

INSECTS

- Abbott, J. C. & Stewart, K. W. (1993). Male search behavior of the stonefly *Pteronarcella badia* Hagen (Plecoptera, Pteronarcyidae) in relation to drumming. *J. Insect Behav.*, **6**, 467-481.
- Acharya, L. & Mcneil, J. N. (1998). Predation risk and mating behavior: the responses of moths to bat-like ultrasound. *Behav. Ecol.*, **9**, 552-558.
- Acharya, L. (1992). Are ears valuable to moths flying around lights? *Bat Res. News*, **33**, 47.
- Ahmad, A., Siddiqui, M. A., Puranik, P. G. & Waheedullah, A. (1989). Natural frequency of elytral vibrations in *Gryllus bimaculatus*. *J. Acoust. Soc. India*, **14**, 40-43.
- Alcock, J. & Bailey, W. J. (1995). Acoustical communication and the mating system of the Australian whistling moth *Hecatesia exultans* (Noctuidae: Agaristinae). *J. Zool.*, **237**, 337-352.
- Allen, G. R. (2000). Call structure variability and field survival among bushcrickets exposed to phonotactic parasitoids. *Ethology*, **106**, 409-423.
- Allen, G. R. & Bailey, W. J. (1994). Female encounter rate and the calling behavior and mating propensity of male *Requena verticalis* (Orthoptera: Tettigoniidae). *Behav. Ecol. Sociobiol.*, **34**, 63-69.
- Allen, G. R., Kamien, D., Berry, O., Byrne, P. & Hunt, J. (1999). Larviposition, host cues and planidial behavior in the sound locating fly *Homotrixa alleni* (Diptera: Tachinidae). *J. Insect Behav.*, **12**, 67-79.
- Allen, G. R. (1998). Diel calling activity and field survival of the bushcricket, *Sciarasaga quadrata* (Orthoptera: Tettigoniidae): A role for sound-locating parasitic flies? *Ethology*, **104**, 645-660.
- Allen, G. R. (1995). The biology of the phonotactic parasitoid, *Homotrixa* sp. (Diptera: Tachinidae), and its impact on the survival of male *Sciarasaga quadrata* (Orthoptera: Tettigoniidae) in the field. *Ecol. Entomol.*, **20**, 103-110.
- Allen, G. R. (1995). The calling behaviour and spatial distribution of male bushcrickets (*Sciarasaga quadrata*) and their relationship to parasitism by acoustically orienting tachinid flies. *Ecol. Entomol.*, **20**, 303-310.
- Alonso-Pimentel, H. & Spangler, H. G. (1995). Female acoustic response in *Drosophila mettleri* (Diptera: Drosophilidae): A new recording technique to detect female sounds. *J. Insect Behav.*, **8**, 287-293.
- Alonso-Pimentel, H., Spangler, H. G., Rogers, R. & Papaj, D. R. (2000). Acoustic component and social context of the wing display of the walnut fly *Rhagoletis juglandis*. *J. Insect Behav.*, **13**, 511-524.
- Alonso-Pimental, H., Spangler, H. G. & Heed, W. B. (1995). Courtship sounds and behaviour of the two Saguaro-breeding *Drosophila* and their relatives. *Anim. Behav.*, **50**, 1031-1039.
- Alt, S., Ringo, J., Talyn, B., Bray, W. & Dowse, H. (1998). The period gene controls courtship song cycles in *Drosophila melanogaster*. *Anim. Behav.*, **56**, 87-97.
- Aspi, J. (2000). Inbreeding and outbreeding depression in male courtship song characters in *Drosophila montana*. *Heredity*, **84**, 273-282.
- Aspi, J. (1992). Female mate choice and mating system among boreal *Drosophila virilis* group species. *Acta Univ. Ouluensis Ser. A. Sci. Rerum. Nat.*, **241**.
- Aspi, J. & Hoikkala, A. (1995). Male mating success and survival in the field with respect to size and courtship song characters in *Drosophila littoralis* and *D. montana* (Diptera: Drosophilidae). *J. Insect Behav.*, **8**, 67-87.
- Aspi, J. & Hoikkala, A. (1993). Laboratory and natural heritabilities of male courtship song characters in *Drosophila montana* and *D. littoralis*. *Heredity*, **70**, 400-406.
- Atkins, G. J., Navia, B. & Stout, J. (2001). Temporal pattern encoding by auditory interneurons in female crickets: Understanding the prothoracic network. *Soc. Neurosci. Abstr.*, **27**, 1982.
