NON-PRIMATE MAMMALS

Abrams, R. M., Gerhardt, K. J., Griffiths, S. K., Huang, X. & Antonelli, P. J. (1998). Intrauterine sounds in sheep. *J. Sound Vibr.,* **216**, 539-542.

Acharya, L. & Fenton, M. B. (1992). Echolocation behavior of vespertilionid bats *Lasiurus cinereus* and *Lasiurus borealis* attacking airborne targets including arctiid moths. *Can. J. Zool.*, **70**, 1292-1298.

Acharya, L. (1992). Are ears valuable to moths flying around lights? *Bat Res. News*, **33**, 47.

Acharya, L. & Mcneil, J. N. (1998). Predation risk and mating behavior: the responses of moths to bat-like ultrasound. *Behav. Ecol.*, **9**, 552-558.

Ackers, S. H. & Slobodchikoff, C. N. (1999). Communication of stimulus size and shape in alarm calls of Gunnison's prairie dogs, *Cynomys gunnisoni*. *Ethology,* **105**, 149-162.

Adams, Joe C. (1995). Sound stimulation induces Fos-related antigens in cells with common morphological properties throughout the auditory brainstem. *J. Comp. Neurol.*, **361**, 645-668.

Ahlen, I. & Baagoe, H. J. (2001). The common pipistrelle split into two species. *Fauna och Flora*, **96**, 71-78.

Ahlen, I.& Baagoe, H. J. (1999). Use of ultrasound detectors for bat studies in Europe: experiences from field identification, surveys, and monitoring. *Acta Chiropterologica*, **1**, 137-150.

Aitkin, L. M. (1990). Coding for auditory space. In *Information Processing in Mammalian Auditory and Tactile Systems* (M. Rowe & L. M. Aitkin, eds.). Wiley-Liss; New York, pp. 169-178.

Akamatsu, T., Wang, D., Wang, K. & Naito, Y. (2000). A method for individual identification of echolocation signals in free-ranging finless porpoises carrying data loggers. *J. Acoust. Soc. Am.*, **108**, 1353-1356.

Akamatsu, T., Hatakeyama, Y., Kojima, T. & Soeda, H. (1994). Echolocation rates of two harbour porpoises *(Phocoena phocoena)*. *Mar. Mammal Sci.,* **10**, 401-411.

Akamatsu, T., Narita, Y. & Matsu-Ura, T. (1998). Real-time click interval acquisition system for dolphin echolocation signals. *Bioacoustics,* **9**, 225.

Akamatsu, T., Wang, D., Nakamura, K. & Wang, K. (1998). Echolocation range of captive and free-ranging baiji *(Lipotes vexillifer)*, finless porpoise *(Neophocaena phocaenoides)*, and bottlenose dolphin *(Tursiops truncatus)*. *J. Acoust. Soc. Am.,* **104**, 2511-2516.

Alcuri, G. & Busnel, R.-G. (1989). Sonar clicks and whistling signals are made by the same acoustical source in the fresh-water Amazonian dolphin *Sotalia fluviatilis* Gervais and Deville. *C. R. Hebd. Seances Acad. Sci. (III), Paris,* **308**, 379-384 (French).

Alcuri, G. & Busnel, R.-G. (1990). Echolocation and communication signals for the case of a freshwater dolphin: functional approach. *Colloque Physique,* **C-2**, 627-630 (French).

Aldridge, H. D. J. N. & Rautenbach, I. L. (1987). Morphology, echolocation and ressource partitioning in insectivorous bats. *J. Anim. Ecol.,* **56**, 763-778.

Algers, B., Rojanasthien, S. & Uvnaes-Moberg, K. (1990). The relation between teat stimulation, oxytocin release and grunting rate in the sow. *Appl. Anim. Behav. Sci.*, **26**, 267-276.

Alkon, P. U., Cohen, Y. & Jordan, P. A. (1989). Towards an acoustic biotelemetry system for animal behavior studies. *J. Wildl. Manage.,* **53**, 658-662.

Altes, R. A. (1995). Signal processing for target recognition in biosonar. *Neural Networks,* **8**, 1275-1295.

Altes, R. A. (1989). An interpretation of cortical maps in echolocating bats. *J. Acoust. Soc. Am.,* **85**, 934-942.

Amundin, M. (1990). Sound production in Odontocetes with emphasis on the harbour porpoise *Phocoena phocoena*. Ph.D. thesis. Stockholm University.

Amundin, M. (1991). Helium effects on the click frequency spectrum of the harbor porpoise, *Phocoena phocoena*. *J. Acoust. Soc. Am.,* **90**, 53-59.

Anderson, M. E. & Racey, P. A. (1993). Discrimination between fluttering and non-fluttering moths by brown long-eared bats, *Plecotus auritus*. *Anim. Behav.*, **46**, 1151-1155.

Anderson, P. K. & Barclay, R. M. R. (1995). Acoustic signals of solitary dugongs: physical characteristics and behavioral correlates. *J. Mammal.*, **76**, 1226-1237.

Ando, R., Kume, H., Sakurada, S., Kawamura, S., Yonezawa, A., Sakurada, T. & Kisara, K. (1993). Vocalization response induced by arterial injection of ciprofloxacin in guinea pigs. *Jpn. J. Pharmacol.*, **61** (Suppl.), 304

Andre, M. & Kamminga, C. (2000). Rhythmic dimension in the echolocation click trains of sperm whales: A possible function of identification and communication. *J. Mar. Biol. Ass. UK*, **80**, 163-169.

Andre, M., Kamminga, C. & Ketten, D. (1998). Are low frequency sounds a marine hearing hazard: a case study in the Canary Islands. *Bioacoustics,* **9**, 220.

Andre, M., Larsen, H. H. & Gjerlov, P. (1996). A tool for the study of sperm whale underwater behaviour. *European Research on Cetaceans,* **9**, 42-45.

Appleby, M. C., Weary, D. M., Taylor, A. A. & Illmann, G. (1999). Vocal communication in pigs: Who are nursing piglets screaming at? *Ethology,* **105**, 881-892.

Arch-Tirado, E., McCowan, B., Saltijeral-Oaxaca, J., Zarco de Coronado, L. & Licona-Bonilla, J. (2000).

Development of isolation-induced vocal behavior in normal-hearing and deafened Guinea pig infants. *J. Speech Language Hear. Res.*, **43**, 432-440.
Arnold, S. & Burkard, R. (2000). Studies of interaural attenuation to investigate the validity of a dichotic difference tone response recorded from the inferior colliculus in the chinchilla. *J. Acoust. Soc. Am.*, **107**, 1541-1547.
Aroyan, J. L., Cranford, T. W., Kent, J. & Norris, K. S. (1992). Computer modeling of acoustic beam formation in *Delphinus delphis*. *J. Acoust. Soc. Am.,* **92**, 2539-2545.
Asano, F., Suzuki, Y. & Sone, T. (1990). Role of spectral cues in median plane localization. *J. Acoust. Soc. Am.*, **88**, 159-168.
Asselin, S., Hammill, M. O. & Barrette, C. (1993). Underwater vocalizations of ice breeding gray seals. *Can. J. Zool.*, **71**, 2211-2219.
Au, W. W. L. & Turl, C. W. (1991). Material composition discrimination of cylinders at different aspect angles by an echolocating dolphin. *J. Acoust. Soc. Am.,* **89**, 2448-2451.
Au, W. W. L., Kastelein, R. A., Rippe, T. & Schooneman, N. M. (1999). Transmission beam pattern and echolocation signals of a harbor porpoise *(Phocoena phocoena)*. *J. Acoust. Soc. Am.,* **106**, 3699-3705.
Au, W. W. L., Pawloski, J. L., Nachtigall, P. E., Blonz, M. & Gisner, R. C. (1995). Echolocation signals and transmission beam pattern of a false killer whale *(Pseudorca crassidens)*. *J. Acoust. Soc. Am.,* **98**, 59-69.
Au, W. W. L., Penner, R. H. & Turl, C. W. (1987). Propagation of beluga echolocation signals. *J. Acoust. Soc. Am.,* **82**, 807-813.
Au, W. W. L. & Nachtigall, P. E. (1994). Dolphin acoustics and echolocation. *Acoustics Bull.,* **19**, 19-26.
Au, W. W. L. (1997). Echolocation in dolphins, with a dolphin-bat comparison. *Bioacoustics,* **8**, 137-162.
Au, W. W. L. (1996). Acoustic reflectivity of a dolphin. *J. Acoust. Soc. Am.,* **99**, 3844-3848.
Au, W. W. L. (1992). Application to the reverberation-limited form of the sonar equation to dolphin echolocation. *J. Acoust. Soc. Am.,* **92**, 1822-1826.
Au, W. W. L. & Moore, P. W. B. (1988). The perception of complex echoes by an echolocating dolphin. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Publishing Corp.; New York, pp. 295-299.
Au, W. W. L. & Moore, P. W. B. (1990). Critical ratio and critical bandwidth for the Atlantic bottlenosed dolphin. *J. Acoust. Soc. Am.,* **88**, 1635-1638.
Au, W. W. L., Anderson, L. N., Rasmussen, R., Roitblat, H. L. & Nachtigall, P. E. (1995). Neural network modelling of a dolphin's sonar discrimination capabilities. *J. Acoust. Soc. Am.,* **98**, 43-50.
Au, W. W. L., Moore, P. W. B. & Pawloski, D. A. (1988). Detection of complex echoes in noise by an echolocating dolphin. *J. Acoust. Soc. Am.,* **83**, 662-668.
Au, W. W. L., Nachtigall, P. E. & Pawlowski, J. L. (1997). Acoustic effects of the ATOC signal (75 Hz, 195 dB) on dolphins and whales. *J. Acoust. Soc. Am.,* **101**, 2973-2977.
Au, W. W. L. (1992). The Sonar of Dolphins. Springer-Verlag; New York.
Au, W. W. L. (1997). The dolphin echolocation system. *J. Acoust. Soc. Am.,* **102**, 3077.
Au, W. W. L. (1993). *The sonar of dolphins.* Springer Verlag New York Inc.; New York.
Au, W. W. L., Popper, A. N. & Fay, R. R., eds. (2000). *Hearing by Whales and Dolphins.* Springer Handbook of Auditory Research, Volume 12. Springer; New York.
Au, W. W. L., Mobley, J., Burgess, W. C., Lammers, M. O. & Nachtigall, P. E. (2000). Seasonal and diurnal trends of chorusing humpback whales wintering in waters off western Maui. *Mar. Mamm. Sci.*, **16**, 530-544.
Au, W. W. L. (1994). Comparison of sonar discrimination: dolphin and an artificial neural network. *J. Acoust. Soc. Am.,* **95**, 2728-2735.
Au, W. W. L. & Herzing, D. L. (1997). Measurement of the echolocation signals of the Atlantic spotted dolphin *Stenella frontalis* in the waters off the Grand Bahamas. *J. Acoust. Soc. Am.,* **101**, 3137-3138.
Au, W. L., Moore, P. W. B. & Pawloski, D. (1986). Echolocation transmitting beam of the Atlantic bottlenose dolphin. *J. Acoust. Soc. Am.*, **80**, 668-691.
Au, W. W. L., Lammers, M. O., Nachtigall, P. E., Mobely, J. & Burgess, W. C. (2000). Characteristics of chorusing sounds of humpback whales wintering in waters off western Maui. *J. Acoust. Soc. Am.*, **108**, 2612.
Au, W. W. L., Rasmussen, M. H. & Miller, L. (2000). Echolocation signals of wild white beaked dolphins measured with a four-hydrophone short base line array in real-time. *J. Acoust. Soc. Am.*, **108**, 2583.
Aubauer, R. & Au, W. W. L. (1998). Phantom echo generation: A new technique for investigating dolphin echolocation. *J. Acoust. Soc. Am.,* **104**, 1165-1170.
Aubauer, R., Lammers, M. O. & Au, W. W. L. (2000). One-hydrophone method of estimating distance and depth of phonating dolphins in shallow water. *J. Acoust. Soc. Am.*, **107**, 2744-2749.
Aubauer, R., Au, W. W. L., Nachtigall, P. E., Pawloski, D. A. & DeLong, C. M. (2000). Classification of

electronically generated phantom targets by an Atlantic bottlenose dolphin (*Tursiops truncatus*). *J. Acoust. Soc. Am.*, **107**, 2750-2754.
Audet, D., Engstrom, M. D. & Fenton, M. B. (1993). Morphology, karyology and echolocation calls of Rhogeessa (Chiroptera, Vespertilionidae) from the Yucatan Peninsula. *J. Mammal.*, **74**, 498-502.
Awbery, F. T., Thomas, J. T. & Kastelein, R. A. (1988). Low-frequency underwater hearing sensitivity in belugas, *Delphinapterus leucas*. *J. Acoust. Soc. Am.,* **84**, 2273-2275.
Backoff, P. M., Palombi, P. S. & Caspary, D. M. (1999). Gamma-aminobutyric acidergic and glycinergic inputs shape coding of amplitude modulation in the chinchilla cochlear nucleus. *Hear. Res.*, **134**, 77-88.
Bagley, R. S., Stefanacci, J. D., Hansen, B. & Kornegay, J. N. (1993). Dysphonia in two dogs with cranial cervical intervertebral disk extrusion. *J. Am. Anim. Hosp. Assoc.,* **29**, 557-559.
Bain, D. E. (1986). Acoustic behavior of Orcinus: sequences, periodicity, behavioral correlates, and an automated technique for call classification. In *Behavioral Biology of Killer Whales* (B. C. Kirkevold & J. S. Lockard, eds.). Alan R. Liss, Inc.; New York, pp. 335-371.
Bain, D. E. (1988). *An evaluation of evolutionary processes: studies of natural selection, dispersal, and cultural evolution in killer whales (Orcinus orca).* Ph.D. thesis. University of California; Santa Cruz.
Bain, D. E. & Dahlheim, M. E. (1994). Effects of masking noise on detection thresholds of killer whales. In *Marine Mammals and the Exxon Valdez* (T. R. Loughlin, ed.). Academic Press; San Diego, pp. 243-256.
Baker, M. W. D. & Croft, D. B. (1993). Vocal communication between the mother and young of the eastern grey kangaroo, *Macropus giganteus*, and the red kangaroo, *M. rufus* (Marsupialia, Macropodidae). *Aust. J. Zool.*, **41**, 257-272.
Baker, C. M. (1998). Communication in marsh mongooses *(Atilax paludinosus)*: Anal gland secretion and scat discrimination in adults, and individual variation in vocalisations of juveniles. *S. Afr. J. Zool.,* **33**, 49-51.
Balcombe, J. P. & Fenton, M. B. (1988). The communication role of echolocation calls in vespertilionid bats. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 625-628.
Balcombe, J. & Fenton, M. B. (1988). Eavesdropping by bats: the influence of echolocation call design and foraging strategies. *Ethology*, **79**, 158-166.
Ballard, K. A. & Kovacs, K. M. (1995). The acoustic repertoire of hooded seals *(Cystophora cristata)*. *Can. J. Zool.,* **73**, 1362-1374.
Barclay, R. M. R. (1999). Bats are not birds - A cautionary note on using echolocation calls to identify bats: A comment. *J. Mammal.,* **80**, 290-296
Barclay, R. M. R., Fullard, J. M. & Jacobs, D. S. (1999). Variation in the echolocation calls of the hoary bat *(Lasiurus cinereus)*: influence of body size, habitat structure, and geographic location. *Can. J. Zool.,* **77**, 530-534.
Barclay, R. M. R. & Brigham, R. M. (1994). Constraints on optimal foraging: a field-test of prey discrimination by echolocating insectivorous bats. *Anim. Behav.*, **48**, 1013-1021.
Barfield, C. H., Tang-Martinez, Z. & Trainer, J. M. (1994). Domestic calves (*Bos taurus*) recognize their own mothers by auditory cues. *Ethology*, **97**, 257-264.
Barlow, K. E. (1997). The diets of two phonic types of the bat *Pipistrellus pipistrellus* in Britain. *J. Zool.,* Lond., **243**, 597-609.
Barlow, J., Oleson, E. & Mcdonald, M. (2000). Deep, harmonic moans associated with Bryde's whales in several locations worldwide. *J. Acoust. Soc. Am.*, **108**, 2634.
Barlow, K. E. & Jones, G. (1997). Differences in songflight calls and social calls between two phonic types of the vespertilionid bat *Pipistrellus pipistrellus*. *J. Zool.,* Lond., **241**, 315-324.
Barlow, K. E. & Jones, G. (1999). Roosts, echolocation calls and wing morphology of two phonic types of *Pipistrellus pipistrellus*. *Z. Saeugetierkd.,* **64**, 257-268.
Barlow, K. E. & Jones, G. (1997). Function of pipistrelle social calls: field data and a playback experiment. *Anim. Behav.,* **53**, 991-999.
Barrett-Lennard, L. G., Ford, J. K. B. & Heise, K. A. (1996). The mixed blessing of echolocation: differences in sonar use by fish-eating and mammal-eating killer whales. *Anim. Behav.*, **51**, 553-565.
Barrett-Lennard, L. G. (1992). *Echolocation in wild killer whales (Orcinus orca).* M.Sc. thesis. University of British Columbia.
Barros, N. B. & Myrberg, A. A. (1987). Prey detection by means of passive listening in bottlenose dolphins *(Tursiops truncatus)*. *J. Acoust. Soc. Am.,* **82**, Suppl. 65.
Barshan, B. & Kuc, R. (1992). Bat-like mobile robot for tracking a moving obstacle. *Proc. SPIE (The International Society for Optical Engineering),* **1613**, 46-57.
Bartsch, E. & Schmidt, S. (1993). Psychophysical frequency modulation thresholds in a FM-bat, *Tadarida brasiliensis*. *Hear. Res.*, **67**, 128-138.

Bazua-Duran, C. & Au, W. (2000). Geographic variations in the whistle repertoire of Hawaiian spinner dolphins (*Stenella longirostris*). *J. Acoust. Soc. Am.*, **108**, 2635.
Beedholm, K. & Moehl, B. (1998). Bat sonar: an alternative interpretation of the 10-ns jitter result. *J. Comp. Physiol. A.,* **182**, 259-266.
Behrend, O., Koessl, M. & Schuller, G. (1999). Binaural influences on Doppler shift compensation of the horseshoe bat *Rhinolophus rouxi*. *J. Comp. Physiol. A.,* **185**, 529-538.
Behrend, O. & Schuller, G. (2000). The central acoustic tract and audio-vocal coupling in the horseshoe bat, *Rhinolophus rouxi*. *Eur. J. Neurosci.*, **12**, 4268-4280.
Behrmann, G. (1993). How do toothed whales (Odontoceti) protect their inner ear against pressure waves? *Lutra*, **36**, 30-38.
Beitel, R. E., Snyder, R. L., Schreiner, C. E., Raggio, M. W. & leake, P. A. (2000). Electrical cochlear stimulation in the deaf cat: Comparisons between psychophysical and central auditory neuronal thresholds. *J. Neurophysiol.*, **83**, 2145-2162.
Beitel, R. A. & Kaas, J. H. (1993). Effects of bilateral and unilateral ablation of auditory cortex in cats on the unconditioned head orienting response to acoustic stimuli. *J. Neurophysiol.,* **70**, 351-370.
Bellwood, J. J. & Morris, G. K. (1987). Bat predation and its influence on calling behavior in Neotropical katydids. *Science*, **238**, 64-67.
Belwood, J. J. (1988). Foraging behavior, prey selection, and echolocation. *NATO Adv. Study Inst. Ser. A. Life Sci.,* **156**, 601-605.
Ben-Ari, E. T. (1999). A throbbing in the air: The discovery of infrasonic communication among elephants has given researchers a whole new way of hearing things. *Bioscience,* **49**, 353-359.
Bender, D. J., Bayne, E. M. & Brigham, R. M. (1996). Lunar condition influences coyote *(Canis latrans)* howling. *Am. Midl. Nat.,* **136**, 413-417.
Benyon, P. & Rasa, O. A. E. (1989). Do dwarf mongooses have a language? Warning vocalisations transmit complex information. *S. Afr. J. Sci.,* **85**, 447-450.
Berkowitz, A. & Suga, N. (1989). Neural mechanisms of ranging are different in two species of bats. *Hear. Res.,* **41**, 255-264.
Bialy, M., Rydz, M. & Kaczmarek, L. (2000). Precontact 50 kHz vocalizations in male rats during acquisition of sexual experience. *Behav. Neurosci.*, **114**, 983-990.
Binns, K. E., Withington, D. J. & Keating, M. J. (1995). The developmental emergence of the representation of auditory azimuth in the external nucleus of the inferior colliculus of the guinea-pig: the effects of visual and auditory deprivation. *Dev. Brain Res.*, **85**, 14-24.
Binns, K. E., Grant, S., Withington, D. J. & Keating, M. J. (1992). A topographic representation of auditory space in the external nucleus of the inferior colliculus of the guinea-pig. *Brain. Res.*, **589**, 231-242.
Binns, K. E., Withington, D. J. & Keating, M. J. (1992). Post-crucial period effects of auditory experience and deprivation on the guinea pig superior collicular auditory space map. *Eur. J. Neurosci.*, **4**, 1333-1342.
Birch, S. (1998). Dolphin sonar pulse intervals and human resonance characteristics. *Proc. 2nd Int. Conf. Bioelectromagn.,* pp. 141-142.
Bishop, N., Bulbert, M., Carr, S., Kroker, S. & Millikan, J. (1995). Sonographic analysis of vocalisations in captive dunnarts, *Sminthopsis crassicaudata*. *Austr. Mammal.*, **18**, 99-100.
Bisther, A. (1996). Acoustic communication of Norwegian killer whales, *Orcinus orca*, during competitive group interactions. *European Research on Cetaceans,* **9**, 28.
Blackshaw, J. K., Jones, D. N. & Thomas, F. J. (1996). Vocal individuality during suckling in the intensively housed domestic pig. *Appl. Anim. Behav. Sci.*, **50**, 33-41.
Blake, B. H. (1992). Ultrasonic vocalization and body temperature maintenance in infant voles of three species (Rodentia, Arvicolidae). *Dev. Psychobiol.*, **25**, 581-596.
Blanchard, R. J., Weiss, S. M., Yudko, E. B. & T*Auk*ulis, H. K. (1992). Social encounters with conspecifics elicit selective high-frequency 35-70 kHz ultrasonic vocalizations in rats. *Soc. Neurosci. Abstr.*, **18**, 872.
Blanchard, R. J., Yudko, E. B., Blanchard, D. C. & T*Auk*ulis, H. K. (1993). High-frequency 35-70 kHz ultrasonic vocalizations in rats confronted with anesthetized conspecifics: effects of gepirone, ethanol and diazepam. *Pharmacol. Biochem. Behav.*, **44**, 313-319.
Blass, E. M. & Shide, D. J. (1993). Endogenous cholecystokinin reduces vocalization in isolated 10 day old rats. *Behav. Neurosci.*, **107**, 488-492.
Blomqvist, C., Amundin, M., Kroeling, O. & Gunnarsson, P. (1998). A new application to record and store directional, pulsed communication sounds in the bottlenose dolphin *Tursiops truncatus*. *Bioacoustics,* **9**, 159-160.
Blumberg, M. S., Sokoloff, G. & Kent, K. J. (2000). A developmental analysis of clonidine's effects on cardiac rate and ultrasound production in infant rats. *Dev. Psychobiol.*, **36**, 186-193.
Blumberg, M. S., Efimova, I. V. & Alberts, J. R. (1992). Thermogenesis during ultrasonic vocalization by rat pups isolated in a warm environment: A thermographic analysis. *Dev. Psychobiol.*, **25**, 497-510.

Blumberg, M. S. & Sokoloff, G. (2001). Do infant rats cry? *Psychol. Rev.*, **108**, 83-95.
Blumberg, M. S., Kreber, L. A., Sokoloff, G. & Kent, K. J. (2000). Cardiovascular mediation of clonidine-induced ultrasound production in infant rats. *Behav. Neurosci.*, **114**, 602-608.
Blumberg, M. S., Sokoloff, G., Kirby, R. F. & Kent, K. J. (2000). Distress vocalizations in infant rats: What's all the fuss about? *Psychol. Sci.*, **11**, 78-81.
Blumberg, M. S., Sokoloff, G. & Kent, K. J. (1999). Cardiovascular concomitants of ultrasound production during cold exposure in infant rats. *Behav. Neurosci.,* **113**, 1274-1281.
Blumberg, M. S. & Stolba, M. A. (1996). Thermogenesis, myoclonic twitching, and ultrasonic vocalization in neonatal rats during moderate and extreme cold exposure. *Behav. Neurosci.,* **110**, 305-314.
Blumberg, M. S. & Albert, J. R. (1990). Ultrasonic vocalizations by rat pups in the cold: An acoustic by-product of laryngeal braking? *Behav. Neurosci.*, **104**, 808-817.
Blumstein, D. T. & Armitage, K. B. (1998). Why do yellow-bellied marmots call? *Anim. Behav.,* **56**, 1053-1055.
Blumstein, D. T. & Arnold, W. (1995). Situational-specificity in alpine marmot alarm communication. *Ethology*, **100**, 1-13.
Blumstein, D. T., Daniel, J. C., Griffin, A. S. & Evans, C. S. (2000). Insular tammar wallabies (*Macropus eugenii*) respond to visual but not acoustic cues from predators. *Behav. Evol.*, **11**, 528-535.
Blumstein, D. T. (1995). Golden-marmot alarm calls. I. The production of situationally specific vocalizations. *Ethology*, **100**, 113-125.
Blumstein, D. T. (1999). Alarm calling in three species of marmots. *Behaviour,* **136**, 731-758.
Blumstein, D. T. & Daniel, J. C. (1997). Inter- and intraspecific variation in the acoustic habitats of three marmot species. *Ethology,* **103**, 325-338.
Blumstein, D. T. & Armitage, K. B. (1997). Alarm calling in yellow-bellied marmosets. I. The meaning of situationally variable alarm calls. *Anim. Behav.,* **53**, 143-171.
Blumstein, D. T. & Armitage, K. B. (1997). Does sociality drive the evolution of communicative complexity? A comparative test with ground-dwelling sciurid alarm calls. *Am. Nat.,* **150**, 179-200.
Blumstein, D. T., Steinmetz, J., Armitage, K. B. & Daniel, J. C. (1997). Alarm calling in yellow-bellied marmosets: II. The importance of direct fitness. *Anim. Behav.,* **53**, 173-184.
Boerg, D. L. (1992). Alarm calling in alpine marmot (*Marmota marmota* L.): evidence for semantic communication. *Ethol. Ecol. Evol.*, **4**, 125-138.
Boettcher, F. A., Mills, J. R. & Schmiedt, R. A. (1995). Masking of auditory brainstem responses in young and aged gerbils. *Hear. Res.*, **89**, 1-13.
Boettcher, F. A., White, D. R., Mills, J. H. & Schmiedt, B. N. (1995). Age-related changes in auditory evoked potentials of gerbils. III. Low-frequency responses and repetition rate effects. *Hear. Res.*, **87**, 208-219.
Bogdanowicz, W., Fenton, M. B. & Daleszczyk, K. (1999). The relationships between echolocation calls, morphology and diet in insectivorous bats. *J. Zool.,* **247**, 381-394.
Bonaventura, L. R. & Romero, M. T. (2000). Effects of light pulses on ultrasonic vocalization in the neonatal rat. *Soc. Neurosci. Abstr.*, **26**.
Booth, I. J. & Booth, K. H. V. (1993). Using neural nets to identify marine mammals. *Oceans '93,* **3**, 112-115.
Borszcz, G. S. (1993). The capacity of motor reflex and vocalization thresholds to support avoidance conditioning in the rat. *Behav. Neurosci.*, **107**, 678-693.
Boughman, J. W. & Wilkinson, G. S. (1998). Greater spear-nosed bats discriminate group mates by vocalizations. *Anim. Behav.,* **55**, 1717-1732.
Boughman, J. W. (1998). Vocal learning by greater spear-nosed bats. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.,* **265**, 227-233.
Boughman, J. W. (1997). Greater spear-nosed bats give group-distinctive calls. *Behav. Ecol. Sociobiol.,* **40**, 61-70.
Bowles, A. E., Young, W. G. & Asper, E. D. (1988). Ontogeny of stereotyped calling of a killer whale calf, *Orcinus orca*, during her first year. *Rit. Fiskideildar,* **11**, 251-276.
Branchi, I., Santucci, D. & Alleva, E. (2001). Ultrasonic vocalisation emitted by infant rodents: A tool for assessment of neurobehavioural development. *Behav. Brain Res.*, **125**, 49-56.
Branchi, I., Santucci, D., Vitale, A. & Alleva, E. (1997). Sonographic characterization of ultrasonic vocalisations emitted by infant laboratory mice *Mus musculus*. *Bioacoustics,* **8**, 259-260.
Branchi, I., Santucci, D., Vitale, A. & Alleva, E. (1998). Ultrasonic vocalizations by infant laboratory mice: A preliminary spectrographic characterization under different conditions. *Dev. Psychobiol.,* **33**, 249-256.
Brand, A., Urban, A. & Grothe, B. (2000). Duration tuning in the mouse auditory midbrain. *J. Neurophysiol.*, **84**, 1790-1799.
Brandes, T. S. (1998). Passive localization of acoustic sources in media with non-constant sound velocity. *Bioacoustics,* **9**, 155-156.
Branstetter, B. K., Herman, L. M., Pack, A. A., Mevissen, S. J., Moore, A. M., Granum, J., Carsrud, L., Butler, C., Lecaroz, S. B. & Roberts, S. (2000). Horizontal angular discrimination by an echolocating

bottlenose dolphin (*Tursiops truncatus*). *J. Acoust. Soc. Am.*, **108**, 2636.
Braun, K. & Poeggel, G. (2001). Recognition of mother's voice evokes metabolic activation in the medial prefrontal cortex and lateral thalamus of *Octodon degus*. *Neurosci.*, **103**, 861-864.
Braun, S. & Scheich, H. (1997). Influence of experience on the representation of the "mothering call" in frontoparietal and auditory cortex of pups of the rodent *Octodon degus*: FDG mapping. *J. Comp. Physiol. A.,* **181**, 697-709.
Brennan, J. F., Santucci, D., Branchi, I. & Alleva, E. (1999). Ultrasonic vocalizations elicit orienting and associative reactions in preweanling mice. *Acta Neurobiol. Exper.*, **59**, 23-30.
Brill, R. L. & Harder, P. J. (1991). The effects of attenuating returning echolocation signals at the lower jaw of a dolphin *(Tursiops truncatus)*. *J. Acoust. Soc. Am.,* **89**, 2851-2857.
Brill, R. L. (1988). The acoustical function of the lower jaw of the bottlenosed dolphin, *Tursiops truncatus* (Montagu), during echolocation. Doctoral dissertation. Loyola University of Chicago. University Microfilms.
Brill, R. L., Moore, P. W. B., Dankiewicz, L. A. & Ketten, D. R. (1997). Evidence of hearing loss in an Atlantic bottlenose dolphin *(Tursiops truncatus)*. *J. Acoust. Soc. Am.,* **102**, 3101.
Brittan-Powell, E. F., Okanoya, K., Dooling, R. J., Comer, C. & Park, T. (2001). The auditory brainstem response of the fossorial naked mole-rat. *Soc. Neurosci. Abstr.*, **27**, 1920.
Britton, A. R. C. & Jones, G. (1999). Echolocation behaviour and prey capture success in foraging bats: laboratory and field experiments on *Myotis daubentonii*. *J. Exp. Biol.,* **202**, 1793-1802.
Britton, A. R. C., Jones, G. & Rayner, J. M. V. (1997). Flight performance, echolocation and foraging behavior in the pond bat, *Myotis dasycneme* (Chiroptera: Vespertilionidae). *J. Zool.,* Lond., **241**, 503-522.
Browning, L. J., Williams, A. D. & Harland, E. (1998). Cetacean disturbance by high speed ferries: a preliminary assessment. *Bioacoustics,* **9**, 220-221.
Brownlee, S. M. & Norris, K. S. (1994). The acoustic domain. In *The Hawaiian Spinner Dolphin* (K. S. Norris et al., eds.). The University of California Press; Berkeley.
Bruckmann, G. & Burda, H. (1997). Hearing in blind subterranean Zambian mole-rats (*Cryptomys* sp.): collective behavioural audiogram in a highly social rodent. *J. Comp. Physiol. A.,* **181**, 83-88.
Brudzinski, S. M., Kehoe, P. & Callahan, M. (1999). Sonographic structure of isolation induced ultrasonic calls of rat pups. *Dev. Psychobiol.,* **34**, 195-204.
Brudzynski, S. M. & Eckersdorf, B. (1988). Vocalization accompanying emotional-aversive response induced by carbachol in the cat. Reproducibility and dose-response study. *Neuropsychopharmacology*, **1**, 311-320.
Brudzynski, S. M. & Barnabi, F. (1996). Contribution of the ascending cholinergic pathways in the production of ultrasonic vocalization in the rat. *Behav. Brain Res.,* **80**, 145-152.
Brudzynski, S. M., Bihari, F., Ociepa, D. & Fu, X.-W. (1993). Analysis of 22 kHz ultrasonic vocalization in laboratory rats: long and short calls. *Physiol. Behav.*, **54**, 215-221.
Brudzynski, S. M. & Chiu, E. M. (1995). Behavioral responses of laboratory rats to playback of 22 kHz ultrasonic calls. *Physiol. Behav.*, **57**, 1039-1044.
Brudzynski, S. M. (1994). Ultrasonic vocalization induced by intracerebral carbachol in rats: Localization and a dose-response study. *Behav. Brain Res.*, **63**, 133-143.
Brudzynski, S. M. (2001). Pharmacological and behavioral characteristics of 22 kHz alarm calls in rats. *Neurosci. Biobehav. Rev.*, **25**, 611-617.
Brueckmann, G. & Burda, H. (1997). Hearing in blind subterranean Zambian common mole-rats (*Cryptomys* sp., Bathyergidae, Rodentia). *J. Comp. Physiol. A.*, **181**, 83-88.
Brugge, J. F., Reale, R. A., Hind, J. E., Chan, J. C. K., Musicant, A. D. & Poon, P. W. F. (1994). Simulation of free-field sound sources and its application to studies of cortical mechanisms of sound localization in the cat. *Hear. Res.*, **73**, 67-84.
Brunelli, S. A., Shair, H. N. & Hofer, M. A. (1994). Hypothermic vocalizations of rat pups (*Rattus norvegicus*) elicit and direct maternal search behavior. *J. Comp. Psychol.*, **108**, 298-303.
Brunelli, S. A., Masmela, J. R., Shair, H. N., Hofer, M. A. (1998). Effects of biparental rearing on ultrasonic vocalization (USV) responses of rat pups *(Rattus norvegicus)*. *J. Comp. Psychol.,* **112**, 331-343.
Brunelli, S. A., Hofer, M. A. & Weller, A. (2001). Selective breeding for infant vocal response: a role for postnatal maternal effects? *Dev. Psychobiol.*, **38**, 221-228.
Brunelli, S. A., Hofer, M. A., Masmela, J. R. & Shair, H. N. (2001). Developmental effects of selective breeding for an infantile trait: Rat pup ultrasonic vocalization (USV). *Dev. Psychobiol.*, **38**, 197.
Brunelli, S. A., Keating, C. C., Hamilton, N. A. & Hofer, M. A. (1996). Development of ultrasonic vocalization responses in genetically heterogenous National Institute of Health (N:NIH) rats: I. Influence of age, testing experience, and associated factors. *Dev. Psychobiol.*, **29**, 507-516.
Braadbaart, J. & Kamminga, C. (1987). On several definitions of time resolution applied to bio-sonar. *Proc. 8th Symp. Inf. Theor. Benelux,* pp. 53-60.

