
- Stripling, R. M., Milewski, L., Kruse, A. A. & Clayton, D. F. (2001). Rapidly learned song discrimination without behavioral reinforcement in adult male zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Stripling, R., Kruse, A. A. & Clayton, D. F. (2001). Development of song responses in the zebra finch caudomedial neostriatum: Role of genomic and electrophysiological activities. *J. Neurobiol.*, **48**, 163-180.
- Strote, J. & Nowicki, S. (1996). Responses to songs with altered tonal quality by adult song sparrows (*Melospiza melodia*). *Behaviour*, **133**, 161-172.
- Sturdy, C. B., Phillmore, L. S., Price, J. L. & Weisman, R. G. (1999). Song note discriminations in zebra finches (*Taeniopygia guttata*): Categories and pseudocategories. *J. Comp. Psychol.*, **113**, 204-212.
- Sturdy, C. B., Phillmore, L. S. & Weisman, R. G. (1999). Note types, harmonic structure, and note order in the songs of zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **113**, 194-203.
- Sturdy, C. B., Phillmore, L. S., Sartor, J. J. & Weisman, R. G. (2001). Reduced social contact causes auditory perceptual deficits in zebra finches, *Taeniopygia guttata*. *Anim. Behav.*, **62**, 1207-1218.
- Sturdy, C. M., Wild, J. M. & Mooney, R. (2000). Intrinsic electrophysiological properties and synaptic connections of zebra finch vocal motor neurons. *Soc. Neurosci. Abstr.*, **26**.
- Sturdy, C. B., Phillmore, L. S. & Weisman, R. G. (2000). Call-note discriminations in black-capped chickadees (*Poecile atricapillus*). *J. Comp. Psychol.*, **114**, 357-364.
- Sundberg, K. A., Newman, S. W., Buki, J. & DeVoogd, T. J. (2001). Female songbirds that differ in song experience or quality of song discrimination also differ in the IEG response to hearing song. *Soc. Neurosci. Abstr.*, **27**, 843.

- Suthers, R. A. (1997). Peripheral control and lateralization of birdsong. *J. Neurobiol.*, **33**, 632-652.
- Suthers, R. A. & Goller, F. (1997). Motor correlates of vocal diversity in song birds. In *Current Ornithology*, Vol. 14 (V. Nolan, E. Ketterson and C. Thompson, eds.). Plenum Press; New York, pp. 235-288.
- Suthers, R. A., Goller, F. & Pytte, C. (1999). The neuromuscular control of birdsong. *Phil. Trans. Roy. Soc., B.*, **354**, 927-939.
- Suthers, R. A., Goller, F. & Hartley, R. S. (1994). Motor dynamics of song production by mimic thrushes. *J. Neurobiol.*, **25**, 917-936.
- Suthers, R. A. (1994). Variable asymmetry and resonance in the avian vocal tract: a structural basis for individually distinct vocalizations. *J. Comp. Physiol., A.*, **175**, 457-466.
- Suthers, R. A., Goller, F. & Hartley, R. S. (1996). Motor stereotypy and diversity in songs of mimic thrushes. *J. Neurobiol.*, **30**, 213-245.
- Suthers, R. A. (1992). Lateralization of sound production and motor action on the left and right sides of the syrinx during bird song. *Proc. Int. Congr. Acoustics, 14, Beijing, Vol. II-5*, pp. 1-2.
- Suthers, R. A. (1999). The motor basis of vocal performance in songbirds. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 37-62.
- Suthers, R. A. (2001). Peripheral vocal mechanisms in birds: Are songbirds special? *Neth. J. Zool.*, **51**, 217-242.
- Suthers, R. A. (2001). Peripheral vocal mechanisms in birds: Are songbirds special? *J. Morphol.*, **248**, 289-290.
- Suthers, R. A. & Wild, J. M. (2000). Real-time modulation of the syringeal motor program in response to externally imposed respiratory perturbations in adult songbirds. *Soc. Neurosci. Abstr.*, **26**.
- Suthers, R. A., Goller, F. & Wild, J. M. (2002). Somatosensory feedback modulates the respiratory motor program of crystallized birdsong. *Proc. Natl. Acad. Sci. USA*, **99**, 5680-5685.
- Sutter, M. L. & Margoliash, D. (1994). Global synchronous response to autogenous song in zebra finch HVC. *J. Neurophysiol.*, **72**, 2105-2123.
- Szekely, T., Catchpole, C. K., DeVoogd, A., Marchl, Z. & DeVoogd, T. (1996). Evolutionary changes in a song control area of the brain (HVC) are associated with evolutionary changes in song repertoire among European warblers (Sylviidae). *Proc. R. Soc. Lond., Ser. B.*, **263**, 607-610.
- Tamura, M. & Ueda, K. (2000). Female song in the Siberian blue robin *Luscinia cyane*. *J. Yamashina Inst. Ornithol.*, **32**, 86-90.
- Tavares, J., Langemann, U. & McGregor, P. K. (1997). Responses of great tits, *Parus major*, to alternating vs overlapping interactive playback: effects of song matching. *Adv. Ethol.*, **32**, 121.
- Tchernichovski, O., Schwabl, H. & Nottebohm, F. (1998). Context determines the sex appeal of male zebra finch song. *Anim. Behav.*, **55**, 1003-1010.
- Tchernichovski, O. & Nottebohm, F. (1998). Social inhibition of song imitation among sibling male zebra finches. *Proc. Natl. Acad. Sci. USA*, **95**, 8951-8956.
- Tchernichovski, O. & Nottebohm, F. (2001). Dynamics of the vocal imitation process: how a zebra finch learns its song. *Science*, **291**, 2564-2569.
- Tchernichovski, O., Lints, T., Mitra, P. P. & Nottebohm, F. (1999). Vocal imitation in zebra finches is inversely related to model abundance. *Proc. Natl. Acad. Sci. USA*, **96**, 12901-12904.
- Tchernichovski, O., Lintz, T. & Nottebohm, F. (1999). Frequent exposure to a song model induces selective imitation by zebra finches. *Soc. Neurosci. Abstr.*, **25**, 1366.
- Tchernichovski, O., Mitra, P. P., Lints, T. & Nottebohm, F. (2000). The process of vocal imitation. *Soc. Neurosci. Abstr.*, **26**.
- Tchernichovski, O., Nottebohm, F., Ho, C. E., Pesaran, B. & Mitra, P. P. (2000). A procedure for an automated measurement of song similarity. *Anim. Behav.*, **59**, 1167-1176.
- Tchernichovski, O., Schmidt, M. & Mitra, P. P. (2001). Combined acoustic and neural measurements of the song imitation process. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Tennhardt, T. & Fischer, S. (1993). New cases of mixed singing *Phylloscopus* warblers in Berlin. *Berliner Orn. Ber.*, **3**, 31-37 (German).
- Terry, A. M. R., McGregor, P. K. & Peake, T. M. (2001). A comparison of some techniques used to assess vocal individuality. *Bioacoustics*, **11**, 169-188.