- Aubin, T. (1996). New methods for recording low-amplitude signals. Application to the analysis of the courtship song of *Drosophila* genus. *Bioacoustics*, **6**, 297-298.
- Aubin, T., Rybak, F. & Moulin, B. (2000). A simple method for recording low-amplitude sounds. Application to the study of the courtship song of the fruit fly *Drosophila melanogaster*. *Bioacoustics*, **11**, 51-67.
- Bacher, S., Casas, J. & Dorn, S. (1996). Parasitoid vibrations as potential releasing stimulus of evasive behaviour in a leafminer. *Physiol. Entomol.*, **21**, 33-43.
- Bacher, S., Casas, J., Wackers, F. & Dorn, S. (1997). Substrate vibrations elicit defensive behaviour in leafminer pupae. *J. Insect Physiol.*, **43**, 945-952.
- Bailey, W. J. (1993). The tettigoniid (Orthoptera, Tettigoniidae) ear: multiple functions and structural diversity. *Int. J. Insect Morphol. Embryol.*, **22**, 185-205.
- Bailey, W. J., Bennet-Clark, H. C. & Fletcher, N. H. (2001). Acoustics of a small Australian burrowing cricket: the control of low-frequency pure-tone songs. *J. Exp. Biol.*, **204**, 2827-2841.
- Bailey, W. J. (1993). Measuring the costs of calling and mating in tettigoniids. *Metalepta*, **14**(3), 14-15.
- Bailey, W. J. & Field, G. (2000). Acoustic satellite behaviour in the Australian bushcricket *Elephantodeta nobilis* (Phaneropterinae, Tettigoniidae, Orthoptera). *Anim. Behav.*, **59**, 361-369.
- Bailey, W. J. & Romer, H. (1997). Hear no evil - peripheral control of hearing in an Australian bushcricket

- Scirasaga quadrata*. *Metalepta*, **17**(2), 9.
- Bailey, W. J. & Yeoh, P. B. (1988). Female phonotaxis and frequency discrimination in the bushcricket *Requena verticalis*. *Physiol. Entomol.*, **13**, 363-372.
- Bailey, W. J., Withers, P. C., Endersby, M. & Gaul, K. (1993). The energetic costs of calling in the bushcricket *Requena verticalis* (Orthoptera, Tettigoniidae, Listeroscelidinae). *J. Exp. Biol.*, **178**, 21-37.
- Bailey, W. J., Greenfield, M. D. & Shelly, T. E. (1993). Transmission and perception of acoustic signals in the desert clicker *Ligurotettix coquilletti* (Orthoptera, Acrididae). *J. Insect Behav.*, **6**, 141-154.
- Bailey, W. J. (1998). Do large bushcrickets have more sensitive ears? Natural variation in hearing thresholds within populations of the bushcricket *Requena verticalis* (Listroscelidinae: Tettigoniidae). *Physiol. Entomol.*, **23**, 105-112.
- Bailey, W. J. & Simmons, L. W. (1991). Male-male behavior and sexual dimorphism of the ear of a zaprochiline tettigoniid (Orthoptera: Tettigoniidae). *J. Insect Behav.*, **4**, 51-65.
- Balakrishnan, R., von Helversen, D. & von Helversen, O. (2001). Song pattern recognition in the grasshopper *Chorthippus biguttulus*: the mechanism of syllable onset and offset detection. *J. Comp. Physiol. A.*, **187**, 255-264.
- Balakrishnan, R. & Pollack, G. S. (1996). Recognition of courtship song in the field cricket, *Teleogryllus oceanicus*. *Anim. Behav.*, **51**, 353-366.
- Ball, E. E., Oldfield, B. P. & Rudolph, K. M. (1989). Auditory organ structure, development, and function. In *Cricket Behavior and Neurobiology* (F. Huber, T. E. Moore & W. Loher, eds.). Cornell University Press; Ithaca, NY, pp. 391-422.
- Baroni-Urbani, C., Buser, M. W. & Schilliger, E. (1988). Substrate vibration during recruitment in ant social organization. *Insectes Soc.*, **35**, 241-250.
- Barrientos-Lozana, L. & Montes-Torres, M. (1997). Geographic distribution and singing activity of *Pterophylla beltrani* and *P. robertsi* (Orthoptera: Tettigoniidae), under field conditions. *J. Orth. Res.*, **6**, 49-56.