Buck, J. R., Morgenbesser, H. B. & Tyack, P. L. (2000). Synthesis and modification of the whistles of the bottlenose dolphin, *Tursiops truncatus*. *J. Acoust. Soc. Am.*, **108**, 407-416.
Buck, J. R. & Tyack, P. L. (1993). A quantitative measure of similarity for *Tursiops truncatus* signature whistles. *J. Acoust. Soc. Am.,* **94**, 2497-2506.
Burgdorf, J., Gordon, N., Knutson, B. & Panksepp, J. (2000). Ultrasonic vocalizations are a sensitive measure of positive and negative affective states in rats. *Soc. Neurosci. Abstr.*, **26**.
Burgdorf, J., Knutson, B. & Panksepp, J. (2000). Anticipation of rewarding electrical brain stimulation evokes ultrasonic vocalization in rats. *Behav. Neurosci.*, **114**, 320-327.
Burgdorff, J. & Panksepp, J. (1999). Evidence that rat ultrasonic calls can index both positive and negative affective states. *Soc. Neurosci. Abstr.*, **25**, 875.
Burke da Silva, K., Kramer, D. L. & Weary, D. M. (1994). Context-specific alarm calls of the eastern chipmunk, *Tamias striatus*. *Can. J. Zool.*, **72**, 1087-1092.
Burnett, S. C., Kazial, K. A. & Masters, W. M. (2001). Discriminating individual big brown bat (*Eptesicus fuscus*) sonar vocalizations in different recording situations. *Bioacoustics*, **11**, 189-210.
Burnett, S. C. & Masters, W. M. (1999). The use of neural networks to classify echolocation calls of bats. *J. Acoust. Soc. Am.*, **106**, 2189.
Caldwell, M. C., Caldwell, D. K. & Tyack, P. L. (1990). Review of the signature-whistle hypothesis for the Atlantic bottlenose dolphin. In *The Bottlenose Dolphin* (S. Leatherwood & R. R. Reeves, eds.). Academic Press; San Diego, pp. 199-234.
Callahan, M., Kehoe, P. & Brudzynski, S. M. (1996). The effect of cholinergic stimulation on rat pup vocalizations. *Dev. Psychobiol.*, **29**, 281.
Campbell, G. S., Gisner, R. & Helweg, D. A. (2000). Acoustic identification of female Steller sea lions. *J. Acoust. Soc. Am.*, **108**, 2541.
Campbell, G. S., Gisiner, R. C., Helweg, D. A. & Milette, L. L. (2002). Acoustic identification of female Steller sea lions (*Eumetopias jubatus*). *J. Acoust. Soc. Am.*, **111**, 2920-2928.
Carden, S. E., Barr, G. A. & Hofer, M. A. (1991). Differential effects of specific opioid receptor agonists on rat pup isolation calls. *Dev. Brain Res.*, **62**, 17-22.
Carden, S. E., Bortot, A. T. & Hofer, M. A. (1992). U50488 and pentylenetetrazole but not naltrexone elicit ultrasonic vocalizations from rat pups in the homecage. *Soc. Neurosci. Abstr.*, **18**, 659.
Carden, S. E., Davachi, L. & Hofer, M. A. (1994). U50,488 increases ultrasonic vocalizations in 3-, 10-, and 18-day-old rat pups in isolation and the home cage. *Dev. Psychobiol.*, **27**, 65-83.
Carden, S. E., Bortot, A. T. & Hofer, M. A. (1993). Ultrasonic vocalizations are elicited from rats pups in the home cage by pentylenetetrazol and U50,488, but not naltrexone. *Behav. Neurosci.*, **107**, 851-859.
Carey, P. W., O'Connor, C. E., McDonald, R. M. & Matthews, L. R. (1997). Comparison of the attractiveness of acoustic and visual stimuli for brushtail possums. *N. Z. J. Zool.,* **24**, 273-276.
Carlile, S. & King, A. J. (1994). Monaural and binaural spectral level cues in the ferret: acoustics and the neural representation of auditory space. *J. Neurophysiol.*, **71**, 785-801.
Carlile, S. & Pettigrew, A. G. (1987). Directional properties of the auditory periphery in the guinea pig. *Hear. Res.*, **31**, 111-122.
Carlile, S. (1991). The auditory periphery of the ferret: postnatal development of acoustic properties. *Hear. Res.*, **51**, 265-278.
Carr, J. A., Cranford, T. W., van Bonn, W. G., Chaplin, M. S., Carder, D. A., Kamolnick, T. & Ridgway, S. H. (1998). Video endoscopy of the dolphin sonar signal generator. *Bioacoustics,* **9**, 155.
Casseday, J. H., Ehrlich, D. & Covey, E. (1994). Neural tuning for sound duration: Role of inhibitory mechanisms in the inferior colliculus. *Science*, **264**, 847-850.
Castren, H., Algers, B., Jensen, P. & Saloniem, H. (1989). Suckling *Behaviour* and milk consumption in newborn piglets as a response to sow grunting. *Appl. Anim. Behav. Sci.*, **24**, 227-238.
Cato, D. H. & Mccauley, R. D. (2000). Using one or two hydrophones for marine animal surveys. *J. Acoust. Soc. Am.*, **108**, 2539.
Cavagnaro, L., Baldwin, K. & Stone, G. (2000). Hector's dolphin (*Cephalorhynchus hectori*) vocalizations and gillnet pingers. *J. Acoust. Soc. Am.*, **108**, 2636.
Cerchio, S. & Dahlheim, M. (2001). Variation in feeding vocalizations of humpback whales *Megaptera novaeangliae* from southeast Alaska. *Bioacoustics*, **11**, 277-295.
Cerchio, S. (1993). *Cultural evolution and geographic variation in songs of humpback whales in the eastern north Pacific.* M.Sc. thesis. Moss Landing Marine Laboratories. Moss Landing, California.
Cerchio, S. (1996). Bioacoustic analysis of humpback whale vocalizations recorded off the Aleutian, Islands, Alaska; Aleutian Island Marine Mammal Survey 1994. *Report to the Southwest Fisheries Science Center, NMFS, NOAA.* Contract # 40JGNF500325.
Cerchio, S., Jacobsen, J. K. & Norris, T. F. (2001). Temporal and geographical variation in songs of humpback whales, *Megaptera novaeangliae*: synchronous change in Hawaiian and Mexican breeding

assemblages. *Anim. Behav.*, **62**, 313-329.
Chabot, D. (1988). A quantitative technique to compare and classify humpback whale (*Megaptera novaeangliae*) sounds. *Z. Tierpsychol.*, **77**, 89-102.
Chapman, D. M. F. & Ellis, D. D. (1998). The elusive decibel: thoughts on sonars and marine mammals. *Canad. Acoustics,* **26**, 29-31.
Chappell, O. P., Leaper, R. & Gordon, J. (1996). Development of an automated harbour porpoise click detector. *European Research on Cetaceans,* **9**, 75-80.
Charif, R. A., Mellinger, D. K., Dunsmore, K. J., Fristrup, K. M. & Clark, C. W. (2002). Estimated source levels of fin whale (*Balenoptera physalus*) vocalizations: Adjustments for surface interference. *Mar. Mamm. Sci.*, **18**, 81-98.
Charif, R. A., Clapham, P. J. & Clark, C. W. (2001). Acoustic detections of singing humpback whales in deep waters off the British Isles. *Mar. Mamm. Sci.*, **17**, 751-768.
Charrier, I., Mathevon, N. & Jouventin, P. (2002). How does a fur seal mother recognize the voice of ther pup? An experimental study of *Arctocephalus tropicalis*. *J. Exp. Biol.*, **205**, 603-612.
Chechik, G., Anderson, M. J., Young, E. D., Nelken, I. & Tishby, N. (2001). Redundancy reduction in the ascending auditory pathway. *Soc. Neurosci. Abstr.*, **27**, 1920.
Chen, J., van Veen, B. D. & Hecox, K. E. (1995). A spatial feature extraction and regularization model for the head-related transfer function. *J. Acoust. Soc. Am.*, **97**, 439-452.
Chittajallu, S. K., Palakal, M. & Kohrt, K. (1994). Computational model of signal encoding in the mammalian peripheral auditory system. *1994 IEEE Int. Conf. Systems, Man and Cybernetics. Humans, Information and Technology, Vol. 2,* pp. 1303-1307.
Chittajallu, S. K., Kohrt, K. G., Palakal, M. J. & Wong, D. (1996). Computational model of the bat auditory periphery. *Math. Comput. Model.,* **24**, 67-78.
Chittajallu, S. K. & Wong, D. (1994). Connectionist networks in auditory system modeling. *Comput. Biol. Med.,* **24**, 431-439.
Chowdhury, S. A. & Suga, N. (2000). Reorganization of the frequency map of the auditory cortex evoked by cortical electrical stimulation in the big brown bat. *J. Neurophysiol.*, **83**, 1856-1863.
Christesen, L. S. & Nelson, J. (2000). Vocal communication in the grey-headed flying-fox *Pteropus poliocephalus* (Chiroptera: Pteropodidae). *Austr. Zool.*, **31**, 447-457.
Chaadaeva, E. (2000). Juvenile vocalizations in the wild cat (*Felis silvestris lybica*). *Adv. Ethol.*, **35**, 27.
Chaadaeva, E. (2001). Influence of domestication on kitten's vocalizations: A comparative study. *Adv. Ethol.*, **36**, 134.
Clarey, J. C., Barone, P. & Imig, T. J. (1994). Functional organization of sound direction and sound pressure level in primary auditory cortex of the cat. *J. Neurophysiol.*, **72**, 2383-2405.
Clark, C. W. & Ellison, W. T. (2000). Calibration and comparison of the acoustic location methods used during the spring migration of the bowhead whale, *Balaena mysticetus*, off Pt. Baroow, Alaska, 1984-1993. *J. Acoust. Soc. Am.*, **107**, 3509-3517.
Clark, C. W., Ellison, W. T. & Beeman, K. (1986). Acoustic tracking and distribution of migrating bowhead whales, *Balaena mysticetus*, off Point Barrow, Alaska in the spring of 1984. *Rep. Int. Whaling Comm.*, **36**, 502.
Clark, C. W., Croll, D. A., Acevedo, A. & Urban-Ramirez, J. (2000). Multi-modal surveys of fin whales in the Sea of Cortez, Mexico. *J. Acoust. Soc. Am.*, **108**, 2539.
Clark, C. W. (1989). Call tracks of bowhead whales based on call characteristics as an independent means of determining tracking parameters. Report of the Sub-Committee on Protected Species and Aboriginal Subsistence Whaling. Appendix. *Rep. Int. Whaling Comm.*, **39**, 111-112.
Clark, C. W. (1996). The application of US Navy underwater hydrophone arrays for scientific research on whales. *European Research on Cetaceans,* **9**, 7-9.
Clark, C. W. & Ellison, W. T. (1988). Numbers and distribution of bowhead whales *Balaena mysticetus*, based on the 1985 acoustic study off Pt. Barrow, Alaska. *Rep. Int. Whaling Comm.,* **38**, 312-320.
Clark, C. W. & Ellison, W. T. (1997). Low-frequency signaling behavior in mysticete whales. *J. Acoust. Soc. Am.,* **101**, 3163.
Clark, C. W., Ellison, W. T. & Beeman, K. (1986). Acoustic tracking of migrating bowhead whales. *Oceans*, **86**, IEEE Oceanic Engineering Society, 341-346.
Clark, C. W., Borsani, J. F. & Notarbartolo-di-Sciara, G. (2002). Vocal activity of fin whales, *Balaenoptera physalus*, in the Ligurian Sea. *Mar. Mamm. Sci.*, **18**, 286-295.
Clark, C. W. & Ellison, W. T. (1989). Numbers and distributions of bowhead whales, *Balaena mysticetus*, based on the 1986 acoustic study off Pt. Barrow, Alaska. *Rep. Int. Whaling Comm.*, **39**, 297-303.
Clark, C. W. & Fristrup, K. M. (1997). Whales '95: a combined visual and acoustic survey of blue and fin whales off southern California. *Reports of the International Whaling Commission*, **47**, 583-600.
Clark, C. W. (1994). Blue deep voices: Insights from the Navy's Whales '93 program. *Whalewatcher,* **28**, 6-11.

Clark, C. W., Charif, R., Mitchell, S. & Colby, J. (1996). Distribution and behaviour of the bowhead whale, *Balaena mysticetus*, based on analysis of acoustic data collected during the 1993 spring migration off Point Barrow, Alaska. *Report Int. Whaling Comm.,* **38**, 541-552.

Clark, K. F. & Farber, J. P. (2001). Internal superior laryngeal nerve afferent activity during respiration and evoked vocalization in cats. *Ann. Otol. Rhinol. Laryngol.*, Suppl., **187**, 3-17.

Clark, K. F. & Farber, J. P. (2001). Effect of recurrent laryngeal nerve paralysis on superior laryngeal nerve afferents during evoked vocalization. *Ann. Otol. Rhinol. Laryngol.*, Suppl., **187**, 18-31.

Clark, C. W. (1990). Acoustic behavior of mysticete whales. In *Sensory Abilities of Cetaceans* (J. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 571-583.

Coles, R. B. & Guppy, A. (1986). Biophysical aspects of directional hearing in the Tammar Wallaby, *Macropus eugenii*. *J. Exp. Biol.*, **121**, 371-394.

Compton, L. A., Clarke, J. A., Seidensticker, J. & Ingrisano, D. R. (2001). Acoustic characteristics of white-nosed coati vocalizations: A test of motivation-structural rules. *J. Mammal.*, **82**, 1054-1058.

Connelly, P. R., Goodson, A. D. & Coggrave, C. R. (1998). Matlab modelling of shallow water sound fields to explain the aversive behaviour of a harbour porpoise. *Bioacoustics,* **9**, 227-228.

Connelly, P. R., Woodward, B. & Goodson, A. D. (1998). A non-intrusive tracking technique for dolphins interacting with a pelagic trawl using a sparse array of hydrophones. *Bioacoustics,* **9**, 228.

Connor, R. C. & Smolker, R. A. (1996). "Pop" goes the dolphin: A vocalization male bottlenose dolphins produce during consortships. *Behaviour*, **133**, 643-662.

Corben, C. (1989). Computer-based call analysis for microbat identification. *Macroderma*, **5**, 7.

Corkeron, P. J. & van Parijs, S. M. (2001). Vocalizations of eastern Australian Risso's dolphins, *Grampus griseus*. *Can. J. Zool.*, **79**, 160-164.

Coscia, E. M. (1995). *Ontogeny of timber wolf vocalizations: Acoustic properties and behavioral contexts.* Ph.D. dissertation. Dalhousie University; Halifax.

Coscia, E. M. (1989). *Development of vocalizations in timber wolves (Canis lupus).* M. Sc. Thesis, Dalhousie University; Halifax.

Cosens, S. E. & Dueck, L. P. (1993). Icebreaker noise in Lancaster Sound, Northwest Territories, Canada: implications for marine mammal behaviour. *Mar. Mamm. Sci.*, **9**, 285-300.

Covey, E. (1993). Response properties of single units in the dorsal nucleus of the lateral lemniscus and paralemniscal zone of an echolocating bat. *J. Neurophysiol.*, **69**, 842-859.

Covey, E. & Casseday, J. H. (1986). Connectional basis for frequency representation in the nuclei of the lateral lemniscus of the bat, *Eptesicus fuscus*. *J. Neurosci.*, **6**, 2926-2940.

Cranford, T. W. (1988). The anatomy of acoustic structures in the spinner dolphin forehead as shown by X-ray computed tomography and computer graphics. In *Animal Sonar* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 67-77.

Cranford, T. W., Amundin, M. & Norris, K. S. (1996). Functional morphology and homology in the odontocete nasal complex: implications for sound generation. *J. Morphol.,* **228**, 223-285.

Cranford, T. W., Elsberry, W. R., Blackwood, D. J., Carr, J. A., Kamolnick, T., Todd, M., Van Bonn, W. G., Carder, D. A., Ridgway, S. H., Bozlinski, D. M. & Decker, E. C. (2000). Two independent sonar signal generators in the bottlenose dolphin: Physiologic evidence and implications. *J. Acoust. Soc. Am.*, **108**, 2613.

Cranford, T. W. (1992). Directional asymmetry in the odontocete forehead. *Am. Zool.*, **32**, 140A.

Credner, S., Burda, H. & Ludescher, F. (1997). Acoustic communication underground: Vocalization characteristics in subterranean social mole-rats (*Cryptomys* sp., Bathyergidae). *J. Comp. Physiol. A.,* **180**, 245-255.

Croll, D. A., Clark, C. W., Acevedo, A., Tershy, B., Flores, S., Gedamke, J. & Urban, J. (2002). Only male fin whales sing loud songs. *Nature*, **417**, 809.

Cummings, W. C. & Thompson, P. O. (2000). First known study, identification, and characteristics of fin and blue-whale vocalizations in the Northeast Pacific with historical notes and anecdotes. *J. Acoust. Soc. Am.*, **108**, 2612.

Curry, B. E., Mead, J. G. & Purgue, A. P. (1994). The occurrence of calculi in the nasal diverticula of porpoises (Phocoenidae). *Mar. Mamm. Sci.*, **10**, 81-86.

Curry, B. E. (1992). Facial anatomy and potential function of facial structures for sound production in the harbor porpoise *Phocoena phocoena* and Dall's porpoise *Phocoenoides dalli*. *Can. J. Zool.*, **70**, 2103-2114.

D'Amato, F. R. & Moles, A. (2001). Ultrasonic vocalizations as an index of social memory in female mice. *Behav. Neurosci.*, **115**, 834-840.

D'Spain, G. L. & Lepper, P. A. (2000). Localizing marine animals and how marine animals might localize sound. *J. Acoust. Soc. Am.*, **108**, 2541.

Dalheim, M. E. & Ljungblad, D. K. (1990). Preliminary hearing study on gray whales *(Eschrichtius robustus)* in the field. In *Sensory Abilities of Cetaceans* (J. A. Thomas & R. A. Kastelein, eds.). Plenum Press;

New York, pp. 335-346.
Daniel, J. C. & Blumstein, D. T. (1998). A test of the acoustic adaptation hypothesis in four species of marmots. *Anim. Behav.,* **56**, 1517-1528.
Daniel, J. C. (1998). A test of the acoustic adaptation hypothesis in four species of marmots. M.A. thesis. University of Kansas, Lawrence.
Darling, J. D. & Berube, M. (2001). Interactions of singing humpback whales with other males. *Mar. Mamm. Sci.*, **17**, 570-584.
Dastur, F. N., McGregor, I. S. & Brown, R. E. (1999). Dopaminergic modulation of rat pup ultrasonic vocalizations. *Eur. J. Pharmacol.*, **382**, 53-67.
Davidson, S. M. (1999). Context and correlates of vocalizations by male *Saccopteryx bilineata*. *Bat Res. News*, **40**, 168.
Davis, K. A. & Ramachandran, R. & May, B. J. (1999). Single-unit responses in the inferior colliculus of decerebrate cats. II. Sensitivity to interaural level differences. *J. Neurophysiol.,* **82**, 164-175.
Dawson, S. (1998). Sounds recorded from Baird's beaked whale, *Berardius bairdii*. *Mar. Mamm. Sci.,* **14**, 335-344.
Dear, S. P., Simmons, J. A. & Fritz, J. (1993). A possible neuronal basis for representation of acoustic scenes in auditory cortex of the big brown bat. *Nature*, **364**, 620-623.
Deecke, V. B. (1998). *Stability and change of killer whale (Orcinus orca) dialects.* M. Sc. thesis. University of British Columbia.
Deecke, V. B., Ford, J. K. B. & Spong, P. (1999). Quantifying complex patterns of bioacoustic variation: Use of a neural network to compare killer whale *(Orcinus orca)* dialects. *J. Acoust. Soc. Am.,* **105**, 2499-2507.
Deecke, V. B., Ford, J. K. B. & Spong, P. (2000). Dialect change in resident killer whales (*Orcinus orca*): implications for vocal learning and cultural transmission. *Anim. Behav.*, **60**, 629-638.
Defanis, E. & Jones, G. (1995). Post-natal growth, mother-infant interactions and development of vocalizations in the vespertilionid bat *Plecotus auritus*. *J. Zool.*, **235**, 86-97.
Delgutte, B., Joris, P. X., Litovsky, R. Y. & Yin, T. C. T. (1999). Receptive fields and binaural interactions for virtual space stimuli in the cat inferior colliculus. *J. Neurophysiol.,* **81**, 2833-2851.
Delius, M., Hoffmann, E., Steinbeck, G. & Conzen, P. (1994). Biological effects of shock waves: Induction of arrhythmia in piglet hearts. *Ultrasounds Med. Biol*., **20**, 279-285.
Delong, C. M., Au, W. W. L. & Harley, H. E. (2000). Acoustic analysis of objects ensonified by a bottlenose dolphin during a cross-modal matching task. *J. Acoust. Soc. Am.*, **108**, 2635.
Dempster, E. R. & Perrin, M. R. (1994). Divergence in acoustic repertoire of sympatric and allopatric gerbil species (Rodentia, Gerbillinae). *Mammalia*, **58**, 93-104.
Dempster, E. R. (1994). Vocalisations of adult northern quolls, *Dasyurus hallucatus*. *Austr. Mammal.*, **17**, 43-49.
Denzinger, A. & Schnitzler, H.-U. (1998). Echo SPL, training experience, and experimental procedure influence the ranging performance in the big brown bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.,* **183**, 213-224.
Depireux, D. A., Simon, J. Z., Klein, D. J. & Shamma, S. A. (2001). Spectro-temporal response field characterization with dynamic ripples in ferret primary auditory cortex. *J. Neurophysiol.*, **85**, 1220-1234.
Ding, W., Wuersig, B. & Evans, W. E. (1995). Whistles of bottlenose dolphins: Comparisons among populations. *Aquat. Mamm.,* **21**, 65-77.
Ding, W., Wuersig, B. & Evans, W. (1995). Comparison of whistles among seven odontocete species. In *Sensory Systems of Marine Mammals* (R. A. Kastelein et al., eds.). De Spil Publ.; Woerden, Netherlands.
Ding, W., Wuersig, B. & Leatherwood, S. (2001). Whistles of boto, *Inia geoffrensis*, and tucuxi, *Sotalia fluviatilis*. *J. Acoust. Soc. Am.*, **109**, 407-411.
Doan, D. E. & Saunders, J. C. (1999). Sensitivity to simulated directional sound motion in the rat primary auditory cortex. *J. Neurophysiol.,* **81**, 2075-2087.
Dobbins, P. F. (1998). Estimated target localisation accuracy, resolution and agility of dolphin echolocation based on a homing sonar/radar paradigm. *Bioacoustics,* **9**, 223.
Dolphin, W. F. (1997). Electrophysiological measures of auditory processing in odontocetes. *Bioacoustics,* **8**, 79-101.
Dolphin, W. F., Au, W. W. L., Nachtigall, P. E. & Pawloski, J. (1995). Modulation rate transfer functions to low-frequency carriers in three species of cetaceans. *J. Comp. Physiol. A.,* **177**, 235-245.
Dolphin, W. F., Chertoff, M. E. & Burkard, R. F. (1994). Comparison of the envelope following response in the Mongolian gerbil using two-tone and sinusoidally amplitude-modulated tones. *J. Acoust. Soc. Am.,* **96**, 2225-2234.
Dolphin, W. F. & Mountain, D. C. (1993). The envelope following response (EFR) in the Mongolian gerbil to sinusoidally amplitude modulated signals in the presence of simultaneously gated pure-tones. *J. Acoust. Soc. Am.,* **94**, 3215-3226.

Dong, J., Song, G. & Wang, G. (1992). Preliminary study on anatomy and histology of larynx, trachea and lung of *Dugong dugon*. *Oceanol. Limnolog. Sinica*, **23**, 433-437.
Doron, N. N. & Ledoux, J. E. (1999). Organization of projections to the lateral amygdala from auditory and visual areas of the thalamus in the rat. *J. Comp. Neurol.,* **412**, 383-409.
Dubrovskiy, N. A. (1990). On the two auditory systems in dolphins. In *Sensory Abilities of Cetaceans* (J. A. Thomas & R. K. Kastelein, eds.). Plenum Press; New York, pp. 233-254.
Dudzinski, K. M. & Newborough, D. (1998). Concurrent recording of dolphin behaviours, frequency-modulated tones, and pulsed vocalizations (including echolocation clicks) underwater with a swimmer-propelled system. *Bioacoustics,* **9**, 229.
Dunning, D. C. & Krueger, M. (1996). Predation upon moths by free-foraging *Hipposideros caffer*. *J. Mammal.,* **77**, 708-715.
Dunning, D. C., Futtrup, V. & Miller, L. A. (1995). Moth sounds' effects on the insect-catching behavior of bats. *Am. Zool.*, **35**, 41A.
Durbin, L. S. (1998). Individuality in the whistle call of the Asiatic wild dog *Cuon alpinus*. *Bioacoustics,* **9**, 197-206.
Dwyer, C. M., McLean, K. A., Deans, L. A., Chirnside, J., Calvert, S. K. & Lawrence, A. B. (1998). Vocalisations between mother and young in sheep: effects of breed and maternal experience. *Appl. Anim. Behav. Sci.,* **58**, 105-119.
Dybek, A. & Schmidt, U. (1995). Acoustic communication between mother and young ones in the Mongolian gerbil (*Meriones unguiculatus*). *Z. Saeugetierkd.*, **60** (Sonderheft), 14 (German).
Edds-Walton, P. L. (2000). Vocalizations of minke whales *Balaenoptera acutorostrata* in the St. Lawrence estuary. *Bioacoustics*, **11**, 31-50.
Edds-Walton, P. L. (1997). Acoustic communication signals of mysticete whales. *Bioacoustics,* **8**, 47-60.
Edds, P. L., Odell, D. K. & Tershy, B. R. (1993). Vocalizations of a captive juvenile and free-ranging adult-calf pairs of Bryde's whales *Balaenoptera edeni*. *Mar. Mamm. Sci.*, **9**, 269-284.
Eggermont, J. J. (1999). Neural correlates of gap detection in three auditory cortical fields in the cat. *J. Neurophysiol.,* **81**, 2570-2581.
Eggermont, J. J. & Smith, G. M. (1996). Neural connectivity only accounts for a small part of neural correlation in auditory cortex. *Exp. Brain Res.*, **110**, 379-391.
Ehret, G. (1997). The auditory cortex. *J. Comp. Physiol. A.,* **181**, 547-557.
Ehret, G. & Fischer, R. (1991). Neuronal activity and tonotopy in the auditory system visualized by c-fos gene expression. *Brain. Res.*, **567**, 350-354.
Ehret, G. & Schreiner, C. E. (1997). Frequency resolution and spectral integration (critical band analysis) in single units of the cat primary auditory cortex. *J. Comp. Physiol. A.,* **181**, 635-650.
Ehret, G. & Fleschhutz, D. B. (2001). Common rules of communication sound perception in mice and men. *Adv. Ethol.*, **36**, 24.
Ehret, G. & Riecke, S. (2002). Mice and humans perceive multiharmonic communication sounds in the same way. *Proc. Natl. Acad. Sci. USA*, **99**, 479-482.
Eiermann, A. & Esser, K.-H. (2000). Motor functions of the bat frontal auditory field. *Eur. J. Neurosci.*, **12**, Suppl., 11, 131.
Eilam, D., Dayan, T., Ben-Eliyahu, S., Schulman, I., Shefer, G. & Hendrie, C. A. (1999). Differential behavioural and hormonal responses of voles and spiny mice to owl calls. *Anim. Behav.*, **58**, 1085-1093.
Elsner, J., Suter, D. & Alder, S. (1990). Microanalysis of ultrasound vocalizations of young rats: Assessment of the behavioral teratogenicity of methylmercury. *Neurotoxicol. Teratol.*, **12**, 7-14.
Emde, G. von der & Schnitzler, H.-U. (1990). Classification of insects by echolocating greater horseshoe bats. *J. Comp. Physiol. A.,* **167**, 423-430.
Erbe, C. (2000). Detection of whale calls in noise: performance comparison between a beluga whale, human listeners, and a neural network. *J. Acoust. Soc. Am.*, **108**, 297-303.
Erbe, C. & Farmer, D. M. (2000). A software model to estimate zones of impact on marine mammals around anthropogenic noise. *J. Acoust. Soc. Am.*, **108**, 1327-1331.
Erbe, C. & Farmer, D. M. (2000). Zones of impact around icebreakers affecting beluga whales in the Beaufort Sea. *J. Acoust. Soc. Am.*, **108**, 1332-1340.
Erbe, C. (1997). Zones of masking around icebreakers affecting beluga whales. *J. Acoust. Soc. Am.,* **102**, 3102.
Erbe, C., King, A. R., Yedlin, M. & Farmer, D. M. (1999). Computer models for masked hearing experiments with beluga whales *(Delphinapterus leucas)*. *J. Acoust. Soc. Am.,* **105**, 2967-2978.
Esser, K.-H. & Kiefer, R. (1996). Detection of frequency modulation in the FM-bat *Phyllostomus discolor*. *J. Comp. Physiol. A.,* **178**, 787-796.
Esser, K.-H. & Daucher, A. (1996). Hearing in the FM-bat *Phyllostomus discolor*: A behavioral audiogram. *J. Comp. Physiol. A.,* **178**, 779-785.

Esser, K.-H., Condon, C. J., Suga, N. & Kanwal, J. S. (1997). Syntax processing by auditory cortical neurons in the FM-FM area of the mustached bat *Pteronotus parnellii*. *Proc. Nat. Acad. Sci. USA,* **94**, 14019-14025.

Esser, K. H. & Schmidt, U. (1989). Mother-infant communication in the lesser spear-nosed bat *Phyllostomus discolor* (Chiroptera, Phyllostomidae): Evidence for acoustic learning. *Ethology*, **82**, 156-168.

Esser, K. H. (1994). Audio-vocal learning in a non-human mammal: the lesser spear-nosed bat *Phyllostomus discolor*. *NeuroReport*, **5**, 1718-1720.

Esser, K.-H. & Lud, B. (1997). Discrimination of sinusoidally frequency-modulated sound signals mimicking species-specific communication calls in the FM-bat *Phyllostomus discolor*. *J. Comp. Physiol. A.,* **180**, 513-522.

Esser, K.-H. & Schubert, J. (1998). Vocal dialects in the lesser spear-nosed bat *Phyllostomus discolor*. *Naturwissenschaften,* **85**, 347-349.

Esterby, S. R., Terhune, J., Mathieu, P., Robert, A.-M., Maag, U., Chan, K., Harezlak, J., St-Aubin, R., Vallee, M., Farruggia, J., MacDonald, P. D. M., Viveros-Aguilera, R., Allard, J., Choulakian, V., LeBlanc, R. & Mahdi, S. (2000). Case study in data analysis: Vocalization differences among three harp seal herds. *Can. J. Stat.*, **28**, 183-219.

Evans, W. E. & Awbry, F. T. (1988). Natural history aspects of marine mammal echolocation: feeding strategies and habitat. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 521-534.

Fanis, E. de & Jones, G. (1995). Post-natal growth, mother-infant interactions and development of vocalisations in the vespertilionid bat *Plecotus auritus*. *J. Zool.*, Lond., **235**, 85-97.

Farley, G. R. (1997). Neural firing in ventrolateral thalamic nucleus during conditioned vocal behavior in cats. *Exp. Brain Res.,* **115**, 493-506.

Farrell, W. J. & Alberts, J. R. (2000). Ultrasonic vocalizations by rat pups after adrenergic manipulations of brown fat metabolism. *Behav. Neurosci.,* **114**, 805-813.

Farrell, W. J. & Alberts, J. R. (2001). Development and control of maternal responsiveness to rat pup ultrasonic vocalizations. *Dev. Psychobiol.*, **38**, 201.

Faulstich, M., Koessl, M. & Reimer, K. (1996). Analysis of non-linear cochlear mechanics in the marsupial *Monodelphis domestica*: ancestral and modern mammalian features. *Hear. Res.*, **94**, 47-53.

Faure, P. A., Fullard, J. H. & Dawson, J. W. (1993). The gleaning attacks of the northern long-eared bat, *Myotis septentrionalis*, are relatively inaudible to moths. *J. Exp. Biol.,* **178**, 173-189.

Faure, P. A. & Barclay, R. M. R. (1994). Substrate-gleaning versus aerial hawking: Plasticity in the foraging and echolocation behaviour of the long-eared bat, *Myotis evotis*. *J. Comp. Physiol. A*, **174**, 651-660.

Faure, P. A. & Barclay, R. M. R. (1992). The sensory basis of prey detection by the long-eared bat, *Myotis evotis*, and the consequences for prey selection. *Anim. Behav.*, **44**, 31-39.

Fay, R. R. & Popper, A. N., eds. (1995). *Hearing by Bats*. Springer Handbook of Auditory Research. Springer; Berlin, Heidelberg, New York.

Feddersen-Petersen, D. U. (2000). Vocalization of European wolves (*Canis lupus lupus* L.) and various dog breeds (*Canis lupus* f. *fam.*). *Arch. Tierzucht*, **43**, 387-397.

Feng, A. S., Condon, C. J. & White, K. R. (1994). Stroboscopic hearing as a mechanism for prey discrimination in frequency-modulated bats? *J. Acoust. Soc. Am.,* **95**, 2736-2744.

Fenton, M. B. (1995). Natural history and biosonar signals. In *Hearing by Bats* (A. N. Popper & R. R. Fay, eds.). Springer-Verlag; New York, pp. 37-86.

Fenton, M. B., Portfors, C. V., Rautenbach, I. L. & Waterman, J. M. (1998). Compromises: Sound frequencies used in echolocation by aerial bats. *Can. J. Zool.,* **76**, 1174-1182.

Fenton, M. B. (1994). Assessing signal variability and reliability: To thine ownself be true. *Anim. Behav.*, **47**, 757-764.

Fenton, M. B., Rydell, J. Vonhof, M. J., Eklof, J. & Lancaster, W. C. (1999). Constant-frequency and frequency modulated components in the echolocation calls of three species of small bats (Emballonuridae, Thyropteriade, and Vespertilionidae). *Can. J. Zool.,* **77**, 1891-1900.

Fenton, M. B., Audet, D., Obrist, M. K. & Rydell, J. (1995). Signal strength, timing, and selfdeafening - the evolution of echolocation in bats. *Paleobiology*, **21**, 229-242.

Fernandez, C., Lysakowsky, A. & Goldberg, J. M. (1995). Hair-cell counts and afferent innervation patterns in the cristae ampullares of the squirrel monkey with a comparison to the chinchilla. *J. Neurophysiol.*, **73**, 1253-1269.

Fernandez-Juricic, E., Campagna, C., Enriquez, V. & Ortiz, C. L. (2001). Vocal rates and social context in male South American sea lions. *Mar. Mamm. Sci.*, **17**, 387-396.

Fernandez-Juricic, E., Campagna, C., Enriquez, V. & Ortiz, C. L. (1999). Vocal communication and individual variation in breeding South American sea lions. *Behaviour,* **136**, 495-518.

Ferragamo, M. J., Haresign, T. & Simmons, J. A. (1997). Frequency tuning, latencies, and responses to

frequency-modulated sweeps in the inferior colliculus of the echolocating bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.,* **182**, 65-79.
Fersen, L. von & Delius, J. D. (2000). Acquired equivalences between auditory stimuli in dolphins (*Tursiops truncatus*). *Anim. Cogn.*, **3**, 79-83.
Fine, M., Lugli, M., Mainardi, D., Pavan, G. & Torricelli, P., eds. (1997). Underwater Bioacoustics: Behavioural, Environmental and Evolutionary Perspectives. *Marine and Freshwater Behaviour and Physiology,* **29**, 1-276.
Finneran, J. J., Schlundt, C. E., Dear, R., Carder, D. A. & Ridgway, S. H. (2000). Masked temporary threshold shift (MTTS) in odontocetes after exposure to single underwater impulses from a seismic watergun. *J. Acoust. Soc. Am.*, **108**, 2515.
Finneran, J. J., Schlundt, C. E., Carder, D. A., Clark, J. A., Young, J. A., Gaspin, J. B. & Ridgway, S. H. (2000). Auditory and behavioral responses of bottlenose dolphins (*Tursiops truncatus*) and a beluga whale (*Delphinapterus leucas*) to impulsive sounds resembling distant signatures of underwater explosions. *J. Acoust. Soc. Am.*, **108**, 417-431.
Fitch, W. T. (2000). Skull dimensions in relation to body size in nonhuman mammals: The causal bases for acoustic allometry. *Zoology* (Jena), **103**, 40-58.
Fitch, W. T. (2000). The phonetic potential of nonhuman vocal tracts: Comparative cineradiographic observations of vocalizing animals. *Phonetica* (Basel), **57**, 205-218.
Fitch, W. T., Neubauer, J. & Herzel, H. (2002). Calls out of chaos: the adaptive significance of nonlinear phenomena in mammalian vocal production. *Anim. Behav.*, **63**, 407-418.
Fitch, W. T. & Reby, D. (2001). The descended larynx is not uniquely human. *Proc. Roy. Soc. Lond. B.*, **268**, 1669-1675.
Fitzgerald, J. W. (1994). The larynx-melon-vestibular-lips (LMVL) model of the dolphin sonar. I. The larynx pulse source. *Oceans '94,* **1**, 271-276.
Flandrin, P., Cros, P. & Mange, G. (1986). Sensitivity of Doppler tolerance to the structure of bat-like sonar signals. *Acustica,* **62**, 40-47.
Fleschhutz, D. B. & Ehret, G. (2000). Time-critical frequency integration in the auditory system of the mouse. *Eur. J. Neurosci.*, **12**, Suppl. 11, 90.
Fletcher, S. Le Boeuf, B. J. & Costa, D. P. (1996). On board acoustic recording from diving northern elephant seals. *J. Acoust. Soc. Am.,* **100**, 2531-2539.
Fletcher, N. H. & Thwaites, S. (1988). Obliquely truncated simple horns: Idealized models for vertebrate pinnae. *Acustica*, **65**, 194-204.
Flint, J. A., Goodson, A. D. & Pomeroy, S. C. (1998). Visualising wave propagation in bio-acoustic lens structures using the transmission line modelling method. *Bioacoustics,* **9**, 216.
Floody, O. R. (1993). Cuts between the septum and preoptic area increase ultrasound production, lordosis and body weight in female hamsters. *Physiol. Behav.*, **54**, 383-392.
Foeller, E. & Koessl, M. (2000). Mechanical adaptations for echolocation in the cochlea of the bat *Hipposideros lankadiva*. *J. Comp. Physiol. A.*, **186**, 859-870.
Ford, J. K. B. (1987). A catalogue of underwater calls produced by killer whales *(Orcinus orca)* in British Columbia. *Can. Data Rep. Fish. Aquat. Sci.,* No. 633.
Ford, J. K. B. (1996). Dialects and population identity of killer whales off the west coast of North America. *European Research on Cetaceans,* **9**, 14.
Forge, A., Li, L., Corwin, J. T. & Nevill, G. (1993). Ultrastructural evidence for hair cell regeneration in the mammalian inner ear. *Science*, **259**, 1616-1619.
Forrest, T. G. & Hoy, R. R. (1995). Predation risk for night-flying beetles and other insects. *Am. Zool.*, **35**, 41A.
Frahm, H. D. & Rehkaemper, G. (1996). Comparative volume measurements of auditory brain structures in three breeds of domestic rabbits. *Z. Saeugetierkd.*, **61** (Sonderheft), 14-15 (German).
Francescoli, G. & Quirici, V. (2001). Vocalization patterns in *Ctenomys* (Rodentia, Octodontidae): Can they tell us something about the tuco-tuco's phylogeny? *Adv. Ethol.*, **36**, 157.
Francescoli, G. (1999). A preliminary report of the acoustic communication in Uruguayan *Ctenomys* (Rodentia, Octodontidae): Basic sound types. *Bioacoustics,* **10**, 203-218.
Francescoli, G. (2002). Geographic variation in vocal signals of *Ctenomys pearsoni*. *Acta Theriol.*, **47**, 35-44.
Frankel, A. S., Clark, C. W., Herman, L. M. & Gabriele, C. M. (1995). Spatial distribution, habitat utilization, and social interactions of humpback whales, *Megaptera novaeangliae*, off Hawaii, determined using acoustic and visual techniques. *Can. J. Zool.,* **73**, 1134-1146.
Frankel, A. S., Mobley, Jr. J. R. & Herman, L. M. (1995). Estimation of auditory response thresholds in humpback whales using biologically meaningful sounds. In *Sensory Systems of Aquatic Mammals* (R. A. Kastelein, J. A. Thomas & P. E. Nachtigall, eds.). De Spill Publishers; Woerden, The Netherlands, pp. 55-70.
Frankel, A. S. & Straley, J. (2000). Comparison of Alaskan and Hawaiian humpback whale song at the song-unit

level. *J. Acoust. Soc. Am.*, **108**, 2634.
Frazer, L. N. & Mercado III, E. (2000). A sonar model for humpback whale song. *IEEE J. Ocean. Eng.*, **25**, 160-182.
Freeberg, T. M. (2001). Communicative cultures in cetaceans: Big questions are unanswered, functional analysis are needed. *Behav. Brain Sci.*, **24**, 334.
Freitag, L. E. & Tyack, P. L. (1993). Passive acoustic localization of the Atlantic bottlenose dolphin using whistles and echolocation clicks. *J. Acoust. Soc. Am.*, **93**, 2197-2205.
Frey, R. & Hofmann, R. R. (2000). Larynx and vocalization of the takin (*Budorcas taxicolor* Hodgson, 1850: Mammalia, Bovidae). *Zool. Anz.*, **239**, 197-214.
Friauf, E. (1992). Tonotopic order in the adult and developing auditory system of the rat shown by c-fos immunocytochemistry. *Eur. J. Neurosci.*, **4**, 798-812.
Friauf, E., Aragon, C., Lohrke, S., Westenfelder, B. & Zafra, F. (1999). Developmental expression of the glycine transporter GLYT2 in the auditory system of rats suggests involvement in synapse maturation. *J. Comp. Neurol.,* **412**, 17-37.
Fristrup, K. & Watkins, W. A. (1994). Marine animal sound classification. *Tech. Report. WHOI-94-13.*
Fritsch, E., Hultsch, H. & Todt, D. (1996). Vocal behaviours of dolphins in the context of passing physical barriers. *Bioacoustics*, **6**, 314-315.
Fritzsch, B. & Nichols, D. H. (1993). Dil reveals a prenatal arrival of efferents at developing ears of mice. *Hear. Res.*, **65**, 51-60.
Frommolt, K. H., Kruchenkova, E. P. & Russig, H. (1997). Individuality of territorial barking in arctic foxes, *Alopex lagopus*. In *Proceedings of the First International Symposium on Physiology and Ethology of Wild and Zoo Animals* (F. Klima and R. R. Hofman, eds.). Z. Saeugetierk., Suppl. 2, pp. 66-70.
Frommolt, K.-H., Goltsman, M. E. & Jakupi, A. (2001). Individuality of vocalisations and individual acoustic discrimination in Arctic foxes (*Alopex lagopus*). *Zoology* (Jena), **103**, Suppl. 3, 27.
Fubara, B. M., Casseday, J. H., Covey, E. & Schwartz-Bloom, D. (1996). Distribution of GABA-A, GABA-B, and glycine receptors in the central auditory system of the big brown bat, *Eptesicus fuscus*. *J. Comp. Neurol.*, **369**, 83-92.
Fullard, J. H. (1998). Sensory coevolution of moths and bats. In *Comparative Hearing: Insects* (R. R. Hoy, A. N. Popper and R. R. Fay, eds.). Springer; New York, pp. 279-326.
Fullard, J. H., Jacobs, D. S. & Barclay, R. M. R. (1992). Geographic and habitat characteristics of the echolocation calls of the Hawaiian hoary bat. *Bat Res. News*, **33**, 57.
Fullard, J. H. (1990). The sensory ecology of moths and bats: global lessons in staying alive. In *Insect Defenses* (D. L. Evans and J. O. Schmidt, eds.). Suny Press, New York, pp. 203-272.
Fullard, J. H. (1989). Echolocation survey of the distribution of the Hawaiian hoary bat (*Lasiurus cinereus semotus*) on the island of Kaua'i. *J. Mamm.*, **70**, 424-426.
Fullard, J. H., Simmons, J. A. & Saillant, P. A. (1994). Jamming bat echolocation: the dogbane tiger moth *Cycnia tenera* times its clicks to the terminal attack calls of the big brown bat *Eptesicus fuscus*. *J. Exp. Biol.*, **194**, 285-298.
Fuzessery, Z. M. (1994). Response selectivity for multiple dimensions of frequency sweeps in the pallid bat inferior colliculus. *J. Neurophysiol.*, **72**, 1061-1079.
Fuzessery, Z. M., Buttenhoff, P., Andrews, B. & Kennedy, J. M. (1993). Passive sound localization of prey by the pallid bat *Anthrozous pallidus pallidus*. *J. Comp. Physiol. A.*, **171**, 767-777.
Fuzessery, Z. M. (1996). Monaural and binaural spectral cues created by the external ears of the pallid bat. *Hear. Res.*, **95**, 1-17.
Gaetz, W., Jantzen, K., Weinberg, H., Spong, P. & Symonds, H. (1993). A neural network method for recognition of individual *Orcinus orca* based on their acoustic behaviour: phase 1. *Oceans '93,* **1**, 455-457.
Galazyuk, A. V. & Feng, A. S. (1997). Encoding of sound duration by neurons in the auditory cortex of the little brown bat, *Myotis lucifugus*. *J. Comp. Physiol. A.,* **180**, 301-311.
Galef, B. G. Jr. (2001). Where's the beef? Evidence of culture, imitation, and teaching, in cetaceans? *Behav. Brain Sci.*, **24**, 335.
Gao, E. & Suga, N. (1998). Experience-dependent corticofugal adjustment of midbrain frequency map in bat auditory system. *Proc. Natl. Acad. Sci. USA,* **95**, 12663-12670.
Gao, W.-J., Newman, D. E., Wormington, A. B. & Pallas, S. L. (1999). Development of inhibitory circuitry in visual and auditory cortex of postnatal ferrets: Immunocytochemical localization of GABAergic neurons. *J. Comp. Neurol.,* **409**, 261-273.
Garstang, M., Larom, D., Raspet, R. & Lindeque, M. (1995). Atmospheric controls on elephant communication. *J. Exp. Biol.,* **198**, 939-951.
Gaunaurd, G. C., Brill, D., Huang, H., Moore, P. W. B. & Strifors, H. C. (1996). Understanding the echo-clues used by dolphins to remotely identify the target characteristics of submerged elastic shells. *Proc. SPIE*