- Terry, A. & McGregor, P. (2001). Finding faces in the crowd: Neural networks used to count and monitor populations of calling birds. *Adv. Ethol.*, **36**, 274.
- Teti, J., Borland, M., Lopez, A. & McLaren, G. (2001). Digital recording and analysis of female redwing blackbird (*Agelaius phoeniceus*) vocalizations collected in the field. *Ohio J. Sci.*, **101**, A.
- Thielcke, G. (1986). Constant proportions of mixed singers in treecreeper populations (*Certhia familiaris*). *Z. Tierpsychol.*, **72**, 154-164.
- Thoenen, W. & Fujimaki, Y. (1995). Song divergence in the Japanese willow tit. *Res. Bull. Obihiro Univ.*, **19**, 171-177.
- Thoenen, W. (1996). On the geographic variation in the song of *Parus montanus*. *Orn. Beob.*, **93**, 1-34

(German).

- Thomas, R. J. (1999). The effect of variability in the food supply on the daily singing routines of European robins: a test of a stochastic dynamic programming model. *Anim. Behav.*, **57**, 365-369.
- Thomas, R. J. (1999). Two tests of a stochastic dynamic programming model of daily singing routines in birds. *Anim. Behav.*, **57**, 277-284.
- Thomas, R. J. (1997). The functions of daily singing routines in birds. D.Phil. thesis. University of Sussex.
- Thomas, R. J. (2002). The costs of singing in nightingales. *Anim. Behav.*, **63**, 959-966.
- Thomas, R. J. & Cuthill, I. C. (2002). Body mass regulation and the daily singing routines of European robins. *Anim. Behav.*, **63**, 285-295.
- Thomas, R. J., Szekely, T., Cuthill, I. C., Harper, D. G. C., Newson, S. E., Frayling, T. D. & Wallis, P. D. (2002). Eye size in birds and the timing of song at dawn. *Proc. Roy. Soc. Lond. B.*, **269**, 831-837.
- Thompson, A. D. Jr. & Baker, M. C. (1993). Song dialect recognition by male white-crowned sparrows: effects of manipulated song components. *Condor*, **95**, 414-421.
- Thompson, N. S., LeDoux, K. & Moody, K. (1994). A system for describing bird song units. *Bioacoustics*, **5**, 267-279.
- Thompson, N. S., Abbey, E., Wapner, J., Logan, C., Merritt, P. G. & Pooth, A. (2000). Variation in the bout structure of northern mockingbird (*Mimus polyglottus*) singing. *Bird Behavior*, **13**, 93-98.
- Thompson, B. E., Freking, F., Pho, V., Schlinger, B. A. & Cherry, J. A. (2000). Cyclic AMP phosphodiesterases in the zebra finch: distribution, cloning and characterization of a PDE4B homolog. *Mol. Brain Res.*, **83**, 94-106.
- Titus, R. C., Ketterson, E. D. & Nolan, V. (1997). High testosterone prior to song crystallization inhibits singing behavior in captive yearling dark-eyed juncos (*Junco hyemalis*). *Horm. Behav.*, **32**, 133-140.
- Titus, R. C. (1998). Short-range and long-range songs: Use of two acoustically distinct song classes by dark-eyed juncos. *Auk*, **115**, 386-393.
- Titus, R. C., Chandler, C. R., Ketterson, E. D. & Nolan Jr., V. (1997). Song rates of dark-eyed juncos do not increase when females are fertile. *Behav. Ecol. Sociobiol.*, **41**, 165-170.
- Tobias, J. & Seddon, N. (2000). Territoriality as a paternity guard in the European robin, *Erithacus rubecula*. *Anim. Behav.*, **60**, 165-173.
- Todt, D. & Hultsch, H. (1996). Acquisition and performance of song repertoires: Ways of coping with diversity and versatility. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 79-96.
- Todt, D. & Hultsch, H. (1998). How songbirds deal with large amounts of serial information: retrieval rules suggest a hierarchical song memory. *Biol. Cybernet.*, **79**, 487-500.
- Todt, D. & Boehner, J. (1994). Former experience can modify social selectivity during song learning in the nightingale (*Luscinia megarhynchos*). *Ethology*, **97**, 169-176.
- Todt, D. & Hultsch, H. (1998). Hierarchical learning, development and representation of song. In *Animal Cognition in Nature* (R. P. Balda, I. M. Pepperberg and A. C. Kamil, eds.). Academic Press; San Diego, pp. 275-303.
- Todt, D., Cirillo, J., Geberzahn, N. & Schleuss, F. (2001). The role of hierarchy levels in vocal imitations of songbirds. *Cybernetics and Systems*, **32**, 257-283.
- Todt, D. (2001). Studies of STM properties in animals may help us better understand the nature of our own storage limitations: The case of birdsong acquisition. *Behav. Brain Sci.*, **24**, 149-150.
- Tracy, T. T. & Baker, M. C. (1999). Geographic variation in syllables of house finch songs. *Auk*, **116**, 666-676.
- Trainer, J. M. (1989). Cultural evolution in song dialects of yellow-rumped caciques in Panama. *Ethology*, **80**, 190-204.
- Trainer, J. M. & McDonald, D. B. (1995). Singing performance, frequency matching and courtship success of long-tailed manakins (*Chiroxiphia linearis*). *Behav. Ecol. Sociobiol.*, **37**, 249-254.
- Trainer, J. M. & Peltz, B. S. (1996). Song repertoire of the bobolink: a reassessment. *Ethology*, **102**, 50-62.
- Trainer, J. M. & McDonald, D. B. (1993). Vocal repertoire of the long-tailed manakin and its relation to male-male cooperation. *Condor*, **95**, 769-781.
- Trainer, J. M., McDonald, D. B. & Learn, W. A. (2002). The development of coordinated singing in cooperatively displaying long-tailed manakins. *Behav. Ecol.*, **13**, 65-69.
- Tramer, E. J. (1994). Feeder access: deceptive use of alarm calls by a white-breasted nuthatch. *Wilson Bull.*, **106**, 573.
- Tramontin, A. D. & Brenowitz, E. A. (1999). A field study of seasonal neuronal incorporation into the song control system of a songbird that lacks adult song learning. *J. Neurobiol.*, **40**, 316-326.
- Tramontin, A. D., Wingfield, J. C. & Brenowitz, E. A. (1999). Contributions of social cues and photoperiod to seasonal plasticity in the adult avian song control system. *J. Neurosci.*, **19**, 476-483.
- Tramontin, A. D. & Brenowitz, E. A. (2000). Seasonal plasticity in the adult brain. *Trends Neurosci.*, **23**, 251-

- Tramontin, A. D., Hartman, V. N. & Brenowitz, E. A. (1999). Rapid and sequential growth of adult avian song nuclei in response to seasonal cues. *Soc. Neurosci. Abstr.*, **25**, 864.