- Barrientos, L. L. (1988). Acoustic behaviour and taxonomy of Mexican *Pterophylla* (Orthoptera: Tettigoniidae: Pseudophyllinae). Ph.D. Thesis. University of Wales; Cardiff, U.K.
- Barrientos, L. L. & Den Hollander, J. (1994). Acoustic signals and taxonomy of Mexican *Pterophylla* (Orthoptera: Tettigoniidae: Pseudophyllinae). *J. Orth. Res.*, **2**, 35-40.
- Bateman, P. W. (2001). Changes in phonotactic behavior of a bushcricket with mating history. *J. Insect Behav.*, **14**, 333-343.
- Bauer, M. & von Helversen, O. (1987). Separate localisation of sound recognizing and sound producing neural mechanisms in a grasshopper. *J. Comp. Physiol. A.*, **161**, 95-101.
- Bellwood, J. J. & Morris, G. K. (1987). Bat predation and its influence on calling behavior in Neotropical katydids. *Science*, **238**, 64-67.
- Benediktov, A. A. (1998). Acoustic communication of tetrigids of genus *Tetrix* (Orthoptera, Tetrigidae). *Entomol. Rev.*, **78**, 892-895.
- Bennet-Clark, H. C. (1987). The tuned singing burrow of mole crickets. *J. Exp. Biol.*, **128**, 383-409.
- Bennet-Clark, H. C. (1989). Songs and the physics of sound production. In *Cricket Behavior and Neurobiology* (F. Huber, T. E. Moore & W. Loher, eds.). Cornell University Press; New York, pp. 227-261.
- Bennet-Clark, H. C. & Bailey, W. J. (2002). Ticking of the clockwork cricket: the role of the escapement mechanism. *J. Exp. Biol.*, **205**, 613-625.
- Bennet-Clark, H. C. & Young, D. (1995). Cicada tymbal mechanics and the role of the tymbal in sound production. *Bioacoustics*, **6**, 220.
- Bennet-Clark, H. C. & Young, D. (1998). Sound radiation by the bladder cicada *Cystosoma saundersii*. *J. Exp. Biol.*, **201**, 707-715.
- Bennet-Clark, H. C. & Daws, A. G. (1999). Transduction of mechanical energy into sound energy in the cicada *Cyclochila australasiae*. *J. Exp. Biol.*, **202**, 1803-1818.
- Bennet-Clark, H. C. (1999). Resonators in insect sound production: How insects produce loud pure-tone songs. *J. Exp. Biol.*, **202**, 3347-3358.
- Bennet-Clark, H. C. (1997). Tymbal mechanics and the control of song frequency in the cicada *Cyclochila australasiae*. *J. Exp. Biol.*, **200**, 1681-1694.
- Bennet-Clark, H. C. & Young, D. (1994). The scaling of song frequency in cicadas. *J. Exp. Biol.*, **191**, 291-294.
- Bennet-Clark, H. C. & Young, D. (1992). A model of the mechanism of sound production in cicadas. *J. Exp. Biol.*, **173**, 123-153.
- Bennet-Clark, H. C. (1989). Songs and the physics of sound production. In *Cricket Behavior and Neurobiology* (F. Huber et al., eds.). Cornell University Press, Comstock Associates; Ithaca, N.Y., pp. 227-261.
- Bertram, S. & Johnson, L. (1998). An electronic technique for monitoring the temporal aspects of acoustic signals of captive organisms. *Bioacoustics*, **9**, 107-118.
- Bertram, S. M. (2000). The influence of age and size on temporal mate signalling behaviour. *Anim. Behav.*, **60**, 333-339.

- Birch, M. & Menendez, G. (1991). Knocking on wood for a mate. *New Sci.*, **6 July**, 42-44.
- Boake, C. R. B. & Poulsen, T. (1997). Correlates versus predictors of courtship success: courtship song in *Drosophila silvestris* and *D. heteroneura*. *Anim. Behav.*, **54**, 699-704.
- Boonman, A. M. (1995). A survey method for the speckled bushcricket *Leptophyes punctatissima* (Orthoptera: Tettigoniidae) based on its sound emission. *Entomol. Bericht.*, **55**, 30-35.
- Boulard, M. (1992). *Pagiphora yanni* new species: A new Anatolian cicada. Description and first biological data, identity and calling song, ethology (Homoptera, Cicadoidea, Tibicinidae). *Nouv. Rev. Entomol.*, **9**, 365-374 (French).