(The International Society for Optical Engineering), **2756**, 192-204.
Gaunaurd, G. C. (1998). Signal processing of the echo signatures returned by submerged shells insonified by dolphin "clicks": active classification. *J. Acoust. Soc. Am.,* **103**, 1547-1557.
Gebler, A. & Frommolt, K.-H. (2001). Directivity of dog (*Canis lupus* f. *familiaris*) vocalisation. *Zoology* (Jena), **103**, Suppl. 3, 83.
Gedamke, J., Costa, D. P. & Dunstan, A. (1997). New vocalization definitively linked to the minke whale. *J. Acoust. Soc. Am.,* **102**, 3121-3122.
Gedamke, J., Costa, D. P. & Dunstan, A. (2001). Localization and visual verification of a complex minke whale vocalization. *J. Acoust. Soc. Am.*, **109**, 3038-3047.
Gehr, D. D., Komiya, H. & Eggermont, J. J. (2000). Neuronal responses in cat primary auditory cortex to natural and altered species-specific calls. *Hear. Res.*, **150**, 27-42.
Geissler, D. B. & Ehret, G. (2002). Time-critical integration of formants for perception of communication calls in mice. *Proc. Natl. Acad. Sci. USA*, **99**, 9021-9025.
Gerhardt, K. J. (1989). Characteristics of the fetal sheep sound environment. *Semin. Perinatol.*, **13**, 362-370.
Gerhardt, K. J., Huang, X., Arrington, K. E., Meixner, K., Abrams, R. M. N. & Antonelli, P. (1996). Fetal sheep in utero hear through bone conduction. *Am. J. Otolaryngol.*, **17**, 374-379.
Gerhardt, K. J., Otto, R., Abrams, R. M., Ale, J. J., Burchfield, D. J. & Peters, A. J. M. (1992). Cochlear microphonics recorded from fetal and newborn sheep. *Am. J. Otolaryngol.*, **13**, 226-233.
Gerstein, E. R., Gerstein, L., Forsythe, S. E. & Blue, J. E. (1999). The underwater audiogram of the West Indian manatee *(Trichechus manatus)*. *J. Acoust. Soc. Am.,* **105**, 3575-3583.
Gese, E. M. & Ruff, R. L. (1998). Howling by coyotes *(Canis latrans)*: variation among social classes, seasons, and pack sizes. *Can. J. Zool.,* **76**, 1037-1043.
Gibiat, V., Jardin, P. & Wu, F. (1987). Differential spectral analysis applied to *Myotis mystacinus* sonar signals. *Acustica,* **63**, 90-99 (French).
Gibson, B. M. & Floody, O. R. (1998). Time course of VMN lesion effects on lordosis and ultrasound production in hamsters. *Behav. Neurosci.,* **112**, 1236-1246.
Gisiner, R. C. (1997). The Office of Naval Research Program to determine the effects of man-made sound on marine mammals. *J. Acoust. Soc. Am.,* **102**, 3121.
Glendenning, K. K. & Masterton, R. B. (1998). Comparative morphometry of mammalian central auditory systems: Variation in nuclei and form of the ascending system. *Brain Behav. Evol.,* **51**, 59-89.
Gnoli, C., Prigioni, C. & Polotti, P. (1997). Acoustic communication and related behaviour of captive European otters *Lutra lutra*. *Bioacoustics,* **8**, 270-271.
Gnone, G., Pavan, G., Manca, S., Benoldi, C., Bonsignori, B. & Manghi, M. (1997). Acoustic behaviour of a bottlenose dolphin *Tursiops truncatus* mother-calf pair in captivity: technical aspects in data collection and analysis. *Bioacoustics,* **8**, 274.
Gnone, G., Pavan, G., Benoldi, C., Bonsignori, B., Manca, S. & Manghi, M. (1996). Acoustic behaviour of a captive newborn bottlenose dolphin. *European Research on Cetaceans,* **9**, 65-68.
Goa, G. & Zhou, K. (1991). The number of fibres and range of fibre diameters in the cochlear nerve of three odontocete species. *Can. J. Zool.,* **69**, 2360-2364.
Goepfert, M. C. & Wasserthal, L. T. (1995). Notes on echolocation calls, food and roosting behaviour of the Old World sucker-footed bat *Myzopoda aurita* (Chiroptera, Myzopodidae). *Z. Saeugetierkd.*, **60**, 1-8.
Golden, J. (1995). The development of the middle ear ossicles in relation to the larynx - an analysis of the postnatal development of the visceral skeleton of the laboratory rat. *Am. Zool.*, **35**, 124.
Goldman, J. A., Phillips, D. P. & Fentress, J. C. (1995). An acoustic basis for maternal recognition in timber wolves (*Canis lupus*)? *J. Acoust. Soc. Am.*, **97**, 1970-1973.
Golub, M. S. & Kaaekuahiwi, M. A. (1993). Effects of intrapartum meperidine on distress vocalizations of guinea pigs during maternal separation. *Teratology*, **47**, 457.
Goodson, A. D. & Sturtivant, C. R. (1996). Sonar characteristics of the harbour porpoise, *Phocoena phocoena*, source levels and spectrum. *ICES J. Mar. Sci.,* **53**, 465-472.
Goodson, A. D. (1996). Studying the acoustic signals of the harbour porpoise. *European Research on Cetaceans,* **9**, 56-59.
Goodson, A. D., Newborough, D. & Woodward, B. (1997). Interactive deterrent devices for fishing nets, designed to reduce small cetacean bycatch. *Bioacoustics,* **8**, 272-273.
Goodson, A. D. & Lepper, P. A. (1996). A simple hydrophone monitor for cetacean acoustics. *European Research on Cetaceans,* **9**, 46-49.
Goodson, A. D., Connelly, P. R. & Lepper, P. (1997). Aversive sounds and the harbour porpoise *Phocoena phocoena*. *Bioacoustics,* **8**, 261-262.
Goodson, A. D., Mayo, R. H., Klinowska, M. & Bloom, P. R. S. (1994). Field testing passive acoustic devices designed to reduce the entanglement of small cetaceans in fishing gear. In *Cetaceans and Gillnets* (W. F. Perrin, G. P. Donovan & J. Barlow, eds.). *Rep. Int. Whal. Commn.* (Spec. Iss., **15**), pp. 597-606.

Goodson, A. D., Klinowska, M. & Bloom, P. R. S. (1994). Enhancing the acoustic detectability of gillnets. In *Cetaceans and Gillnets* (W. F. Perrin, G. P. Donovan & J. Barlow, eds.). *Rep. Int. Whal. Commn.*, (Spec. Iss. **15**), pp. 585-595.
Goodson, A. D. & Datta, S. (1992). Acoustic detection of fishing nets, the dolphin perspective. *Acoustic Letters,* **16**, 129-133.
Goodson, A. D. (1998). A narrow band bio-sonar: investigating echolocation in the harbour porpoise *Phocoena phocoena*. *Bioacoustics,* **9**, 215-216.
Goodson, A. D., Kastelein, R. A. & Sturtivant, C. R. (1995). Source levels and echolocation signal characteristics of juvenile harbour porpoises *Phocoena phocoena*. In *Harbour Porpoises, Laboratory Studies to Reduce Bycatches* (P. E. Nachtigall, J. Lien, W. W. L. Au & A. J. Read, eds.). De Spil Publisher; Woerden.
Goodwin, G. A., Molina, V. A. & Spear, L. P. (1994). Repeated exposure of rat pups to isolation attenuates isolation-induced ultrasonic vocalization rates: Reversal with naltrexone. *Dev. Psychobiol.*, **27**, 53-64.
Goold, J. C. (1996). Signal processing techniques for acoustic measurement of sperm whale body lengths. *J. Acoust. Soc. Am.,* **100**, 3431-3441.
Goold, J. C. & Jones, S. E. (1995). Time and frequency domain characteristics of sperm whale clicks. *J. Acoust. Soc. Am.,* **98**, 1279-1291.
Goold, J. C. (2000). A diel pattern in vocal activity of short-beaked common dolphins, *Delpinus delphis*. *Mar. Mamm. Sci.*, **16**, 240-244.
Goold, J. C. (1999). Behavioural and acoustic observations of sperm whales in Scapa Flow, Orkney Islands. *J. Mar. Biol. Ass. U.K.*, **79**, 541-550.
Gopfert, M. C. & Wasserthal, L. T. (1995). Notes on echolocation calls, food and roosting behaviour of the Old World sucker-footed bat *Myzopoda aurita* (Chiroptera, Myzopodidae). *Z. Saeugetierkd.*, **60**, 1-8.
Gordon, J. C. D., Matthews, J. N., Panigada, S., Gannier, A., Borsani, J. F. & di Sciara, G. N. (2000). Distribution and relative abundance of striped dolphins, and distribution of sperm whales in the Ligurian Sea cetacean sanctuary: Results from a collaboration using acoustic monitoring techniques. *J. Cetac. Res. Manage.*, **2**, 27-36.
Gordon, J. C. D. (1996). Sperm whale acoustic behaviour. *European Research on Cetaceans,* **9**, 29-33.
Gordon, M. & O'Neill, W. E. (2000). An extralemniscal component of the mustached bat inferior colliculus selective for direction and rate of linear frequency modulations. *J. Comp. Neurol.*, **426**, 165-181.
Grandin, T. (2001). Cattle vocalizations are associated with handling and equipment problems at beef slaughter plants. *Appl. Anim. Behav. Sci.*, **71**, 191-201.
Grandin, T. (1998). The feasibility of using vocalization scoring as an indicator of poor welfare during cattle slaughter. *Appl. Anim. Behav. Sci.,* **56**, 121-128.
Green, D. M., DeFerrari, H. A., McFadden, D., Pearse, J. S. & Popper, A. N. (1994). *Sound and Marine Mammals: Current Knowledge and Research Needs*. National Academy Press; Washington, D. C.
Green, K. & Burton, H. R. (1988). Do Weddell seals sing? *Polar Biol.,* **8**, 165-166.
Greene, E. & Meagher, T. (1998). Red squirrels, *Tamiasciurus hudsonicus*, produce predator-class specific alarm calls. *Anim. Behav.,* **55**, 511-518.
Greenfield, M. D. & Weber, T. (2000). Evolution of ultrasonic signalling in wax moths: discrimination of ultrasonic mating calls from bat echolocation signals and the exploitation of an antipredator receiver bias by sexual advertisement. *Ethol. Ecol. Evol.*, **12**, 259-279.
Greenwood, D. D. (1996). Comparing octaves, frequency ranges, and cochlear-map curvature across species. *Hear. Res.*, **94**, 157-162.
Griffiths, S. K., Brown, W. S. Jr., Gerhardt, K. J., Abrams, R. M. & Morris, R. J. (1994). The perception of speech sounds recorded within the uterus of a pregnant sheep. *J. Acoust. Soc. Am.,* **96**, 2055-2063.
Grinnell, J. & McComb, K. (2001). Roaring and social communication in African lions: the limitations imposed by listeners. *Anim. Behav.*, **62**, 93-98.
Grinnell, J. & McComb, K. (1996). Maternal grouping as a defense against infanticide by males: evidence from field playback experiments on African lions. *Behav. Ecol.,* **7**, 55-59.
Grossete, A. & Moss, C. F. (1998). Target flutter rate discrimination by bats using frequency-modulated sonar sounds: behaviour and signal processing models. *J. Acoust. Soc. Am.,* **103**, 2167-2176.
Grothe, B. & Neuweiler, G. (2000). The function of the medial superior olive in small mammals: temporal fields in auditory analysis. *J. Comp. Physiol. A.*, **186**, 413-423.
Grothe, B. & Park, T. J. (1995). Time can be traded for intensity in the lower auditory system. *Naturwissenschaften*, **82**, 521-523.
Groutage, D., Schempp, J. & Cohen, L. (1994). Characterization and analysis of marine mammal sounds using time-frequency and time-prony techniques. *Oceans '94,* **1**, 253-258.
Guillen, A., Juste B., J. & Ibanez, C. (2000). Variation in the frequency of the echolocation calls of *Hipposideros ruber* in the Gulf of Guinea: an exploration of the adaptive meaning of the constant frequency value in

rhinolophoid CF bats. *J. Evol. Biol.*, **13**, 70-80.
Habersetzer, J. & Storch, G. (1992). Cochlea size in extant Chiroptera and middle Eocene microchiropterans from Messel. *Naturwissenschaften,* **79**, 462-466.
Hackbarth, H. (1986). Phase evaluation in hypothetical receivers simulating ranging in bats. *Biol. Cybern.,* **54**, 281-287.
Hafidi, A., Lanjun G. & Sanes, D. H. (1999). Age-dependent failure of axon regeneration in organotypic culture of gerbil auditory midbrain. *J. Neurobiol.,* **41**, 267-280.
Hahn, M. E., Karkowski, L., Weinreb, L., Henry, A., Schanz, N. & Hahn, E. M. (1998). Genetic and developmental influences on infant mouse ultrasonic calling. II. Developmental patterns in the calls of mice 2-12 days of age. *Behav. Genet.,* **28**, 315-326.
Hahn, M. E., Hewitt, J. K., Schanz, N., Weinreb, L. & Henry, A. (1997). Genetic and developmental influences on infant mouse ultrasonic calling. I. A diallel analysis of the calls of 3 day olds. *Behav. Genet.,* **27**, 133-135.
Hamernik, R. P., Ahroon, W. A., Davis, R. I. & Sheau-Fang, L. (1994). Hearing threshold shifts from repeated 6-h daily exposure to impact noise. *J. Acoust. Soc. Am.,* **95**, 444-453.
Hande, M. P., Devi, P. U. & Karanth, K. S. (1993). Effect of prenatal ultrasound exposure on adult behavior in mice. *Neurotoxicol. Teratol.,* **15**, 433-438.
Hanggi, E. B. & Schusterman, R. J. (1994). Underwater acoustic displays and individual variation in male harbour seals, *Phoca vitulina*. *Anim. Behav.*, **48**, 1275-1283.
Hanson, M. T. & Coss, R. G. (2001). Age differences in the response of California ground squirrels (*Spermophilus beecheyi*) to conspecific alarm calls. *Ethology*, **107**, 259-275.
Hard, E. & Engel, J. (1991). Ontogeny of ultrasonic vocalization in the rat: Influence of neurochemical transmission systems. In *Behavioral Biology: Neuroendocrine Axis.* Lawrence Erlbaum Associates; New Jersey, pp. 37-53.
Harding, S. M. & McGinnis, M. Y. (2001). The effects of testosterone propionate in the VMN on copulation, 50 kHz vocalization, and partner preference in castrated male rats. *Soc. Neurosci. Abstr.*, **27**, 2547.
Hare, J. F. (1998). Juvenile Richardson's ground squirrels, *Spermophilus richardsonii*, discriminate among individual alarm callers. *Anim. Behav.,* **55**, 451-460.
Harland, E., Turnbull, M., Williams, R. & Copley, V. (1996). The Durlston cetacean monitoring project. *European Research on Cetaceans,* **9**, 89-91.
Harland, E. & Lloyd, L. (1996). Minimising cetacean-induced false alarms in military sonars. *European Research on Cetaceans,* **9**, 72-74.
Harland, E., Plowman, R. & Turnbull, M. (1996). Deployment of a sea-bed mounted hydrophone for cetacean monitoring. *European Research on Cetaceans,* **9**, 69-71
Harland, E. J. (1998). New technologies for marine mammal acoustic data capture. *Bioacoustics,* **9**, 221.
Hartley, D. J. (1990). Phased array beam scanning as a possible aid to horizontal localization in horseshoe bats. *J. Acoust. Soc. Am.,* **88**, 2889-2891.
Hartley, D. J. (1992). Stabilization of perceived echo amplitudes in echolocating bats. I. Echo detection and automatic gain control in the big brown bat, *Eptesicus fuscus*, and the fishing bat, *Noctilio leporinus*. *J. Acoust. Soc. Am.,* **91**, 1120-1132.
Hartley, R. S. & Suthers, R. A. (1988). The acoustics of the vocal tract in the horseshoe bat, *Rhinolophus hildebrandti*. *J. Acoust. Soc. Am.,* **84**, 1201-1213.
Harvey, A. T. & Hennesy, M. B. (1995). Corticotropin-releasing factor modulation of the ultrasonic vocalization rate of isolated rat pups. *Dev. Brain Res.*, **87**, 125-134.
Hashimoto, H., Saito, T. R., Furudate, S. & Takahashi, K. W. (2001). Prolactin levels and maternal behavior induced by ultrasonic vocalizations of the rat pup. *Exp. Anim.*, **50**, 307-312.
Hashimoto, H., Saito, T. R., Moritani, N., Komeda, K. & Takahashi, K. W. (2001). Comparative study on isolation calls emitted from hamster pups. *Exp. Anim.*, **50**, 313-318.
Hashimoto, T. (2000). Optical-recorded auditory cortical activity of guinead pig. *Neurosci. Res. Suppl.*, **24**, S157.
Hattori, T. & Suga, N. (1997). The inferior colliculus of the mustached bat has the frequency vs latency coordinates. *J. Comp. Physiol. A.,* **180**, 271-284.
Hauber, M. E. & Sherman, P. W. (1998). Nepotism and marmot alarm calling. *Anim. Behav.,* **56**, 1049-1052.
Hayes, J. P. (1997). Temporal variation in activity of bats and the design of echolocation-monitoring studies. *J. Mammal.,* **78**, 514-524.
Hayward, T. J. (1997). Modeling and simulation of marine mammal generated sound. I. Stochastic modeling of marine mammal spatial distributions, collective motions, and vocalization occurrence times. *J. Acoust. Soc. Am.,* **101**, 3197.
Heffner, R. S. & Heffner, H. E. (1992). Hearing and sound localization in blind mole rats *(Spalax ehrenbergi)*. *Hear. Res.,* **62**, 206-216.

Heffner, R. S., Koay, G. & Heffner, H. E. (1999). Sound localization in an Old World fruit bat *(Rousettus aegyptiacus)*: Acuity, use of binaural cues, and relationship to vision. *J. Comp. Psychol.,* **113**, 297-306.
Heffner, R. S. & Heffner, H. E. (1989). Sound localization, use of binaural cues and the superior olivary complex in the pig. *Brain Behav. Evol.,* **33**, 248-258.
Heffner, R. S. & Heffner, H. E. (1990). Hearing in domestic pigs *(Sus scrofa)* and goats *(Capra hircus)*. *Hear. Res.,* **48**, 231-240.
Heffner, R. S. & Heffner, H. E. (1993). Degenerate hearing and sound localization in naked mole rats *Heterocephalus glaber*, with an overview of central auditory structures. *J. Comp. Neurol.*, **331**, 418-433.
Heller, K.-G. (1995). Echolocation and body size in insectivorous bats: the case of the giant naked bat *Cheiromeles torquatus* (Molossidae). *Le Rhinolophe*, **11**, 27-38.
Helweg, D. A. (2000). Seasonal contribution of mysticete vocalization to ambient noise in southern California waters. *J. Acoust. Soc. Am.*, **108**, 2613.
Helweg, D. A., Roitblat, H. L., Nachtigall, P. E. & Hautus, M. J. (1996). Recognition of aspect dependent three-dimensional objects by an echolocating Atlantic bottlenose dolphin. *J. Exp. Physiol.: Anim. Behav. Processes,* **22**, 19-31.
Helweg, D. A. & Herman, L. M. (1994). Diurnal patterns of behaviour and group membership of humpback whales *(Megaptera novaeangliae)* wintering in Hawaiian waters. *Ethology,* **98**, 298-311.
Helweg, D. A., Frankel, A. S., Mobley, J. R. & Herman, L. M. (1992). Humpback whale songs: Our current understanding. In *Marine Mammal Sensory Systems* (J. A. Thomas, R. A. Kastelein & A. Ya. Supin, eds.). Plenum; New York, pp. 459-484.
Helweg, D. A., Roitblat, H. L. & Nachtigall, P. E. (1993). Using a biometric neural network to model dolphin echolocation. In *Artificial Neural Networks and Expert Systems* (N. Kasabov, ed.). IEEE Press; Los Alamitos, California, pp. 247-251.
Helweg, D. A., Au, W. W. L., Roitblat, H. L. & Nachtigall, P. E. (1996). Acoustic basis for recognition of aspect-dependent three-dimensional targets by an echolocating bottlenose dolphin. *J. Acoust. Soc. Am.,* **99**, 2409-2420.
Helweg, D. A., Cato, D. H., Jenkins, P. F., Garrigue, C. & McCauley, R. D. (1998). Geographic variation in South Pacific humpback whale songs. *Behaviour,* **135**, 1-27.
Henry, K. R. (1997). Sharply tuned cochlear nerve ensemble periodicity responses to sonic and ultrasonic frequencies. *J. Comp. Physiol. A.,* **181**, 239-246.
Henry, K. R. (1999). Noise improves transfer of near-threshold, phase-locked activity of the cochlear nerve: evidence for stochastic resonance? *J. Comp. Physiol. A.,* **184**, 577-584.
Henry, T. H., Best, T. L., Rueter, L. A., Goebel, A. B., Milam, B. A. & Feltus, F. A. (1992). Foraging ecology of *Myotis grisescens*: a comparison of numbers and types of echolocation calls in aquatic and terrestrial habitats. *Bat Res. News*, **33**, 58.
Herman, L. M. (1986). Cognition and language competencies of bottlenose dolphins. In *Dolphin Cognition and Behavior: a Comparative Approach* (R. J. Schusterman, J. A. Thomas and F. G. Wood, eds.). Lawrence Erlbaum Assoc., New Jersey, pp. 221-252.
Herman, L. M., Pack, A. A. & Hoffmann-Kuhnt, M. (1998). Seeing through sound: Dolphins *(Tursiops truncatus)* perceive the spatial structure of objects through echolocation. *J. Comp. Psychol.,* **112**, 292-304.
Herzing, D. L. (1996). An ethogram of underwater behaviors of the Atlantic spotted dolphin, *Stenella frontalis*. *European Research on Cetaceans,* **9**, 60-61.
Hessel, K. & Schmidt, U. (1994). Multimodal orientation in *Carollia perspicillata* (Phyllostomidae). *Folia Zool.,* **43**, 339-346.
Hienz, R. D., Aleszcyzk, C. M. & May, B. J. (1996). Vowel discrimination in cats: Acquisition, effects of stimulus level, and performance in noise. *J. Acoust. Soc. Am.,* **99**, 3656-3668.
Hienz, R. D., Aleszczyk, C. M. & May, B. J. (1996). Vowel discrimination in cats: Thresholds for the detection of second formant changes in the vowel /epsilon/. *J. Acoust. Soc. Am.,* **100**, 1052-1058.
Hienz, R. D., Sachs, M. B. & Aleszczyk, C. M. (1993). Frequency discrimination in noise: comparison of cat performances with auditory-nerve models. *J. Acoust. Soc. Am.,* **93**, 462-469.
Hodgetts, B. V., Waas, J. R. & Matthews, L. R. (1998). The effects of visual and auditory disturbance on the behaviour of red deer *(Cervus elaphus)* at pasture with and without shelter. *Appl. Anim. Behav. Sci.,* **55**, 337-351.
Hoeller, P. (1995). A new method for audio-visual analyses of the echolocation behaviour of bats. *Z. Saeugetierkd.*, **60** (Sonderheft), 29 (German).
Hoelzel, A. R. & Osborne, R. W. (1986). Killer whale call characteristics: implications for cooperative foraging strategies. In *Behavioral Biology of Killer Whales* (B. C. Kirkevold & J. S. Lockard, eds.). Alan R.

Liss, Inc.; New York, pp. 373-403.
Hofer, M. A. & Shair, H. N. (1993). Ultrasonic vocalization, laryngeal braking and thermogenesis in rat pups: a reappraisal. *Behav. Neurosci.*, **107**, 354-362.
Hofer, M. A., Brunelli, S. A., Masmela, J. & Shair, H. N. (1996). Maternal interactions prior to separation potentiate isolation-induced calling in rat pups. *Behav. Neurosci.,* **110**, 1158-1167.
Hofer, M. A., Masmela, J. R., Brunelli, S. A. & Shair, H. N. (1999). Behavioral mechanisms for active maternal potentiation of isolation calling in rat pups. *Behav. Neurosci.,* **113**, 51-61.
Hofer, M. A., Brunelli, S. A. & Shair, H. N. (1993). Ultrasonic vocalization responses of rat pups to acute separation and contact comfort do not depend on maternal thermal cues. *Dev. Psychobiol.*, **26**, 81-95.
Hofer, M. A. (1996). Multiple regulators of ultrasonic vocalization in the infant rat. *Psychoneuroendocrinology*, **21**, 203-217.
Hofer, M. A., Shair, H. N., Masmela, J. R. & Brunelli, S. A. (2001). Developmental effects of selective breeding for an infantile trait: the rat pup ultrasonic isolation call. *Dev. Psychobiol.*, **39**, 231-246.
Holekamp, K. E., Boydston, E. E., Szykman, M., Graham, I., Nutt, K. J., Birch, S., Piskiel, A. & Singh, M. (1999). Vocal recognition in the spotted hyaena and its possible implications regarding the evolution of intelligence. *Anim. Behav.,* **58**, 383-395.
Holman, S. D. & Rice, A. (1996). Androgenic effects on hypothalamic asymmetry in a sexually differentiated nucleus related to vocal behavior in Mongolian gerbils. *Horm. Behav.,* **30**, 662-672.
Holman, S. D. & Janus, C. (1998). Laterally asymmetrical cell number in a sexually dimorphic nucleus in the gerbil hypothalamus is correlated with vocal emission rates. *Behav. Neurosci.,* **112**, 979-990.
Holman, S. D. & Hutchison, J. B. (1994). Is sexual-aggressive vocal communication related to asymmetric mechanisms in the brain. *Aggress. Behav.*, **20**, 223-234.
Hoogland, J. L. (1996). Why do Gunnison's prairie dogs give anti-predator calls? *Anim. Behav.*, **51**, 781-880.
Horikawa, J., Hosokawa, Y., Nasu, M. & Taniguchi, I. (1997). Optical study of spatiotemporal inhibition evoked by two-tone sequences in the guinea pig auditory cortex. *J. Comp. Physiol. A.,* **181**, 677-684.
Horner, K. C., Serviere, J. & Granier-Deferre, C. (1987). Deoxyglucose demonstration of in utero hearing in the guinea-pig foetus. *Hear. Res.*, **26**, 327-333.
Hosken, D. J., Bailey, W. J., O'Shea, J. E. & Roberts, J. D. (1994). Localisation of insect calls by the bat *Nyctophilus geoffroyi* (Chiroptera: Vespertilionidae): A laboratory study. *Aust. J. Zool.,* **42**, 177-184.
Hosokawa, Y., Horikawa, J., Nasu, M. & Taniguchi, I. (1997). Real-time imaging of neural activity during binaural interaction in the guinea pig auditory cortex. *J. Comp. Physiol. A.,* **181**, 607-614.
Houser, D. S., Helweg, D. A. & Moore, P. W. (1999). Classification of dolphin echolocation clicks by energy and frequency distributions. *J. Acoust. Soc. Am.,* **106**, 1579-1585.
Houser, D. S., Helweg, D. A., Moore, P. W. B. & Chellapilla, K. (2001). Optimizing models of dolphin auditory sensitivity using evolutionary computation. *Bioacoustics*, **12**, 57-78.
Houser, D. S., Helweg, D. A., Chellapilla, K. & Moore, P. W. B. (1999). Creation of a biomimetic model of dolphin hearing through the use of evolutionary computation. *Proc. 1999 Congr. Evol. Comput., Vol.1,* pp. 496-502.
Hoy, R. R. (1992). The evolution of hearing in insects as an adaptation to predation from bats. In *Comparative Evolutionary Biology of Hearing* (D. B. Webster, R. R. Fay & A. N. Popper, eds.). Springer Verlag; New York, pp. 115-130.
Hsiao, T. Y., Solomon, N. P., Luschel, E. S., Titze, I. R., Liu, K., Fu, T. C. & Hsu, M. M. (1994). Effects of subglottic pressure on fundamental frequency of the canine larynx with active muscle tension. *Ann. Otol. Rhinol. Laryngol.,* **103**, 817-821.
Hu, B. H. & Jiang, S. C. (1995). Effect of focal cochlear vascular lesion on endocochlear potential in guinea pigs. *Hear. Res.*, **89**, 69-75.
Huang, G. T., Rosowski, J. J. & Peake, W. T. (2000). Relating middle-ear acoustic performance to body size in the cat family: measurements and models. *J. Comp. Physiol. A.*, **186**, 447-465.
Huang, G. T., Rosowski, J. J., Puria, S. & Peake, W. T. (2000). Tests of some common assumptions of ear-canal acoustics in cats. *J. Acoust. Soc. Am.*, **108**, 1147-1161.
Huang, X. & Buck, J. R. (2000). Autoregressive synthesis of bottlenose dolphin whistles. *J. Acoust. Soc. Am.*, **108**, 2636.
Huang, G. T., Rosowski, J. J., Flandermeyer, D. T., Lynch III, T. J. & Peake, W. T. (1997). The middle ear of a lion: comparison of structure and function to domestic cat. *J. Acoust. Soc. Am.,* **101**, 1532-1549.
Hudspeth, A. J. & Gillespie, P. G. (1994). Pulling springs to tune transduction: Adaptation by hair cells. *Neuron*, **12**, 1-9.
Huffman, R. F. & Henson, O. W. (1991). Cochlear and CNS tonotopy: normal physiological shifts in the mustached bat. *Hear. Res.*, **56**, 79-85.
Huffman, R. F., Argeles, P. C. & Covey, E. (1998). Processing of sinusoidally frequency modulated signals in the nuclei of the lateral lemniscus of the big brown bat, *Eptesicus fuscus*. *Hear. Res.,* **126**, 161-180.