- Tramontin, A. D., Hartman, V. N. & Brenowitz, E. A. (2000). Breeding conditions induce rapid and sequential growth in adult avian song control circuits: A model of seasonal plasticity in the brain. *J. Neurosci.*, **20**, 854-861.
- Tramontin, A. D., Perfito, N., Wingfield, J. C. & Brenowitz, E. A. (2001). Seasonal growth of song control nuclei precedes seasonal reproductive development in wild adult song sparrows. *Gen. Comp. Endocrinol.*, **122**, 1-9.
- Tretzel, E. (1997). Learning of nonspecific sounds and musicality of birds: imitation and variation of a music scale by Shamas *Copsychus malabaricus*. *J. Orn.*, **138**, 505-530 (German).
- Tretzel, E. (1998). Learning of nonspecific sounds and "musicality" of birds: imitation and variation of a music scale by shamas *Copsychus malabaricus*. *J. Orn.*, **138**, 505-530 (German).
- Trouilhet, J.-F., Nadaud, S., Vincent, F. & Ricci, J.-C. (1998). Presentation of a methodology for classification of biological signals: Application to the recognition of thrush calls. *Bull. Soc. Zool. France*, **123**, 279-292 (French).
- Troyer, T. & Doupe, A. J. (2000). An associational model of birdsong sensorimotor learning. II. Temporal hierarchies and the learning of song sequence. *J. Neurophysiol.*, **84**, 1224-1239.
- Troyer, T. W. & Bottjer, S. W. (2001). Birdsong: models and mechanisms. *Curr. Opin. Neurobiol.*, **11**, 721-726.
- Troyer, T. & Doupe, A. J. (2000). An associational model of birdsong sensorimotor learning. I. Efference copy and the learning of song syllables. *J. Neurophysiol.*, **84**, 1204-1223.
- Tryjanowski, P. (1997). Song sites of the buntings *Emberiza citrinella*, *E. hortulana* and *Miliaria calandra* in farmland: microhabitat differences. *Adv. Ethol.*, **32**, 174.
- Tryjanowski, P. (2000). Ground song of the skylark *Alauda arvensis*: Frequency, temporal distribution and habitat dependence. *Vogelwelt*, **121**, 49-50.
- Tryjanowski, P. & Osiejuk, T. S. (2000). Female song in birds: Moving from a temperate zone bias towards a unisexual theory of song. *Biol. Bull. Poznan*, **37**, 59-67.
- Tubaro, P. L. & Segura, E. T. (1994). Dialect differences in the song of *Zonotrichia capensis* in the Southern Pampas: A test of the acoustic adaptation hypothesis. *Condor*, **96**, 1084-1088.
- Tubaro, P. L. & Segura, E. T. (1992). A case of vocal mimicry in the rufous-collared sparrow. *Hornero*, **13**, 232-234.
- Tubaro, P. L. & Segura, E. T. (1995). Geographical, ecological and subspecific variation in the song of the rufous-browed pepper shrike (*Cyclarhis gujanensis*). *Condor*, **97**, 792-803.
- Tubaro, P. L., Segura, E. T. & Handford, P. (1993). Geographic variation in the song of the rufous-collared sparrow in eastern Argentina. *Condor*, **95**, 588-595.
- Tubaro, P. L. & Segura, E. T. (1993). A comparative analysis of perched song in the white-browed and the red-breasted blackbird. *Bioacoustics*, **4**, 287-291.
- Tulloch, M. & Roberts, F. J. (1995). Unusual song of common whitethroat. *Brit. Birds*, **88**, 425.
- Uno, H. & Maekawa, M. (1997). Song discrimination ability relates to the bird's own songs. *Neurosci. Res.*, **27-29**, S215.
- Uno, H., Maekawa, M. & Kaneko, H. (1997). Strategies for harmonic structure discrimination by zebra finches. *Behav. Brain Res.*, **89**, 225-228.
- Uno, H. & Okanoya, K. (2000). Context-dependent responses of auditory neurons in the vocal control nucleus HVC of the Bengalese finches. *Neurosci. Res. Suppl.*, **24**, S156.
- Vallet, E., Beme, I. & Kreutzer, M. (1998). Two-note syllables in canary songs elicit high levels of sexual display. *Anim. Behav.*, **55**, 291-297.
- Vallet, E. & Kreutzer, M. (1995). Female canaries are sexually responsive to special song phrases. *Anim. Behav.*, **49**, 1603-1610.
- Vallet, E., Kreutzer, M. & Gahr, M. (1996). Testosterone induces sexual release quality in the song of female canaries. *Ethology*, **102**, 617-628.
- Vallet, E., Kreutzer, M., Bemé, I. & Kiosseva, L. (1997). Sexy syllables in male canary songs: honest signals of motor constraints on male vocal production? *Adv. Ethol.*, **32**, 132.
- Valone, T. J. (1996). Food-associated calls as public information about patch quality. *Oikos*, **77**, 153-157.
- Vates, G. E. & Nottebohm, F. (1995). Feedback circuitry within a song learning pathway. *Proc. Natl. Acad. Sci. USA*, **92**, 5139-5143.
- Vates, G. E., Broome, B. M., Mello, C. V. & Nottebohm, F. (1996). Auditory pathways of caudal telencephalon and their relation to the song system of adult male zebra finches (*Taeniopygia guttata*). *J. Comp. Neurol.*, **366**, 613-642.
- Veerman, P. A. (1992). Vocal mimicry of larger honeyeaters by the regent honeyeater *Xanthomyza phrygia*. *Austral. Bird Watcher*, **14**, 180-189.

- Vehrencamp, S. L. (2001). Is song-type matching a conventional signal of aggressive intentions? *Proc. Roy. Soc. Lond. B.*, **268**, 1637-1642.
- Vehrencamp, S. L. (2001). Erratum: Is song-type matching a conventional signal of aggressive intentions? *Proc. Roy. Soc. Lond. B.*, **268**, 2618.
- Vehrencamp, S. L. (2000). Handicap, index, and conventional signal elements of bird song. In *Animal Signals. Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen and G. Rosenqvist, eds.). Tapir Publishers; Trondheim, pp. 277-300.
- Vicario, D. F., Nottebohm, F. & Chew, S. J. (1995). Physiological evidence for a selective neuronal learning process in songbird auditory forebrain. *Soc. Neurosci. Abstr.*, **21**, 959.
- Vicario, D. S. & Nottebohm, F. (1990). Organization of the zebra finch song control system. I. Representation of syringeal muscles in the hypoglossal nucleus. *J. Comp. Neurol.*, **271**, 346-354.
- Vicario, D. S. (1991). Neural mechanisms of song production in songbirds. *Curr. Opin. Neurobiol.*, **1**, 595-600.
- Vicario, D. S. (1994). Motor mechanisms relevant to auditory-vocal interactions in songbirds. *Brain Behav. Evol.*, **44**, 265-278.
- Vicario, D. S. & Simpson, H. B. (1995). Electrical stimulation in forebrain nuclei elicits learned vocal patterns in songbirds. *J. Neurophysiol.*, **73**, 2602-2607.