- Boyan, G. S. (1999). Presynaptic contributions to response shape in an auditory neuron of the grasshopper. *J. Comp. Physiol. A.*, **184**, 279-294.
- Brantley, S. & Hill, P. S. M. (2000). Lekking in *Gryllotalpa major*, the prairie mole cricket: A test of the 'hotshot hypothesis'. *Am. Zool.*, **40**, 953-954.
- Brogdon, W. G. (1994). Measurement of flight tone differences between female *Aedes aegypti* and *A. albopictus* (Diptera: Culicidae). *J. Med. Entomol.*, **31**, 700-703.
- Brown, W. D., Wideman, J., Andrade, M. C. B., Mason, A. C. & Gwynne, D. T. (1996). Female choice for an indicator of male size in the song of the black-horned tree cricket, *Oecanthus nigricornis* (Orthoptera: Gryllidae: Oecanthinae). *Evolution*, **50**, 2400-2411.
- Burpee, D. M. & Sakaluk, S. K. (1993). The effect of pair formation on diel calling patterns in two cricket species *Gryllus veletis* and *Gryllodes sigillatus* (Orthoptera, Gryllidae). *J. Insect Behav.*, **6**, 431-440.
- Butlin, R. K. (1993). The variability of mating signals and preferences in the brown planthopper *Nilaparvata lugens* (Homoptera, Delphacidae). *J. Insect Behav.*, **6**, 125-140.
- Cade, W. H., Ciceran, M. & Murray, A. (1996). Temporal patterns of parasitoid fly (*Ormia ochracea*) attraction to field cricket song (*Gryllus integer*). *Can. J. Zool.*, **74**, 393-395.
- Campesan, S., Dubrova, Y., Hall, J. C. & Kyriacou, C. P. (2001). The nonA gene in *Drosophila* conveys species-specific behavioral characteristics. *Genetics*, **158**, 1535-1543.
- Cao, L., Zheng, Z. & Lian, Z. (1995). Comparative study on the sounds of the genus *Podismopsis* (Orthoptera: Acrypteridae) from the northeast of China. *Entomotaxonomia*, **17**, 70-74.
- Casas, J., Bacher, S., Tautz, J., Meyhoefer, R. & Pierre, D. (1998). Leaf vibrations and air movements in a leaf-miner-parasitoid system. *Biol. Control*, **11**, 147-153.
- Charalambous, M., Butlin, R. K. & Hewitt, G. M. (1994). Genetic variation in male song and female song preference in the grasshopper *Chorthippus brunneus* (Orthoptera, Acrididae). *Anim. Behav.*, **47**, 399-411.
- Child, C. Z., Raeman, C. H., Walters, E. & Carstensen, E. L. (1992). The sensitivity of *Drosophila* larvae to continuous-wave ultrasound. *Ultrasound Med. Biol.*, **18**, 725-728.
- Ciceran, M., Murray, A. M. & Rowell, G. (1994). Natural variation in the temporal patterning of calling song structure in the field cricket *Gryllus pennsylvanicus*: Effects of temperature, age, mass, time of day, and nearest neighbour. *Can. J. Zool.*, **72**, 38-42.
- Ciplak, B. & Heller, K.-G. (2001). Notes on the song of *Bolua turkiyae* and on the phylogeny of the genus *Bolua* (Orthoptera, Tettigoniidae, Tettigoniinae). *Isr. J. Zool.*, **47**, 233-242.
- Claridge, M. F. & Morgan, J. C. (1993). Geographical variation in acoustic signals of the planthopper *Nilaparvata bakeri* Muir in Asia: species recognition and sexual selection. *Biol. J. Linn. Soc.*, **48**, 267-281.
- Claridge, M. F., Morgan, J. C. & Moulds, M. S. (1999). Substrate-transmitted acoustic signals of the primitive cicada, *Tettigarcta crinita* Distant (Hemiptera, Cicadoidea, Tettigarctidae). *J. Nat. Hist.*, **33**, 1831-1834.
- Clark, D. C. & Moore, A. J. (1995). Variation and repeatability of male agonistic hiss characteristics and their relationship to social rank in *Gromphadorhina portentosa*. *Anim. Behav.*, **50**, 719-729.
- Clark, D. C. (1998). Male mating success in the presence of a conspecific opponent in a Madagascar hissing cockroach, *Gromphadorhina portentosa* (Dictyoptera: Blaberidae). *Ethology*, **104**, 877-888.