Hutson, G. D., Wilkinson, J. L. & Luxford, B. G. (1991). The response of lactating sows to tactile, visual and auditory stimuli associated with a model piglet. *Appl. Anim. Behav. Sci.*, **32**, 129-137.
Hutson, G. D., Price, E. O. & Dickenson, L. G. (1993). The effect of playback volume and duration on the response of sows to piglet distress calls. Appl. *Anim. Behav.* Sci., 37, 31-37.
Huynh, Q. Q., Cooper, L. N., Intrator, N. & Shouval, H. (1998). Classification of underwater mammals using feature extraction based on time-frequency analysis and BCM theory. *IEEE Trans. Signal Process.,* **46**, 1202-1207.
Ibanez, C., Guillen, A., Juste, J. & Perez-Jorda, J. L. (1999). Echolocation calls of *Pteronotus davyi* (Chiroptera: Mormoopidae) from Panama. *J. Mammal.,* **80**, 924-928.
Ihnat, R., White, N. R. & Barfield, R. J. (1995). Pup's broadband vocalizations and maternal behavior in the rat. *Behav. Processes*, **33**, 257-272.
Illich, P. A., Parker, C. W. III, Burks, K. D. & Grau, J. W. (1992). Mild shock produces an unconditioned naltrexone insensitive increase in reactivity on the vocalization magnitude and threshold tests. *Soc. Neurosci. Abstr.*, **18**, 1026.
Illing, R.-B., Cao, Q. L., Forster, C. R. & Laszig, R. (1999). Auditory brainstem: Development and plasticity of GAP-43 mRNA expression in the rat. *J. Comp. Neurol.,* **412**, 353-372.
Insel, T. R., Miller, L. P., Gelhard, R. G. & Hill, J. (1988). Rat pup ultrasonic isolation calls and the benzodiazepine receptor. In *The Physiology of Mammalian Vocalization* (J. D. Newman, ed.). Plenum Press; New York, pp. 331-342.
Insley, S. J. (2000). Long-term vocal recognition in the northern fur seal. *Nature*, **406**, 404-405.
Insley, S. J. (2001). Mother-offspring vocal recognition in northern fur seals is mutual but asymmetrical. *Anim. Behav.*, **61**, 129-137.
Irvine, D. R. F., Rajan, R. & Aitkin, L. M. (1996). Sensitivity to interaural intensity differences of neurons in primary auditory cortex of the cat. I. Types of sensitivity and effects of variations in sound pressure level. *J. Neurophysiol.*, **75**, 75-96.
Isaeva, I. V., Volodin, I. A. & Volodina, E. V. (2000). Vocalization reflects type of social encounter in the dhole (*Cuon alpinus*). *Adv. Ethol.*, **35**, 41.
Isaeva, I. V., Volodin, I. A. & Volodina, E. V. (2001). Two sounds simultaneously is not a problem for the dhole *Cuon alpinus*. *Adv. Ethol.*, **36**, 183-184.
Ison, J. R. & Agrawal, P. (1998). The effect of spatial separation of signal and noise on masking in the free field as a function of signal frequency and age in the mouse. *J. Acoust. Soc. Am.,* **104**, 1689-1695.
Ivanoff, D. V. V. (2001). Partitions in the carnivoran auditory bulla: their formation and significance for systematics. *Mammal Review*, **31**, 1-16.
Jacobs, M., Nowacek, D. P., Gerhardt, D. J., Cannon, G., Nowicki, S. & Forward, R. B. Jr. (1993). Seasonal changes in vocalizations during behavior of the Atlantic bottlenose dolphin. *Estuaries*, **16**, 241-246.
Janik, V. M., Dehnhardt, G. & Todt, D. (1994). Signature whistle variations in a bottlenose dolphin, *Tursiops truncatus*. *Behav. Ecol. Sociobiol.*, **35**, 243-248.
Janik, V. M. (1997). Whistle matching in wild bottlenose dolphins. *J. Acoust. Soc. Am.,* **101**, 3136.
Janik, V. M. & Slater, P. J. B. (1998). Context-specific use suggests that bottlenose dolphin signature whistles are cohesion calls. *Anim. Behav.,* **56**, 829-838.
Janik, V. M. (1997). Food related calling in bottlenose dolphins, *Tursiops truncatus*. *Adv. Ethol.,* **32**, 123.
Janik, V. M. (1999). Pitfalls in the categorization of behaviour: a comparison of dolphin whistle classification methods. *Anim. Behav.,* **57**, 133-143.
Janik, V. M. (1995). Context-related vocalizations in bottlenosed dolphins. *Bioacoustics*, **6**, 219-220.
Janik, V. M. (2000). Food-related bray calls in wild bottlenose dolphins (*Tursiops truncatus*). *Proc. Roy. Soc. Lond. B.*, **267**, 923-927.
Janik, V. M. & Slater, P. J. B. (2000). The different roles of social learning in vocal communication. *Anim. Behav.*, **60**, 1-11.
Janik, V. M. & Slater, P. J. B. (1997). Vocal learning in mammals. *Adv. Study Behav.,* **26**, 59-99.
Janik, V. M. (2000). Whistle matching in wild bottlenose dolphins (*Tursiops truncatus*). *Science*, **289**, 1355-1357.
Janik, V. M. (2000). Source levels and the estimated active space of bottlenose dolphin (*Tursiops truncatus*) whistles in the Moray Firth, Scotland. *J. Comp. Physiol. A.*, **186**, 673-680.
Janik, V. M., van Parijs, S. M. & Thompson, P. M. (2000). A two-dimensional acoustic localization system for marine mammals. *Mar. Mamm. Sci.*, **16**, 437-446.
Jaquet, N., Dawson, S. & Douglas, L. (2001). Vocal behavior of male sperm whales: why do they click? *J. Acoust. Soc. Am.*, **109**, 2254-2259.
Jen, P. H.-S. & Chen, Q.-C. (1998). The effect of pulse repetition rate, pulse intensity, and bicuculline on the minimum threshold and latency of bat inferior collicular neurons. *J. Comp. Physiol. A.,* **182**, 455-465.
Jen, P. H.-S. & Feng, R. B. (1999). Bicuculline application affects discharge pattern and pulse-duration tuning

characteristics of bat inferior collicular neurons. *J. Comp. Physiol. A.,* **184**, 185-194.
Jenkins, P. F., Helweg, D. A. & Cato, D. (1995). Humpback whale song in Tonga: Preliminary results. In *Sensory Systems of Aquatic Mammals* (R. A Kastelein, J. A. Thomas & P. E. Nachtigall, eds.). De Spil Publishers; Woerden, The Netherlands, pp. 335-348.
Jensen, M. E. & Miller, L. A. (1999). Echolocation signals of the bat *Eptesicus serotinus* recorded using a vertical microphone array: effect of flight altitude on searching signals. *Behav. Ecol. Sociobiol.,* **47**, 60-69.
Jiang, J. J., Raviv, J. R. & Hanson, D. G. (2001). Comparison of the phonation-related structures among pig, dog, white-tailed deer, and human larynges. *Ann. Otol. Rhinol. Laryngol.*, **110**, 1120-1125.
Job, D. A., Boness, D. J. & Francis, J. M. (1995). Individual variation in nursing vocalizations of Hawaiian monk seal pups, *Monachus schauinslandi* (Phocidae, Pinnipedia), and lack of maternal recognition. *Can. J. Zool.*, **73**, 975-983.
Joermann, G., Schmidt, U. & Schmidt, C. (1988). The mode of orientation during flight and approach to landing in two phyllostomid bats. *Ethology,* **78**, 332-340.
Johnson, C. S. (1991). Hearing thresholds for periodic 60-kHz tone pulses in the beluga whale. *J. Acoust. Soc. Am.*, **89**, 2996-3001.
Johnson, M., Tyack, P., Nowacek, D. & Shorter, A. (2000). A digital acoustic recording tag for measuring the response of marine mammals to sound. *J. Acoust. Soc. Am.*, **108**, 2582.
Johnson, C. S. (1997). A window into the acoustics of whales and dolphins. *J. Acoust. Soc. Am.,* **102**, 3101.
Johnson, R. A., Moore, P. W. B., Stoermer, M. W., Pawloski, J. L. & Anderson, L. C. (1988). Temporal order discrimination within the dolphin critical interval. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Publishing Corp.; New York, pp. 317-321.
Johnson, G. S. (1986). Dolphin audition and echolocation capabilities. In *Dolphin Cognition and Behavior: A Comparative Approach* (R. J. Schusterman, J. A. Thomas & F. G. Wood, eds.). Lawrence Erlbaum Associates; Hillsdale, New Jersey, pp. 115-136.
Jones, J. C., Browne, R. W., di Meglio, A. & Wang, L. S. (1997). Dolphin vocalisation analysis using an ADSP 21020. *IEEE Coll. DSP Chips Real Time Instr. Displ. Syst.,* **10**, 1-5.
Jones, G., Sripathi, K., Waters, D. A. & Marimuthu, G. (1994). Individual variation in the echolocation calls of three sympatric Indian hipposiderid bats and an experimental attempt to jam bat echolocation. *Folia Zooligica*, **43**, 347-362.
Jones, G. & Rydell, J. (1994). Foraging strategy and predation risk as factors influencing emergence time in echolocating bats. *Phil Trans. Roy. Soc. B.,* **346**, 445-455.
Jones, G. & Kokurewicz, T. (1994). Sex and age variation in echolocation calls and flight morphology of Daubenton's bats *Myotis daubentonii*. *Mammalia*, **58**, 41-50.
Jones, G. (1996). Does echolocation constrain the evolution of body size in bats? *In Miniature Vertebrates: The Implications of Small Size* (P. J. Miller, ed.). *Symp. Zool. Soc. Lond.,* **69**, 111-128.
Jones, G. (1995). Variation in bat echolocation: implications for resource partitioning and communication. *Le Rhinolophe,* **11**, 53-59.
Jones, G. (1994). Scaling of wingbeat and echolocation pulse emission rates in bats: why are aerial insectivores so small? *Funct. Ecol.,* **8**, 450-457.
Jones, G. (1992). Bats vs moths: studies on the diets of rhinolophid and hipposiderid bats support the allotonic frequency hypothesis. In *Prague Studies in Mammalogy* (I. Horacek & V. Vohralik, eds.). Charles Univ. Press; Praha, pp. 87-92.
Jones, G. (1990). Prey selection by the greater horseshoe bat *(Rhinolophus ferrumequinum)*: optimal foraging by echolocation? *J. Anim. Ecol.,* **59**, 587-602.
Jones, G. (1999). Scaling of echolocation call parameters in bats. *J. Exp. Biol.,* **202**, 3359-3368.
Jones, G. (1995). Flight performance, echolocation and foraging behaviour in noctule bats *Nyctalus noctula*. *J. Zool.*, **237**, 303-312.
Jones, G. & van Parijs, S. M. (1993). Bimodal echolocation in pipistrelle bats: Are cryptic species present? *Proc. R. Soc. Lond. B.*, **251**, 119-125.
Jones, G. & Ransome, R. D. (1993). Echolocation calls of bats are influenced by maternal effects and change over a lifetime. *Proc. R. Soc. Lond. Ser. B. Biol. Sci.*, **252**, 125-128.
Jones, G. & Corben, C. (1993). Echolocation calls from six species of microchiropteran bats in south-eastern Queensland. *Austral. Mammal.*, **16**, 35-38.
Jones, G. J. & Sayigh, L. S. (2002). Geographic variation in rates of vocal production of free-ranging bottlenose dolphins. *Mar. Mamm. Sci.*, **18**, 374-393.
Jones, G. (1997). Acoustic signalling and speciation: the roles of natural and sexual selection in the evolution of cryptic species. *Adv. Study Behav.,* **26**, 317-354.
Jones, G. (1993). Some techniques for the detection, recording and analysis of echolocation calls from wild bats. *Proceedings of the first European Bat Detector Workshop* (K. Kapteyn, ed.). Netherlands Bat

Research Foundation; Amsterdam.
Jones, G., Morton, M., Hughes, P. M. & Budden, R. M. (1993). Echolocation, flight morphology and foraging strategies of some West African hipposiderid bats. *J. Zool.*, **230**, 385-400.
Jourdan, D., Ardid, D. & Eschalier, A. (2002). Analysis of ultrasonic vocalisation does not allow chronic pain to be evaluated in rats. Pain, **95**, 165-173.
Judd, T. M. & Sherman, P. W. (1996). Naked mole-rats recruit colony mates to food sources. *Anim. Behav.,* **52**, 957-969.
Kalko, E. K. V. (1995). Echolocation signal design, foraging habitats and guild structure in six neotropical sheath-tailed bats (Emballonuridae). *Symp. Zool. Soc. Lond.,* **67**, 259-273.
Kalko, E. (1991). On hunting and echolocation behaviour in Daubenton's bat (*Myotis daubentoni*, Kuhl, 1819) at the Rhein near Karlsruhe. *Carolinea*, **49**, 95-100 (German).
Kalko, E. & Schnitzler, H.-U. (1989). The echolocation and hunting behaviour of Daubenton's bat *Myotis daubentoni*. *Behav. Ecol. Sociobiol.*, **24**, 225-238.
Kalko, E. K. V. (1994). Coupling of sound emission and wingbeat in naturally foraging European pipistrelle bats (Microchiroptera: Vespertilionidae) while foraging. *Folia Zool.*, **43**, 363-376.
Kalko, E. K. V. (1995). Insect pursuit, prey capture and echolocation in pipistrelle bats (Microchiroptera). *Anim. Behav.*, **50**, 861-880.
Kalko, E. K. V. (1995). Predator-prey interactions: Evidence for predictive pursuit strategies in naturally foraging aerial insectivorous bats. *Am. Zool.*, **35**, 40A.
Kalko, E. K. V. & Schnitzler, H.-U. (1989). Two-wave-front interference patterns in frequency-modulated echolocation signals of bats flying low over water. *J. Acoust. Soc. Am.,* **85**, 961-962.
Kalko, E. K. V. & Schnitzler, H. U. (1993). Plasticity in echolocation signals of European pipistrelle bats in search flight: implications for habitat use and prey detection. *Behav. Ecol. Sociobiol.*, **33**, 415-428.
Kalko, E. K. V. (1999). Echolocation behaviour in bats (Microchiroptera): Ecological, ethological and evolutionary approaches. *Ethology,* **34** (Suppl.), 12.
Kalko, E. K. V., Schnitzler, H.-U., Kaipf, I. & Grinnell, A. D. (1998). Echolocation and foraging behavior of the lesser bulldog bat, *Noctilio albiventris*: preadaptations for piscivory? *Behav. Ecol. Sociobiol.,* **42**, 305-319.
Kamminga, C. (1994). Research on Dolphin Sounds. Doctoral Thesis. Technical University of Delft.
Kamminga, C. (1987). Structural information theory of bio-sonar, the odontocete echolocation signal. *Proc. 8th Symp. Inf. Theor. Benelux,* p. 77.
Kamminga, C. & Cohen Stuart, A. B. (1995). Wave shape estimation of delphinid sonar signals, a parametric model approach. *Acoustics Lett.,* **19**, 70-76.
Kamminga, C. & Cohen Stuart, A. B. (1996). Parametric modelling of polycyclic dolphin sonar wave shapes. *Acoustics Lett.,* **19**, 237-244.
Kamminga, C., Cohen Stuart, A. & Silber, G. K. (1996). Investigations on cetacean sonar 2: Intrinsic comparison of the wave shapes of some members of the Phocoenidae family. *Aquat. Mamm.,* **22**, 45-55.
Kamminga, G., Cohen Stuart, A. B. & de Bruin, M. G. (1998). A time-frequency entropy measure of uncertainty applied to dolphin echolocation signals. *Acoustics Lett.,* **21**, 155-160.
Kanis, L. J. & Deboer, E. (1993). Self-suppression in a locally active nonlinear model of the cochlea: a quasi-linear approach. *J. Acoust. Soc. Am.*, **94**, 3199-3206.
Kanno, H., Ohtani, I., Hara, A. & Kusakari, J. (1993). The effect of endocochlear potential suppression upon susceptibility to acoustic trauma. *Acta Oto-Laryngol.*, **113**, 26-30.
Kanwal, J. S., Matsumura, S., Ohlemiller, K. & Suga, N. (1994). Analysis of acoustic elements and syntax in communication sounds emitted by mustached bats. *J. Acoust. Soc. Am.,* **96**, 1229-1254.
Kanwal, J., Suga, N. & Matsumura, Y. (1994). The vocal repertoire of the moustached bat, *Pteronotus parnelli*. *J. Acoust. Soc. Am.,* **96**, 1229-1254.
Kanwal, J. S. (1999). Processing species-specific calls by combination-sensitive neurons in an echolocating bat. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 133-157.
Kanwal, J. S., Fitzpatrick, D. C. & Suga, N. (1999). Facilitatory and inhibitory frequency tuning of combination sensitive neurons in the primary auditory cortex of mustached bats. *J. Neurophysiol.,* **82**, 2327-2345.
Kapteyn, K. (1993). Intraspecific variation in echolocation of vestertilionid bats and its implications for identification. In *Proceedings of the First European Bat Detector Workshop* (K. Kapteyn, ed.). Netherlands Bat Research Foundation; Amsterdam, pp. 45-57.
Kasanen, S. & Algers, B. (2002). A note on the effects of additional sow gruntings on suckling behaviour in piglets. *Appl. Anim. Behav. Sci.*, **75**, 92-101.
Kaschner, K., Goodson, A. D., Connelly, P. R. & Lepper, P. A. (1998). Acoustic species-characteristic features of communication signals of marine mammals: the potential of source level estimates for some free-ranging north Atlantic odontocetes. *Bioacoustics,* **9**, 230-231.

Kashiwagi, E. & Okamoto, Y. (1988). The simulation of bat and dolphin signals and the estimate of their vocal tract shapes. *J. Acoust. Soc. Japan,* **9**, 97-102.
Kastak, D. (1998). Low-frequency amphibious hearing in pinnipeds: methods, measurements, noise and ecology. *J. Acoust. Soc. Am.,* **103**, 2216-2228.
Kastak, D. & Schusterman, R. J. (1999). In-air and underwater hearing sensitivity of a northern elephant seal *(Mirounga angustirostris)*. *Can. J. Zool.,* **77**, 1751-1758.
Kastak, D. & Schusterman, R. J. (1997). Aerial and underwater hearing sensitivity of a northern elephant seal *(Mirounga angustirostris)*. *J. Acoust. Soc. Am.,* **102**, 3103.
Kastak, D., Schusterman, R. J., Southall, B. L. & Reichmuth, C. J. (1999). Underwater temporary threshold shift induced by octave-band noise in three species of pinniped. *J. Acoust. Soc. Am.,* **106**, 1142-1148.
Kastelein, R. A., Rippe, H. T., Vaughan, N., Schooneman, N. M., Verboom, W. C. & de Haan, D. (2000). The effects of acoustic alarms on the behavior of harbor porpoises (*Phocoena phocoena*) in a floating pen. *Mar. Mamm. Sci.*, **16**, 46-64.
Kastelein, R. A., Au, W. W. L., Rippe, H. T. & Schooneman, N. M. (1999). Target detection by an echolocating harbor porpoise *(Phoecoena phocoena)*. *J. Acoust. Soc. Am.,* **105**, 2493-2498.
Kehoe, P., Callahan, M., Daigle, A., Mallinson, K. & Brudzynski, S. (2001). The effect of cholinergic stimulation on rat pup ultrasonic vocalizations. *Dev. Psychobiol.*, **38**, 92-100.
Kehoe, P. & Harris, J. C. (1989). Ontogeny of noradrenergic effects on ultrasonic vocalizations in rat pups. *Behav. Neurosci.*, **103**, 1099-1107.
Kelly, J. B. & Potash, M. (1986). Directional responses to sounds in young gerbils (*Meriones unguiculatus*). *J. Comp. Psychol.*, **100**, 37-45.
Kendrick, K. M., Atkins, K., Hinton, M. R., Broad, K. D., Fabre-Nys, C. & Keverne, B. (1995). Facial and vocal discrimination in sheep. *Anim. Behav.*, **49**, 1665-1676.
Ketten, D. R., Odell, D. K. & Domning, D. P. (1993). Structure, function, and adaptation of the manatee ear. In *Marine Mammal Sensory Systems* (J. Thomas, R. A. Kastelein & Y. Yu. Supin, eds.). Plenum Press; New York, pp. 77-95.
Ketten, D. R. (1994). Functional analyses of whale ears: adaptations for underwater hearing. *IEEE Proceedings in Underwater Acoustics,* **4**, 264-270.
Ketten, D. R. (1997). Structure and function in whale ears. *Bioacoustics,* **8**, 103-135.
Kikusui, T., Takeuchi, Y. & Mori, Y. (2000). Involvement of corticotropin-releasing factor in the retrieval process of fear-conditioned ultrasonic vocalization in rats. *Physiol. Behav.*, **71**, 323-328.
Killebrew, D. A., Mercado, E. III, Herman, L. M. & Pack, A. A. (2001). Sound production of a neonate bottlenose dolphin. *Aquat. Mamm.*, **27**, 34-44.
King, A. J. (1993). A map of auditory space in the mammalian brain: neural computation and development. *Exp. Physiol.*, **78**, 559-590.
King, A. J. & Carlile, S. (1993). Changes induced in the representation of auditory space in the superior colliculus by rearing ferrets with binocular eyelid suture. *Exp. Brain Res.*, **94**, 444-455.
Kingston, T., Jones, G., Akbar, Z. & Kunz, T. H. (1999). Echolocation signal design in Kerivoulinae and Murininae (Chiroptera: Vespertilionidae) from Malaysia. *J. Zool.,* **249**, 359.
Kingston, T., Jones, G., Akbar, Z. & Kunz, T. H. (2000). Social calls in clear-winged wolly bats *Kerivoula pellucida* from Malaysia. *Bioacoustics*, **11**, 1-16.
Kirkegaard, M. & Joergensen, J. M. (2000). Continuous hair cell turnover in the inner ear vestibular organs of a mammal, the Daubenton's bat (*Myotis daubentonii*). *Naturwissenschaften*, **87**, 83-86.
Kleiser, A. & Schuller, G. (1995). Responses of collicular neurons to acoustic motion in the horseshoe bat *Rhinolophus rouxi*. *Naturwissenschaften*, **82**, 337-340.
Klinke, R., Kral, A., Heid, S., Tillein, J. & Hartmann, R. (1999). Recruitment of the auditory cortex in congenitally deaf cats by long-term cochlear electrostimulation. *Science*, **285**, 1729-1733.
Klishin, V. O., Diaz, R. P., Popov, V. V. & Supin, Y. (1990). Some characteristics of hearing of the Brazilian manatee, *Trichechus inunguis*. *Aquat. Mammals*, **16**, 129-144.
Knapp, D. J., Benjamin, D., Ahmad, Y., Stern, J. & Pohorecky, L. A. (1992). Interaction of gepirone and homocysteic acid on ultrasonic vocalizations and other fear related behaviors in adult rats. *Soc. Neurosci. Abstr.*, **18**, 1535.
Knapp, D. J. & Pohorecky, L. A. (1995). An air-puff stimulus method for elicitation of ultrasonic vocalizations in rats. *J. Neurosci. Meth.,* **62**, 1-5.
Knowlton, A. R., Clark, C. W. & Kraus, S. D. (1991). Sounds recorded in the presence of sei whales *(B. borealis)*. *Abstr. 9th Bien. Conf. Biol. Mar. Mamm., Chicago,* p. 40.
Koay, G., Heffner, R. S. & Heffner, H. E. (1998). Hearing in a megachiropteran fruit bat *(Rousettus aegyptiacus)*. *J. Comp. Psychol.,* **112**, 371-382.
Kobler, J. B., Isbey, S. F. & Casseday, J. H. (1987). Auditory pathways to the frontal cortex of the mustache bat, *Pteronotus parnellii*. *Science*, **236**, 824-826.

Koehler, D. & Wallschlaeger, D. (1987). On the calls of *Neomys fodiens* (Insectivora: Soricidae). *Zool. Jb. Physiol.,* **91**, 89-99 (German).
Koene, P. (1997). Communication of Scottish highland bulls: context specific and individual specific vocalisations. *Adv. Ethol.,* **32**, 124.
Koessl, M., Frank, G., Burda, H. & Mueller, M. (1996). Acoustic distortion products from the cochlea of the blind African mole rat, *Cryptomys* sp. *J. Comp. Physiol. A.*, **178**, 427-434.
Koessl, M. & Vater, M. (1996). A tectorial membrane fovea in the cochlea of the mustached bat. *Naturwissenschaften,* **83**, 89-92.
Koessl, M. & Vater, M. (1990). Resonance phenomena in the cochlea of the mustache bat and their contribution to neuronal response characteristics in the cochlear nucleus. *J. Comp. Physiol.,* **166**, 711-720.
Koessl, M. & Vater, M. (1996). Further studies on the mechanics of the cochlear partition in the mustached bat. II. A second cochlear frequency map derived from acoustic distortion products. *Hear. Res.*, **94**, 78-86.
Koessl, M. (1992). High-frequency two-tone distortions from the ear of the mustached bat, *Pteronotus parnellii*, reflect enhanced cochlear tuning. *Naturwissenschaften*, **79**, 425-427.
Korada, S. & Schwarz, I. R. (1999). Development of GABA, glycine and their receptors in the auditory brainstem of gerbil: A light and electron microscopic study. *J. Comp. Neurol.,* **409**, 664-681.
Kraebel, K. S., Brasser, S. M., Campbell, J. O., Spear, L. P. & Spear, N. E. (2002). Developmental differences in temporal patterns and potentiation of isolation-induced ultrasonic vocalizations: Influence of temperature variables. *Dev. Psychobiol.*, **40**, 147-159.
Kremliovsky, M., Kadtke, J., Inchiosa, M. & Moore, P. (1998). Characterization of dolphin acoustic echo-location data using a dynamical classification method. *Int. J. Bifurc. Chaos Appl. Sci. Eng.,* **8**, 813-823.
Kringleboth, M. (2000). Frequency characteristics of sound transmission in middle ears from Norwegian cattle, and the effect of static pressure differences across the tympanic membrane and the footplate. *J. Acoust. Soc. Am.*, **107**, 1442-1450.
Kringlebotn, M. (2000). Acoustic impedances at the oval window, and sound pressure transformation of the middle ear in Norwegian cattle. *J. Acoust. Soc. Am.*, **108**, 1094-1104.
Krull, D. (1992). *Hunting behaviour and echolocation in Antrozous pallidus (Chiroptera: Vespertilionidae).* Ph.D. Thesis. University of Munich. (German).
Krumbholz, K. & Schmidt, S. (1999). Perception of complex tones and its analogy to echo spectral analysis in the bat, *Megaderma lyra*. *J. Acoust. Soc. Am.,* **105**, 898-911.
Kuc, R. (1994). Sensorimotor model of bat echolocation and prey capture. *J. Acoust. Soc. Am.,* **96**, 1965-1978.
Kudoh, M. & Shibuki, K. (1996). Long-term potentiation of supragranular pyramidal outputs in the rat auditory cortex. *Exp. Brain Res.*, **110**, 21-27.
Kuenzi, A. J. & Morrison, M. L. (1998). Detection of bats by mist-nets and ultrasonic sensors. *Wildl. Soc. Bull.,* **26**, 307-311.
Kunnasranta, M., Hyvaerinen, H. & Sorjonen, J. (1996). Underwater vocalizations of Ladoga ringed seals (*Phoca hispida ladogensis* Nordq.) in summertime. *Mar. Mamm. Sci.,* **12**, 611-618.
Kuse, H. & Okaniwa, A. (1993). Postnatal development of the auditory brainstem response (ABR) in beagles. *Exp. Anim.* (Tokyo), **42**, 377-382.
Kuwada, S. & Batra, R. (1999). Coding of sound envelopes by inhibitory rebound in neurons of the superior olivary complex in the unanesthetized rabbit. *J. Neurosci.,* **19**, 2273-2287.
Laffon, E., Dulon, D., Pouligny, B., Blanchet, C. & Aran, J. M. (1993). Mammalian cochlear outer hair cells' density evaluated by means of an optical tweezer. *Biochem. Biophys. Res. Comm.*, **196**, 363-368.
Lambert, P. R. (1994). Inner ear hair cell regeneration in a mammal: Identification of a triggering factor. *Laryngoscope*, **104**, 701-718.
Lammers, M. O., Au, W. W. L. & Aubauer, R. (1997). Broadband characteristics of spinner dolphin *(Stenella longirostris)* social acoustic signals. *J. Acoust. Soc. Am.,* **102**, 3122.
Lancaster, W. C. (1995). Respiratory muscle function in relation to vocalization in flying bats. *Bioacoustics*, **6**, 218-219.
Lancaster, W. C., Fenton, M. B. & Eger, J. (2000). Morphology of the axial skeleton in relation to the style of biosonar. *Bat Res. News*, **41**, 126.
Lancaster, W. C. & Speakman, J. R. (2001). Variations in respiratory muscle activity during echolocation when stationary in three species of bat (Microchiroptera: Vespertilionidae). *J. Exp. Biol.*, **204**, 4185-4197.
Lancaster, W. C. & Speakman, J. R. (1999). Respiratory muscle recruitment in echolocation: Interspecific variation and implications for efficiency. *Bat Res. News*, **40**, 178.
Lancaster, W. C. (2001). The engine for echolocation as a constraint on the size of bats. *J. Morphol.*, **248**, 253.
Lancaster, W. C. (1993). Abdominal muscle activity and vocalization in bats. *Am. Zool.*, **32**, 146A.
Lancaster, W. C., Ward, S., Jones, G. & Speakman, J. R. (2000). Energetics of biosonar vocalization in stationary insectivorous bats. *Am. Zool.*, **40**, 1094-1095.

Lancaster, W. C., Keating, A. W. & Henson, O. W. Jr. (1992). Ultrasonic vocalizations of flying bats monitored by radiotelemetry. *J. Exp. Biol.*, **173**, 43-58.
Langbauer, W. R. jr. (2000). Elephant communication. *Zoo Biology*, **19**, 425-445.
Larom, D., Garstang, M., Payne, K., Raspet, R. & Lindeque, M. (1997). The influence of surface atmospheric conditions on the range and area reached by animal vocalizations. *J. Exp. Biol.,* **200**, 421-431.
Larom, D., Garstang, M., Lindeque, M., Raspet, R., Zunckel, M., Hong, Y., Brassel, K., O'Beirne, S. & Sokolic, F. (1997). Meteorology and elephant infrasound at Etosha National Park, Namibia. *J. Acoust. Soc. Am.,* **101**, 1710-1717.
Leaper, R., Chappell, O. & Gordon, J. C. D. (1992). The development of practical techniques for surveying sperm whale populations acoustically. *Rep. Int. Whal. Commn.,* **45**, 549-560.
Leaper, R., Gillespie, D. & Papastavrou, V. (2000). Results of passive acoustic surveys for odontocetes in the Southern Ocean. *J. Cetac. Res. Manage.*, **2**, 187-196.
Lecanuet, J.-P., Gautheron, B., Locatelli, A., Schaal, B., Jacquet, A.-Y. & Busnel, M.-C. (1998). What sounds reach fetuses: Biological and nonbiological modeling of the transmission of pure tones. *Dev. Psychobiol.,* **33**, 203-220.
Lee, D. N., van der Weel, F. R., Hitchcock, T., Matejowsky, E. & Pettigrew, J. D. (1992). Common principle of guidance by echolocation and vision. *J. Comp. Physiol. A.,* **171**, 563-572.
Lee, D. N., Simmons, J. A., Saillant, P. A. & Bouffard, F. (1995). Steering by echolocation: A paradigm of ecological acoustics. *J. Comp. Physiol. A.,* **176**, 347-354.
Lefebvre, P. P., Malgrange, B., Staecker, H., Moonen, G. & Vandewater, T. R. (1993). Retinoic acid stimulates regeneration of mammalian auditory hair cells. *Science*, **260**, 692-695.
Lei, Y. & Raichel, D. R. (1997). The use of CF/FM sounds in bats. *J. Acoust. Soc. Am.,* **101**, 3137.
Leippert, D. (1994). Social behaviour on the wing in the false wampire, *Megaderma lyra*. *Ethology,* **98**, 111-127.
Lemonds, D. W., Au, W. W. L., Nachtigall, P. E., Vlachos, S. & Roitblat, H. L. (1997). Auditory frequency selectivity and masked hearing capabilities in an Atlantic bottlenose dolphin. *J. Acoust. Soc. Am.,* **102**, 3102.
Lemonds, D. W., Au, W. W. L., Nachtigall, P. E., Roitblat, H. L. & Vlachos, S. A. (2000). High-frequency auditory filter shapes in an Atlantic bottlenose dolphin. *J. Acoust. Soc. Am.*, **108**, 2614.
Lepper, P. A., Kaschner, K., Connelly, P. R. & Goodson, A. D. (1998). Development of a simplified ray path model for estimating the range and depth of vocalising marine mammals. *Bioacoustics,* **9**, 231-232.
Leroy, S. A. & Wenstrup, J. J. (2000). Spectral integration in the inferior colliculus of the mustached bat. *J. Neurosci.*, **20**, 8533-8541.
Lesage, V., Barrette, C., Kingsley, M. C. S. & Sjare, B. (1999). The effect of vessel noise on the vocal behavior of belugas in the St. Lawrence River Estuary, Canada. *Mar. Mamm. Sci.,* **15**, 65-84.
Lettevall, E., Ugarte, F. & Wahlberg, M. (1996). Inter-calibration of body length estimates of sperm whales. *European Reseach on Cetaceans,* **9**, 34-37.
Liang, M. & Palakal, M. J. (1997). A multiple target acoustic scene representation model for bat echolocation signals. *J. Acoust. Soc. Am.,* **101**, 3137.
Liberman, M. C. (1991). Central projections of auditory nerve fibers of differing spontaneous rate. I. Anteroventral cochlear nucleus. *J. Comp. Neurol.*, **313**, 240-258.
Liberman, M. C. & Brown, M. C. (1986). Physiology and anatomy of single olivocochlear neurons in the cat. *Hear. Res.*, **24**, 17-36.
Lin, Z.-B., Chittajallu, S. K., Kayalar, S., Wong, D. & Yurtseven, H. O. (1991). Modeling constant best delay-sensitive neurons and tracking neurons in the auditory cortex of the FM bat with a back-propagation neural network. *IEEE Conf. Neur. Networks Ocean Engin.,* pp. 123-132.
Lisicina, T. Yu. (1996). Acoustic communication of Pinnipedia in agonistic behaviour. *Bioacoustics*, **6**, 312-313.
Litovsky, R. Y. (1998). Physiological studies of the precedence effect in the inferior colliculus of the kitten. *J. Acoust. Soc. Am.,* **103**, 3139-3152.
Liu, R. C., Linden, J. F., Miller, K. D., Merzenich, M. M. & Schreiner, C. E. (2001). Neural responses to ultrasound vocalizations in the mouse auditory cortex. *Soc. Neurosci. Abstr.*, **27**, 1345.
Liu, W. & Suga, N. (1997). Binaural and commissural organization of the primary auditory cortex of the mustached bat. *J. Comp. Physiol. A.,* **181**, 599-605.
Ljungblad, D. K., Stafford, K. M., Shimada, H. & Matsuoka, K. (1997). Sounds attributed to blue whales recorded off the southwest coast of Australia in December 1995. *Rep. Int. Whal. Comm.,* **47**, 435-439.
Llano, D. A. & Feng, A. S. (1999). Response characteristics of neurons in the medial geniculate body of the little brown bat to simple and temporally patterned sounds. *J. Comp. Physiol. A.,* **184**, 371-385.
Lohius, T. D. & Fuzessery, Z. M. (2000). Neuronal sensitivity to interaural time differences in the sound envelope in the auditory cortex of the pallid bat. *Hear. Res.*, **143**, 43-57.
Lohmann, C., Ehrlich, I. & Friauf, E. (1999). Axon regeneration in organotypic slice cultures from the mammalian auditory system is topographic and functional. *J. Neurobiol.,* **41**, 596-614.

Long, A. M., Moore, N. P. & Hayden, T. J. (1998). Vocalizations in red deer *(Cervus elaphus)*, sika deer *(Cervus nippon)*, and red x sika hybrids. *J. Zool.,* **244**, 123-134.
Lopez, D. E., Saldana, E., Nodal, F. R., Merchan, M. A. & Warr, W. B. (1999). Projections of cochlear root neurons, sentinels of the rat auditory pathway. *J. Comp. Neurol.,* **415**, 160-174.
Lucke, K. & Goodson, A. D. (1998). Off-line acoustic analysis of dolphin echolocation behaviour. *Bioacoustics,* **9**, 226-227.
Luczkovich, J. J., Daniel III, H. J., Hutchinson, M., Jenkins, T., Johnson, S. E., Pullinger, R. C. & Sprague, M. W. (2000). Sounds of sex and death in the sea: Bottlenose dolphin whistles suppress mating choruses of silver perch. *Bioacoustics*, **10**, 323-334.
Luethke, L. E., Krubitzer, L. A. & Kaas, J. H. (1988). Cortical connections of electrophysiological and architectonically defined subdivisions of auditory cortex in squirrels. *J. Comp. Neurol.*, **268**, 181-203.
Lumley, L. A., Sipos, M. L., Charles, R. C., Charles, R. F. & Meyerhoff, J. L. (1999). Social stress effects on territorial marking and ultrasonic vocalizations in mice. *Physiol. Behav.*, **67**, 769-776.
Luo, L., Moore, J. K., Baird, A. & Ryan, A. F. (1995). Expression of acidic FGF mRNA in rat auditory brainstem during postnatal maturation. *Dev. Brain Res.*, **86**, 24-34.
Luo, L., Ryan, A. F. & Saint Marie, R. L. (1999). Cochlear ablation alters acoustically induced c-fos mRNA expression in the adult rat auditory brainstem. *J. Comp. Neurol.,* **404**, 271-283.
Luo, L., Koutnouyan, H., Baird, A. & Ryan, A. F. (1993). Acidic and basic FGF mRNA expression in the adult and developing rat cochlea. *Hear. Res.*, **69**, 182-193.
Lynn, S. K. & Pepperberg, I. M. (2001). Culture: In the beak of the beholder? *Behav. Brain Sci.*, **24**, 341-342.
Ma, X. & Suga, N. (2001). Plasticity of bat's central auditory system evoked by focal electric stimulation of auditory and/or somatosensory cortices. *J. Neurophysiol.*, **85**, 1078-1087.
MacDonald, K., Matsui, E., Stevens, R. & Fenton, M. B. (1994). Echolocation calls and field identification of the eastern pipistrelle (*Pipistrellus subflavus*, Chiroptera, Vespertilionidae), using ultrasonic bat detectors. *J. Mammal.*, **75**, 462-465.
Macedonia, J. M. & Evans, C. S. (1992). Variation among mammalian alarm call systems and the problem of meaning in animal signals. *Ethology*, **93**, 177-197.
Macedonia, J. M. & Evans, C. S. (1993). Variation among mammalian alarm call systems and the problem of meaning in animal signals. *Ethology*, **93**, 177-197.
Madsen, P. T., Payne, R., Kristiansen, N. U., Wahlberg, M., Kerr, I. & Moehl, B. (2002). Sperm whale sound production studied with ultrasound time/depth-recording tags. *J. Exp. Biol.*, **205**, 1899-1906.
Madsen, P. T. & Moehl, B. (2000). Sperm whales (*Physeter catodon* L 1758) do not react to sounds from detonators. *J. Acoust. Soc. Am.*, **107**, 668-671.
Maeda, H., Higashi, N., Uchida, S., Sato, F., Yamaguchi, M., Koido, T. & Takemura, A. (2000). Songs of humpback whales *Megaptera novaeangliae* in the Ryukyu and Bonin regions. *Mammal Study*, **25**, 59-73.
Maeda, H., Koido, T. & Takemura, A. (2000). Principal component analysis of song units produced by humpback whales (*Megaptera novaeangliae*) in the Ryukyu region of Japan. *Aquat. Mamm.*, **26**, 202-211.
Mamode, M. & Escudie, B. (1987). Tolerance to the Doppler effect and optimal sonar signal emitted by bats. *Acustica,* **64**, 262-271 (French).
Mandava, P., Rupert, A. L. & Moushegian, G. (1995). Vowel and vowel sequence processing by cochlear nucleus neurons. *Hear. Res.*, **87**, 114-131.
Mandelli, M.-J. (1997). Role of ultrasonic calls during mating in the field vole, *Microtus agrestis*. *Adv. Ethol.,* **32**, 126.
Mandelli, M.-J. & Sales, G. (1997). Ultrasound and mating behaviour in the field vole *Microtus agrestis*. *Bioacoustics,* 8, 272.
Mann, D. A., Zhongmin, L., Hastings, M. C. & Popper, A. N. (1998). Detection of ultrasonic tones and simulated dolphin echolocation clicks by a teleost fish, the American shad *(Alosa sapidissima)*. *J. Acoust. Soc. Am.,* **104**, 562-568.
Mann, J. (2001). Cetacean culture: Definitions and evidence. *Behav. Brain Sci.*, **24**, 343.
Manser, M. B. (1999). Response of foraging group members to sentinel calls in suricates, *Suricata suricatta*. *Proc. Roy. Soc. Lond. B.*, **266**, 1013-1019.
Manser, M. B. & Avey, G. (2000). The effect of pup vocalisations on food allocation in a cooperative mammal, the meerkat (*Suricata suricatta*). *Behav. Ecol. Sociobiol.*, **48**, 429-437.
Manser, M. (1997). Begging calls in pup suricates, *Suricata suricatta*, and how they manipulate older group members to feed them. *Adv. Ethol.,* **32**, 245.
Marchant, J. N., Whittaker, X. & Broom, D. M. (2001). Vocalisations of the adult female domestic pig during a standard human approach test and their relationships with behavioural and heart rate measures. *Appl. Anim. Behav. Sci.*, **72**, 23-39.