- Vicario, D. S. & Yohay, K. H. (1993). Song selective auditory input to a forebrain vocal control nucleus in the zebra finch. *J. Neurobiol.*, **24**, 488-505.
- Vicario, D. S. & Williams, H. (1992). Nucleus uvulaeformis contributes to the temporal pattern of vocal production in songbirds. *Soc. Neurosci. Abstr.*, **18**, 528.
- Vicario, D. S. (1993). A new brain stem pathway for vocal control in the zebra finch song system. *NeuroReport*, **4**, 983-986.
- Vicario, D. S. (2001). Long-lasting behavioral memory for individual female calls in male zebra finches. *Soc. Neurosci. Abstr.*, **27**, 843.
- Vicario, D. S. & Naqvi, N. H. (1997). Vive la difference: gender preferences in zebra finch calling behavior. *Soc. Neurosci. Abstr.*, **23**, 795.
- Vicario, D. S. & Raksin, J. N. (1999). Possible roles for GABAergic inhibition in the vocal control system of the zebra finch. *Soc. Neurosci. Abstr.*, **25**, 1368.
- Vicario, D. S. & Raksin, J. N. (2000). Possible roles for GABAergic inhibition in the vocal control system of the zebra finch. *NeuroReport*, **11**, 3631-3635.
- Vicario, D. S., Naqvi, N. H. & Raksin, J. N. (2001). Sex differences in discrimination of vocal communication signals in a songbird. *Anim. Behav.*, **61**, 805-817.
- Vicario, D. S., Naqvi, N. H. & Raksin, J. N. (2001). Behavioral discrimination of sexually dimorphic calls by male zebra finches requires an intact vocal motor pathway. *J. Neurobiol.*, **47**, 109-120.
- Vielliard, J. M. E. (1995). The use of bioacoustics for the phylogenetic study of neotropical birds. *Abstracts V Congreso de Ornitología Neotropical, Asuncion* (Sociedad de Biología del Paraguay, ed.); Asuncion, Paraguay, p. 55.
- Vielliard, J. (1995). Phylogeny of bioacoustic parameters in birds. *Bioacoustics*, **6**, 171-174.
- Vielliard, J. M. E. (1996). The current state of bioacoustical phylogeny. *Bioacoustics*, **6**, 310-311.
- Voigt, C., Gahr, M. & Kempnaers, B. (1997). Song structure and plumage coloration of the male wild canary (*Serinus canaria*) and their importance for reproductive success. *Adv. Ethol.*, **32**, 133.
- Voigt, C., Gahr, M. L. & Wickler, W. (2001). Sexual dimorphism of the song control region HVC in a duetting songbird, the white-browed sparrowweaver (*Plocepasser mahali*). *Soc. Neurosci. Abstr.*, **27**, 1709.
- Volman, S. F. & Khanna, H. (1995). Convergence of untutored song in group-reared zebra finches (*Taeniopygia guttata*). *J. Comp. Psychol.*, **109**, 211-221.
- Volman, S. F. (1993). Development of neural selectivity for birdsong during vocal learning. *J. Neurosci.*, **13**, 4737-4747.
- Vu, E., Mazurek, E. & Kuo, Y.-C. (1994). Identification of a forebrain motor programming network for the learned song of zebra finches. *J. Neurosci.*, **14**, 6924-6934.
- Vu, E. T. & Coleman, M. J. (2001). Song recovery by adult zebra finches following unilateral Uva lesion requires nucleus m-MAN. *Soc. Neurosci. Abstr.*, **27**, 1426.
- Wade, J. & Arnold, A. P. (1996). Functional testicular tissue does not masculinize development of the zebra finch song system. *Proc. Natl. Acad. Sci. USA*, **93**, 5264-5268.
- Wade, J. & Arnold, A. P. (1994). Post-hatching inhibition of aromatase activity does not alter sexual differentiation of the zebra finch song system. *Brain Res.*, **639**, 347-350.
- Wade, J. & Arnold, A. P. (1994). Presence of a testis is not sufficient for masculine differentiation of the neural song system in zebra finches. *Soc. Neurosci. Abstr.*, **18**, 230.
- Wade, J., Springer, M. L., Wingfield, J. C. & Arnold, A. P. (1996). Neither testicular androgens nor embryonic aromatase activity alters morphology of the neural song system in zebra finches. *Biol. Reprod.*, **55**, 1126-1132.

- Wade, J., Swender, D. A. & McElhinny, T. L. (1999). Sexual differentiation in the zebra finch song system parallels genetic, not gonadal, sex. *Horm. Behav.*, **36**, 141-152.
- Wade, J. (2001). Zebra finch sexual differentiation: The aromatization hypothesis revisited. *Microsc. Res. Techn.*, **54**, 354-363.
- Wade, J. & Buhlman, L. (2000). Lateralization and effects of adult androgen in a sexually dimorphic neuromuscular system controlling song in zebra finches. *J. Comp. Neurol.*, **426**, 154-164.
- Wade, J., Buhlman, L. & Swender, D. (2002). Post-hatching hormonal modulation of a sexually dimorphic neuromuscular system controlling song in zebra finches. *Brain Res.*, **929**, 191-201.
- Wade, J. (2000). TrkB-like immunoreactivity in the song system of developing zebra finches. *J. Chem. Neuroanat.*, **19**, 33-39.
- Wald, B. C., Nordeen, E. J. & Nordeen, K. W. (2001). Anatomical and ontogenetic factors producing variation in HVC neuron number in zebra finches. *Brain Res.*, **904**, 318-326.
- Wallhaeuser-Franke, E., Nixdorf-Bergweiler, B. E. & DeVoogd, T. J. (1995). Song isolation is associated with maintaining high spike frequencies on zebra finch IMAN neurons. *Neurobiol. Learn. Mem.*, **64**, 25-35.
- Wallhaeuser-Franke, E., Collins, C. E. & DeVoogd, T. J. (1995). Developmental changes in distribution of NADPH-Diaphorase-containing neurons in telencephalic nuclei of the zebra finch song system. *J. Comp. Neurol.*, **356**, 345-354.
- Wallschlaeger, D. (1994). On the song of *Sylvia curruca*, *Sylvia nana* and *Sylvia communis* in Mongolia. *Bioacoustics*, **6**, 80.
- Walters, M. J., McEwen, B. S. & Harding, C. F. (1988). Estrogen receptor levels in hypothalamic and vocal control nuclei in the male zebra finch. *Brain Res.*, **459**, 37-43.
- Wang, N., Aviram, R. & Kirn, J. R. (1999). Deafening alters neuron turnover within the telencephalic motor pathway for song control in adult zebra finches. *J. Neurosci.*, **19**, 10554-10561.
- Wang, J., Sakaguchi, H. & Sokabe, M. (1999). Sex differences in the vocal motor pathway of the zebra finch revealed by real-time optical imaging technique. *NeuroReport*, **10**, 2487-2492.