- Clark, D. C. & Moore, A. J. (1995). Social communication in the Madagascar hissing cockroach: features of male courtship hisses and a comparison of courtship and agonistic hisses. *Behaviour*, **132**, 401-417.
- Clemente, M. E., Garcia, M. D. & Presa, J. J. (1997). New data on the acoustic communication in two mediterranean grasshoppers *Sphingonotus coeruleans* and *Truxalis nasuta* (Orthoptera, Acrididae). *Bioacoustics*, **8**, 264-265.
- Clemente, E., Garcia, D. & Presa, J. J. (1994). Description of calling song of *Chorthippus nevadensis* Pascual, 1978 (Orthoptera, Acrididae). *Bol. R. Soc. Esp. Hist. Nat. (Sec. Biol.)*, **91**, 199-202 (Spanish).
- Cocroft, R. B. (1996). Insect vibrational defence signals. *Nature*, **382**, 679-680.
- Cocroft, R. B., Tieu, T. D., Hoy, R. R. & Miles, R. N. (2000). Directionality in the mechanical response to substrate vibration in a treehopper (Hemiptera: *Umberia crassicornis*). *J. Comp. Physiol. A.*, **186**, 695-705.

- Cocroft, R. (1999). Thornbug to thornbug: The inside story of insect song. *Natural History*, **99**(10), 52-57.
- Cocroft, R. B. (1999). Parent-offspring communication in response to predators in a subsocial treehopper (Hemiptera: Membracidae: *Umbonia crassicornis*). *Ethology*, **105**, 553-568.
- Cocroft, R. B. & Pogue, M. (1996). Social behavior and communication in the neotropical cicada *Fidicina mannifera* (Fabricius)(Homoptera: Cicadidae). *J. Kans. Entomol. Soc.*, **69** (Suppl.), 85-97.
- Coelho, J. R. (1998). An acoustical and physiological analysis of buzzing in cicada killer wasps (*Sphecicus speciosus*). *J. Comp. Physiol. A.*, **183**, 745-751.
- Cokl, A., Virant-Doberlet, M. & Stritih, N. (2000). Temporal and spectral properties of the songs of the southern green stink bug *Nezara viridula* (L.) from Slovenia. *Pfluegers Archiv: Eur. J. Physiol.*, **439**, Suppl., R168-R170.
- Cokl, A., Virant-Doberlet, M. & Stritih, N. (2000). The structure and function of songs emitted by southern green stink bugs from Brazil, Florida, Italy and Slovenia. *Physiol. Entomol.*, **25**, 196-205.
- Cokl, A. (1988). Vibratory signal transmission in plants as measured by laser vibrometry. *Period. Biol.*, **90**, 193-196.
- Cokl, A., Virant-Doberlet, M. & McDowell, A. (1999). Vibrational directionality in the southern green stink bug, *Nezara viridula* (L.), is mediated by female song. *Anim. Behav.*, **58**, 1277-1283.
- Colegrave, N., Hollocher, H., Hinton, K. & Ritchie, M. G. (2000). The courtship song of African *Drosophila melanogaster*. *J. Evol. Biol.*, **13**, 143-150.
- Collins, R. D., Jang, Y., Reinhold, K. & Greenfield, M. D. (1999). Quantitative genetics of ultrasonic advertisement signalling in the lesser waxmoth *Achroia grisella* (Lepidoptera: Pyralidae). *Heredity*, **83**, 644-651.
- Conner, W. E., Sanderford, M. V. & Coro, F. (1995). The evolution of ultrasonic courtship signals in the Arctiidae (Lepidoptera). *Am. Zool.*, **35**, 42A.
- Conner, W. E. (1999). "Un chant d'appel amoureux": Acoustic communication in moths. *J. Exp. Biol.*, **202**, 1711-1724.
- Connetable, S., Robert, A., Bouffault, F. & Bordereau, C. (1999). Vibratory alarm signals in two sympatric higher termite species: *Pseudacanthotennes spiniger* and *P. militaris*. *J. Insect Behav.*, **12**, 329-342.
- Cook, M. A. & Scoble, M. J. (1992). Tympanal organs of geometrid moths: A review of their morphology, function, and systematic importance. *Syst. Entomol.*, **17**, 219-232.
- Coro, F. & Alonso, N. (1989). Cell responses to acoustic stimuli in the pterothoracic ganglion of two noctuid moths. *J. Comp. Physiol. A.*, **165**, 253-268.