Marchant, J. N., Forde, R. M. & Weary, D. M. (2000). Behavioural and heart rate responses of cows and calves to each other's vocalisations after early separation. *Proc. Brit. Soc. Anim. Sci.*, **2000**, 30.
Marchlewska-Koj, A., Kapusta, J. & Olejniczak, P. (1999). Ultrasonic response of CBA newborn mice to bedding odour. *Behaviour,* **136**, 269-278.
Marchlewska-Koj, A. (2000). Olfactory and ultrasonic communication in bank voles. *Polish J. Ecol.*, **48**, Suppl., 11-20.
Maries, K. (1986). Recent developments in bat detector field instrumentation. *Myotis*, **23-24**, 249-254.
Marimuthu, G., Habersetzer, J. & Leippert, D. (1995). Active acoustic gleaning from the water surface by the Indian false wampire bat, *Megaderma lyra*. *Ethology*, **99**, 61-74.
Markowitz, H., Aday, C. & Gavazzi, A. (1995). Effectiveness of acoustic "prey": Environmental enrichment for a captive African leopard *(Panthera pardus)*. *Zool. Biol.,* **14**, 371-379.
Marten, K. (2000). Ultrasonic analysis of pygmy sperm whale (*Kogia breviceps*) and Hubbs' beaked whale (*Mesoplodon carlhubbsi*) clicks. *Aquat. Mamm.*, **26**, 45-48.
Marten, K., Norris, K. S., Moore, P. W. B. & Englund, K. A. (1988). Loud impulse sounds in odontocete predation and social behavior. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, 567-579.
Masters, W. M., Raver, K. A. S. & Kazial, K. A. (1995). Sonar signals of big brown bats, *Eptesicus fuscus*, contain information about individual identity, age and family affiliation. *Anim. Behav.*, **50**, 1243-1260.
Masters, W. M. & Raver, K. A. S. (2000). Range discrimination by big brown bats (*Eptesicus fuscus*) using altered model echoes: Implications for signal processing. *J. Acoust. Soc. Am.*, **107**, 625-637.
Masters, W. M., Jacobs, S. C. & Simmons, J. A. (1990). The structure of echolocation sounds used by the big brown bat, *Eptesicus fuscus*: some consequences for echo processing. *J. Acoust. Soc. Am.*, **89**, 1402-1413.
Masters, W. M., Raver, K. A. S., Kornacker, K. & Burnett, S. C. (1997). Detection of jitter in intertarget spacing by the big brown bat *Eptesicus fuscus*. *J. Comp. Physiol. A.,* **181**, 279-290.
Masters, W. M. & Jacobs, S. C. (1989). Target detection and range resolution by the big brown bat (*Eptesicus fuscus*) using normal and time-reversed model echoes. *J. Comp. Physiol. A.*, **166**, 65-73.
Mateo, J. M. & Holmes, W. G. (1999). Plasticity of alarm call response development in Belding's ground squirrels (*Spermophilus beldingi*, Sciuridae). *Ethology,* **105**, 193-206.
Mateo, J. M. (1995). *The development of alarm-call responses in free-living and captive Belding's ground squirrels, Spermophilus beldingi.* Ph.D. thesis. University of Michigan; Ann Arbor.
Mateo, J. M. (1996). The development of alarm-call response behaviour in free-living juvenile Belding's ground squirrels. *Anim. Behav.*, **52**, 489-505.
Mateo, J. M. & Holmes, W. G. (1997). Development of alarm-call responses in Belding's ground squirrels: the role of dams. *Anim. Behav.,* **54**, 509-524.
Mateo, J. M. & Holmes, W. G. (1999). How rearing history affects alarm call responses of Belding's ground squirrels (*Spermophilus beldingi*, Sciuridae). *Ethology,* **105**, 207-222.
Matthews, J. N., Rendell, L. E., Gordon, J. C. D. & MacDonald, D. W. (1999). A review of frequency and time parameters of cetacean tonal calls. *Bioacoustics,* **10**, 47-71.
Maurello, M. A., Clarke, J. A. & Ackley, R. S. (2000). Signature characteristics in contact calls of the white-nosed coati. *J. Mammal.*, **81**, 415-421.
Mauri, L., Apollonio, M. & Centofanti, E. (1997). Preliminary analysis of wolf *Canis lupus* vocalisations recorded in the wild in Italy. *Bioacoustics,* **8**, 271.
May, B. J. (1997). Spectral cues for sound localization in cats: A model for discharge rate representations in the auditory nerve. *J. Acoust. Soc. Am.,* **101**, 2705-2719.
May, B. J., Huang, A. Y., Aleszczyk, C. M. & Hienz, R. D. (1995). Design and conduct of sensory experiments for domestic cats. In *Methods in Comparative Psychoacoustics* (G. M. Klump, R. J. Dooling, R. R. Fay & W. C. Stebbins, eds.). Birkhaeuser; Basel, pp. 95-108.
Mayer-Kress, G. & Porter, M. A. (2001). Remarks on whale cultures from a complex systems perspective. *Behav. Brain Sci.*, **24**, 344.
Mazzacana, E. & D'Amato, F. R. (1997). Ultrasonic vocalisations during heterosexual encounters in mice *Mus musculus*. *Bioacoustics,* **8**, 259.
Mazzola, S., Miller, P., Guerrini, A., Bonanno, A., Patti, B., Tesler, W., Tolstoganova, L., Khakhalkina, E., Cannelli, G. B., D'Ottavi, E. & Franzitta, G. (1996). Spectral analysis of killer whale calls. *European Research on Cetaceans,* **9**, 18-21.
Mazzola, S., Miller, P., Guerrini, A., Bonanno, A., Patti, B., Tesler, W., Tolstoganova, L., Khakhalkina, E., Bliznyuk, Y., Cannelli, G. B., D'Ottavi, E. & Franzitta, G. (1996). Preliminary results of an experiment on the effects of killer whale *(Orcinus orca)* calls on the behaviour of bottlenose dolphins *(Tursiops truncatus)*. *European Research on Cetaceans,* **9**, 22-25.
McCallum, A. & Vale, M. (1998). Contour cross-correlation vs. principal components analysis of parameters as

methods of estimating distance matrices of dolphin whistles. *Bioacoustics,* **9**, 157-158.
McComb, K., Moss, C., Durant, S. M., Baker, L. & Sayialel, S. (2001). Matriarchs as repositories of social knowledge in African elephants. *Science*, **292**, 491-494.
McComb, K., Pusey, A., Packer, C. & Grinnell, J. (1993). Female lions can identify potentially infanticidal males from their roars. *Proc. Roy. Soc. Lond. B.*, **252**, 59-64.
McComb, K., Packer, C. & Pusey, A. (1994). Roaring and numerical assessment in contests between groups of female lions, *Panthera leo*. *Anim. Behav.*, **47**, 379-387.
McComb, K., Moss, C., Sayialel, S. & Baker, L. (2000). Unusually extensive networks of vocal recognition in African elephants. *Anim. Behav.*, **59**, 1103-1109.
McComb, K. (1996). Studying vocal communication in elephants. In *Studying Elephants* (K. Kangwana, ed.). African Wildlife Foundation; Nairobi, pp. 112-119.
McComb, K. (1991). Female choice for high roaring rates in red deer, *Cervus elaphus*. *Anim. Behav.*, **41**, 79-88.
McComb, K. E. (1988). *Roaring and reproduction in red deer, Cervus elaphus.* Ph.D. thesis. University of Cambridge.
McCowan, B. & Reiss, D. (1995). Whistle contour development in captive-born infant bottlenose dolphins *(Tursiops truncatus)*: role of learning. *J. Comp. Psychol.,* **109**, 242-260.
McCowan, B. & Reiss, D. (1997). Vocal learning in captive bottlenose dolphins: A comparison with humans and nonhuman animals. In *Social Influence on Vocal Development* (C. T. Snowdon and M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 178-207.
McCowan, B., Doyle, L. R. & Hanser, S. F. (2002). Using information theory to assess the diversity, complexity, and development of communicative repertoires. *J. Comp. Psychol.*, **116**, 166-172.
McCowan, B. & Reiss, D. (1995). Quantitative comparison of whistle repertoires from captive adult bottlenose dolphins (Delphinidae, *Tursiops truncatus*): a re-evaluation of the signature whistle hypothesis. *Ethology*, **100**, 194-209.
McCowan, B. (1995). A new quantitative technique for categorizing whistles using simulated signals and whistles from captive bottlenose dolphins (Delphinidae, *Tursiops truncatus*). *Ethology*, **100**, 177-193.
McCowan, B. & Hooper, S. L. (2002). Individual acoustic variation in Belding's ground squirrel alarm chirps in the High Sierra Nevada. *J. Acoust. Soc. Am.*, **111**, 1157-1160.
McCowan, B. & Reiss, D. (2001). The fallacy of 'signature whistles' in bottlenose dolphins: a comparative perspective of 'signature information' in animal vocalizations. *Anim. Behav.*, **62**, 1151-1162.
McCowan, B., DiLorenzo, A. M., Abichandani, S., Borelli, C. & Cullor, J. S. (2002). Bioacoustic tools for enhancing animal management and productivity: effects of recorded calf vocalizations on milk production in dairy cows. *Appl. Anim. Behav. Sci.*, **77**, 13-20.
McCowan, B., Hanser, S. F. & Doyle, L. R. (1999). Quantitative tools for comparing animal communication systems: information theory applied to bottlenose dolphin whistle repertoires. *Anim. Behav.,* **57**, 409-419.
McCowen, B. & Reiss, D. (1995). Maternal aggressive contact vocalizations in captive bottlenose dolphins (*Tursiops truncatus*): wide band, low frequency signals during mother/aunt-infant interactions. *Zoo Biol.*, **14**, 293-309.
McCracken, G. P., Hayes, J. P., Guffey, S. Z., Romero, C. & Cevallos, J. (1992). Variation in the echolocation calls of *Lasiurus cinereus* and *Lasiurus brachyotis* on the Galapagos Islands. *Bat Res. News*, **33**, 66.
McCulloch, S. & Boness, D. J. (2000). Mother-pup vocal recognition in the grey seal (*Halichoerus grypus*) of Sable Island, Nova Scotia, Canada. *J. Zool.*, **251**, 449-455.
McCulloch, S., Pomeroy, P. P. & Slater, P. J. (1999). Individually distinctive pup vocalizations fail to prevent allo-suckling in grey seals. *Can. J. Zool.,* **77**, 716-723.
McDonald, M. A., Calambokidis, J., Teranishi, A. M. & Hildebrand, J. A. (2001). The acoustic calls of blue whales off California with gender data. *J. Acoust. Soc. Am.*, **109**, 1728-1735.
McDonald, M. A., Hildebrand, J. A. & Webb, S. C. (1995). Blue and fin whales observed on a sea-floor array in the Northeast Pacific. *J. Acoust. Soc. Am.,* **98**, 712-721.
McElligott, A. G. & Hayden, T. J. (2001). Postcopulatory vocalizations of fallow bucks: Who is listening? *Behav. Ecol.*, **12**, 41-46.
McElligott, A. G. & Hayden, T. J. (1999). Context-related vocalization rates of fallow bucks, *Dama dama*. *Anim. Behav.*, **58**, 1095-1104.
McElligott, A. G., O'Neill, K. P. & Hayden, T. J. (1999). Cumulative long-term investment in vocalization and mating success of fallow bucks, *Dama dama*. *Anim. Behav.,* **57**, 1159-1167.
McFadden, S. L., Zheng, X.-Y. & Ding, D.-L. (2000). Conditioning-induced protection from impulse noise in female and male chinchillas. *J. Acoust. Soc. Am.*, **107**, 2162-2168.
McFadden, S.-L., Henselman, L. W. & Zheng, X.-Y. (1999). Sex differences in auditory sensitivity of chinchillas before and after exposure to impulse noise. *Ear Hear.,* **20**, 164-174.
Mcgehee, D. E. & Hildebrand, J. A. (2000). Simple methods for locating, counting, and tracking sperm whales

underwater in three dimensions. *J. Acoust. Soc. Am.*, **108**, 2540.
McGregor, I. S., Dastur, F. N., McLellan, R. A. & Brown, R. E. (1996). Cannabinoid modulation of rat pup ultrasonic vocalizations. *Eur. J. Pharmacol.,* **313**, 43-49.
McInturf, S. M. & Hennessy, M. B. (1996). Peripheral administration of a corticotropin-releasing factor antagonist increases the vocalizing and locomotor activity of isolated guinea pig pups. *Physiol. Behav.,* **60**, 707-710.
McShane, L. J., Estes, J. A., Riedman, M. L. & Staedler, M. M. (1995). Repertoire, structure, and individual variation of vocalizations in the sea otter. *J. Mammal.*, **76**, 414-427.
Medlund, L. & Gordon, J. (1996). Description of coda production by sperm whales off the Azores, Portugal, 1988, 1989 and 1991. *European Research on Cetaceans,* **9**, 41.
Mellinger, D. K. & Clark, C. W. (1993). A method for filtering bioacoustic transients by spectrogram image convolution. *Oceans '93,* **3**, 122-127.
Mellinger, D. K. & Clark, C. W. (2000). Recognizing transient low-frequency whale sounds by spectrogram correlation. *J. Acoust. Soc. Am.*, **107**, 3518-3529.
Mellinger, D. (1998). A low-cost, high-performance sound capture and archiving system for the subtidal zone. *Bioacoustics,* **9**, 222.
Mellinger, D. K. & Clark, C. W. (1995). Characteristics of fin and blue whale vocalizations recorded from IUSS in the North and West Atlantic. *Eleventh Bienn. Conf. Biol. Mar. Mamm., 14-18 Dec. 1995, Orlando, Florida. Abstracts,* p. 76.
Mellinger, D. K., Carson, C. D. & Clark, C. W. (2000). Characteristics of minke whale (*Balaenoptera acutorostrata*) pulse trains recorded near Puerto Rico. *Mar. Mamm. Sci.*, **16**, 739-756.
Mellinger, D. K. (1993). Handling time variability in bioacoustic transient detection. *Oceans '93,* **3**, 116-121.
Mellinger, D. & Clark, C. W. (1994). A publicly-accessible database for marine mammal call classification research. *J. Acoust. Soc. Am.,* **96**, 3298.
Mellinger,D. K., Thode, A. M., Martinez, A., Mullin, K. & Stienessen, S. (2000). Acoustic detection distances of sperm whales in the Gulf of Mexico. *J. Acoust. Soc. Am.*, **108**, 2539.
Mendelson, J. R., Schreiner, C. E. & Sutter, M. L. (1997). Functional topography of cat primary auditory cortex: response latencies. *J. Comp. Physiol. A.,* **181**, 615-633.
Meng, J. & Fox, R. C. (1993). Inner-ear structures from late cretaceous mammals and their systematic and functional implications. *J. Vertebr. Paleontol.*, **13** (3. Suppl.), 50A.
Menne, D., Kaipf, I., Wagner, I., Ostwald, J. & Schnitzler, H.-U. (1989). Range estimation by echolocation in the bat *Eptesicus fuscus*: trading of phase versus time cues. *J. Acoust. Soc. Am.,* **85**, 2642-2650.
Menne, D. & Hackbarth, H. (1986). Accuracy of distance measurement in the bat *Eptesicus fuscus*: theoretical aspects and computer simulations. *J. Acoust. Soc. Am.*, **79**, 386-397.
Mercado III, E. & Frazer, L. N. (1999). Environmental constraints on sound transmission by humpback whales. *J. Acoust. Soc. Am.,* **106**, 3004-3016.
Mercado III, E., Herman, L. M. & Pack, A. A. (1998). Stereotypical patterns in humpback whale *Megaptera novaeangliae* songs: usage and utility. *Bioacoustics,* **9**, 150.
Merlen, G. (2000). Nocturnal acoustic location of the Galapagos fur seal *Arctocephalus galapagoensis*. *Mar. Mamm. Sci.*, **16**, 248-253.
Mesnick, S. L. (2001). Genetic relatedness in sperm whales: Evidence and cultural implications. *Behav. Brain Sci.*, **24**, 346-347.
Metherate, R. & Ashe, J. H. (1995). Synaptic interactions involving acetylcholine, glutamate, and GABA in rat auditory cortex. *Exp. Brain Res.*, **107**, 59-72.
Metzner, W. (1996). Anatomical basis for audio-vocal integration in echolocating horseshoe bats. *J. Comp. Neurol.*, **368**, 252-269.
Metzner, W. (1993). An audio-vocal interface in echolocating horseshoe bats. *J. Neurosci.*, **13**, 1899-1915.
Metzner, W., Zhang, S. & Smotherman, M. (2002). Doppler-shift compensation behavior in horseshoe bats revisited: auditory feedback controls both a decrease and an increase in call frequency. *J. Exp. Biol.*, **205**, 1607-1616.
Metzner, W. (1991). Echolocation behaviour in bats. *Sci. Prog.*, **75**, 453-465.
Miczek, K. A., Fish, E. W., Sekinda, M. & Ferrari, P. F. (1999). Distress-like vocalizations in mouse pups: Role for 5HT1 and GABAA receptors. *Soc. Neurosci. Abstr.*, **25**, 58.
Miczek, K. A. & Vivian, J. A. (1993). Automatic quantification of withdrawal from 5 day diazepam in rats: ultrasonic distress vocalizations and hyperreflexia to acoustic startle stimuli. *Psychopharmacology*, **110**, 379-382.
Middlebrooks, J. C., Clock, A. E., Xu, L. & Green, D. M. (1994). A panoramic code for sound location by cortical neurons. *Science*, **264**, 842-844.
Miksis, J. L., Grund, M. D., Nowacek, D. P., Solow, A. R., Connor, R. C. & Tyack, P. L. (2001). Cardiac responses to acoustic playback experiments in the captive bottlenose dolphin (*Tursiops truncatus*). *J.*

Comp. Psychol., **115**, 227-232.
Miller, L. A. & Treat, A. E. (1993). Field recordings of echolocation and social signals from the gleaning bat *Myotis septentrionalis*. *Bioacoustics*, **5**, 67-87.
Miller, P. J. O. (2000). *Maintaining contact: design and use of acoustic signals in killer whales (Orcinus orca).* Ph.D. thesis. Massachusetts Institute of Technology; Woods Hole Oceanographic Institution.
Miller, E. H. & Murray, A. V. (1995). Structure, complexity, and organization of vocalisations in harp seals *(Phoca groenlandica)*. In *Sensory Systems of Aquatic Mammals* (R. A. Kastelein, J. A. Thomas and P. E. Nachtigall, eds.). De Spil Publishers; Woerden, The Netherlands, pp. 237-264.
Miller, L. A., Pristed, J., Moehl, B. & Surlykke, A. (1995). The click-sounds of narwhals *(Monodon monoceros)* in Inglefield Bay, Northwest Greenland. *Mar. Mamm. Sci.,* **11**, 491-502.
Miller, P. J. & Tyack, P. L. (1998). A small towed beamforming array to identify vocalizing resident killer whales *(Orcinus orca)* concurrent with focal behavioral observations. *Topical Stud. Oceanogr.,* **45**, 1389-1405.
Miller, P. J. O. Bain, D. E. (2000). Within-pod variation in the sound production of a pod of killer whales, *Orcinus orca*. *Anim. Behav.*, **60**, 617-628.
Miller, L. A. (1995). How some insects detect and avoid being eaten by bats: the tactics and counter tactics of prey and predator. *Am. Zool.*, **35**, 41A.
Miller, L. A. (1991). Arctiid moth clicks can degrade the accuracy of range difference discrimination in echolocating big brown bats. *J. Comp. Physiol. A.*, **168**, 571-579.
Miller, E. H. & Job, D. A. (1992). Airborne acoustic communication in the Hawaiian monk seal, *Monachus schauinslandi*. In *Marine Mammal Sensory Systems* (J. A. Thomas, R. A. Kastelein & Y. Ya. Supin, eds.). Plenum Press; New York, pp. 485-531.
Miller, P. J. O., Biassoni, N., Samuels, A. & Tyack, P. L. (2000). Whale songs lengthen in response to sonar. *Nature*, **405**, 903.
Mills, D. M., Norton, S. J. & Rubel, E. W. (1994). Development of active and passive mechanics in the mammalian cochlea. *Aud. Neurosci.*, **1**, 77-99.
Minami, M. & Kawamichi, T. (1992). Vocal repertoires and classification of the sika deer *Cervus nippon*. *J. Mammal. Soc. Jpn.*, **17**, 71-94.
Mitson, R. B. & Morris, R. J. (1988). Evidence of high-frequency acoustic emissions from the white-beaked dolphin *(Lagenorhynchus albirostris)*. *J. Acoust. Soc. Am.,* **83**, 825-826.
Moehl, B. (1988). Target detection by echolocating bats. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. Moore, eds.). Plenum; New York, pp. 435-450.
Moehl, B., Surlykke, A. & Miller, L. A. (1990). High intensity narwhal clicks. In *Sensory Abilities of Cetaceans* (J. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 295-303.
Moehl, B. (2001). Sound transmission in the nose of the sperm whale *Physeter catodon*. A post mortem study. *J. Comp. Physiol. A.*, **187**, 335-340.
Moehl, B., Wahlberg, M., Madsen, P. T., Miller, L. A. & Surlykke, A. (2000). Sperm whale clicks: Directionality and source level revisited. *J. Acoust. Soc. Am.*, **107**, 638-648.
Moehl, B., Au, W. W. L., Pawloski, J. & Nachtigall, P. E. (1999). Dolphin hearing: Relative sensitivity as a function of point of application of a contact sound source in the jaw and head region. *J. Acoust. Soc. Am.,* **105**, 3421-3424.
Moehlman, P. D. (1998). Behavioral patterns and communication in feral asses *(Equus africanus)*. *Appl. Anim. Behav. Sci.,* **60**, 125-169.
Mogdans, J. & Schnitzler, H.-U. (1990). Range estimation and the possible use of spectral information in the echolocating bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **88**, 754-757.
Mogdans, J., Ostwald, J. & Schnitzler, H.-U. (1988). The role of pinna movement for the localization of vertical and horizontal wire obstacles in the greater horseshoe bat, *Rhinolophus ferrumequinum*. *J. Acoust. Soc. Am.,* **84**, 1676-1679.
Moles, A. & d'Amato, F. R. (2000). Ultrasonic vocalization by female mice in the presence of a conspecific carrying food cues. *Anim. Behav.*, **60**, 689-694.
Molewijk, H. E., van der Poel, A. M., Vedder, A. W. & Olivier, B. (1993). Ultrasonic distress vocalisations in adult rats as a model for panic disorder. *J. Psychopharmacol.*, Abstracts, p. A12.
Monteiro-Filho, E. L. A. & Monteiro, K. D. K. A. (2001). Low-frequency sounds emitted by *Sotalia fluviatilis guianensis* (Cetacea: Delphinidae) in an estuarine region in southeastern Brazil. *Can. J. Zool.*, **79**, 59-66.
Moore, P. W. B. (1988). Dolphin echolocation and audition. *In Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Publishing Corp.; New York, pp. 161-168.
Moore, P. W. B. (1991). Dolphin psychophysics: concepts for the study of dolphin echolocation. In *Dolphin Societies: Discoveries and Puzzles* (K. Pryor & K. Norris, eds.). University of California Press; Berkeley and Los Angeles, pp. 365-382.

Moore, P. W. B., Pawloski, D. A. & Dankiewicz, L. (1995). Interaural time and intensity difference thresholds in the bottlenosed dolphin *(Tursiops truncatus)*. In *Sensory Systems of Aquatic Mammals* (R. Kastelein, J. Thomas & P. Nachtigall, eds.). De Spill; Woerden, Netherlands, pp. 11-23.

Moore, S. E. & Ridgway, S. H. (1995). Whistles produced by common dolphins from the Southern California Bight. *Aquat. Mamm.,* **21**, 55-63.

Moore, S. E., Stafford, K. M., Dahlheim, M. E., Fox, C. G., Braham, H. W., Polovina, J. J. & Bain, D. E. (1998). Seasonal variation in reception of fin whale calls at five geographic areas in the North Pacific. *Mar. Mamm. Sci.,* **14**, 617-627.

Moore, P. W. B. & Pawloski, D. A. (1991). Binaural hearing in the bottlenosed dolphin *(Tursiops truncatus)*. In *Sensory Systems and Behavior of Marine Mammals, International Symposium.* USSR Academy of Sciences Severtsov Institute of Evolutionary Morphology and Ecology of Animals, Andreev Acoustic Institute, Moscow, pp. 68-69.

Moore, P. W. B. (1997). Cetacean auditory psychophysics. *Bioacoustics,* **8**, 61-78.

Moore, P. W. B. & Pawloski, D. A. (1990). Investigations on the control of echolocation pulses in the dolphin. In *Dolphin Sensory Processes* (J. A. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 305-316.

Moore, D. R., Lippe, W. R. & Rubel, E. W. (1995). Effects of middle ear pressure on frequency representation in the central auditory system. *Hear. Res.*, **89**, 93-100.

Morgan, K. N., Thayer, J. E. & Frye, C. A. (1999). Prenatal stress suppresses rat pup ultrasonic vocalization and myoclonic twitching in response to separation. *Dev. Psychobiol.,* **34**, 205-216.

Morrice, M. G., Burton, H. R. & Green, K. (1994). Microgeographic variation and songs in the underwater vocalisation repertoire of the Weddell seal *(Leptonychotes weddellii)* from the Vestfold Hills, Antarctica. *Polar Biology,* **14**, 441-446.

Morris, M. G., Burton, H. R. & Green, K. (1994). Microgeographic variation and songs in the underwater repertoire of the Weddell seal (*Leptonychotes weddellii*) from the Vestfold Hills, Antarctica. *Polar Biol.*, **14**, 441-446.

Mos, J. & Olivier, B. (1989). Ultrasonic vocalizations by rat pups as an animal model for anxiolytic activity: effects of serotonergic drugs. In *Behavioural Pharmacology of 5-HT* (P. Bevan, A. R. Cools & T. Archer, eds.). Lawrence Erlbaum Associates; Hillsdale, N. J., pp. 361-366.

Moss, C. & Schnitzler, H.-U. (1995). Behavioural studies of auditory information processing. In *Springer Handbook of Auditory Research. Hearing by Bats* (R. R. Fay & A. N. Popper, eds.). Springer-Verlag; New York, pp. 87-141.

Moss, C. F., Redish, D., Gounden, C. & Kunz, T. H. (1997). Ontogeny of vocal signals in the little brown bat, *Myotis lucifugus*. *Anim. Behav.,* **54**, 131-141.

Moss, C. F. & Surlykke, A. (2001). Auditory scene analysis by echolocation in bats. *J. Acoust. Soc. Am.*, **110**, 2207-2226.

Moss, C. F. (1988). Ontogeny of vocal signals in the big brown bat, *Eptesicus fuscus*. In *Animal Sonar. Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 115-120.

Moss, C. F. & Simmons, J. A. (1993). Acoustic image representation of a point target in the bat *Eptesicus fuscus*: evidence for sensitivity of echo phase in bat sonar. *J. Acoust. Soc. Am.*, **93**, 1553-1562.

Moss, C. F. & Zagaeski, M. (1994). Acoustic information available to bats using frequency-modulated sounds for the perception of insect prey. *J. Acoust. Soc. Am.*, **95**, 2745-2756.

Mossbridge, J. A. & Thomas, J. A. (1999). An "acoustic niche" for Antarctic killer whale and leopard seal sounds. *Mar. Mamm. Sci.,* **15**, 1351-1356.

Mossl, M., Mora, E., Coro, F. & Vater, M. (1999). Two-toned echolocation calls from *Molossus molossus* in Cuba. *J. Mammal.,* **80**, 929-932.

Motomura, N., Shimizu, K., Shimizu, M., Aoki-Komori, S., Taniguchi, K., Serizawa, I. & Saito, T. R. (2002). A comparative study of isolation-induced ultrasonic vocalization in rodent pups. *Exp. Anim.*, **51**, 187-190.

Mueller, R. & Schnitzler, H.-U. (1997). Acoustic flow in echo amplitudes and spectra: a viable concept for obstacle avoidance in CF-bats? *J. Acoust. Soc. Am.,* **101**, 3137.

Mueller, R. & Schnitzler, H.-U. (2000). Acoustic flow perception in cf-bats: Extraction of parameters. *J. Acoust. Soc. Am.*, **108**, 1298-1307.

Mueller, R. & Kuc, R. (2000). Foliage echoes: A probe into the ecological acoustics of bat echolocation. *J. Acoust. Soc. Am.*, **108**, 836-845.

Mueller, M., Laube, B., Burda, H. & Bruns, V. (1992). Structure and function of the peripheral auditory system in the African mole rat (*Cryptomys hottentotus*): evidence for an acoustic fovea. *J. Comp. Physiol. A.*, **171**, 469-476.

Mueller, M. (1996). The cochlear place-frequency map of the adult and developing Mongolian gerbil. *Hear.*

Res., **94**, 148-156.
Muggenthaler, E. von (2000). Infrasonic and low-frequency vocalizations from Siberian and Bengal tigers. *J. Acoust. Soc. Am.*, **108**, 2541.
Muller, R. & Schnitzler, H.-U. (1999). Acoustic flow perception in CF-bats: Properties of the available cues. *J. Acoust. Soc. Am.,* **105**, 2958-2966.
Murray, S. O., Mercado, E. & Roitblat, H. L. (1998). Characterizing the graded structure of false killer whale *(Pseudorca crassidens)* vocalizations. *J. Acoust. Soc. Am.,* **104**, 1679-1688.
Murray, S. O., Mercado, E. & Roitblat, H. L. (1998). The neural network classification of false killer whale *(Pseudorca crassidens)* vocalizations. *J. Acoust. Soc. Am.,* **104**, 3626-3634.
Murthy, U., Palakal, M. J. & Wong, D. (1996). A computational model to map auditory responses. *WCNN '96 (World Congress on Neural Networks. International Neural Network Society 1996 Annual Meeting),* pp. 547-550.
Musicant, A. D., Chan, J. C. K. & Hind, J. E. (1990). Direction-dependent spectral properties of cat external ear: new data and cross-species comparisons. *J. Acoust. Soc. Am.*, **87**, 757-781.
Mutlu, E. (2000). Detection of harbor porpoises and white whales (Beluga) sound using the high frequency bioacoustics and their echo structures. *J. Acoust. Soc. Am.*, **108**, 2584.
Mutschler, N. H. & Miczek, K. A. (1998). Withdrawal from a self-administered or non-contingent cocaine binge: differences in ultrasonic distress vocalizations in rats. *Psychopharmacology,* **136**, 402-408.
Myers, M. M., Ali, N., Brunelli, S. A., Weller, A., Tu, A. Y. & Hofer, M. A. (2001). Differences in number, amplitude, duration, shape and bout structure of separation-induced infant rat ultrasonic vocalizations (USV) before and after a brief maternal reunion (potentiation). *Dev. Psychobiol.*, **38**, 209.
Nachtigall, P. E., Au, W. W. L., Pawloski, J. L. & Moore, P. W. B. (1995). Risso's dolphin *(Grampus griseus)* hearing thresholds in Kaneohe Bay, Hawaii. In *Sensory Systems of Marine Mammals* (R. A. Kastelein, J. A. Thomas & P. E. Nachtigall, eds.). De Spil Publishers; Woerden, Netherlands, pp. 49-53.
Nachtigall, P. E. & Morse, P. W. B., eds. (1988). *Animal Sonar. Processes and Performance.* Plenum Press; New York.
Nachtigall, P. E., Au, W. W. L., Pawloski, J. L. & Roitblat, H. L. (1994). Animal echolocation and signal processing. *Oceans '94,* **1**, 259-263.
Nachtigall, P. E. (1986). Vision, audition, and chemoreception in dolphins, and other marine mammals. In *Dolphin Cognition and Behavior: A Comparative Approach* (R. Schusterman, J. Thomas and F. Wood, eds.). Erlbaum; London, pp. 79-114.
Naito, H., Inoue, M., Suzuki, Y., Tohei, A., Watanabe, G., Taya, K. & Makino, J. (2001). Ultrasonic vocalization responses in genetically high- and low-emotional rats. *Exp. Anim.*, **50**, 285-291.
Naito, H., Inoue, M. & Makino, J. (2000). Ultrasonic isolation calls in genetically high- and low-emotional rat pups. *Exp. Anim.*, **49**, 289-294.
Nakahara, F., Takemura, A., Koido, T. & Hiruda, H. (1997). Target discrimination by an echolocating finless porpoise, *Neophocaena phocaenoides*. *Mar. Mamm. Sci.,* **13**, 639-649.
Narins, P. M., Lewis, E. R., Jarvis J. J. U. M. & O'Riain, J. (1997). The use of seismic signals by fossorial Southern African mammals: A neuroethological gold mine. *Brain Res. Bull.,* **44**, 641-646.
Neti, C., Young, E. D. & Schneider, M. H. (1992). Neural network models of sound localization based on directional filtering by the pinna. *J. Acoust. Soc. Am.*, **92**, 3140-3156.
Neuweiler, G. & Fenton, M. B. (1988). Behaviour and foraging ecology of echolocating bats. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 535-549.
Neuweiler, G. (1989). Foraging ecology and audition in echolocating bats. *Trends Ecol. Evol.*, **4**, 160-166.
Neuweiler, G., Metzner, W., Heilmann, U., Ruebsamen, R., Eckrich, M. & Costa, H. H. (1987). Foraging behaviour and echolocation in the rufous horseshoe bat (*Rhinolophus rouxi*) of Sri Lanka. *Behav. Ecol. Sociobiol.*, **20**, 53-67.
Neuweiler, G. (1990). Auditory adaptations for prey capture in echolocating bats. *Physiol. Rev.*, **70**, 615-641.
Nevo, E. (1991). Evolution of vocal and vibratory communication in mole-rats *Spalax*: Structure and function. In *Le Rongeur et l'Espace* (M. le Berre and L. le Guelte, eds.). Chabaud; Paris, pp. 15-34 (French).
Newborough, D., Goodson, A. D. & Woodward, B. (1998). Micro-controller based deterrents: acoustic devices to reduce harbour porpoise *Phocoena phocoena* incidental catch in gillnets. *Bioacoustics,* **9**, 232-233.
Newman, J. D., ed. (1989). *The Physiological Control of Mammalian Vocalization.* Plenum Press; New York.
Newton-Fisher, N., Harris, S., White, P. & Jones, G. (1993). Structure and function of red fox *Vulpes vulpes* vocalisations. *Bioacoustics*, **5**, 1-31.
Niblock, M. M., Brunso-Bechtold, J. K. & Henkel, C. K. (1995). Fiber outgrowth and pathfinding in the developing auditory brainstem. *Dev. Brain Res.*, **85**, 288-292.
Nicastro, N. (2001). Differential patterns in classification of domestic cat vocalizations by human listeners. *Adv. Ethol.*, **36**, 228.