- Wang, J., Sokabe, M. & Sakaguchi, H. (2001). Functional connections between the HVC and the shelf of the zebra finch revealed by real-time optical imaging technique. *NeuroReport*, **12**, 215-221.
- Wang, N., Hurley, P. & Kirn, J. R. (2001). The longterm incorporation of vocal control neurons decreases with age in the adult zebra finch. *Soc. Neurosci. Abstr.*, **27**, 1710.
- Ward, B., Nordeen, E. & Nordeen, K. (1998). Individual variation in neuron number predicts differences in the propensity for avian vocal imitation. *Proc. Natl. Acad. Sci. USA*, **95**, 1277-1282.
- Ward, B. S., Nordeen, E. J. & Nordeen, K. W. (2001). Anatomical and ontogenetic factors producing variation in HVC neuron number in zebra finches. *Brain Res.*, **904**, 318-326.
- Ward, B. C., Nordeen, E. J. & Nordeen, K. W. (2000). An investigation of anatomical and ontogenetic factors producing variation in HVC neuron number in zebra finches. *Soc. Neurosci. Abstr.*, **26**.
- Warren, P. S. (2002). Geographic variation and dialects in song of the bronzed cowbird (*Molothrus aeneus*). *Auk*, **119**, 349-361.
- Wass, J. R. (1988). Song pitch-habitat relationships in white-throated sparrows: cracks in acoustic windows? *Can. J. Zool.*, **66**, 2578-2581.
- Watanabe, S. & Nemoto, M. (1998). Reinforcing property of music in Java sparrows (*Padda oryzivora*). *Behav. Process.*, **43**, 211-218.
- Watanabe, S. & Sato, K. (1999). Discriminative stimulus properties of music in Java sparrows. *Behav. Process.*, **47**, 53-57.
- Watanabe, T. & Jian, T. (1993). Visual and auditory cues in conspecific discrimination learning in Bengalese finches. *J. Ethol.*, **11**, 111-116.
- Watanabe, A., Kimura, T. & Sakaguchi, H. (2002). Expression of protein kinase C in song control nuclei of deafened adult male Bengalese finches. *NeuroReport*, **13**, 127-132.
- Watanabe, A., Kimura, T. & Sakaguchi, H. (2001). The expression of protein kinase C in the song control nuclei of deafened adult male Bengalese finches *Lonchura striata* var. *domestica*. *Zool. Sci. (Tokyo)*, **18**, Suppl., 119.
- Weary, D. M. (1988). *Experimental studies on the song of the great tit*. D. Phil. dissertation. University of Oxford; Oxford.
- Weary, D. M., Lemon, R. E. & Perreault, S. (1994). Male yellow warblers vary use of song types depending on pairing status and distance from nest. *Auk*, **111**, 727-729.
- Weary, D. M., Lemon, R. E. & Date, E. M. (1986). Acoustic features used in song discrimination by the veery. *Ethology*, **72**, 199-203.
- Weary, D. M., Lemon, R. E. & Perreault, S. (1994). Different responses to different song types in American redstarts. *Auk*, **111**, 730-734.
- Weatherhead, P. J., Metz, K. J., Bennett, G. F. & Irwin, R. E. (1993). Parasite faunas, testosterone and secondary sexual traits in male red-winged blackbirds. *Behav. Ecol. Sociobiol.*, **33**, 13-23.

- Weichel, K., Schwager, G., Heid, P., Guettinger, H. R. & Pesch, A. (1986). Sex differences in plasma steroid concentrations and singing behaviour during ontogeny in canaries (*Serinus canaria*). *Ethology*, **73**, 281-294.
- Weisleder, P., Lu, Y. & Park, T. J. (1996). Anatomical basis of a congenital hearing impairment: basilar papilla displasia in the Belgian waterslager canary. *J. Comp. Neurol.*, **369**, 292-301.
- Weisman, R., Njegovan, M., Sturdy, C., Phillmore, L., Coyle, J. & Mewhort, D. (1998). Frequency-range discriminations: Special and general abilities in zebra finches (*Taeniopygia guttata*) and humans (*Homo sapiens*). *J. Comp. Psychol.*, **112**, 244-257.
- Weisman, R., Brownlie, L., Olthof, A., Njegovan, M., Sturdy, C. & Mewhort, D. (1999). Timing and classifying brief acoustic stimuli by songbirds and humans. *J. Exp. Psychol., Anim. Behav. Proc.*, **25**, 139-152.
- Weisman, R. G. & Ratcliffe, L. M. (1992). The perception of pitch constancy in bird song. In *Cognitive Aspects of Stimulus Control* (W. K. Honig & J. G. Fetterman, eds.). Erlbaum; Hillsdale, N. J., pp. 243-261.
- Weisman, R., Njegovan, M. & Ito, S. (1994). Frequency ratio discrimination by zebra finches *Taeniopygia guttata* and humans *Homo sapiens*. *J. Comp. Psychol.*, **108**, 363-372.
- Weller, A.-A. (1995). Attraction of migrating blackcaps, *Sylvia atricapilla*, to conspecific song in spring. *Gerfaut*, **85**, 95-98.
- Welling, P., Rytkoenen, S. O., Koivula, K. T. & Orell, M. I. (1997). Song rate correlates with paternal care and survival in willow tits: advertisement of male quality? *Behaviour*, **134**, 891-904.
- Welling, P., Koivula, K. & Orell, M. (1997). Dawn chorus and female behaviour in the willow tit *Parus montanus*. *Ibis*, **139**, 1-3.
- Welling, P., Koivula, K. & Lahti, K. (1995). The dawn chorus is linked with female fertility in the willow tit *Parus montanus*. *J. Avian Biol.*, **26**, 241-246.
- Wells, J. V. & Vickery, P. D. (1994). Extended flight-songs of vesper sparrows. *Wilson Bull.*, **106**, 696-702.
- Wendtlandt, S. & Todt, D. (1996). Ontogeny of time structure in nightingale song. *Bioacoustics*, **6**, 322-323.
- Wennstrom, K. L., Reeves, B. J., Diaz, J. & Brenowitz, E. (2000). Metabolic capacity of adult avian song control nuclei is increased by testosterone treatment. *Soc. Neurosci. Abstr.*, **26**.
- Wennstrom, K. L., Reeves, B. J. & Brenowitz, E. A. (2001). Testosterone treatment increases the metabolic capacity of adult avian song control nuclei. *J. Neurobiol.*, **48**, 256-264.
- West, M. J., King, A. P. & Freeberg, T. M. (1997). Building a social agenda for the study of birdsong. In *Social Influences on Vocal Development* (C. T. Snowdon & M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 41-56.
- West, M. J. & King, A. P. (1988). Ontogenetic programs underlying geographic variation in cowbird song. In *Proc. XIX Int. Ornithol. Congr.* (H. Ouellet, ed.). National Museum of Natural Science, University of Ottawa Press; Ottawa, pp. 1598-1605.
- West, M. J., King, A. P. & Freeberg, T. M. (1998). Dual signaling during mating in brown-headed cowbirds (*Molothrus ater*; family Emberizidae/Icterinae). *Ethology*, **104**, 250-267.