- Coro, F. & Koessl, M. (1999). Distortion-product otoacoustic emissions from tympanic organ in two noctuid moths. *J. Comp. Physiol. A.*, **183**, 525-532.
- Coro, F., Perez, M., Mora, E., Boada, D., Conner, W. E., Sanderford, M. V. & Avila, H. (1998). Receptor cell habituation in the A1 auditory receptor of four noctuid moths. *J. Exp. Biol.*, **201**, 2879-2890.
- Coro, F. & Perez, M. (1990). Temperature affects auditory receptor response in an Arctiid moth. *Naturwissenschaften*, **77**, 445-447.
- Costa, C. T., Kuhn G. C. & Sene, F. M. (2000). Low courtship song variation in south and southeastern Brazilian populations of *Drosophila meridionalis* (Diptera, Drosophilidae). *Rev. Bras. Biol.*, **60**, 53-61.
- Crnokrak, P. & Roff, D. A. (1995). Fitness differences associated with calling behaviour in the two wing morphs of male sand crickets, *Gryllus firmus*. *Anim. Behav.*, **50**, 1475-1481.
- Crossley, S. A., Bennet-Clark, H. C. & Evert, H. T. (1995). Courtship song components affect male and female *Drosophila* differently. *Anim. Behav.*, **50**, 827-839.
- Crossley, S. A. & Bennet-Clark, H. C. (1993). The response of *Drosophila parabiepectinata* to simulated courtship songs. *Anim. Behav.*, **45**, 559-570.
- Csada, R. D. & Neudorf, D. L. (1995). Effects of predation risk on mate choice in female *Acheta domesticus* crickets. *Ecol. Entomol.*, **20**, 393-395.
- Dagley, J. R., Butlin, R. K. & Hewitt, G. M. (1994). Divergence in morphology and mating signals, and assortative mating among populations of *Chorthippus parallelus* (Orthoptera: Acrididae). *Evolution*, **48**, 1202-1210.
- Dambach, M. & Gras, A. (1995). Bioacoustics of a miniature cricket, *Cycloptiloides canariensis* (Orthoptera: Gryllidae: Mogoplistinae). *J. Exp. Biol.*, **198**, 721-728.
- Daws, A. G. (1991). *The use of resonance in the acoustic communication of Gryllotalpa australis*. Hons. Thesis. The University of Melbourne.
- Daws, A. G., Bennet-Clark, H. C. & Fletcher, N. H. (1996). The mechanism of tuning of the mole cricket singing burrow. *Bioacoustics*, **7**, 81-117.
- Daws, A. G., Hennig, R. M. & Young, D. (1997). Phonotaxis in the cicadas *Cystosoma saundersii* and *Cyclochila australasiae*. *Bioacoustics*, **7**, 173-188.
- Dawson, J. W. & Fullard, J. H. (1995). The neuroethology of sound production in tiger moths (Lepidoptera, Arctiidae). II. Location of the tymbal central pattern generator in *Cycnia tenera* Huebner. *J. Comp.*

- Physiol. A.*, **176**, 541-549.
- Demetriades, M. C., Thackeray, J. R. & Kyriacou, C. P. (1999). Courtship song rhythms in *Drosophila yakuba*. *Anim. Behav.*, **57**, 379-386.
- Desutter-Grandcolas, L. (1995). Toward the knowledge of the evolutionary biology of Phalangopsid crickets (Orthoptera: Grylloidea: Phalangopsidae): Data, questions and evolutionary scenarios. *J. Orth. Res.*, **4**, 163-175.
- Desutter-Grandcolas, L. (1998). Broad-frequency modulation in cricket (Orthoptera, Grylloidea) calling songs: two convergent cases and a functional hypothesis. *Can. J. Zool.*, **76**, 2148-2163.
- Desutter-Grandcolas, L. (1995). Functional forewing morphology and stridulation in crickets (Orthoptera, Grylloidea). *J. Zool.*, **236**, 243-252.
- Desutter-Grandcolas, L. & Nischk, F. (2000). Songs and stridulatory apparatus of two trigonidiine species from Ecuador (Orthoptera: Grylloidea: Trigonidiidae). *Ann. Soc. Entomol. France*, **36**, 95-106.
- Devetak, D. (1992). Physiology of neuropteran vibration receptors: *Chrysoperla carnea* (Stephens) as an example (Insecta: Neuroptera: Chrysopidae). In *Current Research in Neuropterology. Proceedings of the Fourth International Symposium on Neuropterology* (M. Canard, H. Aspöck & N. W. Mansell, eds.). M. Canard; Toulouse, pp. 105.