Nikol'skii, A. A. & Suchanova, M. V. (1994). Individual variability of alarm call in steppe marmot (*Marmota bobac* Müll., 1776). In *Actual Problems of Marmots Investigations* (V. Y. Rumiantsev, ed.). ABF Publishing House; Moscow, pp. 169-181.
Nikol'skii, A. A., Nesterova, N. L. & Suchanova, M. V. (1994). Situational variations of spectral structure in *Marmota bobac* Müll. alarm signal. In *Actual Problems of Marmots Investigations* (V. Y. Rumiantsev, ed.). ABF Publ. House; Moscow, pp. 127-148.
Nikol'skii, A. A. & Pereladova, O. B. (1994). An alarm call of Menzbier's marmot (*Marmota menzbieri* Kaschk., 1925). In *Actual Problems of Marmots Investigation* (V. Y. Rumiantsev, ed.). ABF Publishing House; Moscow, pp. 149-168.
Nikol'skii, A. A. (1994). Geographical variability of the alarm call rhythmical structure in *Marmota baibacina*. In *Actual Problems of Marmots Investigation* (V. Y. Rumiantsev, ed.). ABF Publishing House; Moscow, pp. 111-126.
Nikol'skii, A. (1996). Ecological bioacoustics of mammals. *Bioacoustics*, **6**, 302-303.
Nikol'skii, A. A. (1996). Species specificity and interspecies parallelisms of alarm call in Eurasian marmots. In *Biodiversity in Marmots* (M. le Berre, R. Ramousse and L. le Guelte, eds.). International Network on Marmots; Moscow-Lyon, pp. 187-192.
Noad, M. J. & Cato, D. H. (2000). Comparison of acoustic and visual surveying of humpback whales off East Australia. *J. Acoust. Soc. Am.*, **108**, 2540.
Noad, M. J., Cato, D. H., Bryden, M. M., Jenner, M. N. & Jenner, K. C. (2000). Cultural revolution in whale songs: Humpbacks have picked up a catchy tune sung by immigrants from a distant ocean. *Nature*, **408**, 537.
Nobili, R., Mammano, F. & Ashmore, J. (1998). How well do we understand the cochlea? *Trends Neurosci.,* **21**, 159-167.
Nonaka, S., Sakamoto, T., Katada, A. & Unno, T. (1999). Brain stem neural mechanisms for vocalization in decerebrate cats. *Ann. Otol. Rhinol. Laryngol.*, **108**, 15-24.
Norman, A. P., Teagle, L. & Jones, G. (1998). A method for the synchronisation and control of ultrasound recording and stereophotogrammetry in the reconstruction of animal flight. *Bioacoustics,* **9**, 207-212.
Norman, A. P., Jones, G. & Arlettaz, R. (1999). Noctuid moths show neural and behavioural responses to sounds made by some bat-marking rings. *Anim. Behav.,* **57**, 829-835.
Norman, R. G. & Greene, C. R. (2000). An autonomous acoustic recorder using a directional sensor for locating calling bowhead whales. *J. Acoust. Soc. Am.*, **108**, 2582.
Norris, T. & Barlow, J. (2000). Short duration sounds recorded from blue whales (*Balaenoptera musculus*) off Peru. *J. Acoust. Soc. Am.*, **108**, 2634.
Norris, T. F., Jacobsen, J. K. & Cerchio, S. (2000). A comparative analysis of humpback whale songs recorded in the pelagic waters of the eastern North Pacific: Preliminary findings and implications for discerning migratory routes and assessing breeding stock identity. *N.O.A.A. Technical Memorandum.* U.S. Department of Commerce; San Diego, California.
Norris, T. F., Barlow, J. & McDonald, M. (1997). Detections of singing humpback whales *(Megaptera novaeangliae)* across the northeast Pacific during the SWAPS97 sperm whale cruise. *J. Acoust. Soc. Am.,* **102**, 3121.
Norris, T. F., McDonald, M. & Barlow, J. (1999). Acoustic detections of singing humpback whales *(Megaptera novaeangliae)* in the eastern North Pacific during their northbound migration. *J. Acoust. Soc. Am.,* **106**, 506-514.
Norris, J. & Evans, W. E. (1998). Advances in acoustic censusing of marine mammals. *Bioacoustics,* **9**, 158.
Norris, K. S. (1988). The evolution of acoustic mechanisms in odontocete cetaceans. In *Evolution and Environment* (E. T. Drake, ed.).
Norris, S. (2002). Creatures of culture? Making the case for cultural systems in whales and dolphins. *Bioscience*, **52**, 9-14.
Notarbartolo di Sciara, G. & Gordon, J. (1997). Bioacoustics: A tool for the conservation of cetaceans in the Mediterranean Sea. *Mar. Freshwat. Behav. Physiol.,* **30**, 125-146.
Novacek, M. J. (1991). Aspects of the morphology of the cochlea in microchiropteran bats: an investigation of character transformation. *Bull. Am. Mus. Nat. Hist.,* **206**, 84-100.
Nowacek, D. P., Tyack, P. L. & Wells, R. S. (2001). A platform for continuous behavioral and acoustic observation of free-ranging marine mammals: Overhead video combined with underwater audio. *Mar. Mamm. Sci.*, **17**, 191-199.
Nowakowski, W., Rachwald, A. Y Boratynski, P. (2000). Ultrasound and audible sound emission in dormice family (Gliridae: Rodentia). *Biol. Bull. Poznan*, **37**, 153-158.
Nowicki, S. N., Stirling, I. & Sjare, B. (1997). Duration of stereotyped underwater vocal displays by male Atlantic walruses in relation to aerobic dive limit. *Mar. Mamm. Sci.,* **13**, 566-575.
O'Connell-Rodwell, C. E., Hart, L. A. & Arnason, B. T. (2001). Exploring the potential use of seismic waves as

a communication channel by elephants and other large mammals. *Am. Zool.*, **41**, 1157-1170.
O'Connell-Rodwell, C. E., Arnason, B. & Hart, L. A. (2000). Exploring the potential of novel low frequency auditory communication mechanisms in elephants. *Adv. Ethol.*, **35**, 51.
O'Connell-Rodwell, C. E., Arnason, B. T. & Hart, L. A. (2000). Seismic properties of Asian elephant (*Elephas maximus*) vocalizations and locomotion. *J. Acoust. Soc. Am.*, **108**, 3066-3072.
O'Connell-Rodwell, C. E., Arnason, B. & Hart, L. A. (2000). Exploring the possibility of low-frequency seismic communication in elephants and other large mammals. *Am. Zool.*, **40**, 1154-1155.
O'Connor, K. N., Roitblat, H. L. & Bever, T. G. (1993). Auditory sequence complexity and hemispheric asymmetry of function in rats. In *Language and Communication. Comparative Perspective* (H. L. Roitblat, L. M. Herman and P. E. Nachtigall, eds.). Lawrence Erlbaum; Princeton, New Jersey, pp. 275-292.
O'Farrell, M. J. & Miller, B. W. (1997). A new examination of echolocation calls of some neotropical bats (Emballonuridae and Mormoopidae). *J. Mammal.,* **78**, 954-963.
O'Farrell, M. J., Miller, B. W. & Gannon, W. L. (1999). Qualitative identification of free-flying bats using the Anabat detector. *J. Mammal.,* **80**, 11-23.
O'Farrell, M. J. & Gannon, W. L. (1999). A comparison of acoustic versus capture techniques for the inventory of bats. *J. Mammal.,* **80**, 24-30.
O'Farrell, M. J. & Miller, B. W. (1999). Use of vocal signatures for the inventory of free-flying Neotropical bats. *Biotropica*, **31**, 507-516.
O'Neill, W. E. (1987). The processing of temporal information in the auditory systems of echolocating bats. In *Recent Advances in the Study of Bats* (M. B. Fenton, P. A. Racey & J. M. V. Rayner, eds.). Cambridge University Press; Cambridge, pp. 171-199.
Obrist, M. (1995). Flexible bat echolocation: the influence of individual, habitat, and conspecifics on sonar signal design. *Behav. Ecol. Sociobiol.*, **36**, 207-219.
Obrist, M. K., Fenton, M. B., Eger, J. L. & Schlegel, P. A. (1993). What ears do for bats: a comparative study of pinna sound pressure transformation in Chiroptera. *J. Exp. Biol.*, **180**, 119-152.
Obrist, M. (1988). Individually recognizable freeflying bats: a new method to record and analyze their echolocation calls. *Myotis*, **26**, 87-95.
Ogutu, J. O. & Dublin, H. T. (1998). The response of lions and spotted hyaenas to sound playbacks as a technique for estimating population size. *Afr. J. Ecol.,* **36**, 83-95.
Ohl, F. E. & Scheich, H. (1997). Learning-induced dynamic receptive field changes in primary auditory cortex of the unanaesthetized Mongolian gerbil. *J. Comp. Physiol. A.,* **181**, 685-696.
Ohl, F. W., Schleich, H. & Freeman, W. J. (2000). Topographic analysis of epidural pure-tone-evoked potentials in gerbil auditory cortex. *J. Neurophysiol.*, **83**, 3123-3132.
Ohlemiller, K. K., Jones, L. B., Heidbreder, A. F., Clark, W. W. & Miller, J. D. (1999). Voicing judgements by chinchillas trained with a reward paradigm. *Behav. Brain Res.*, **100**, 185-195.
Okanoya, K., Kobayashi, K., Ohtake, M., Ozaki, R. & Park, T. J. (2001). Signature calls and brain activity in the naked mole rat. *Zool. Sci.* (Tokyo), **18**, Suppl., 118.
Oleson, E. M., Hildebrand, J. A., Mcdonald, M. A. & Calambokidis, J. (2000). Acoustic and visual monitoring for marine mammals at Cortez and Tanner Banks. *J. Acoust. Soc. Am.*, **108**, 2540.
Olsen, J. F. & Suga, N. (1986). The auditory thalamus of the moustached bat: convergent input and coincidence of excitation from orientation sound and echo. *Neurosci. Abstr.,* **12**, 1272.
Olshausen, B. A. & O'Connor, K. N. (2002). A new window on sound. *Nature Neurosci.*, **5**, 292-294.
Ostwald, J., Schnitzler, H.-U. & Schuller, G. (1988). Target discrimination and target classification in echolocating bats. In *Animal Sonar: Processes and Performance* (P. Nachtigall & P. W. B. Moore, eds.). Plenum; New York, pp. 413-434.
Oswald, J. N., Barlow, J. & Norris, T. (2000). Acoustic identification of nine delphinid species in the eastern tropical Pacific Ocean. *J. Acoust. Soc. Am.*, **108**, 2635.
Pack, A. A. & Herman, L. M. (1995). Sensory integration in the bottlenosed dolphin: Immediate recognition of complex shapes across the senses of echolocation and vision. *J. Acoust. Soc. Am.,* **98**, 722-733.
Page, B. (1999). *Evolutionary implications of vocal recognition in fur seals.* Honours thesis. University of Tasmania.
Page, B., Goldsworthy, S. D. & Hindell, M. A. (2001). Vocal traits of hybrid fur seals: intermediate to their parental species. *Anim. Behav.*, **61**, 959-967.
Pahl, B. C., Terhune, J. M. & Burton, H. R. (1997). Repertoire and geographic variation in underwater vocalisations of Weddell seals (*Leptonychotes weddellii*, Pinnipedia: Phocidae) at the Vestfold Hills, Antarctica. *Aust. J. Zool.,* **45**, 171-187.
Palakal, M. J., Murthy, U., Chittajallu, S. K. & Wong, D. (1995). Tonotopic representation of auditory responses using self-organizing maps. *Math. Comput. Modell.,* **22**, 7-21.
Palakal, M. J. & Wong, D. (1999). Cortical representation of spatiotemporal pattern of firing evoked by

echolocation signals: Population encoding of target features in real time. *J. Acoust. Soc. Am.,* **106**, 479-490.

Pang, X. D. & Guinan Jr., J. J. (1997). Growth rate of simultaneous masking in cat auditory-nerve fibers: Relationship to the growth of basilar-membrane motion and the origin of two-tone suppression. *J. Acoust. Soc. Am.,* **102**, 3564-3575.

Panksepp, J. & Burgdorf, J. (2000). 50-kHz chirping (laughter?) in response to conditioned and unconditioned tickle-induced reward in rats: effects of social housing and genetic variables. *Behav. Brain Res.*, **115**, 25-38.

Paolini, A. G., Cotterill, E. L., Bairaktaris, D. & Clark, G. M. (1999). Muscimol suppression of the dorsal cochlear nucleus impairs frequency discrimination in rats. *Behav. Brain Res.,* **97**, 79-88.

Parijs, S. M. van & Corkeron, P. J. (2001). Vocalizations and behaviour of pacific humpback dolphins *Sousa chinensis*. *Ethology*, **107**, 701-716.

Parijs, S. M. van, Hastie, G. D. & Thompson, P. M. (2000). Individual and geographical variation in display behaviour of male harbour seals in Scotland. *Anim. Behav.*, **59**, 559-568.

Parijs, S. M. van, Thompson, P. M., Tollit, D. J. & Mackay, A. (1997). Distribution and activity of male harbour seals during the mating season. *Anim. Behav.,* **54**, 35-43.

Parijs, S. M. van, Thompson, P. M., Hastie, G. D. & Bartels, B. A. (1998). Modification and deployment of a sonobuoy for recording underwater vocalizations from marine mammals. *Mar. Mamm. Sci.,* **14**, 310-316.

Parijs, S. M. van, Hastie, G. D. & Thompson, P. M. (1999). Geographical variation in temporal and spatial vocalization patterns of male harbour seals in the mating season. *Anim. Behav.,* **58**, 1231-1239.

Parijs, S. M. van & Corkeron, P. J. (2001). Boat traffic affects the acoustic behaviour of Pacific humpback dolphins, *Sousa chinensis*. *J. Mar. Biol. Assoc. U.K.*, **81**, 533-538.

Parijs, S. M. van, Parra, G. J. & Irkeron, P. J. (2000). Sounds produced by Australian irrawaddy dolphins, *Orcaella brevirostris*. *J. Acoust. Soc. Am.*, **108**, 1938-1940.

Parijs, S. M. van, Kovacs, K. M. & Lydersen, C. (2001). Spatial and temporal distribution of vocalising male bearded seals: Implications for male mating strategies. *Behaviour*, **138**, 905-922.

Parijs, S. M. van, Hastie, G. D. & Thompson, P. M. (2000). A design for a two-dimensional boat-bound hydrophone array for studying harbor seals, *Phoca vitulina*. *Mar. Mamm. Sci.*, **16**, 481-488.

Park, T. J., Klug, A. & Oswald, J. P. (1998). A novel circuit in the bat's midbrain recruits neurons into sound localization processing. *Naturwissenschaften,* **85**, 176-179.

Park, T. J. & Pollak, G. D. (1993). Gaba shapes sensitivity to interaural intensity disparities in the mustache bat's inferior colliculus: implications of encoding sound location. *J. Neurosci.*, **13**, 2050-2067.

Park, K. J., Altringham, J. D. & Jones, G. (1996). Assortative roosting in two phonic types of *Pipistrellus pipistrellus* during the mating season. *Proc. Roy. Soc. Lond. B.,* **263**, 1495-1499.

Park, T. J. & Grothe, B. (1996). From pattern recognition to sound localization: a by-product of growing larger during evolution. *Naturwissenschaften*, **83**, 30-32.

Parsons, S., Boonman, A. M. & Obrist, M. K. (2000). Advantages and disadvantages of techniques for transforming and analyzing chiropteran echolocation calls. *J. Mammal.*, **81**, 927-938.

Parsons, S. (1997). Search phase echolocation calls of the New Zealand short-tailed bat *(Mystacina tuberculata)* and long-tailed bat *(Chalinolobus tuberculatus)*. *Can. J. Zool.,* **75**, 1487-1494.

Parsons, C. H., Lanyon, R. G., Schnupp, J. W. H. & King, A. J. (1999). Effects of altering spectral cues in infancy on horizontal and vertical sound localization by adult ferrets. *J. Neurophysiol.,* **82**, 2294-2309.

Parsons, S. (1996). A comparison of the performance of a brand of broad-band and several brands of narrow-band bat detectors in two different habitat types. *Bioacoustics*, **7**, 33-43.

Parsons, S. (2001). Identification of New Zealand bats (*Chalinolobus tuberculatus* and *Mystacina tuberculata*) in flight from analysis of echolocation calls by artificial neural networks. *J. Zool.*, **253**, 447-456.

Patuzzi, R. (1993). Otoacoustic emissions and the categorization of cochlear and retrocochlear lesions. *Brit. J. Audiol.*, **27**, 91-95.

Pavan, G., Priano, M., Manghi, M. & Fossati, C. (1997). Analysis of long clicking sequences of sperm whales *Physeter macrocephalus*. *Bioacoustics,* **8**, 275.

Pavan, G., Nascetti, D., Manghim, M., Priano, M., Fossati, C. & Borsani, J. F. (1996). Cooperative bioacoustic research in the Mediterranean Sea with the Italian Navy. *Bioacoustics*, **6**, 318-319.

Pavan, G., Hayward, T. J., Borsani, J. F., Priano, M., Manghi, M., Fossati, C. & Gordon, J. (2000). Time patterns of sperm whale codas recorded in the Mediterranean Sea 1985-1996. *J. Acoust. Soc. Am.*, **107**, 3487-3495.

Pavan, G., Borsani, J. F., Manghi, M. & Priano, M. (1996). Interactive digital sound library on cetaceans of the Mediterranean Sea. *European Research on Cetaceans,* **9**, 81-84.

Pavan, G., Borsani, J. F., Fossati, C., Manghi, M. & Priano, M. (1996). Acoustic research cruises in the Mediterranean - 1994. *European Research on Cetaceans,* **9**, 85-88.

Pavan, G., Priano, M., Manghi, M. & Fossati, C. (1998). A cetacean sound library for the Mediterranean sea. Technical aspects and concerns. *Bioacoustics,* **9**, 162.
Pavan, G. (1992). A portable DSP workstation for real-time analysis of cetacean sounds in the field. *European Research on Cetaceans, Cambridge, UK*, **6**, 165-167.
Pavan, G., Priano, M., Manghi, M., Nascetti, P. & Perazzi, A. (1997). Underwater acoustic recording of cetaceans made by the Italian navy. *Bioacoustics,* **8**, 273-274.
Pavan, G., Priano, M., Manghi, M. & Fossati, C. (1998). Software tools for real-time IPI measurements on sperm whale sounds. *Bioacoustics,* **9**, 224-225.
Pavan, G. & Borsani, J. F. (1997). Bioacoustic research on cetaceans in the Mediterranean Sea. *Mar. Freshwat. Behav. Physiol.,* **30**, 99-123.
Pavey, C. R. & Burwell, C. J. (1998). Bat predation on eared moths: a test of the allotonic frequency hypothesis. *Oikos,* **81**, 143-151.
Payne, K. (1997). A survey of reseach on low-frequency acoustic communication in elephants. *J. Acoust. Soc. Am.,* **101**, 3162-3163.
Pearl, D. L. & Fenton, M. B. (1996). Can echolocation calls provide information about group identity in the little brown bat *(Myotis lucifugus)*? *Can. J. Zool.,* **75**, 2184-2192.
Pearl, D. L. (1992). The effect of different backgrounds on the call structure of a gleaning bat *Macrotus waterhousii*. *Bat Res. News*, **33**, 68.
Pedersen, S. C. (1995). Cephalometric correlates of echolocation in the Chiroptera. 2. Fetal development. *J. Morphol.*, **225**, 107-123.
Peremans, H., Walker, A. & Hallam, J. (1997). A bionic sonarhead. *Bioacoustics,* **8**, 262.
Perry, E. A. & Terhune, J. M. (1999). Variation of harp seal *(Pagophilus groenlandicus)* underwater vocalizations among three breeding locations. *J. Zool.,* **249**, 181-186.
Peters, G. & Sliwa, A. S. (1996). Purring - a primitive mammalian vocalization after all? *Z. Saeugetierkd.*, **61** (Sonderheft), 48-49 (German).
Peters, G. & Tonkin-Leyhausen, B. A. (1999). Evolution of acoustic communication signals of mammals: Friendly close-range vocalizations in Felidae (Carnivora). *J. Mammal.* Evol., **6**, 129-159.
Peters, G. & Hast, M. H. (1994). Hyoid structure, laryngeal anatomy, and vocalization in felids (Mammalia, Carnivora, Felidae). *Z. Saeugetierkd.*, **59**, 87-104.
Peters, G. & Wozencraft, W. C. (1989). Acoustic communication by fissiped carnivores. In *Carnivore Behaviour, Ecology, and Evolution* (J. L. Gittleman, ed.). Chapman & Hall; London, pp. 14-56.
Peters, G. (1996). The study of mammalian sound communication - taking stock. *Bioacoustics*, **6**, 304-305.
Pettersson, L. (1993). Ultrasound detectors: Different techniques, purposes and methods. In *Proceedings of the first European Bat-Detector Workshop* (K. Kapteyn ed.). Netherlands Bat Research Foundation; Amsterdam, pp. 11-19.
Philips, J. D., Nachtigall, P. E., Au, W. W. L., Pawloski, J. L. & Roitblat, H. L. (2000). Echolocation in the Risso's dolphin, *Gramus griseus*. *J. Acoust. Soc. Am.*, **108**, 2635.
Phillips, A. V. & Stirling, I. (2000). Vocal individuality in mother and pup South American fur seals, *Arctocephalus australis*. *Mar. Mamm. Sci.*, **16**, 592-616.
Phillips, D. P. & Burkard, R. (1999). Response magnitude and timing of auditory response initiation in the inferior colliculus of the awake chinchilla. *J. Acoust. Soc. Am.,* **105**, 2731-2737.
Pierson, L. L., Gerhardt, K. J., Abrams, R. M. & Huang, X. (1997). Effects of intense noise exposure on the auditory brain-stem response and inner ear histology of fetal sheep. *J. Acoust. Soc. Am.,* **102**, 3110.
Pillat, J. & Schuller, G. (1998). Audiovocal behavior of Doppler-shift compensation in the horseshoe bat survives bilateral lesion of the paralemniscal tegmental area. *Exp. Brain Res.,* **119**, 17-26.
Pilz, P. K. D. & Oedekoven, C. (1995). Frequency of the 22 kHz call of rats is modulated by the rhythm of the heart rate. *Physiol. Behav.,* **57**, 325-330.
Placer, J. & Slobodchikoff, C. N. (2000). A fuzzy-neural system for identification of species-specific alarm calls of Gunnison's prairie dogs. *Behav. Process.*, **52**, 1-9.
Podhorna, J. & Brown, R. E. (1999). Inhibition of nitric oxide synthase reduces ultrasonic vocalizations of rat pups. *Eur. J. Pharmacol.*, **382**, 143-150.
Podhorna, J. & Brown, R. E. (1999). Inhibition of nitric oxide synthase reduces ultrasonic vocalizations in rat pups. *Soc. Neurosci. Abstr.*, **25**, 2135.
Poeggel, G. & Braun, K. (1996). Early auditory filial learning in decus *(Octodon degus)*: A babies' dinner bell? *Brain Res.,* **743**, 162-170.
Pollak, G. D. (1988). Time is traded for intensity in the bat's auditory system. *Hear. Res.*, **36**, 107-124.
Pollak, G. D. (1993). Some comments on the proposed perception of phase and nanosecond time disparities by echolocating bats. *J. Comp. Physiol. A.,* **172**, 523-531.
Pollak, G. D. & Casseday, J. H. (1989). *Echolocation: The Functional Organization of the Auditory Brainstem of Bats.* Springer Verlag; Berlin.

Poole, J. H. (1999). Signals and assessment in African elephants: evidence from playback experiments. *Anim. Behav.,* **58**, 185-193.
Popelar, J., Erre, J.-P., Aran, J.-M. & Cazals, Y. (1994). Plastic changes in ipsi-/contralateral differences of auditory cortex and inferior colliculus evoked potentials after injury to one ear in the adult guinea pig. *Hear. Res.*, **72**, 125-134.
Popov, V. & Supin, A. (1991). Interaural intensity and latency difference in the dolphin's auditory system. *Neurosci. Lett.,* **133**, 295-297.
Popov, V., Supin, A. & Klishin, V. O. (1992). Electrophysiological study of sound conduction in dolphins. In *Marine Mammal Sensory Systems* (J. A. Thomas, ed.). Plenum Press; New York, pp. 269-276.
Popov, V. V. & Supin, A. Ya. (1990). Location of an acoustic window in dolphins. *Experientia,* **46**, 53-56.
Popov, V. V. & Supin, A. Ya. (1997). Frequency tuning in dolphins: Evoked potential study. *J. Acoust. Soc. Am.,* **102**, 3102.
Popov, V. V. & Supin, A. Y. (1998). Auditory evoked responses to rhythmic sound pulses in dolphins. *J. Comp. Physiol. A.,* **183**, 519-524.
Popov, V. & Supin, A. (1990). Electrophysiological studies on hearing in some cetaceans and a manatee. In *Sensory Abilities of Cetaceans* (J. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 405-415.
Popov, V. V. & Supin, A. Ya. (1997). Detection of temporal gaps in noise in dolphins: Evoked-potential study. *J. Acoust. Soc. Am.,* **102**, 1169-1176.
Popov, V. V., Supin, A. Ya. & Klishin, V. O. (1997). Frequency tuning of the dolphin's hearing as revealed by auditory brain-stem response with notch-noice masking. *J. Acoust. Soc. Am.,* **102**, 3795-3801.
Popper, A. N., Hawkins, H. L. & Gisiner, R. C. (1997). Questions in cetacean bioacoustics: some suggestions for future research. *Bioacoustics,* **8**, 163-182.
Popper, A. N. & Fay, R. R., eds. (1995). *Hearing by Bats.* Springer Handbook of Auditory Research, Vol. 5. Springer-Verlag.
Populin, L. C. & Yin, T. C. T. (1999). Kinematics of eye movements of cats to broadband acoustic targets. *J. Neurophysiol.,* **82**, 955-962.
Populin, L. & Yin, T. (1998). Behavioral studies of sound localization in the cat. *J. Neurosci.,* **18**, 2147-2160.
Portavella, M., Depaulis, A. & Vergnes, M. (1993). 22-28 kHz ultrasonic vocalizations associated with defensive reactions in male rats do not result from fear or aversion. *Psychopharmacology*, **111**, 190-194.
Porter, R. H., Nowak, R. & Orgeur, P. (1995). Influence of a conspecific agemate on distress bleating by lambs. *Appl. Anim. Behav. Sci.*, **45**, 239-244.
Portfors, C. V. & Wenstrup, J. J. (1999). Delay-tuned neurons in the inferior colliculus of the mustached bat: Implications for analyses of target distance. *J. Neurophysiol.,* **82**, 1326-1338.
Portfors, C. V. & Wenstrup, J. J. (2000). Complex spectral responses in the inferior colliculus of the mustached bat. *Soc. Neurosci. Abstr.*, **26**.
Potter, J. R., Taylor, E. & Chitre, M. (1997). Could marine mammals use ambient noise imaging techniques? *J. Acoust. Soc. Am.,* **102**, 3104.
Prechtl, H. (1991). *Acoustic properties of neurons from the rostral colliculus inferior in the horseshoe bat Rhinolophus rouxi.* Diplom thesis. University of Munich (German).
Preisler, A. & Schmidt, S. (1998). Spontaneous classification of complex tones at high and ultrasonic frequencies in the bat, *Megaderma lyra*. *J. Acoust. Soc. Am.,* **103**, 2595-2607.
Preisler, A. & Schmidt, S. (1995). Virtual pitch formation in the ultrasonic range. *Naturwissenschaften*, **82**, 45-47.
Priano, M., Pavan, G., Manghi, M. & Fossati, C. (1998). The Cetacean Sound Library of the Interdisciplinary Center for Bioacoustics and Environmental Research. *Bioacoustics,* **9**, 233.
Puppe, B., Schoen, P. C. & Wendland, K. (1999). Monitoring of piglets' open field activity and choice behaviour during the replay of maternal vocalization: a comparison between Observer and PID technique. *Laboratory Animals*, **33**, 215-220.
Puria, S. & Allen, J. B. (1998). Measurements and model of the cat middle ear: Evidence of tympanic membrane acoustic delay. *J. Acoust. Soc. Am.,* **104**, 3463-3481.
Pusenius, J. & Ostfeld, R. S. (2000). Effects of stoat's presence and auditory cues indicating its presence on tree seedling predation by meadow voles. *Oikos*, **91**, 123-130.
Pye, J. D. (1986). Sonar signals as clues to system performance. *Acustica*, **61**, 166-175.
Pye, J. D. (1986). Recording bat sounds by new techniques. *Myotis*, **23-24**, 245-248.
Pye, J. D. (1993). Is fidelity futile? The true signal is illusory especially with ultrasound. *Bioacoustics*, **4**, 271-286.
Pye, D. (1997). The emergence of animal ultrasound. *Bioacoustics,* **7**, 235-240.
Rabon, D. R., Jr., Sawrey, D. K. & Webster, W. D. (2001). Infant ultrasonic vocalizations and parental responses in two species of voles (*Microtus*). *Can. J. Zool.*, **79**, 830-837.

Rado, R., Terkel, J. & Wollberg, Z. (1998). Seismic communication signals in the blind mole-rat *(Spalax ehrenbergi)*: electrophysiological and behavioral evidence for their processing by the auditory system. *J. Comp. Physiol. A.,* **183**, 503-512.

Raggio, M. W. & Schreiner, C. E. (1999). Neuronal responses in cat primary auditory cortex to electrical cochlear stimulation. III. Activation patterns in short- and long-term deafness. *J. Neurophysiol.,* **82**, 3506-3526.

Ralston, J. V. & Herman, L. M. (1995). Perception and generalization of frequency contours by a bottlenose dolphin *(Tursiops truncatus)*. *J. Comp. Psychol.,* **109**, 268-277.

Ramachandran, R., Davis, K. A. & May, B. J. (1999). Single-unit responses in the inferior colliculus of decerebrate cats. I. Classification based on frequency response maps. *J. Neurophysiol.,* **82**, 152-163.

Randall, J. A. & Stevens, C. M. (1987). Footdrumming and other anti-predator responses in the bannertail kangaroo rat *(Dipodomys spectabilis)*. *Behav. Ecol. Sociobiol.,* **20**, 187-194.

Randall, J. A. (2000). Why do desert rodents drum their feet? *Am. Zool.*, **40**, 1182-1183.

Randall, J. A. (1995). Modification of footdrumming signatures by kangaroo rats: changing territories and gaining new neighbours. *Anim. Behav.*, **49**, 1227-1237.

Randall, J. A. (1997). Comparison of low-frequency communication by footdrumming in three species of solitary, desert rodent, kangaroo rats *(Dipodomys)*. *J. Acoust. Soc. Am.,* **101**, 3163.

Randall, J. A., Rogovin, K. A. & Shier, D. M. (2000). Antipredator behavior of a social desert rodent: footdrumming and alarm calling in the great gerbil, *Rhombomys opiums*. *Behav. Ecol. Sociobiol.*, **48**, 110-118.

Randall, J. A. & Matocq, M. D. (1997). Why do kangaroo rats *(Dipodomys spectabilis)* footdrum at snakes? *Behav. Ecol.,* **8**, 404-413.

Randall, J. A. (1997). Species-specific footdrumming in kangaroo rats: *Dipodomys ingens*, *D. deserti*, *D. spectabilis*. *Anim. Behav.,* **54**, 1167-1175.

Randall, J. A. (1994). Discrimination of footdrumming signatures by kangaroo rats, *Dipodomys spectabilis*. *Anim. Behav.*, **47**, 45-54.

Randall, J. A. & Lewis, E. R. (1997). Seismic communication between the burrows of kangaroo rats, *Dipodomys spectabilis*. *J. Comp. Physiol. A.,* **181**, 525-531.

Randall, J. A. & Rogovin, K. A. (1997). Footdrumming as alarm signals in solitary and social desert rodents: warning relatives, individual defence or mate protection? *Adv. Ethol.,* **32**, 130.

Rasmussen, M. H., Miller, L. A. & Au, W. W. L. (2002). Source levels of clicks from free-ranging white-beaked dolphins (*Lagenorhynchus albirostris* Gray 1846) recorded in Icelandic waters. *J. Acoust. Soc. Am.*, **111**, 1122-1125.

Ratnam, R. Condon, C. J. & Feng, A. S. (1996). Neural ensemble coding of target identity in echolocating bats. *Biol. Cybern.,* **74**, 153-162.

Rattay, F. (1998). The mammalian auditory hair cell: a simple electric circuit model. *J. Acoust. Soc. Am.,* **103**, 1558-1565.

Rauschecker, J. P. (1999). Auditory cortical plasticity: a comparison with other sensory systems. *Trends Neurosci.,* **22**, 74-80.

Rauschecker, J. P. (1999). Making brain circuits listen. *Science*, **285**, 1686-1687.

Ravicz, M. E., Rosowski, J. & Voigt, H. F. (1992). Sound power collection by the auditory periphery of the Mongolian gerbil *Meriones unguiculatus*. I. Middle-ear input impedance. *J. Acoust. Soc. Am.,* **92**, 157-177.

Razafindrakoto, Y., Rosenbaum, H. C. & Helweg, D. A. (2001). First description of humpback whale song from Antongil Bay, Madagascar. *Mar. Mamm. Sci.*, **17**, 180-186.

Razak, K. A., Fuzessery, Z. M. & Lohuis, T. D. (1999). Single cortical neurons serve both echolocation and passive sound localization. *J. Neurophysiol.,* **81**, 1438-1442.

Reale, R. A. & Brugge, J. F. (2000). Directional sensitivity of neurons in the primary auditory (AI) cortex of the cat to successive sounds ordered in time and space. *J. Neurophysiol.*, **84**, 435-450.

Reby, D., Joachim, J., Lauga, J., Lek, S. & Aulagnier, S. (1998). Individuality in the groans of fallow deer *(Dama dama)* bucks. *J. Zool.,* **245**, 79-84.

Reby, D., Cargnelutti, B., Joachim, J. & Aulagnier, S. (1999). Spectral acoustic structure of barking in roe deer (*Capreolus capreolus*). Sex-, age- and individual-related variations. *C. R. Acad. Sci. Paris, Sciences de la vie*, **322**, 271-279.

Reby, D., Lek, S., Dimopoulos, I., Joachim, J., Lauga, J. & Aulagnier, S. (1997). Artificial neural networks as a classification method in the behavioural sciences. *Behav. Processes,* **40**, 35-43.

Reby, D., Cargnelutti, B. & Hewison, A. J. M. (1999). Contexts and possible functions of barking in roe deer. *Anim. Behav.,* **57**, 1121-1128.

Reby, D., McComb, K. & Fitch, T. (2001). Honest cues to fitness in the acoustics of red deer roars. *Adv. Ethol.*, **36**, 247.

Reby, D., Hewison, M., Izquierdo, M. 6 Pepin, D. (2001). Red deer (*Cervus elaphus*) hinds discriminate between roars of their current harem-holder stag and those of neighbouring stags. *Ethology*, **107**, 951-959.
Recio, A. (1998). Basilar membrane responses to clicks at the base of the chinchilla cochlea. *J. Acoust. Soc. Am.,* **103**, 1972-1989.
Reidenberg, J. S. & Laitman, J. T. (2002). Proposed mechanisms of pneumatic sound production and transference to water in aquatic mammals: A comparative anatomical study. *FASEB Journal*, **16**, A360.
Reidenberg, S. J. & Laitman, J. T. (1992). Anatomy of the vocal apparatus of the humpback whale *(Megaptera novaeangliae)*. *Anat. Rec.,* **232**, 73A.
Reiman, A. J. & Terhune, J. M. (1993). The maximum range of vocal communication in air between a harbor seal *Phoca vitulina* pup and its mother. *Mar. Mamm. Sci.*, **9**, 182-189.
Reiss, D. & McCowan, B. (1993). Spontaneous vocal mimicry and production by bottlenose dolphins *Tursiops truncatus*: evidence for vocal learning. *J. Comp. Psychol.*, **107**, 301-312.
Rendell, L. E., Matthews, J. N., Gill, A., Gordon, J. C. D. & MacDonald, D. W. (1999). Quantitative analysis of tonal calls from five odontocete species, examining interspecific and intraspecific variation. *J. Zool.,* **249**, 403-410.
Rendell, L. & Whitehead, H. (2001). Culture in whales and dolphins. *Behav. Brain Sci.*, **24**, 309-324.
Rendell, L. E. & Gordon, J. C. D. (1999). Vocal response of long-finned pilot whales *(Globicephala melas)* to military sonar in the Ligurian Sea. *Mar. Mamm. Sci.,* **15**, 198-204.
Reuter, T., Nummela, S. & Hemila, S. (1998). Elephant hearing. *J. Acoust. Soc. Am.,* **104**, 1122-1123.
Rhode, W. S. & Smith, P. H. (1986). Encoding timing and intensity in the ventral cochlear nucleus of the cat. *J. Neurophysiol.*, **56**, 261-286.
Rhode, W. S. & Recio, A. (2000). Study of mechanical motions in the basal region of the chincilla cochlea. *J. Acoust. Soc. Am.*, **107**, 3317-3332.
Rhode, W. S. & Smith, P. H. (1986). Physiological studies on neurons in the dorsal cochlear nucleus of cat. *J. Neurophysiol.*, **56**, 287-307.
Rhode, W. S. & Kettner, R. E. (1987). Physiological study of neurons in the dorsal and posteroventral cochlear nucleus of the unanesthetized cat. *J. Neurophysiol.*, **57**, 414-442.
Rice, J. J., May, B. J., Spirou, G. A. & Young, E. D. (1992). Pinna-based spectral cues for sound localization in cat. *Hear. Res.*, **58**, 132-152.
Richards, D. G. (1986). Dolphin vocal mimicry and vocal object labeling. In *Dolphin Cognition and Behavior: a Comparative Approach* (R. J. Schusterman, J. A. Thomas and F. G. Wood, eds.). Lawrence Erlbaum Assoc., New Jersey, pp. 273-288.
Richardson, W. J. (1998). Marine mammals and man-made noise: current issues. *Bioacoustics,* **9**, 216-217.
Richardson, W. J., Greene, Jr., C. R., Malme, C. I. & Thomson, D. H. (1995). *Marine Mammals and Noise.* Academic Press; New York.
Ricketts, C., Mendelson, J. R., Anand, B. & English, R. (1998). Responses to time-varying stimuli in rat auditory cortex. *Hear. Res.,* **123**, 27-30.
Ridgway, S. H., Carder, D. A., Smith, R. R., Kamolnick, T., Schlundt, C. E. & Elsberry, W. R. (1998). Whale hearing in the deep sea. *Bioacoustics,* **9**, 152.
Ridgway, S., Carder, D., Smith, R., Kamolnick, T. & Elsberry, W. (1997). First audiogram for marine mammals in the open ocean and at depth: Hearing and whistling by two white whales down to 30 atmospheres. *J. Acoust. Soc. Am.,* **101**, 3136.
Ridgway, S. H. & Dolphin, W. F. (1993). New approaches for assessing the hearing capability of marine mammals. *Tenth Biennial Conference On the Biology of Marine Mammals*, Galveston, Texas.
Ridgway, S. H., Carder, D. A., Kamolnick, T., Smith, R. R., Schlundt, C. E. & Elsberry, W. R. (2001). Hearing and whistling in the deep sea: depth influences whistle spectra but does not attenuate hearing by white whales (*Delphinapterus leucas*)(Odontoceti, Cetacea). *J. Exp. Biol.*, **204**, 3829-3841.
Ridgway, S. H. & Carder, D. A. (1988). Nasal pressure and sound production in an echolocating white whale, *Delphinapterus leucas*. In *Animal Sonar* (P. E. Nachtigall & P. W. Moore, eds.). Plenum Press; New York, pp. 53-60.
Ridgway, S. H. (1997). Who are the whales? *Bioacoustics,* **8**, 3-20.
Ridgway, S. H. & Carder, D. A. (1997). Hearing deficits measured in some *Tursiops truncatus*, and discovery of a deaf/mute dolphin. *J. Acoust. Soc. Am.,* **101**, 590-594.
Ridgway, S. & Carder, D. (2000). A preliminary study of loudness at frequencies of 5 to 120 kHz based on whistle response time (RT) in a dolphin. *J. Acoust. Soc. Am.*, **108**, 2515.
Ridgway, S., Carder, D., Schlundt, C. & Kamolnick, T. (1997). Temporary shift in delphinoid masked hearing thresholds. *J. Acoust. Soc. Am.,* **102**, 3102.
Riede, T. (2001). Nonlinear dynamics of sound production: Its relevance for acoustic communication: Facts and hypotheses. *Adv. Ethol.*, **36**, 17-18.