- West, M. & King, A. (1996). Eco-gen-actics: A systems approach to the ontogeny of avian communication. In *Ecology and Evolution of Acoustic Communication in Birds* (D. E. Kroodsma & E. H. Miller, eds.). Comstock Publishing Associates, Cornell University Press; Ithaca & London, pp. 20-38.
- West, M. J. & King, A. P. (1990). Mozart's starling. *Am. Sci.*, **78**, 106-114.
- Westcott, D. A. (1997). Neighbours, strangers and male-male aggression as a determinant of lek size. *Behav. Ecol. Sociobiol.*, **40**, 235-242.
- Westneat, M. W., Long, J. H., Hoese, W. & Nowicki, S. (1993). Kinematics of birdsong: functional correlation of cranial movements and acoustic features in sparrows. *J. Exp. Biol.*, **182**, 147-171.
- Whaling, C., Nelson, D. A. & Marler, P. (1995). Testosterone-induced shortening of the storage phase of song development in birds interferes with vocal learning. *Devl. Psychobiol.*, **28**, 367-376.
- Whaling, C. S., Soha, J. A., Nelson, D. A., Lasley, B. & Marler, P. (1998). Photoperiod and tutor access affect the process of vocal learning. *Anim. Behav.*, **56**, 1075-1082.
- Whaling, C. S., Solis, M. M., Doupe, A. J., Soha, J. A. & Marler, P. (1997). Acoustic and neural bases for innate recognition of song. *Proc. Natl. Acad. Sci. USA*, **94**, 12694-12698.
- White, S. A. & Mooney, R. (1999). Birdsong: Can an old bird change his tune? *Curr. Biol.*, **9**, R688-R690.
- White, D. J., King, A. P., Cole, A. & West, M. J. (2002). Opening the social gateway: Early vocal and social sensitivities in brown-headed cowbirds (*Molothrus ater*). *Ethology*, **108**, 23-37.
- White, D. J., West, M. J. & King, A. P. (2001). Social experience of flockmates influences development of courtship and communication in cowbirds, *Molothrus ater*. *Dev. Psychobiol.*, **38**, 217.
- White, S. A. (2001). Learning to communicate. *Curr. Opin. Neurobiol.*, **11**, 510-520.
- White, S. A. & Mooney, R. (2000). Androgens accelerate NMDA-EPSC development but do not prevent extended learning in zebra finch isolates. *Soc. Neurosci. Abstr.*, **26**.
- White, S. A., Livingston, F. S. & Mooney, R. (1999). Androgens modulate NMDA receptor-mediated EPSCs in the zebra finch song system. *J. Neurophysiol.*, **82**, 2221-2234.

- White, S. A., Livingston, F. S. & Mooney, R. (1999). Auditory and social isolation alters NMDA-EPSCs within LMAN but not in RA, during song development. *Soc. Neurosci. Abstr.*, **25**, 623.
- Whiten, A. & Ham, R. (1992). On the nature and evolution of imitation in the animal kingdom: Reappraisal of a century of research. *Adv. Study Behav.*, **21**, 239-283.
- Whitfield-Rucker, M. & Cassone, V. M. (2000). Photoperiodic regulation of the male house sparrow song control system: Gonadal dependent and independent mechanisms. *Gen. Comp. Endocrinol.*, **118**, 173-183.
- Whitney, B. M. & Pacheco, J. F. (1994). Behavior and vocalizations of *Gyalophylax* and *Megaxenops* (Furnariidae). 2. Little known genera endemic to northeastern Brazil. *Condor*, **96**, 559-565.
- Whitney, B. M. & Rosenberg, G. H. (1993). Behavior, vocalizations and possible relationships of *Xenornis setifrons* (Formicariidae): a little known Choco endemic. *Condor*, **95**, 227-231.
- Whitney, B. M. (1994). Behavior, vocalizations, and possible relationships of four *Myrmotherula* antwrens (Formicariidae) from eastern Ecuador. *Auk*, **111**, 469-475.
- Whitney, O., Soderstrom, K. & Johnson, F. (2000). Post-transcriptional regulation of zenk expression associated with zebra finch vocal development. *Molec. Brain Res.*, **80**, 279-290.
- Whitney, O., Soderstrom, K. & Johnson, F. (2001). Cannabinoid effects on song stimulus induced zenk expression within the songbird auditory telencephalon. *Soc. Neurosci. Abstr.*, **27**, 1427.
- Whitney, O., Soderstrom, K. & Johnson, F. (1999). Developmental regulation of ZENK translation suggests a role in vocal stereotypy. *Soc. Neurosci. Abstr.*, **25**, 1367.
- Whittingham, L. A., Kirk-Connell, A. & Ratcliffe, L. M. (1992). Differences in song and sexual dimorphism between Cuban and North American red-winged blackbirds *Agelaius phoeniceus*. *Auk*, **109**, 928-933.
- Whittingham, L. A., Kirkconnell, A. & Ratcliffe, L. M. (1993). Differences in song and sexual dimorphism between Cuban and North-American red-winged blackbirds (*Agelaius phoeniceus*). *Auk*, **110**, 954-955.
- Whittingham, L. A., Kirkconnell, A. & Ratcliffe, L. M. (1997). The context and function of duet and solo songs in the red-shouldered blackbird. *Wilson Bull.*, **109**, 279-289.
- Wickler, W. & Lunau, L. (1996). How do East African bush shrikes *Laniarius funebris* recognize male and female tutors during gender dialect development? *Naturwissenschaften*, **83**, 579-580.
- Wiebe, M. O. & Lein, M. R. (1999). Use of song types by mountain chickadees (*Poecile gambeli*). *Wilson Bull.*, **111**, 368-375.
- Wiehe, H. (1989). Lesser whitethroat *Sylvia curruca* imitates great reed warbler *Acrocephalus arundinaceus*. *Vogelkundliche Berichte Niedersachsen*, **21**, 27 (German).
- Wilbrecht, L., Crionas, A. & Nottebohm, F. (2002). Experience affects recruitment of new neurons but not adult neuron number. *J. Neurosci.*, **22**, 825-831.
- Wilbrecht, L. E. & Nottebohm, F. N. (2001). Experience affects the dynamics of new neuron recruitment even when final count is unaffected. *Soc. Neurosci. Abstr.*, **27**, 1561.
- Wilczynski, W., Ryan, M. J. & Brenowitz, E. A. (1989). The display of the blue-black grassquit: the acoustic advantage of getting high. *Ethology*, **80**, 218-222.
- Wild, J. M. (1994). The auditory-vocal-respiratory axis in birds. *Brain Behav. Evol.*, **44**, 192-209.
- Wild, J. M. & Williams, M. N. (1999). Rostral wulst of passerine birds: II. Intratelencephalic projections to nuclei associated with the auditory and song systems. *J. Comp. Neurol.*, **413**, 520.
- Wild, J. M. (1993). Descending projections of the songbird nucleus robustus archistriatalis. *J. Comp. Neurol.*, **338**, 225-241.