- Devetak, D. (1998). Detection of substrate vibration in Neuropteroidea: a review. *Acta Zool. Fennica*, **209**, 87-94.
- Devetak, D. & Amon, T. (1997). Substrate vibration sensitivity of the leg scolopidial organs in the green lacewing, *Chrysoperla carnea*. *J. Insect Physiol.*, **43**, 433-437.
- Devetak, D. & Pabst, M. A. (1994). Structure of the subgenual organ in the green lacewing, *Chrysoperla carnea*. *Tissue and Cell*, **26**, 249-257.
- Devries, P. J., Cocroft, R. B. & Thomas, J. (1993). Comparison of acoustical signals in *Maculinea* butterfly caterpillars and their obligate host *Myrmica* ants. *Biol. J. Linn. Soc.*, **49**, 229-238.
- DeVries, P. J. (1991). Detecting and recording the calls produced by butterfly caterpillars and ants. *J. Res. Lepidopt.*, **28**, 258-262.
- Dobler, S., Stumpner, A. & Heller, K.-G. (1994). Sex-specific spectral tuning for the partner's song in the duetting bushcricket *Ancistrura nigrovittata* (Orthoptera: Phaneropteridae). *J. Comp. Physiol. A.*, **175**, 303-310.
- Dobler, S., Heller, K.-G. & von Helversen, O. (1994). Song pattern recognition and an auditory time window in the female bushcricket *Ancistrura nigrovittata* (Orthoptera: Phaneropteridae). *J. Comp. Physiol. A*, **175**, 67-74.
- Doherty, J. A. & Howard, D. J. (1996). Lack of preference for conspecific calling songs in female crickets. *Anim. Behav.*, **51**, 981-990.
- Doi, M., Matsuda, M., Tomaru, M., Matsubayashi, H. & Oguma, Y. (2001). A locus for female discrimination behavior causing sexual isolation in *Drosophila*. *Proc. Natl. Acad. Sci. USA*, **98**, 6714-6719.
- Dreller, C. & Kirchner, W. H. (1994). Hearing in the Asian honeybees *Apis dorsata* and *Apis florea*. *Insectes Sociaux*, **41**, 291-299.
- Dreller, C. & Kirchner, W. H. (1993). How honeybees perceive the information of the dance language. *Naturwissenschaften*, **80**, 319-321.
- Dreller, C. & Kirchner, W. H. (1993). Hearing in honeybees: Localization of the auditory sense organ. *J. Comp. Physiol. A.*, **173**, 275-279.
- Duan, J. J. & Messing, R. H. (2000). Effects of host substrate and vibration cues on ovipositorprobing behavior in two larval parasitoids of tephritid fruit flies. *J. Insect Behav.*, **13**, 175-186.
- Duffels, J. P. (1993). The systematic position of *Moana expansa* (Homoptera, Cicadidae), with reference to sound organs and the higher classification of the superfamily Cicadoidea. *J. Nat. Hist.*, **27**, 1223-1237.
- Dunning, D. C., Futtrup, V. & Miller, L. A. (1995). Moth sounds' effects on the insect-catching behavior of bats. *Am. Zool.*, **35**, 41A.
- Dunning, D. & Krueger, M. (1995). Aposematic sounds in African moths. *Biotropica*, **27**, 227-231.
- Eberl, D. F. (1999). Feeling the vibes: chordotonal mechanisms in insect hearing. *Curr. Opin. Neurobiol.*, **9**, 389-393.
- Eberl, D. F., Hardy, R. W. & Kernan, M. J. (2000). Genetically similar transduction mechanisms for touch and hearing in *Drosophila*. *J. Neurosci.*, **20**, 5981-5988.
- Eberl, D. F., Todi, S. V., McNeer, B. W., Caldwell, J. & Sharma, Y. (2001). Analysis of mutations that disrupt hearing in *Drosophila melanogaster*. *Adv. Ethol.*, **36**, 147.
- Eiriksson, T. (1993). Female preference for specific pulse duration of male songs in the grasshopper *Omocestus viridulus*. *Anim. Behav.*, **45**, 471-477.
- Eiriksson, T. (1994). Song duration and female response behaviour in the grasshopper *Omocestus viridulus*. *Anim. Behav.*, **47**, 707-712.