Riede, T., Bohme, G., Frey, R., Fitch, T., East, M. L., Hofer, H. & Herzel, H. (2000). Canids and hyaenas possess morphological structures that could be responsible for nonlinear phenomena during vocalization. *Adv. Ethol.*, **35**, 63.
Riede, T., Herzel, H., Hammerschmidt, K., Brunnberg, L. & Tembrock, G. (2001). The harmonic-to-noise ratio applied to dog barks. *J. Acoust. Soc. Am.*, **110**, 2191-2197.
Riede, T. & Stolle-Malorny, A. (1999). The vocal change of a kitten with craniocerebellar trauma - a case study. *Bioacoustics,* **10**, 131-141.
Riede, T., Herzel, H., Mehwald, D., Seidner, W., Trumler, E., Bohme, G. & Tembrock, G. (2000). Nonlinear phenomena in the natural howling of a dog-wolf mix. *J. Acoust. Soc. Am.*, **108**, 1435-1442.
Riede, T., Wilden, I. & Tembrock, G. (1997). Subharmonics, biphonations, and frequency jumps - common components of mammalian vocalization or indicators for disorders? *Z. Saeugetierkd.,* **62** (Suppl. 2), 198-203.
Riede, T. & Fitch, T. (1999). Vocal tract length and acoustics of vocalization in the domestic dog *(Canis familiaris)*. *J. Exp. Biol.,* **202**, 2859-2868.
Ristic, B. & Boashash, B. (1994). Scale domain analysis of a bat sonar signal. *Proc. IEEE-SP Int. Symp. Time-Frequency Time-Scale Anal.,* pp. 373-376.
Rivers, J. A. (1997). Blue whale, *Balaenoptera musculus*, vocalizations from the waters off Central California. *Mar. Mamm. Sci.,* **13**, 186-195.
Robbins, R. L. (2000). Vocal communication in free-ranging African wild dogs (*Lycaon pictus*). *Behaviour*, **137**, 1271-1298.
Roberson, D. W. & Rubel, E. W. (1994). Cell division in the gerbil cochlea after acoustic trauma. *Am. J. Otol.*, **15**, 28-34.
Rogers, T. L. & Brown, S. M. (1999). Acoustic observations of Arnoux's beaked whale *(Berardius arnuxii)* off Kemp Land, Antarctica. *Mar. Mamm. Sci.,* **15**, 192-198.
Rogers, T. L., Cato, D. H. & Bryden, M. M. (1996). Behavioral significance of underwater vocalizations of captive leopard seals, *Hydrurga leptonyx*. *Mar. Mamm. Sci.,* **12**, 414-427.
Rogovin, K. A. & Randall, J. A. (1997). Evolution of alarm calls among diurnal rodents: a case study of the highly social great gerbil, *Rhombomys opimus*. *Adv. Ethol.,* **32**, 131.
Rohn, C. (1996). *Responses from domestic pigs (Sus scrofa domestica) to playbacks of conspecific sound patterns.* Diplom Thesis. Free University, Berlin (German).
Roitblat, H. L., Moore, P. W. B., Nachtigall, P. E., Penner, R. H. & Au, W. W. L. (1989). Dolphin echolocation: identification of returning echoes using a counterpropagation network. *IJCNN (Int. Joint Conf. Neur. Networks), Vol. 1,* pp. 295-300.
Roitblat, H. L., Au, W. W. L., Nachtigall, P. E., Shizumura, R. & Moons, G. (1995). Sonar recognition of targets embedded in sediment. *Neural Networks,* **8**, 1263-1273.
Roitblat, H. L., Moore, P. W. B., Nachtigall, P. E., Penner, R. H. & Au, W. W. L. (1989). Natural echolocation with an artificial neural network. *Int. J. Neur. Networks, Res. Appl.,* **1**, 239-248.
Roitblat, H. L., Penner, R. H. & Nachtigall, P. E. (1990). Matching-to-sample by an echolocating dolphin (*Tursiops truncatus*). *J. Exp. Psychol. Anim. Behav.* Proc., **16**, 85-95.
Rojowsky, H., Weller, A., Hofer, M. A. & Brunelli, S. A. (2001). Maternal behavior in rats selectively bred for infant ultrasonic vocalization (USV). *Dev. Psychobiol.*, **38**, 212.
Rouiller, E. M., Wan, X. S. T., Moret, V. & Liang, F. (1992). Mapping of c-fos expression elicited by pure tones stimulation in the auditory pathways of the rat, with emphasis on the cochlear nucleus. *Neurosci. Lett.*, **144**, 19-24.
Roux, A. le, Jackson, T. P. & Cherry, M. I. (2001). Does Brants' whistling rat (*Parotomys brantsii*) use an urgency-based alarm system in reaction to aerial and terrestrial predators? *Behaviour*, **138**, 757-773.
Roverud, R. C., Nitsche, V. & Neuweiler, G. (1991). Discrimination of wing beat motion by bats, correlated with echolocation sound pattern. *J. Comp. Physiol. A.,* **168**, 259-263.
Roverud, R. C. (1988). A time window for distance information processing in the bats, *Noctilio albiventris* and *Rhinolophus rouxi*. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum; New York, pp. 513-517.
Roverud, R. C. (1993). Neural computations for sound pattern recognition: evidence for summation of an array of frequency filters in an echolocating bat. *J. Neurosci.,* **13**, 2306-2312.
Roverud, R. C. (1995). Frequency modulated sound pattern analysis in the lesser bulldog bat: the role of interactions between adjacent frequency elements of complex sounds. *J. Comp. Physiol. A.*, **176**, 1-9.
Rowe, M. P. & Owings, D. H. (1996). Probing, assessment and management during interactions between ground squirrels (Rodentia: Sciuridae) and rattlesnakes (Squamata: Viperidae). 2. Cues afforded by rattlesnake rattling. *Ethology*, **102**, 856-874.
Rowe, T. (1996). Coevolution of the mammalian middle ear and neocortex. *Science*, **273**, 651-654.
Rubel, E. W., Dew, L. A. & Roberson, D. W. (1995). Mammalian vestibular hair cell regeneration. *Science*, **267**,

701-703.
Ruebsamen, R. & Schweizer, H. (1986). Control of echolocation pulses by neurons of the nucleus ambiguus in the rufous horseshoe bat, *Rhinolophus rouxi*. II. Afferent and efferent connections of the motor nucleus of the laryngeal nerve. *J. Comp. Physiol.*, A., **159**, 689-699.
Ruebsamen, R., Neuweiler, G. & Sripathi, K. (1988). Comparative collicular tonotopy in two bat species adapted to movement detection, *Hipposideros speoris* and *Megaderma lyra*. *J. Comp. Physiol.*, **163**, 271-285.
Ruebsamen, R., Neuweiler, G. & Marimuthu, G. (1989). Ontogenesis of tonotopy in inferior colliculus of a hipposiderid bat reveals postnatal shift in frequency place-code. *J. Comp. Physiol. A.,* **165**, 755-769.
Ruiz-Miranda, C. R., Wells, S. A., Golden, R. & Seidensticker, J. (1998). Vocalizations and other behavioral responses of male cheetahs *(Acinonyx jubatus)* during experimental separation and reunion trials. *Zoo Biol.,* **17**, 1-16.
Ruiz-Miranda, C. R., Szymanski, M. D. & Ingals, J. W. (1993). Physical characteristics of the vocalizations of domestic goat does *Capra hircus* in response to their offspring cries. *Bioacoustics*, **5**, 99-116.
Russ, J. M., Racey, P. A. & Jones, G. (1998). Intraspecific responses to distress calls of the pipistrelle bat, *Pipistrellus pipistrellus*. *Anim. Behav.,* **55**, 705-713.
Russ, J. (1999). *The Bats of Britain and Ireland: Echolocation calls, sound analysis and species identification.* Alana Books; Shropshire.
Russell, I. J. & Koessl, M. (1999). Micromechanical responses to tones in the auditory fovea of the greater mustached bat's cochlea. *J. Neurophysiol.,* **82**, 676-686.
Russo, D. & Jones, G. (1999). The social calls of Kuhl's pipistrelles *Pipistrellus kuhlii* (Kuhl, 1819): Structure and variation (Chiroptera: Vespertilionidae). *J. Zool.,* **249**, 476-480.
Ryan, A. F. & Woolf, N. K. (1992). Development of lower auditory system in the gerbil. In *Development of Auditory and Vestibular System* (R. Romond, ed.). Elsevier, B. V., pp. 243-271.
Rydell, J., Johes, G. & Waters, D. (1995). Echolocating bats and hearing moths: who are the winners? *Oikos*, **73**, 419-424.
Rydell, J. (1993). Variation in the sonar of an aerial hawking bat (*Eptesicus nilssonii*). *Ethology*, **93**, 275-284.
Rydell, J. (1998). Bat defence in lekking ghost swifts *(Hepialus humuli)*, a moth without ultrasonic hearing. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.,* **265**, 1373-1376.
Rydell, J. & Arlettaz, R. (1994). Low frequency echolocation enables the bat *Tadarida teniotis* to feed on tympanate insects. *Proc. R. Soc. Lond. B.*, **257**, 175-178.
Rydell, J. (1990). Behavioural variation in echolocation pulses of the northern bat, *Eptesicus nilssoni*. *Ethology*, **85**, 103-113.
Ryugo, D. K., Rosenbaum, B. T., Pongstaporn, T., Saada, A. A. & Niparko, J. K. (1997). The auditory nerve in congenitally deaf white cats: Correlations between anatomy and electrophysiology. *J. Acoust. Soc. Am.,* **101**, 3191.
Sachs, B. D. & Bialy, M. (2000). Female presence during postejaculatory interval facilitates penile erection and 22-kHz vocalization in male rats. *Behav. Neurosci.*, **114**, 1203-1208.
Sadanaga, M. & Morimitsu, T. (1995). Development of endocochlear potential and its negative component in mouse cochlea. *Hear. Res.*, **89**, 155-161.
Saillant, P. A., Simmons, J. A., Dear, S. P. & McMullen, T. A. (1993). A computational model for echo processing and acoustic imaging in frequency-modulated echolocating bats: the spectrogram correlation and transformation receiver. *J. Acoust. Soc. Am.,* **94**, 2691-2712.
Saint Marie, R. L., Luo, L. & Ryan, A. F. (1999). Effects of stimulus frequency and intensity on c-fos mRNA expression in the adult rat auditory brainstem. *J. Comp. Neurol.,* **404**, 258-270.
Sales, G., Hubrecht, R., Peyvandi, A., Milligan, S. & Shield, B. (1997). Noise in dog kennelling: Is barking a welfare problem for dogs? *Appl. Anim. Behav. Sci.,* **52**, 321-329.
Samson, F. K., Barone, P., Irons, W. A., Clarey, J. C., Poirier, P. & Imig, T. J. (2000). Directionality derived from differential sensitivity to monaural and binaural cues in the cat's medial geniculate body. *J. Neurophysiol.*, **84**, 1330-1345.
Sanchez-Villagra, M. R. & Smith, K. K. (1995). Can marsupials hear through their jaws? Evolution of the mandibular angle in marsupials and the definition of Metatheria. *Am. Zool.*, **35**, 60A.
Sanders, I., Weisz, D. J., Yang, B. Y., Fung, K. & Amirali, A. (2001). The mechanism of ultrasonic vocalization in the rat. *Soc. Neurosci. Abstr.*, **27**, 241.
Sanderson, M. I. & Simmons, J. A. (2000). Neural responses to overlapping FM sounds in the inferior colliculus of echolocating bats. *J. Neurophysiol.*, **83**, 1840-1855.
Santos, M. E. dos, Ferreira, A. J., Ramos, J., Ferreira, J. F. & Bento-Coelho, J. L. (1996). The acoustic world of the bottlenose dolphins in the Sado estuary. *European Research on Cetaceans,* **9**, 62-64.
Santos, M. E. dos, Caporin, G., Moreira, H. O., Ferreira, A. J. & Bento Coelho, J. L. (1991). Acoustic behavior in a local population of bottlenose dolphins. In *Sensory Abilities of Cetaceans* (J. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 585-598.

Santucci, D., Branchi, I. & Alleva, E. (1996). Ultrasonic vocalization by infant mice to different contexts: a sonographic analysis. *Bioacoustics*, **6**, 320.
Santucci, D., Branchi, I. & Alleva, E. (1994). Ultrasonic vocalization in infant mice: a slow motion analysis. *Bioacoustics*, **6**, 79-80.
Santucci, D., Masterton, D. & Elwood, R. W. (1994). Effect of age, sex, and odours from conspecific adult males on ultrasonic vocalizations of infant CS1 mice. *Behav. Processes*, **32**, 285-296.
Sanvito, S. & Galimberti, F. (2000). Bioacoustics of southern elephant seals. II. Individual and geographical variation in male aggressive vocalisations. *Bioacoustics*, **10**, 287-307.
Sanvito, S. & Galimberti, F. (2000). Bioacoustics of southern elephant seals. I. Acoustic structure of male aggressive vocalisations. *Bioacoustics*, **10**, 259-285.
Sato, K., Houtani, T., Ueyama, T., Ikeda, M., Yamashita, T., Kumazawa, T. & Sugomoto, T. (1993). Mapping of the cochlear nucleus subregions in the rat with neuronal Fos protein induced by acoustic stimulation with pure tones. *Acta Otolaryngol.*, **113** (Suppl. 500), 18-22.
Sauerland, M. (1998). Underwater audiogram of a tucuxi *(Sotalia fluviatilis guianensis)*. *J. Acoust. Soc. Am.,* **103**, 1199-1204.
Saulitis, E. L. (1993). *The behavior and vocalizations of the 'AT' group of killer whales (Orcinus orca) in Prince William Sound, Alaska.* M.Sc. thesis. University of Alaska.
Savoy, A., Carlone, R. L. & Brudzynski, S. M. (2001). Neuronal activity during ultrasonic vocalization as visualized by c-Fos immunohistochemistry in the rat brain. *Soc. Neurosci. Abstr.*, **27**, 241.
Sayigh, L. S., Tyack, P. L. & Wells, R. S. (1993). Recording underwater sounds of free-ranging dolphins while underway in a small boat. *Mar. Mamm. Sci.*, **9**, 209-213.
Sayigh, L. S. (1992). Development and functions of signature whistles of free-ranging bottlenose dophins, *Tursiops truncatus*. Ph.D. thesis, MIT/WHOI Joint Program, WHOI, 92-37.
Sayigh, L. S., Tyack, P. L., Wells, R. S., Scott, M. D. & Irvine, A. B. (1995). Sex difference in signature whistle production of free-ranging bottlenose dolphins, *Tursiops truncatus*. *Behav. Ecol. Sociobiol.*, **36**, 171-177.
Sayigh, L. S., Tyack, P. L., Wells, R. S., Solow, A. R., Scott, M. D. & Irvine, A. B. (1999). Individual recognition in wild bottlenose dolphins: a field test using playback experiments. *Anim. Behav.,* **57**, 41-50.
Scarpaci, C., Bigger, S. W., Corkeron, P. J. & Nugegoda, D. (2000). Bottlenose dolphins (*Tursiops truncatus*) increase whistling in the presence of 'swim-with-dolphin' tour operations. *J. Cetac. Res. Manage.*, **2**, 183-185.
Schassburger, R. M. (1987). Wolf vocalizations: An integrated model of structure, motivation and ontogeny. In *Man and Wolf: Advances, Issues, and Problems in Captive Wolf Research* (H. Frank, ed.). Dr. W. Junk Publishers; Dordrecht, The Netherlands, pp. 313-348.
Schassburger, R. M. (1993). Vocal communication in the timber wolf *Canis lupus* Linnaeus: structure, motivation and ontogeny. *Advances in Ethology, No. 30.* Paul Parey Scientific Publishers; Berlin.
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.
Scheifele, P. M. (1997). Potential impacts of low-frequency anthropogenic noise on the hearing of subarctic beluga whales in the Saint Lawrence estuary. *J. Acoust. Soc. Am.,* **101**, 3164.
Schenk, C., Staib, E. & Yasseri, A. M. (1995). Underwater calls from giant otters (*Pteronura brasiliensis*). *Z. Saegetierkd.*, **60**, 310-313 (German).
Scherrer, J. A. & Wilkinson, G. S. (1993). Evening bat isolation calls provide evidence for heritable signatures. *Anim. Behav.*, **46**, 847-860.
Schlangen, M. & Schmidt, U. (1995). Acoustical communication in the lesser spearnosed bat, *Phyllostomus discolor* (Chiroptera). *Z. Saeugetierkd.*, **60** (Sonderheft), 53 (German).
Schleich, C. E. & Busch, C. (2002). Juvenile vocalizations of *Ctenomys talarum* (Rodentia: Octodontidae). *Acta Theriol.*, **47**, 25-33.
Schlundt, C. E., Finneran, J. J., Carder, D. A. & Ridgway, S. H. (2000). Temporary shift in masked hearing thresholds of bottlenose dolphins, *Tursiops truncatus*, and white whales, *Delphinapterus leucas*, after exposure to intense tones. *J. Acoust. Soc. Am.*, **107**, 3496-3508.
Schmidt, S. & Thaller, J. (1994). Temporal auditory summation in the echolocating bat, *Tadarida brasiliensis*. *Hear. Res.,* **77**, 125-134.
Schmidt, S. (1988). Evidence for a spectral basis of texture perception in bat sonar. *Nature*, **331**, 617-619.
Schmidt, S., Hanke, S. & Pillat, J. (2000). The role of echolocation in the hunting of terrestrial prey - new evidence for underestimated strategy in the gleaning bat, *Megaderma lyra*. *J. Comp. Physiol. A.*, **186**, 975-988.
Schnitzler, H.-U. (1987). Echoes of fluttering insects: information for echolocating bats. In *Recent Advances in the Study of Bats* (M. B. Fenton, P. A. Racey & J. M. V. Rayner, eds.). Cambridge University Press;

Cambridge, pp. 226-243.
Schnitzler, H.-U. & Kalko, K. M. V. (1998). How echolocating bats search and find food. In *Bat Biology and Conservation* (T. H. Kunz and P. A. Racey, eds.). Smithsonian Institution Press; Wash.
Schnitzler, H.-U., Kalko, E., Miller, L. & Surlykke, A. (1987). The echolocation and hunting behavior of the bat, *Pipistrellus kuhli*. *J. Comp. Physiol.*, **161**, 267-274.
Schnitzler, H.-U., Kalko, E. K. V., Kaipf, I. & Grinnell, A. D. (1992). A plausible hypothesis for the evolution of fish-catching behavior in noctilionid bats. In *Rhythmogenesis in Neurons and Networks* (N. Elsner & D. W. Richer, eds.). Thieme; Stuttgart, p. 211.
Schnitzler, H.-U., Kalko, E. K. V., Kaipf, I. & Mogdans, J. (1991). Comparative studies of echolocation and hunting behavior in the four species of mormoopid bats of Jamaica. *Bat Res. News,* **32**, 22-23.
Schnitzler, H.-U., Kalko, E. K., Kaipf, I. & Grinnell, A. D. (1994). Hunting and echolocation behaviour of the fisherman bat, *Noctilio leporinus*, in the field. *Behav. Ecol. Sociobiol.,* **35**, 327-345.
Schoen, P. C., Puppe, B. & Manteuffel, G. (2001). Linear prediction coding analysis and self-organizing feature map as tools to classify stress calls of domestic pigs (*Sus scrofa*). *J. Acoust. Soc. Am.*, **110**, 1425-1431.
Schoen, P.-C., Puppe, B., Gromyko, T. & Manteuffel, G. (1999). Common features and individual differences in nurse grunting of domestic pigs *(Sus scrofa)*: A multi-parametric analysis. *Behaviour,* **136**, 49-66.
Schoen, P.-C., Puppe, B. & Manteuffel, G. (1998). A sound analysis system based on LabVIEW(R) applied to the analysis of suckling grunts of domestic pigs *Sus scrofa*. *Bioacoustics,* **9**, 119-133.
Schrader, L. & Todt, D. (1996). Vocal cues reflect physiological stress response in domestic pigs *(Sus scrofa domestica)*. *Proceedings 30th International Congress ISAE, Guelph,* p. 17.
Schrader, L. & Todt, D. (1998). Vocal quality is correlated with levels of stress hormones in domestic pigs. *Ethology,* **104**, 859-876.
Schrader, L. & Hammerschmidt, K. (1997). Computer-aided analysis of acoustic parameters in animal vocalisations: a multi-parametric approach. *Bioacoustics,* **7**, 247-265.
Schrader, L. (1997). Relationships between vocalisations and physiological stress response in domestic pigs, *Sus scrofa domestica*. *Adv. Ethol.,* **32**, 56.
Schrader, L. (1996). Stress responses and call characteristics in the domestic pig *(Sus scrofa domestica)*. Dissertation. Freie Universität Berlin; Berlin (German).
Schreiner, C. E. & Urbas, J. V. (1986). Representation of amplitude modulation in the auditory cortex of the cat. I. The anterior auditory field (AAF). *Hear. Res.*, **21**, 227-241.
Schuller, G. (1986). Influence of echolocation pulse rate on Doppler shift compensation control system in the greater horseshoe bat. *J. Comp. Physiol., A.*, **158**, 239-246.
Schultz, K. W. & Corkeron, P. J. (1994). Interspecific differences in whistles produced by inshore dolphins in Moreton Bay, Queensland, Australia. *Can. J. Zool.,* **72**, 1061-1068.
Schultz, K. W., Cato, D. H., Corkeron, P. J. & Bryden M. M. (1995). Low frequency narrow-band sounds produced by bottlenose dolphins. *Mar. Mamm. Sci.,* **11**, 503-509.
Schulze, H. & Langner, G. (1997). Periodicity coding in the primary auditory cortex of the Mongolian gerbil *(Meriones unguiculatus hair)*: two different coding strategies for pitch and rhythm? *J. Comp. Physiol. A.,* **181**, 651-663.
Schulze, H. & Langner, G. (1999). Auditory cortical responses to amplitude modulations with spectra above frequency receptive fields: evidence for wide spectral integration. *J. Comp. Physiol. A.,* **185**, 493-508.
Schulze, H., Ohl, F. W., Heil, P. & Scheich, H. (1997). Field-specific responses in the auditory cortex of the unanaesthetized Mongolian gerbil to tones and slow frequency modulations. *J. Comp. Physiol. A.,* **181**, 573-589.
Schusterman, R., Kastak, D., Southall, B. & Kastak, C. (2000). Underwater temporary threshold shifts in pinnipeds: Tradeoffs between noise intensity and duration. *J. Acoust. Soc. Am.*, **108**, 2515.
Schusterman, R. J., Southall, B. L., Kastak, D. & Kastak, C. R. (2001). Acoustic communication in pinnipeds. *Adv. Ethol.*, **36**, 261.
Schusterman, R. J., Kastak, D., Levenson, D. H., Reichmuth, C. J. & Southall, B. L. (2000). Why pinnipeds don't echolocate. *J. Acoust. Soc. Am.*, **107**, 2256-2264.
Schusterman, R. J. & Kastak, D. (1997). Auditory sensitivity of a northern elephant seal *(Mirounga angustirostris)* to airborne and underwater sounds. *Adv. Ethol.,* **32**, 120.
Schusterman, R. J., Hanggi, E. B. & Gisiner, R. (1992). Acoustic signalling in mother-pup reunions, interspecies bonding, and affiliation by kinship in California sea lions (*Zalophus californianus*). In *Marine Mammal Sensory Systems* (J. A. Thomas, R. A. Kastelein & Y. Ya. Supin, eds.). Plenum Press; New York, pp. 533-551.
Semple, M. N. & Kitzes, L. M. (1993). Binaural processing of sound pressure level in cat primary auditory cortex: evidence for a representation based on absolute levels rather than interaural level differences. *J. Neurophysiol.*, **69**, 449-461.
Semple, S. & McComb, K. (2000). Perception of female reproductive state from vocal cues in a mammal

species. *Proc. Roy. Soc. Lond. B.*, **267**, 707-712.
Serrano, A. & Miller, E. H. (2000). How vocal are harp seals (*Pagophilus groenlandicus*)? A captive study of seasonal and diel patterns. *Aquat. Mamm.*, **26**, 253-259.
Serrano, A. & Terhune, J. M. (2001). Within-call repetition may be an anti-masking strategy in underwater calls of harp seals (*Pagophilus groenlandicus*). *Can. J. Zool.*, **79**, 1410-1413.
Serrano, A. & Miller, E. H. (1998). Underwater vocalizations and vocal activity in captive harp seals *Phoca groenlandica*. *Bioacoustics,* **9**, 153.
Serrano, A. (2001). New underwater and aerial vocalizations of captive harp seals (*Pagophilus groenlandicus*). *Can. J. Zool.*, **79**, 75-81.
Shair, H. N., Masmela, J. R., Brunelli, S. A. & Hofer, M. A. (1997). Potentiation and inhibition of ultrasonic vocalization of rat pups: Regulation by social cues. *Dev. Psychobiol.*, **30**, 195-200.
Shair, H. N., Masmela, J. R. & Hofer, M. A. (1999). The influence of olfaction on potentiation and inhibition of ultrasonic vocalization of rat pups. *Physiol. Behav.*, **65**, 769-772.
Shair, H. N., Brunelli, S. A., Velasquez, Z. & Hofer, M. A. (2001). Adult behavioral tests of rats selectively bred for infantile ultrasonic vocalization. *Dev. Psychobiol.*, **38**, 213.
Shair, H. N., Masmela, J. R. & Hofer, M. A. (1998). The influence of olfaction on potentiation and inhibition of ultrasonic vocalization of rat pups: Regulation by social cues. *Physiol. Behav.,* **65**, 769-772.
Sharpe, F. A., Dill, L. M., Beaver, V. & Spellman, b. (1998). Killing me softly: feeding calls of the Alaskan humpback whale. In *Abstracts of the World Marine Mammal Science Conference. Monaco. January 20-24, 1998*.
Shen, J. X., Chen, Q. C. & Jen, P. H.-S. (1997). Binaural and frequency representation in the primary auditory cortex of the big brown bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.,* **181**, 591-597.
Shepherd, R. K., Baxi, J. H. & Hardie, N. A. (1999). Response of inferior colliculus neurons to electrical stimulation of the auditory nerve in neonatally deafened cats. *J. Neurophysiol.,* **82**, 1363-1380.
Shiba, K., Miura, T., Yuza, J., Sakamoto, T. & Nakajima, Y. (1999). Laryngeal afferent inputs during vocalization in the cat. *NeuroReport*, **10**, 987-991.
Shiba, K., Satoh, I., Kobayashi, N. & Hayashi, F. (1999). Multifunctional laryngeal motoneurons: an intracellular study in the cat. *J. Neurosci.*, **19**, 2717-2727.
Shier, D. M. & Yoerg, S. I. (1999). What footdrumming signals in kangaroo rats *(Dipodomys heermanni)*. *J. Comp. Psychol.,* **113**, 66-73.
Shimizu, M. (2001). Vocalizations of feral cats: Sexual differences in the breeding season. *Mammal Study*, **26**, 85-92.
Shipley, C., Buchwald, J. S. & Carterette, E. C. (1988). The role of auditory feedback in the vocalization of cats. *Exp. Brain Res.,* **69**, 431-438.
Shofner, W. P. & Yost, W. A. (1997). Detection of tones in noise by chinchillas using the probe-signal method. *J. Acoust. Soc. Am.,* **101**, 3124.
Shofner, W. P., Yost, W. A. & Sheft, S. (1993). Increment detection of bandlimited noises in the chinchilla. *Hear. Res.*, **66**, 67-80.
Shriner, W. M. (1995). Yellow-bellied marmot and golden-mantled ground squirrel responses to conspecific and heterospecific alarm calls. Ph.D. thesis. University of California; Davis.
Shriner, W. M. (1999). Antipredator responses to a previously neutral sound by free-living adult golden-mantled ground squirrel, *Spermophilus lateralis* (Sciuridae). *Ethology,* **105**, 747-758.
Shriner, W. M. (1998). Yellow-bellied marmot and golden-mantled ground squirrel responses to heterospecific alarm calls. *Anim. Behav.,* **55**, 529-536.
Siemers, B. M., Stilz, P. & Schnitzler, H.-U. (2000). Why do bats hunt low over water? The acoustic world of European trawling *Myotis*. *Z. Saeugetierkd.*, Sonderheft **65**, 42.
Sigurdson, J. (1993). Whistles as a communication medium. In *Language and Communication: Comparative Perspectives* (H. L. Roitblat, L. M. Herman & P. Nachtigall, eds.). Erlbaum; Hillsdale, N.J., pp. 153-173.
Sigurdson, J. E. (1998). Analysing the dynamics of dolphin biosonar behaviour during search and detection tasks. *Bioacoustics,* **9**, 222-223.
Silva, K. B. da, Kramer, D. L. & Weary, D. M. (1994). Context-specific alarm calls of the eastern chipmunk, *Tamias striatus*. *Can. J. Zool.*, **72**, 1087-1092.
Simmons, J. A., Ferragamo, M. F., Saillant, P. A., Haresign, P. A., Wotton, J. M., Dear, S. P. & Lee, D. N. (1995). Auditory dimensions of acoustic images in echolocation. In *Hearing by Bats. Springer Handbook of Auditory Research* (R. R. Fay & A. N. Popper, eds.). Springer; Berlin, Heidelberg, New York, pp. 146-190.
Simmons, J. A., Kick, S. A., Moffat, A. J. M., Masters, W. M. & Kon, D. (1988). Clutter interference along the target range axis in the echolocating bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **84**, 551-559.
Simmons, J. A., Moffat, A. J. M. & Masters, W. M. (1992). Sonar gain control and echo detection thresholds in

the echolocating bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **91**, 1150-1163.
Simmons, J. A. (1995). The content of bat sonar images with respect to insect counter-measures. *Am. Zool.*, **35**, 40A.
Simmons, J. A., Saillant, P. A., Wotton, J. M., Haresign, T., Ferragamo, M. J. & Moss, C. F. (1995). Composition of biosonar images for target recognition by echolocating bats. *Neural Networks,* **8**, 1239-1261.
Simmons, J. A., Saillant, P. A. & Dear, S. P. (1992). Through a bat's ear. *IEEE Spectrum,* **29**, 46-48.
Simmons, J. A., Ferragamo, M. J. & Moss, C. F. (1998). Echo-delay resolution in sonar images of the big brown bat, *Eptesicus fuscus*. *Proc. Natl. Acad. Sci. USA,* **95**, 12647-12652.
Simmons, J. A. & Grinnell, A. D. (1988). The performance of echolocation: acoustic images perceived by echolocating bats. In *Animal Sonar. Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press; New York, pp. 353-385.
Simmons, J. A. & Chen, L. (1986). The acoustic basis for target discrimination by FM echolocating bats. *J. Acoust. Soc. Am.,* **86**, 1333-1350.
Simmons, J. A. (1997). Biosonar acoustic images for target localization and classification by bats. *Proc. SPIE (The International Society for Optical Engineering),* **3079**, 7-13.
Simmons, J. A. (1993). Evidence for perception of fine echo delay and phase by the FM bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.,* **172**, 533-547.
Sinha, S. R., Roberts, T. F. & Moss, C. F. (2000). Circuitry for orienting behavior in an FM-bat, *Eptesicus fuscus*: anatomical connections of the superior colliculus. *Soc. Neurosci. Abstr.*, **26**.
Slobodchikoff, C. N., Ackers, S. H. & van Ert, M. (1998). Geographic variation in alarm calls of Gunnison's prairie dogs. *J. Mammal.,* **79**, 1265-1272.
Slobodchikoff, C. N., Fischer, C. & Shapiro, J. (1986). Predator-specific alarm calls of prairie dogs. *Am. Zool.*, **26**, 557.
Smallwood, K. S. (1993). Mountain lion vocalizations and hunting behavior. *Southwest Nat.*, **38**, 65-67.
Smith, W. J. (1986). Signaling behavior: contributions of different repertoires. In *Dolphin Cognition and Behavior: a Comparative Approach* (R. J. Schusterman, J. A. Thomas & F. G. Wood, eds.). L. Erlbaum Assoc.; Hillsdale, pp. 315-330.
Smolker, R. A., Mann, J. & Smuts, B. B. (1993). Use of signature whistles during separations and reunions by wild bottle-nosed dolphin mothers and infants. *Behav. Ecol. Sociobiol.*, **33**, 393-402.
Smolker, R. & Pepper, J. W. (1999). Whistle convergence among allied male bottlenose dolphins (Delphinidae, *Tursiops* sp.). *Ethology,* **105**, 595-617.
Smolker, R. A. (1993). Acoustic communication in bottlenose dolphins. Ph.D. thesis. University of Michigan.
Smotherman, M. S. & Metzner, W. (2001). Quantitative analysis of the role of GABAergic and AMPAergic audio-vocal feedback in Doppler-shift compensating horseshoe bats. *Soc. Neurosci. Abstr.*, **27**, 1919.
Smotherman, M. S. & Metzner, W. (2000). A neural substrate for auditory feedback control of call frequencies in Doppler-shift compensating horseshoe bats. *Soc. Neurosci. Abstr.*, **26**.
Sokoloff, G., Blumberg, M. S., Lewis, S. J. & Kirby, R. F. (2000). Ultrasonic vocalizations and the autonomic nervous system in infant rats. *Soc. Neurosci. Abstr.*, **26**.
Sokoloff, G., Blumberg, M. S., Mendella, P. & Brown, R. E. (1997). Clonidine- and separation-induced ultrasound production in infant rats: Cardiovascular interactions. *Dev. Psychobiol.*, **30**, 265.
Sokoloff, G. & Blumberg, M. S. (1997). Thermogenic, respiratory, and ultrasonic responses of week-old rats across the transition from moderate to extreme cold exposure. *Dev. Psychobiol.*, **30**, 181-194.
Solomon, N. P., Luschei, E. & Kang, L. (1994). Fundamental frequency and tracheal pressure during three types of vocalization elicited from anesthetized dogs. *J. Voice,* **9**, 403-412.
Sousa Lima, R. S. & da Silva, V. M. F. (2000). Lack of species-specific vocal recognition in Amazonian manatees: *Trichechus inunguis*. *J. Acoust. Soc. Am.*, **108**, 2542.
Sousa-Lima, R. S., Paglia, A. P. & da Fonseca, G. A. B. (2002). Signature information and individual recognition in the isolation calls of Amazonian manatees, *Trichechus inunguis* (Mammalia: Sirenia). *Anim. Behav.*, **63**, 301-310.
Southall, B. L., Schusterman, R. J. & Kastak, D. (2000). Masking in three pinnipeds: Underwater, low-frequency critical ratios. *J. Acoust. Soc. Am.*, **108**, 1322-1326.
Sparks, T. D. (1998). Distributions of sperm whales along the northwestern and central continental slope in the Gulf of Mexico as determined from an acoustic survey. *Bioacoustics,* **9**, 157.
Speakman, J. R. (1995). Energetics of echolocation. *Bioacoustics*, **6**, 219.
Speakman, J. R. & Racey, P. A. (1991). No cost of echolocation for bats in flight. *Nature*, **350**, 421-423.
Stafford, K. M. & Fox, C. G. (1997). Low-frequency whale calls recorded on hydrophones moored in the eastern tropical Pacific. *J. Acoust. Soc. Am.,* **102**, 3122.
Stafford, K. M. & Fox, C. G. (1997). Acoustic localizations of blue whales *Balaenoptera musculus* by fixed arrays and moored autonomous hydrophone arrays. *Bioacoustics,* **8**, 260-261.

Stafford, K. M., Nieukirk, S. L. & Fox, C. G. (1999). Low-frequency whale sounds recorded on hydrophones moored in the eastern tropical Pacific. *J. Acoust. Soc. Am.,* **106**, 3687-3698.
Stafford, K. M., Fox, C. G. & Clark, D. S. (1998). Long-range acoustic detection, localization of blue whale calls in the northeast Pacific Ocean. *J. Acoust. Soc. Am.,* **104**, 3616-3625.
Stafford, K. (1994). Acoustic detection and location of blue whales *(Balaenoptera musculus)* from SOSUS by matched filtering. *J. Acoust. Soc. Am.,* **96**, 3250.
Stafford, K. (2000). Blue whale calls recorded in the Gulf of Alaska. *J. Acoust. Soc. Am.*, **108**, 2614.
Stafford, K. M., Nieukirk, S. L. & Fox, C. G. (2001). Geographic and seasonal variation of blue whale calls in the North Pacific. *J. Cetac. Res. Manage.*, **3**, 65-76.
Stafford, K. M., Nieukirk, S. L. & Fox, C. G. (1999). An acoustic link between blue whales in the eastern tropical Pacific and the northeast Pacific. *Mar. Mamm. Sci.,* **15**, 1258-1268.
Stiebler, I., Neulist, R., Fichtel, I. & Ehret, G. (1997). The auditory cortex of the house mouse: left-right differences, tonotopic organization and quantitative analysis of frequency representation. *J. Comp. Physiol. A.,* **181**, 559-571.
Stirling, I. & Roux, J. O. (1987). Fur seal vocalizations. In *Status, Biology and Ecology of Fur Seals* (J. P. Croxall and R. L. Gentry, eds.). U.S. Dept. Com., NOAA Tech. Rep. NMFS, 51, pp. 21-202.
Strager, H. (1995). Pod-specific call repertoires and compound calls of killer whales, *Orcinus orca* Linnaeus, 1758, in the waters of northern Norway. *Can. J. Zool.*, **73**, 1037-1047.
Strager, H. (1993). Catalogue of underwater calls from killer whales *(Orcinus orca)* in northern Norway. M. Sc. thesis. University of Aarhus, Denmark.
Strager, H. & Ugarte, F. (1996). A comparison of killer whale calls from Norway, British Columbia and Iceland. *European Research on Cetaceans,* **9**, 26-27.
Strifors, H. C., Gaunaurd, G. C. & Moore, P. W. B. (1997). Analysis in the joint time-frequency domain of the identifying signatures of submerged targets insonified by dolphin clicks. *Proc. SPIE (The International Society for Optical Engineering),* **3069**, 16-25.
Sturtivant, C. & Datta, S. (1995). Techniques to isolate dolphin whistles and other tonal sounds from background noise. *Acoustics Lett.,* **18**, 189-193.
Sturtivant, C. & Datta, S. (1998). Dolphin whistle classification with the "Dolphin" software. *Bioacoustics,* **9**, 224.
Sturtivant, C. R. & Datta, S. (1996). The enhancement and identification of whistles and other tonal sounds from marine mammals among background noise. *European Research on Cetaceans,* **9**, 53-55.
Sturtivant, C. & Datta, S. (1998). Automatic dolphin whistle detection, extraction, encoding and classification. *Bioacoustics,* **9**, 234.
Subramaniam, M., Henderson, D. & Spongr, V. P. (1993). Protection from noise induced hearing loss: is prolonged conditioning necessary? *Hear. Res.*, **65**, 234-239.
Suga, N. (1990). Biosonar and neural computation in bats. *Sci. Am.,* **262**, 34-41.
Suga, N., Niwa, H., Taniguchi, I. & Margoliash, D. (1987). The personalized auditory cortex of the mustached bat: adaptation for echolocation. *J. Neurophysiol.*, **58**, 643-654.
Suga, N. & Yajima, Y. (1989). Auditory-vocal integration in the midbrain of the mustached bat: periaqueductal gray and reticular formation. In *The Physiological Control of Mammalian Vocalization* (J. D. Newman, ed.). Plenum Press; New York, pp. 87-98.
Supin, A. Ya, Popov, V. V. & Klishin, V. O. (1993). ABR frequency tuning curves in dolphins. *J. Comp. Physiol. A.*, **173**, 649-656.
Supin, A. Ya & Popov, V. V. (1995). Temporal resolution in the dolphin's auditory system revealed by double-click evoked potential study. *J. Acoust. Soc. Am.*, **97**, 2586-2593.
Supin, A. Ya. & V. V. Popov (1997). Temporal resolution of the dolphin's hearing: Evoked-potential study. *J. Acoust. Soc. Am.,* **102**, 3102.
Supin, A. & Popov, V. (1995). Frequency tuning and temporal resolution in dolphins. In *Sensory Systems of Aquatic Mammals* (R. A. Kastelein, J. A. Thomas & P. E. Nachtigall, eds.). De Spil Publishers; Woerden, The Netherlands, pp. 95-110.
Supin, A. Ya. & Popov, V. V. (1993). Direction dependent spectral sensitivity and interaural spectral difference in a dolphin: evoked potential study. *J. Acoust. Soc. Am.*, **93**, 3490-3495.
Surlykke, A. & Bojesen, O. (1996). Integration time for short broad band clicks in echolocating FM-bats (*Eptesicus fuscus*). *J. Comp. Physiol. A.*, **178**, 235-241.
Surlykke, A., Miller, L. A., Moehl, B., Andersen, B. B., Christensen-Dalsgaard, J. & Joergensen, M. B. (1993). Echolocation in two very small bats from Thailand, *Craseonycteris thonglongyai* and *Myotis siligorensis*. *Behav. Ecol. Sociobiol.*, **33**, 1-12.
Surlykke, A. (1988). Interactions between echolocating bats and their prey. In *Animal Sonar: Processes and Performance* (P. E. Nachtigall & P. W. B. Moore, eds.). Plenum Press, New York; pp. 551-566.
Surlykke, A. & Moss, C. F. (2000). Echolocation behavior of big brown bats, *Eptesicus fuscus*, in the field and