- Wild, J. M. (1993). The avian nucleus retroambigualis: a nucleus for breathing, singing and calling. *Brain Res.*, **606**, 319-324.
- Wild, J. M. (1994). Visual and somatosensory inputs to the avian song system via nucleus uvulaeformis (uva) and a comparison with projections of a similar thalamic nucleus in a non-songbird, *Columba livia*. *J. Comp. Neurol.*, **349**, 512-535.
- Wild, J. M. (1997). Neural pathways for the control of birdsong production. *J. Neurobiol.*, **33**, 653-670.
- Wild, J. M. (1997). Functional anatomy of neural pathways contributing to the control of song production in birds. *Eur. J. Morphol.*, **35**, 303-325.
- Wild, J. M., Goller, F. & Suthers, R. A. (1998). Inspiratory muscle activity during bird song. *J. Neurobiol.*, **36**, 441-453.
- Wild, J. M., Williams, M. N. & Suthers, R. A. (2000). Neural pathways for bilateral vocal control in songbirds. *J. Comp. Neurol.*, **423**, 413-426.
- Wild, J. M., Williams, M. N. & Suthers, R. A. (2001). Parvalbumin-positive projection neurons characterise the vocal premotor pathway in male, but not female, zebra finches. *Brain Res.*, **917**, 235-252.
- Wiley, R. H. & Godard, R. (1996). Ranging of conspecific songs by Kentucky warblers and its implications for interactions of territorial males. *Behaviour*, **133**, 81-102.
- Wiley, R. H. (1998). Ranging reconsidered. *Behav. Ecol. Sociobiol.*, **42**, 143-146.



- Wiley, R. H., Godard, R. & Thompson, A. D., Jr. (1994). Use of two singing modes by hooded warblers as adaptations for signalling. *Behaviour*, **129**, 243-278.
- Wiley, R. H. & Godard, R. (1992). Ranging of conspecific songs by Kentucky warblers, *Oporornis formosus*, reduces the possibilities for interference in territorial interactions. *IVth Int. Behav. Ecol. Congr. Abstr.*, T54c.
- Wiley, R. H., Tatchwell, B. J. & Davies, N. B. (1991). Recognition of individual males' songs by female dunnocks: a mechanism increasing the number of copulatory partners and reproductive success. *Ethology*, **88**, 145-153.
- Wiley, R. H., Piper, W. H., Archawaranon, M. & Thompson, E. W. (1993). Singing in relation to social dominance and testosterone in white-throated sparrows. *Behaviour*, **127**, 175-190.
- Wiley, R. H. (2000). A new sense of the complexities of bird song. *Auk*, **117**, 861-868.
- Williams, H., Kilander, K. & Sotanski, M. L. (1993). Untutored song, reproductive success and song learning. *Anim. Behav.*, **45**, 695-705.
- Williams, H., Crane, L. A., Hale, T. K., Esposito, M. A. & Nottebohm, F. (1992). Right side dominance for song control in the zebra finch. *Soc. Neurosci. Abstr.*, **18**, 527.
- Williams, H. & Vicario, D. S. (1993). Temporal patterning of song production: participation of nucleus uvaeformis of the thalamus. *J. Neurobiol.*, **24**, 903-912.
- Williams, H. E., Cynx, J. & Nottebohm, F. (1989). Timbre control in zebra finch (*Taeniopygia guttata*) song syllables. *J. Comp. Psychol.*, **103**, 366-380.
- Williams, H. & Mehta, N. (1999). Changes in adult zebra finch song require a forebrain nucleus that is not necessary for song production. *J. Neurobiol.*, **39**, 14-28.
- Williams, J. M. & Slater, P. J. B. (1993). Does chaffinch *Fringilla coelebs* song vary with the habitat in which it is sung. *Ibis*, **135**, 202-208.
- Williams, J. M. (1993). Objective comparison of song syllables: a dynamic programming approach. *J. Theor. Biol.*, **161**, 317-328.
- Williams, H., Cynx, J. & Nottebohm, F. (1989). Timbre control in zebra finch (*Taeniopygia guttata*) song syllables. *J. Comp. Psychol.*, **103**, 366-380.
- Williams, H. (2001). Choreography of song, dance and beak movements in the zebra finch (*Taeniopygia guttata*). *J. Exp. Biol.*, **204**, 3497-3506.
- Wilson, P. L. & Vehrencamp, S. L. (2001). A test of the deceptive mimicry hypothesis in song-sharing song sparrows. *Anim. Behav.*, **62**, 1197-1205.
- Wilson, P. L., Towner, M. C. & Vehrencamp, S. L. (2000). Survival and song-type sharing in a sedentary subspecies of the song sparrow. *Condor*, **102**, 355-363.
- Wingfield, J. C. & Soma, K. K. (2000). Autumn and spring territoriality: Same behavior, different mechanisms. *Am. Zool.*, **40**, 1263.
- Wise, K. K., Conover, M. R. & Knowlton, F. F. (1999). Response of coyotes to avian distress calls: Testing the startle-predator and predator-attraction hypotheses. *Behaviour*, **136**, 935-950.
- Wistel-Wozniak, A. & Hultsch, H. (1993). Constant and age dependent changed song characteristics in hand-reared nightingales (*Luscinia megarhynchos*). *Verh. Dtsch. Zool. Ges.*, **86**, 281 (German).
- Wistel-Wozniak, A. & Boehner, J. (1996). Chaffinch song in western and southern Poland. *Bioacoustics*, **6**, 323-324.
- Wistel-Wozniak, A. & Hultsch, H. (1992). Song performance in nightingales (*Luscinia megarhynchos*) which had been raised without exposure to acoustic learning programmes. *Verh. Dtsch. Zool. Ges.*, **85**, 246.
- Wolley, S. M. N. & Rubel, E. W. (1997). Bengalese finches *Lonchura striata domestica* depend upon auditory feedback in the maintenance of adult song. *J. Neurosci.*, **17**, 6380-6390.
- Woodward, R. (1995). A test of the acoustic adaptation hypothesis using songs of the cerulean warbler. B.Sc. thesis. Queen's University; Kingston, Canada.
- Woolley, S. M. N. & Rubel, E. W. (1999). High-frequency auditory feedback is not required for adult song maintenance in Bengalese finches. *J. Neurosci.*, **19**, 358-371.
- Woolley, S. M. N. & Rubel, E. W. (1999). Hair cell regeneration results in recovery of degraded song in adult Bengalese finches. *Soc. Neurosci. Abstr.*, **25**, 1365.
- Woolley, S. M., Wissman, A. M. & Rubel, E. W. (2001). Hair cell regeneration and recovery of auditory thresholds following aminoglycoside ototoxicity in Bengalese finches. *Hear. Res.*, **153**, 181-195.
- Woolley, S. M. N. & Casseday, J. H. (2001). Tuning properties of auditory midbrain neurons in adult male zebra finches. *Soc. Neurosci. Abstr.*, **27**, 1921.