the laboratory. *J. Acoust. Soc. Am.*, **108**, 2419-2429.
Sutherland, D. P., Masterton, R. B. & Glendenning, K. K. (1998). Role of acoustic striae in hearing: Reflexive responses to elevated sound sources. *Behav. Brain Res.,* **97**, 1-12.
Sutter, M. L., Schreiner, C. E., McLean, M., O'Connor, K. N. & Loftus, W. C. (1999). Organization of inhibitory frequency receptive fields in cat primary auditory cortex. *J. Neurophysiol.,* **82**, 2358-2371.
Suzuki, R. & Buck, J. R. (2000). Extraction and tracking of bottlenose dolphin whistle contours. *J. Acoust. Soc. Am.*, **108**, 2635.
Swaisgood, R. R., Rowe, M. P. & Owings, D. H. (1999). Assessment of rattlesnake dangerousness by California ground squirrels: exploitation of cues from rattling sounds. *Anim. Behav.,* **57**, 1301-1310.
Swartz, S., Clapham, P., Cole, T., Barlow, J., Mcdonald, M., Oleson, E. & Hildebrand, J. (2000). Locating and enumerating endangered humpback whales in the eastern Caribbean with directional (DIFAR) sonobuoys. *J. Acoust. Soc. Am.*, **108**, 2540.
Symanski, M. D., Bain, D. E., Kiehl, K., Pennington, S., Wong, S. & Henry, K. R. (1999). Killer whale (*Orcinus orca*) hearing: auditory brainstem response and behavioral audiograms. *J. Acoust. Soc. Am.*, **106**, 1134-1141.
Szymanski, M. D., Bain, D. E. & Henry, K. R. (1995). Auditory evoked potentials of killer whales *(Orcinus orca)*. In *Sensory Systems of Aquatic Mammals* (R. A. Kastelein, J. A. Thomas & P. E. Nachtigall, eds.). De Spil Publishers; Woerden, The Netherlands, pp. 1-9.
Szymanski, M. D., Supin, A. Ya., Bain, D. E. & Henry, K. R. (1998). Killer whale *(Orcinus orca)* auditory potentials to rhythmic clicks. *Mar. Mamm. Sci.,* **14**, 676-691.
Szymanski, M. D., Bain, D. E., Kiehl, K., Pennington, S., Wong, S. & Henry, K. R. (1999). Killer whale *(Orcinus orca)* hearing: Auditory brainstem response and behavioral audiograms. *J. Acoust. Soc. Am.,* **106**, 1134-1141.
Talling, J. C., Waran, N. K., Wathes, C. M. & Lines, J. A. (1998). Sound avoidance by domestic pigs depends upon characteristics of the signal. *Appl. Anim. Behav. Sci.,* **58**, 255-266.
Talwar, S. K. & Gerstein, G. L. (1998). Auditory frequency discrimination in the white rat. *Hear. Res.,* **126**, 135-150.
Tamura, N. (1995). Postcopulatory mate guarding by vocalization in the Formosan squirrel. *Behav. Ecol. Sociobiol.*, **36**, 377-386.
Tamura, N. & Yong, H. S. (1993). Vocalizations in response to predators in three species of Malaysian *Callosciurus* (Sciuridae). *J. Mammal.*, **74**, 703-714.
Tamura, N. (1993). Role of sound communication in mating of Malaysian *Callosciurus* (Sciuridae). *J. Mammal.*, **74**, 468-476.
Tanyeri, H., Lopez, I. & Honrubia, V. (1995). Histological evidence for hair cell regeneration after ototoxic cell destruction with local application of gentamicin in the chinchilla crista ampullaris. *Hear. Res.*, **89**, 194-202.
Taylor, A. A. & Weary, D. M. (2000). Vocal responses of piglets to castration: identifying procedural sources of pain. *Appl. Anim. Behav. Sci.*, **70**, 17-26.
Teeling, E. C., Scally, M., Kao, D. J., Romagnoll, M. L., Springer, M. S. & Stanhope, M. J. (2000). Molecular evidence regarding the origin of echolocation and flight in bats. *Nature*, **403**, 188-192.
Teimoorzadeh, K. (1995). Seeing in the dark with artificial bats. In *Advances in Artificial Life. Third European Conference on Artificial Life Proceedings* (F. Moran, A. Moreno, J. J. Merelo and P. Chacon, eds.). Springer-Verlag; pp. 590-601.
Tembrock, G. (1996). Communication by falsetto. *Bioacoustics*, **6**, 309.
Tembrock, G. (1996). *Acoustic Communication in Mammals. The Voices of Mammals and Their Meaning.* Wissenschaftliche Buchgesellschaft; Darmstadt (German).
Teranishi, A. M., Hildebrand, J. A., McDonald, M. A. & Moore, S. E. (1997). Acoustic and visual studies of blue whales near the California Channel Islands. *J. Acoust. Soc. Am.,* **102**, 3121.
Terhune, J. M., Healey, S. R. & Burton, H. R. (2001). Easily measured call attributes can detect vocal differences between Weddell seals from two areas. *Bioacoustics*, **11**, 211-222.
Terhune, J. M. (1994). Geographic variation of harp seal underwater vocalisations. *Can. J. Zool.,* **72**, 892-897.
Terhune, J. M., Grandmaitre, N. C., Burton, H. R. & Green, K. (1994). Weddell seals lengthen many underwater calls in response to conspecific vocalizations. *Bioacoustics*, **5**, 223-226.
Terhune, J. M. (1999). Pitch separation as a possible jamming avoidance mechanism in underwater calls of bearded seals *(Erignathus barbatus)*. *Can. J. Zool.,* **77**, 1025-1034.
Terhune, J. M., Addy, T. C., Jones, T. A. M. & Burton, H. R. (2001). Underwater calling rates of harp and Weddell seals as a function of hydrophone location. *Polar Biol.*, **35**, 144-146.
Terhune, J. M., Burton, H. & Green, K. (1993). Classification of diverse call types using cluster analysis techniques. *Bioacoustics*, **4**, 245-258.
Terrazas, A., Nowak, R., Serafin, N., Ferreira, G., Levy, F. & Poindron, P. (2002). Twenty-four-hour-old lambs

rely more on maternal behavior than on the learning of individual characteristics to discriminate between their own and an alien mother. *Dev. Psychobiol.*, **40**, 408-418.
Thewissen, J. G. M. & Hussain, S. T. (1993). Origin of underwater hearing in whales. *Nature*, **361**, 444-445.
Thies, W., Kalko, E. K. V. & Schnitzler, H.-U. (1998). The roles of echolocation and olfaction in two neotropical fruit-eating bats, *Carollia perspicillata* and *C. castanea*, feeding on *Piper*. *Behav. Ecol. Sociobiol.,* **42**, 397-409.
Thode, A. M., Mellinger, D. K., Stienessen, S., Martinez, A. & Mullin, K. D. (2000). Three-dimensional localization of diving sperm whales using a short-aperture towed horizontal array. *J. Acoust. Soc. Am.*, **108**, 2540.
Thode, A., Norris, T. & Barlow, J. (2000). Frequency beamforming of dolphin whistles using a sparse three-element towed array. *J. Acoust. Soc. Am.*, **107**, 3581-3584.
Thode, A. M., D'Spain, G. L. & Kuperman, W. A. (2000). Matched-field processing, geoacoustic inversion, and source signature recovery of blue whale vocalizations. *J. Acoust. Soc. Am.*, **107**, 1286-1300.
Thomas, J., Kastelein, R. A. & Y. Yu. Supin, eds. (1993). *Marine Mammal Sensory Systems.* Plenum Press; New York.
Thomas, T. J., Weary, D. M. & Appleby, M. C. (2001). Newborn and 5-week old calves vocalize in response to milk deprivation. *Appl. Anim. Behav. Sci.*, **74**, 165-173.
Thomas, J. A. & Golladay, C. L. (1995). Geographic variation in leopard seal (*Hydrurga leptonyx*) underwater vocalizations. In *Sensory Systems of Aquatic Mammals* (R. A. Kastelein, J. A. Thomas and P. E. Nachtigall, eds.). De Spil Publishers; Woerden, The Netherlands, pp. 201-221.
Thomas, J., Stoermer, M., Bowers, C., Anderson L. & Garver, A. (1988). Detection abilities and signal characteristics of echolocating false killer whales *(Pseudorca crassidens)*. In *Animal Sonar: Processes and Performance* (P. Nachtigall and P. W. B. Moore, eds.). NATO ASI Series A, Vol. 156. Plenum Press; London.
Thomas, J. A. & Turl, C. W. (1990). Echolocation characteristics and range detection threshold of a false killer whale. In *Sensory Abilities of Cetaceans* (J. Thomas & R. Kastelein, eds.). Plenum Press; New York, pp. 321-334.
Thompson, P. O., Cummings, W. C. & Ha, S. J. (1986). Sounds, source levels, and associated behavior of humpback whales, Southeast Alaska. *J. Acoust. Soc. Am.*, **80**, 735-740.
Thompson, P. O., Findley, L. T. & Vidal, O. (1992). 20 Hz pulses and other vocalizations of fin whales *Balaenoptera physalus* in the Gulf of California, Mexico. *J. Acoust. Soc. Am.*, **92**, 3051-3057.
Thompson, P. O. & Cummings, W. C. (2000). Stereotyped and other vocalizations of fin whales (*Balaenoptera physalus*) off Chile. *J. Acoust. Soc. Am.*, **108**, 2634.
Thompson, P. O., Findley, L. T., Vidal, O. & Cummings, W. C. (1996). Underwater sounds of blue whales, *Balaenoptera musculus*, in the Gulf of California, Mexico. *Mar. Mamm. Sci.,* **12**, 288-292.
Thomsen, F., Franck, D. & Ford, J. K. (2001). Characteristics of whistles from the acoustic repertoire of resident killer whales (*Orcinus orca*) off Vancouver Island, British Columbia. *J. Acoust. Soc. Am.*, **109**, 1240-1246.
Thomsen, F., Ford, J. K. B. & Franck, D. (1996). Whistles as close range emotive signals in wild killer whales *Orcinus orca* off Vancouver Island, British Columbia, Canada. *Bioacoustics*, **6**, 309-310.
Thomsen, F., Ford, J. K. B. & Franck, D. (1996). Whistles as close range emotive signals in wild killer whales *(Orcinus orca)* off Vancouver Island, British Columbia. *European Research on Cetaceans,* **9**, 15-17.
Thorpe, C. W., Bates, R. H. T. & Dawson, S. M. (1991). Intrinsic echolocation capability of Hector's dolphin, *Cephalorhynchus hectori*. *J. Acoust. Soc. Am.,* **90**, 2931-2934.
Tian, B. & Rauschecker, J. P. (1992). Neuronal responses to frequency modulated sounds in the anterior auditory field AAF of the cat's cortex. *Soc. Neurosci. Abstr.*, **18**, 843.
Tian, B. & Schnitzler, H.-U. (1997). Echolocation signals of the greater horseshoe bat *(Rhinolophus ferrumequinum)* in transfer flight and during landing. *J. Acoust. Soc. Am.,* **101**, 2347-2364.
Todd, S., Stevick, P., Lien, J., Marques, F. & Ketten, D. (1996). Behavioural effects of exposure to underwater explosions in humpback whales *(Megaptera novaeangliae)*. *Can. J. Zool.,* **74**, 1661-1672.
Tokuda, I., Riede, T., Neubauer, J., Owren, M. J. & Herzel, H. (2002). Nonlinear analysis of irregular animal vocalizations. *J. Acoust. Soc. Am.*, **111**, 2908-2919.
Tompkins, B. J. & Zegers, D. A. (2001). Behavioral reponses of the eastern chipmunk, *Tamias striatus*, to the vocalizations of four common North American raptors. *J. Pennsylv. Acad. Sci.*, **75**, 13-18.
Tost, J. & Hoerning, B. (2001). Vocalisation of bulls in a herd of free ranging. *Adv. Ethol.*, **36**, 276.
Tougaard, J., Casseday, J. H. & Covey, E. (1998). Arctiid moths and bat echolocation: broad-band clicks interfere with neural responses to auditory stimuli in the nuclei of the lateral lemniscus of the big brown bat. *J. Comp. Physiol, A.,* **182**, 203-215.
Triblehorn, J. D. & Yager, D. D. (2002). Implanted electrode recordings from a praying mantis auditory interneuron during flying bat attacks. *J. Exp. Biol.*, **205**, 307-320.

Trinchero, C., Giacoma, C. & Ostellino, R. (1997). Spectrographic analysis of cat *Felis catus* vocalisations during the early months of life. *Bioacoustics,* **8**, 257-258.
Troest, N. & Moehl, B. (1986). The detection of phantom targets in noise by serotine bats; negative evidence for the coherent receiver. *J. Comp. Physiol. A.*, **159**, 559-567.
Tupiner, Y. (1998). The sonar in Chiroptera: Reflections on the behaviour. *Bull. Soc. Zool. France,* **123**, 255-266 (French).
Turcott, S., Moons, C. & Zanella, A. (2001). Foal vocalizations and stress during weaning. *J. Anim. Sci.*, **79**, Suppl. 2, 109.
Turl, C. W. & Penner, R. H. (1989). Differences in echolocation click patterns of the beluga *(Delphinapterus leucas)* and the bottlenose dolphin *(Tursiops truncatus)*. *J. Acoust. Soc. Am.,* **86**, 497-502.
Turl, C. W. (1987). The ability of the California sea lion, *Zalophus californianus*, to bistatically detect and localize echoes from underwater targets. *J. Acoust. Soc. Am.,* **82**, 381-383.
Turl, C. W., Penner, R. H. & Au, W. W. L. (1987). Comparison of target detection capabilities of the beluga and bottlenose dolphin. *J. Acoust. Soc. Am.,* **82**, 1487-1491.
Turl, C. W. (1993). Low-frequency sound detection by a bottlenose dolphin. *J. Acoust. Soc. Am.,* **94**, 3006-3008.
Turl, C. W., Skaar, D. J. & Au, W. W. L. (1991). The echolocation ability of the beluga *(Delphinapterus leucas)* to detect targets in clutter. *J. Acoust. Soc. Am.,* **89**, 896-901.
Turnbull, S. D. & Terhune, J. M. (1993). Repetition enhances hearing detection thresholds in a harbor seal *Phoca vitulina*. *Can. J. Zool.*, **71**, 926-932.
Tuttle, M. D., Ryan, M. J. & Belwood, J. J. (1987). Acoustic resource partitioning by two species of phyllostomid bats (*Trachops cirrhosus* and *Tonatia sylvicola*). *Anim. Behav.*, **33**, 1369-1371.
Tyack, P. L. (1997). Development and social functions of signature whistles in bottlenose dolphins *Tursiops truncatus*. *Bioacoustics,* **8**, 21-46.
Tyack, P. L. & Recchia, C. A. (1991). A datalogger to identify vocalizing dolphins. *J. Acoust. Soc. Am.,* **90**, 1668-1671.
Tyack, P. (1991). If you need me, whistle. *Nat. Hist.*, **8/91**, 60-61.
Tyack, P. L. & Clark, C. W. (1997). Long range acoustic propagation of whale vocalisations. *Adv. Ethol.,* **32**, 28.
Tyack, P. & Sayigh, L. (1997). Vocal learning in cetaceans. In *Social Influences on Vocal Development* (C. Snowdon & M. Hausberger, eds.). Cambridge University Press; Cambridge, pp. 208-233.
Tyack, P. (1986). Whistle repertoires of two bottlenosed dolphins, *Tursiops truncatus*: mimicry of signature whistles? *Behav. Ecol. Sociobiol.*, **18**, 251-257.
Tyack, P. L. (2000). Dolphins whistle a signature tune. *Science*, **289**, 1310-1311.
Uetake, K. Yayou, K. & Okamoto, T. (1996). Auditory brainstem response and objective assessment of hearing thresholds in cowshed calves. *J. Ethol.*, **14**, 73-75.
Ulfendahl, M. & Khanna, S. M. (1993). Mechanical tuning characteristics of the hearing organ measured at the sensory cells in the gerbil temporal bone preparation. *Eur. J. Physiol.*, **424**, 95-104.
Ulfendahl, M., Khanna, S. M. & Loefstrand, P. (1993). Changes in the mechanical tuning characteristics of the hearing organ following acoustic overstimulation. *Eur. J. Neurosci.*, **5**, 713-723.
Valentine, D. E., Sinha, S. R. & Moss, C. F. (2002). Orienting responses and vocalizations produced by microstimulation in the superior colliculus of the echolocating bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.*, **188**, 89-108.
Valone, T. J. (1996). Food-associated calls as public information about patch quality. *Oikos*, **77**, 153-157.
Vankova, D. & Malek, J. (1997). Characteristics of the vocalizations of red deer *Cervus elaphus* hinds and calves. *Bioacoustics,* **7**, 281-289.
Vankova, D., Bartos, L. & Malek, J. (1997). The role of vocalization in the communication between red deer hinds and calves. *Ethology,* **103**, 795-808.
Vater, M., Koessl, M. & Horn, A. K. E. (1992). GAD- and GABA-immunoreactivity in the ascending auditory pathway of horseshoe and mustached bats. *J. Comp. Neurol.*, **325**, 183-206.
Vater, M. & Braun, K. (1994). Parvalbumin, calbindin D-28k, and calretin immunoreactivity in the ascending auditory pathway of horseshoe bats. *J. Comp. Neurol.*, **341**, 534-558.
Vater, M. & Koessl, M. (1996). Further studies on the mechanics of the cochlear partition in the mustached bat. I. Ultrastructural observations on the tectorial membrane and its attachments. *Hear. Res.*, **94**, 63-77.
Vaughan, N., Jones, G. & Harris, S. (1997). Identification of British bat species by multivariate analysis of echolocation call parameters. *Bioacoustics,* **7**, 189-207.
Vaughan, N., Jones, G. & Harris, S. (1997). Habitat use by bats (Chiroptera) assessed by means of a broad-band acoustic method. *J. Appl. Ecol.,* **34**, 716-730.
Veitl, S., Begall, S. & Burda, H. (2000). Ecological determinants of vocalisation parameters: the case of the coruro *Spalacopus cyanus* (Octodontidae), a fossorial social rodent. *Bioacoustics*, **11**, 129-148.
Verboom, B., Boonman, A. M. & Limpens, H. J. G. A. (1999). Acoustic perception of landscape elements by the pond bat *(Myotis dasycneme)*. *J. Zool.,* **248**, 59-66.

Versnel, H., Prijs, V. F. & Schoonhoven, R. (1997). Auditory-nerve fiber responses to clicks in guinea pigs with a damaged cochlea. *J. Acoust. Soc. Am.,* **101**, 993-1009.
Vieten, M., Kamper, K. & Diel, R. D. (1989). Social learning with bats. Behavioural science with PC-assisted acoustic measurement engineering. *Feinwerktechnik & Messtechnik,* **97**, 551-552 (German).
Vischer, M. W., Haeusler, R. & Rouiller, E. M. (1994). Distribution of Fos-like immunoreactivity in the auditory pathway of the Sprague-Dawley rat elicited by electrical stimulation. Neurosci. Res., **19**, 175-185.
Vivian, J. A., Barros, H. M. T., Manitiu, A. & Miczek, K. A. (1997). Ultrasonic vocalizations in rat pups: Modulation at the gamma-aminobutyric receptor complex and the neurosteroid recognition site. *J. Pharmacol. Exp. Therapeutics*, **282**, 318-325.
Vivian, J. A. & Miczek, K. A. (1993). Morphine attenuates ultrasonic vocalization during agonistic encounters in adult male rats. *Psychopharmacology*, **111**, 367-375.
Vivian, J. A. & Miczek, K. A. (1993). Diazepam and gepirone selectively attenuate either 20-32 or 32-64 kHz ultrasonic vocalizations during aggressive encounters. *Psychopharmacology*, **112**, 66-73.
Voelk, E., Doerrie, M., Schmidt, S. & Yapa, W. B. (2001). Does the response behaviour of male *Megaderma lyra* to contact calls depend on the sex of the caller? *Adv. Ethol.*, **36**, 284.
Volodina, E. V. (2000). Vocal repertoire of the cheetah *Acinonyx jubatus* (Carnivora, Felidae) in captivity: Sound structure and their potential for estimating the state of adult animals. Zoologicheskii Zhurnal, **79**, 833-843.
Volodina, E. V. & Volodin, I. A. (2000). Bioacoustic features of self-esteem in the cheetah. *Adv. Ethol.*, **35**, 60.
Wadsworth, J. & Moss, C. F. (2000). Vocal control of acoustic information for sonar discriminations by the echolocating bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.*, **107**, 2265-2271.
Wahlberg, M., Moehl, B. & Madsen, P. T. (2001). Estimating source position accuracy of a large-aperture hydrophone array for bioacoustics. *J. Acoust. Soc. Am.*, **109**, 397-406.
Wahlberg, M., Lettevall, E. & Medlund, L. (1996). Estimating the length of sperm whales from interpulse intervals in their clicks. *European Research on Cetaceans,* **9**, 38-40.
Walker, V. A., Peremans, H. & Hallam, J. C. T. (1998). One tone, two ears, three dimensions: A robotic investigation of pinnae movements used by rhinolophid and hipposiderid bats. *J. Acoust. Soc. Am.,* **104**, 569-579.
Wallace, M. N. & Harper, M. S. (1997). Callosal connections of the ferret primary auditory cortex. *Exp. Brain Res.,* **116**, 367-374.
Walton, J., Frisina, R. & O'Neill, W. (1998). Age-related alteration in processing of temporal sound features in the auditory midbrain of the CBA mouse. *J. Neurosci.,* **18**, 2764-2776.
Wang, X. & Kadia, S. C. (2001). Differential representation of species-specific primate vocalizations in the auditory cortices of marmoset and cat. *J. Neurophysiol.*, **86**, 2616-2620.
Warr, W. B. (1992). Organization of olivocochlear efferent systems in mammals. In *The Anatomy of the Mammalian Auditory Pathways* (D. B. Webster, R. R. Fay & A. N. Popper, eds.). Springer; New York, pp. 410-488.
Wartzok, D., Sayegh, S., Stone, H., Barchak, J. & Barnes, W. (1992). Acoustic tracking system for monitoring under-ice movements of polar seals. *J. Acoust. Soc. Am.,* **92**, 682-687.
Waters, D. A. (1993). The auditory response of noctuid moths to the echolocation calls of bats. Ph.D. thesis. University of Bristol.
Waters, D. A. & Jones, G. (1995). Echolocating bats and tympanate moths: interactions and perspectives. *Bioacoustics*, **6**, 217.
Waters, D. A. & Jones, G. (1996). The peripheral auditory characteristics of noctuid moths. I. Responses to the search-phase echolocation calls of bats. *J. Exp. Biol.,* **199**, 847-856.
Waters, D. A. & Jones, G. (1994). Wingbeat-generated ultrasound in noctuid moths increases the discharge rate of the bat-detecting A1 cell. *Proc. Roy. Soc. Lond. B.,* **258**, 41-46.
Waters, D. A. & Walsh, A. L. (1994). The influence of bat detector brand on the quantitative estimation of bat activity. *Bioacoustics*, **5**, 205-221.
Waters, D. A., Rydell, J. & Jones, G. (1995). Echolocation call design and limits on prey size: a case study using the aerial-hawking bat *Nyctalus leisleri*. *Behav. Ecol. Sociobiol.*, **37**, 321-328.
Waters, D. A. & Jones, G. (1995). Echolocation call structure and intensity in five species of insectivorous bats. *J. Exp. Biol.*, **198**, 475-489.
Watkins, W. A., Daher, M. A., Fristrup, K. & Notarbartolo di Sciara, G. (1994). Fishing and acoustic behaviour of Fraser's dolphin *(Lagenodelphis hoseii)* near Dominica, Southeast Caribbean. *Carib. J. Sci.,* **30**, 76-82.
Watkins, W. A., Tyack, P. & Moore, K. E. (1987). The 20 Hz signals of finback whales *(Balaenoptera physalus)*. *J. Acoust. Soc. Am.,* **82**, 1901-1912.
Watkins, W. A. (1996). Fin whale sounds. *European Research on Cetaceans,* **9**, 11-13.
Watkins, W. A., Daher, M. A., Reppucci, G. M., George, J. E., Martin, D. L., DiMarzio, N. A. & Gannon, D. P.

(2000). Seasonality and distribution of whale calls in the North Pacific. *Oceanography*, **13**, 62-67.
Watts, J. M., Stookey, J. M., Schmutz, S. M. & Waltz, C. S. (2001). Variability in vocal and behavioural responses to visual isolation between full-sibling families of beef calves. *Appl. Anim. Behav. Sci.*, **70**, 255-273.
Watts, J. M. & Stookey, J. M. (2001). The propensity of cattle to vocalise during handling and isolation is affected by phenotype. *Appl. Anim. Behav. Sci.*, **74**, 81-95.
Watts, J. M. & Stookey, J. M. (2000). Vocal behaviour in cattle: the animal's commentary on its biological processes and welfare. *Appl. Anim. Behav. Sci.*, **67**, 15-33.
Watts, J. M. & Stookey, J. M. (1998). Effects of restraint and branding on rates and acoustic parameters of vocalizations in beef cattle. *Appl. Anim. Behav. Sci.*, **62**, 125-135.
Watts, J. M. & Stookey, J. M. (1999). Effects of restraint and branding on rates and acoustic parameters of vocalization in beef cattle. *Appl. Anim. Behav. Sci.,* **62**, 125-135.
Weary, D. M. & Fraser, D. (1997). Vocal response of piglets to weaning: effect of piglet age. *Appl. Anim. Behav. Sci.,* **54**, 153-160.
Weary, D. M., Ross, S. & Fraser, D. (1997). Vocalizations by isolated piglets: a reliable indicator of piglet need directed towards the sow. *Appl. Anim. Behav, Sci.,* **53**, 249-257.
Weary, D. M. & Kramer, D. L. (1995). Response of eastern chipmunks to conspecific alarm calls. *Anim. Behav.*, **49**, 81-93.
Weary, D. M. & Fraser, D. (1995). Calling by domestic piglets: reliable signals of need? *Anim. Behav.*, **50**, 1047-1055.
Weary, D. M. & Fraser, D. (1999). Responses of piglets to early separation from the sow. *Appl. Anim. Behav. Sci.*, **63**, 289-300.
Weary, D. M., Braithwaite, L. A. & Fraser, D. (1998). Vocal response to pain in piglets. *Appl. Anim. Behav. Sci.,* **56**, 161-172.
Weary, D. M., Lawson, G. L. & Thompson, B. K. (1996). Sows show stronger responses to isolation calls of piglets associated with greater levels of piglet need. *Anim. Behav.*, **52**, 1247-1253.
Weber, C., Kim, P., Rovnaghi, C. R., Williams, K., Dykman, R. A. & Anand, K. J. S. (2000). Ontogeny of ultrasonic vocalization (USV) following graded sensory stimuli in infant rats. *Pediatr. Res.*, **47**, 35A.
Weber, M. (2000). Conditioned changes in ultrasonic vocalizations to an aversive olfactory stimulus are lateralized in 6-day-old rats. *Dev. Psychobiol.*, **37**, 121-128.
Webster, D. B., Popper, A. N. & Fay, R. R., eds. (1992). *The Mammalian Auditory Pathway: Neuroanatomy.* Springer-Verlag; New York.
Wegner, T. & Schmidt, U. (1996). Dynamic changes of echolocation properties induced by small band noise in *Rhinopoma microphyllum* (Chiroptera). *Z. Saeugetierkd.*, **61** (Sonderheft), 67 (German).
Weid, R. & von Helversen, O. (1987). Echolocation calls of European bats in hunting flight in open areas. *Myotis*, **25**, 5-27 (German).
Weilgart, L. & Whitehead, H. (1997). Group-specific dialects and geographical variation in coda repertoire in South Pacific sperm whales. *Behav. Ecol. Sociobiol.,* **40**, 277-285.
Weilgart, L. & Whitehead, H. (1993). Coda communication by sperm whales (*Physeter macrocephalus*) off the Galapagos Islands. *Can. J. Zool.*, **71**, 744-752.
Weller, A. & Gispan, I. H. (2000). A cholecystokinin receptor antagonist blocks milk-induced but not maternal-contact-induced decrease of ultrasonic vocalization in rat pups. *Dev. Psychobiol.*, **37**, 35-43.
Wenstrup, J. J. (1999). Frequency organization and responses to complex sounds in the medial geniculate body of the mustached bat. *J. Neurophysiol.*, **82**, 2528-2544.
Wetzel, W., Wagner, T., Ohl, F. W. & Scheich, H. (1998). Categorical discrimination of direction in frequency-modulated tones by Mongolian gerbils. *Behav. Brain Res.,* **91**, 29-39.
Wetzel, W. W., Ohl, F. W., Neubauer, H., Wagner, T. & Scheich, H. (2001). Impairment of tone sequence discrimination learning by auditory cortex lesions in Mongolian gerbils. *Soc. Neurosci. Abstr.*, **27**, 2255.
White, N. R., Gonzales, R. N. & Barfield, F. J. (1993). Do vocalizations of the male rat elicit calling from the female? *Behav. Neural. Biol.*, **59**, 76-78.
White, N. R., Prasad, M., Barfield, R. J. & Nyby, J. G. (1998). 40 and 70 kHz vocalizations of mice *(Mus musculus)* during copulation: Do they facilitate courtship of mice? *Physiol. Behav.,* **63**, 467-473.
White, R. G., DeShazer, J. A., Tressler, C. J., Borcher, G. M., Davey, S., Waninge, A., Parkhurst, A. M., Milanuk, M. J. & Clemens, E. T. (1995). Vocalization and physiological response of pigs during castration with or without a local anesthetic. *J. Anim. Sci.,* **73**, 381-386.
Whitehead, H. & Weilgart, l. (1990). Click rates from sperm whales. *J. Acoust. Soc. Am.,* **87**, 1798-1806.
Whitehead, M. L., Stagner, B. B., Lonsbury-Martin, B. L. & Martin, G. K. (1994). Measurement of otoacoustic emissions for hearing assessment. *IEEE, Engineering in Medicine and Biology Magazine*, **13**, 210-226.

Whitehead, H., Dillon, M., Dufault, S., Weilgart, L. & Wright, J. (1998). Non-geographically based population structure of South Pacific sperm whales: dialects, fluke-markings and genetics. *J. Anim. Ecol.,* **67**, 253-262.

Wiegrebe, L. & Schmidt, S. (1996). Temporal integration in the echolocating bat, *Megaderma lyra*. *Hear. Res.,* **102**, 35-42.

Wilden, I., Herzel, H., Peters, G. & Tembrock, G. (1998). Subharmonics, biphonation, and deterministic chaos in mammal vocalization. *Bioacoustics,* **9**, 171-196.

Wilden, I. & Tembrock, G. (1994). On the call repertoire of the African wild dog (*Lycaon pictus*, Canidae) and on postnatal ontogenesis. *Z. Saeugetierkd.,* **59** (Sdh.), 50.

Wilkins, K. T., Roberts, J. C., Roorda, C. S. & Hawkins, J. E. (1999). Morphometrics and functional morphology of middle ears of extant pocket gophers (Rodentia: Geomyidae). *J. Mammal.,* **80**, 180-198.

Wilkinson, G. S. (1992). Vocal advertisement and group foraging in greater spear-nosed bats. *Bat Res. News*, **33**, 80.

Wilkinson, G. S. & Boughman, J. W. (1998). Social calls coordinate foraging in greater spear-nosed bats. *Anim. Behav.,* **55**, 337-350.

Williams, M. T., Hennessy, M. B. & Davis, H. N. (1998). Stress during pregnancy alters rat offspring morphology and ultrasonic vocalizations. *Physiol. Behav.*, **63**, 337-343.

Winslow, J. T., Hearn, E. F., Ferguson, J., Young, L. J., Matzuk, M. M. & Insel, T. R. (2000). Infant vocalization, adult aggression, and fear behavior of an oxytocin null mutant mouse. *Horm. Behav.*, **37**, 145-155.

Wintink, A. J. & Brudzynski, S. M. (2001). The related roles of dopamine and glutamate in the initiation of 50-kHz ultrasonic calls in adult rats. *Pharmacol. Biochem. Behav.*, **70**, 317-323.

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.

Withington-Wray, D. J., Binns, K. E., Dhanjal, S. D., Brickley, S. G. & Keating, M. J. (1990). The maturation of the superior collicular map of auditory space in the guinea-pig is disrupted by developmental auditory deprivation. *Eur. J. Neurosci.*, **2**, 693-703.

Withington, D. J. (1992). The effect of binocular lid suture on auditory responses in the guinea-pig superior colliculus. *Neurosci. Lett.*, **136**, 153-156.

Wolski, L. F., Anderson, R. C. & Bowles, A. E. (2000). A comparison of behavioral and auditory brainstem response methods for examining hearing sensitivities in the harbor seal (*Phoca vitulina*). *J. Acoust. Soc. Am.*, **108**, 2516.

Wong, J., Stewart, P. D. & MacDonald, D. W. (1999). Vocal repertoire in the European badger *(Meles meles)*: Structure, context, and function. *J. Mammal.,* **80**, 570-588.

Wong, G. S. K. & Zhu, S. (1995). Speed of sound in seawater as a function of salinity, temperature, and pressure. *J. Acoust. Soc. Am.*, **97**, 1732-1736.

Woodward, B. & Coggrave, C. R. (1996). Tracking cetaceans by sonar click detection. *European Research on Cetaceans,* **9**, 50-52.

Woodward, B. (1998). Principles of tracking bio-sonar sources underwater. *Bioacoustics,* **9**, 234-235.

Woody, C. D., Wang, X. F. & Gruen, E. (1998). Acoustic transmission in the dentate nucleus. I. Patterns of activity to click and hiss. II. Changes in activity and excitability after conditioning. *Brain Res.,* **789**, 74-83.

Wotton, J. M., Haresign, T. & Simmons, J. A. (1995). Spatially dependent acoustic cues generated by the external ear of the big brown bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **98**, 1423-1445.

Wotton, J. M., Haresign, T., Ferragamo, M. J. & Simmons, J. A. (1996). Sound source elevation and external ear cues influence the discrimination of spectral notches by the big brown bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **100**, 1764-1776.

Wotton, J. M. & Jenison, R. L. (1997). A backpropagation network model of the monaural localization information available in the bat echolocation system. *J. Acoust. Soc. Am.,* **101**, 2964-2972.

Wotton, J. M., Jenison, R. L. & Hartley, D. J. (1997). The combination of echolocation emission and ear reception enhances directional spectral cues of the big brown bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.,* **101**, 1723-1733.

Wotton, J. M. & Simmons, J. A. (2000). Spectral cues and perception of the vertical position of targets by the big brown bat, *Eptesicus fuscus*. *J. Acoust. Soc. Am.*, **107**, 1034-1041.

Xin, H., DeShazer, J. A. & Leger, D. W. (1989). Pig vocalization under selected husbandry practices. *Transactions ASAE,* **32**, 2181-2184.

Xu, L. & Middlebrooks, J. C. (2000). Individual differences in external-ear transfer functions of cats. *J. Acoust. Soc. Am.*, **107**, 1451-1459.

Yahr, J. S., Baseheart, B. J., Land, C. L., Akamatsu, T., Yan, H. Y. & Barron, S. (2000). An examination of the

types of ultrasonic vocalizations displayed by neonatal rats. *Soc. Neurosci. Abstr.*, **26**.
Yajima, Y. & Hayashi, Y. (1992). Convergence of excitatory inputs from the central grey matter, vocal center and inferior colliculus to a single reticular neuron in the rat. *Soc. Neurosci. Abstr.*, **18**, 1052.
Yamanaka, Y., Sakamoto, T., Wada, K. & Nakajima, Y. (1993). Activities of the intralaryngeal muscles during electrically induced vocalization in decerebrate cats. *Neurosci. Res.*, **17**, 77-81.
Yan, J. & Suga, N. (1996). Corticofugal modulation of time-domain processing of biosonar information in bats. *Science,* **273**, 1100-1103.
Yan, J. & Suga, N. (1996). The midbrain creates and the thalamus sharpens echo-delay tuning for the cortical representation of target-distance information in the mustached bat. *Hear. Res.*, **93**, 102-110.
Yan, J. & Suga, N. (1999). Corticofugal amplification of facilitative auditory responses of subcortical combination sensitive neurons in the mustached bat. *J. Neurophysiol.,* **81**, 817-824.
Yin, S. (2002). A new perspective on barking in dogs (*Canis familiaris*). *J. Comp. Psychol.*, **116**, 189-193.
Youfu, X. & Rongcai, J. (1986). Underwater signals of the Baiji, *Lipotes vexillifer*. In *Biology and Conservation of River Dolphins* (W. F. Perrin et al., eds.). IUCN Species Survival Commission, Occasional Paper 3.
Young, B. J. & Leaton, R. N. (1992). Amygdala central nucleus lesions attenuate the bradycardia, tachydardia and behavioral freezing elicited by acoustic stimuli in rats. *Soc. Neurosci. Abstr.*, **18**, 1565.
Young, A. (1988). Echolocation - listening in the dark. *Australian Science magazine*, **2**, 26-29.
Zaslavskiy, G. L. (1998). Double-click representation in the dolphin auditory system. *Bioacoustics,* **9**, 226.
Zaslavskiy, G. L. (1998). The time resolution of the dolphin's sonar: what is actual? *Bioacoustics,* **9**, 235.
Zbinden, K. & Zingg, P. (1986). Search and hunting signals of echolocating European free-tailed bats, *Tadarida teniotis*. *Mammalia*, **50**, 9-25.
Zenner, H. P. & Ernst, A. (1993). Cochlear motor transduction and signal transfer tinnitus: models for three types of cochlear tinnitus. *Eur. Arch. Oto-Rhino-Laryngol.*, **249**, 447-454.
Zhang, Y. & Suga, N. (2000). Modulation of responses and frequency tuning of thalamic and collicular neurons by cortical activation in mustached bats. *J. Neurophysiol.*, **84**, 325-333.
Zhang, J. P., Jen, P. H.-S. & Sun, X. (2000). Direction-dependent corticofugal modulation of frequency-tuning curves on inferior collicular neurons in the big brown bat, *Eptesicus fuscus*. *J. Comp. Physiol. A.*, **186**, 913-922.
Zhao, H.-B. & Liang, Z.-A. (1996). Processing of modulation frequency in the dorsal cochlear nucleus of the guinea pig: sinusoidal frequency-modulated tones. *Hear. Res.*, **95**, 120-134.
Zheng, X. Y., Henderson, D., McFadden, S. L. Ding, D. L. & Salvi, R. J. (1999). Auditory nerve fiber responses following chronic cochlear deeffentation. *J. Comp. Neurol.*, **406**, 72-86.
Zhou, X. & Jen, P. H.-S. (2001). The effect of sound intensity on duration-tuning characteristics of bat inferior collicular neurons. *J. Comp. Physiol. A.*, **187**, 63-73.
Zhou, X. M. & Jen, P. H.-S. (2000). Neural inhibition sharpens auditory spatial selectivity of bat inferior colliculus neurons. *J. Comp. Physiol. A.*, **186**, 389-398.
Zimmerberg, B., Brunelli, S. A. & Hofer, M. A. (1994). Reduction of rat pup ultrasonic vocalizations by the neuroactive stereoid allopregnalone. *Pharmacol. Biochem. Behav.*, **47**, 735-738.
Zimmerberg, B. & McDonald, B. C. (1996). Prenatal alcohol exposure influences the effects of neuroactive steroids on separation-induced ultrasonic vocalizations in rat pups. *Pharmacol. Biochem. Behav.,* **55**, 541-547.
Zmarich, C., Vernier, E. & Ferrero, F. (1997). Methodological considerations on the acoustic signal analysis for two species of bats (Chiroptera, Vespertilionidae). *Bioacoustics,* **8**, 275-276.