- Wright, J. (1998). Helpers-at-the-nest have the same provisioning rule as parents: experimental evidence from play-backs of chick begging. *Behav. Ecol. Sociobiol.*, **42**, 423-429.
- Wright, J. & Cotton, P. A. (1994). Song versus food: trade-off decisions in a breeding colony of European starlings *Sturnus vulgaris*. *Bird Study*, **41**, 95-101.
- Wuetrich, B. (1994). Electronic twitchers spot the night birds. *New Scientist*, 2. July, 10.

- Yahner, R. H. & Ross, B. D. (1995). Seasonal response of wood thrushes to taped-playback songs. *Wilson Bull.*, **107**, 738-741.
- Yamaguchi, A. (1999). Auditory experience does not shape sexual preferences for songs in female northern cardinals. *Behaviour*, **136**, 309-330.
- Yamaguchi, A. (1996). Female bird song: function, physiology, and development in the northern cardinal. Ph.D. thesis. University of California at Davis.
- Yamaguchi, A. (1998). Can a sexually dimorphic learned birdsong be used for male-female recognition? *Behaviour*, **135**, 833-844.
- Yamaguchi, A. (1998). A sexually dimorphic learned birdsong in the northern cardinal. *Condor*, **100**, 504-511.
- Yamaguchi, A. (2001). Sex differences in vocal learning in birds. *Nature*, **411**, 257-258.
- Yang, L., Monsivais, P. & Rubel, E. W. (1999). The superior olivary nucleus and its influence on nucleus laminaris: A source of inhibitory feedback for coincidence detection in the avian auditory brainstem. *J. Neurosci.*, **19**, 2313-2325.
- Yokoyama, H. & Nakamura, K. (1993). Aversive response of tree sparrows *Passer montanus* to distress call and the sound of paper flag. *Appl. Entomol. Zool.*, **28**, 359-370.
- Yu, A. C. & Margoliash, D. (1996). Temporal hierarchical control of singing in birds. *Science*, **273**, 1871-1875.
- Zamora, R. (1991). The selection of song perches among high-mountain passerines of Southeastern Spain. *Ecol. Birds*, **13**, 181-185.
- Zann, R. (1997). Vocal learning in wild and domesticated zebra finches: Signature cues for kin recognition or epiphenomena? In *Social Influences on Vocal Development* (C. T. Snowdon and M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 85-97.
- Zann, R. (1993). Structure, sequence and evolution of song elements in wild Australian zebra finches. *Auk*, **110**, 702-715.
- Zann, R. (1993). Variation in song structure within and among populations of Australian zebra finches. *Auk*, **110**, 716-726.
- Zelano, B., Tarvin, K. A. & Pruett-Jones, S. (2001). Singing in the face of danger: the anomalous type II vocalization of the splendid fairy-wren. *Ethology*, **107**, 201-216.
- Zeng, S.-J., Zuo, M.-X. & Zhang, X.-W. (2001). The mechanism of sexual difference of vocalization in *Lonchura striata swinhoi*. *Zool. Res.*, **22**, 51-57.
- Zeng, S.-J., Zhang, X.-W. & Zuo, M.-X. (2001). Sexual dimorphism of song control nucleus RA in the forebrain of songbird (*Lonchura striata*). *Acta Zool. Sin.*, **47**, 535-541.
- Zevin, J. D., Seidenberg, M. S. & Bottjer, S. W. (2000). Song plasticity in adult zebra finches exposed to white noise. *Soc. Neurosci. Abstr.*, **26**.
- Zimmer, K. J., Whittaker, A. & Stotz, D. F. (1997). Vocalizations, behavior and distribution of the Rio Branco antbird. *Wilson Bull.*, **109**, 663-678.
- Zimmer, K. J. (1999). Behavior and vocalizations of the caura and the yapacana antbirds. *Wilson Bull.*, **111**, 195-209.
- Zimmer, K. J. & Whittaker, A. (2000). Species limits in pale-tipped tyrannulets (*Inezia*: Tyrannidae). *Wilson Bull.*, **112**, 51-66.
- Zimmer, K. J. & Whittaker, A. (2000). The rufous cacholote (Furnariidae: *Pseudoseisura*) is two species. *Condor*, **102**, 409-422.
- Zink, R. M. (1986). Patterns and evolutionary significance of geographic variation in the schistacea group of the fox sparrow (*Passerella iliaca*). *Ornithol. Monogr. No. 40*. American Ornithologists' Union; Washington, DC.
- Ziolkowski, Jr., D. J., Johnson, L. S., Hannam, K. M. & Searcy, W. A. (1997). Coordination of female nest attentiveness with male song output in the cavity-nesting house wren *Troglodytes aedon*. *J. Avian Biol.*, **28**, 9-14.
- Zollinger, S. & Suthers, R. A. (2001). Motor strategies of a vocal mimic: Evidence for syringeal and respiratory motor constraints in birdsong production. *Soc. Neurosci. Abstr.*, **27**, 1427.
- Zuo, M.-X., Zeng, S.-J., Peng, W.-M. & Zhang, X.-W. (2002). Neural development of vocal behavior in striated mannikin (*Lonchura striata swinhoi*). *Acta Zool. Sin.*, **48**, 50-57.
- Aamodt, S. M., Nordeen, E. J. & Nordeen, K. W. (1996). Blockade of NMDA receptors during song model exposure impairs song development in juvenile zebra finches. *Neurobiol. Learn. Memory*, **65**, 91-98.
- Aamodt, S. M., Nordeen, E. J. & Nordeen, K. W. (1995). Early isolation from conspecific song does not affect the normal developmental decline of N-methyl-D-aspartate receptor binding in an avian song nucleus. *J. Neurobiol.*, **27**, 76-84.
- Aamodt, S. M., Kozlowski, M. R., Nordeen, E. J. & Nordeen, K. W. (1992). Distribution and developmental change in [3H]MK-801 binding within zebra finch song nuclei. *J. Neurobiol.*, **23**, 997-1005.
- Aamodt, S. M., Nordeen, E. J. & Nordeen, K. W. (1992). MK801 binding declines steadily with age in a nucleus involved in avian song learning. *Soc. Neurosci. Abstr.*, **18**, 528.

- Aamodt, S. (1999). Singing in the brain: Song learning in adult zebra finches. *Nature Neurosci.*, **2**, 590.
- Aamodt, S. M., Nordeen, E. J. & Nordeen, K. W. (1993). Acute blockade of N-methyl-D-aspartate (NMDA) receptors during song exposure prevents song learning in zebra finches. *Neurosci. Soc. Abst.*, **19**, 1018.
- Aaroe, A. S. & Dabelsteen, T. (2001). Singing activity and investment in parental care in the great tit, *Parus major*. *Adv. Ethol.*, **36**, **112**.
- Aastroem, G. & Stolt, B.-O. (1993). Regional song dialects of the ortolan bunting *Emberiza hortulana* L. in Sweden. *Ornis Svecica*, **3**, 1-10.