- Elfferich, N. W. (1988). Noise production by lycaenid pupae (Lepidoptera). *Mitt. Entomol. Ges. Basel*, **38**, 156-

- Elsner, N. & Wasser, G. (1995). The transition from leg to wing stridulation in two geographically distinct populations of the grasshopper *Stenobothrus rubicundus*. *Naturwissenschaften*, **82**, 384-386.
- Engel, J. E. & Hoy, R. R. (1999). Experience dependent modification of ultrasound auditory processing in a cricket escape response. *J. Exp. Biol.*, **202**, 2797-2806.
- Erickson, D. (1991). An acoustic sensor spies on insects. *Sci. Am.*, February, 114.
- Esperson, J. R. (1994). Do ants use ultrasound for personal communication (Hymenoptera: Formicidae)? *J. Aust. Entomol. Soc.*, **33**, 213-215.
- Ewart, T. (2001). Dusk chorusing behaviour in cicadas (Homoptera: Cicadidae) and a mole cricket, Brisbane, Queensland. *Mem. Queensland Mus.*, **46**, 499-510.
- Farris, H. E., Forrest, T. G. & Hoy, R. R. (1998). The effect of ultrasound on the attractiveness of acoustic mating signals. *Physiol. Entomol.*, **23**, 322-328.
- Farris, H. E. & Hoy, R. R. (2000). Ultrasound sensitivity in the cricket, *Eunemobius carolinus* (Gryllidae, Nemobiinae). *J. Acoust. Soc. Am.*, **107**, 1727-1736.
- Farris, H. E., Forrest, T. G. & Hoy, R. R. (1997). The effects of calling song spacing and intensity on the attraction of flying crickets (Orthoptera: Gryllidae: Nemobiinae). *J. Insect. Behav.*, **10**, 639-653.
- Farris, H. E., Mason, A. C. & Hoy, R. R. (2000). Temporal and spectral sensitivity in identified auditory units in the cricket. *Soc. Neurosci. Abstr.*, **26**.
- Farris, H. E. & Hoy, R. R. (2002). Two-tone suppression in the cricket, *Eunemobius carolinus* (Gryllidae, Nemobiinae). *J. Acoust. Soc. Am.*, **111**, 1475-1485.
- Faulkes, Z. & Pollack, G. S. (2001). Mechanisms of frequency-specific responses of omega neuron 1 in crickets (*Teleogryllus oceanicus*): a polysynaptic pathway for song? *J. Exp. Biol.*, **204**, 1295-1305.
- Faulkes, Z. & Pollack, G. S. (2000). Effects of inhibitory timing on contrast enhancement in auditory circuits in crickets (*Teleogryllus oceanicus*). *J. Neurophysiol.*, **84**, 1247-1255.
- Faure, P. A. & Hoy, R. R. (2000). The sounds of silence: cessation of singing and song pausing are ultrasound induced acoustic startle behaviors in the katydid *Neoconocephalus ensiger* (Orthoptera; Tettigoniidae). *J. Comp. Physiol. A.*, **186**, 129-142.
- Faure, P. A. & Hoy, R. R. (2000). Neuroethology of the katydid T-cell. II. Responses to acoustic playback of conspecific and predatory signals. *J. Exp. Biol.*, **203**, 3243-3254.
- 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. & Hoy, R. R. (2000). Neuroethology of the katydid T-cell. I. Tuning and responses to pure tones. *J. Exp. Biol.*, **203**, 3225-3242.
- Field, L. H. & Bailey, W. J. (1997). Sound production in primitive Orthoptera from Western Australia: Sounds used in defence and social communication in *Ametrus* sp. and *Hadrogryllacris* sp. (Gryllacrididae: Orthoptera). *J. Nat. Hist.*, **31**, 1127-1141.
- Field, L. H. (1993). Structure and evolution of stridulatory mechanisms in New Zealand wetas (Orthoptera, Stenopelmatidae). *Int. J. Insect Morphol. Embryol.*, **22**, 163-183.
- Fischer, F. P., Schubert, H., Fenn, S. & Schulz, U. (1996). Diurnal song activity of grassland Orthoptera. *Acta Oecol.*, **17**, 345-364.
- Fischer, F. P. (2001). Total eclipse silences grasshoppers' and bushcrickets' songs. *J. Zool.*, **254**, 447-448.
- Fitzpatrick, M. J. & Gray, D. A. (2001). Divergence between the courtship songs of the field crickets *Gryllus texensis* and *Gryllus rubens* (Orthoptera, Gryllidae). *Ethology*, **107**, 1075-1085.
- Fonseca, P. J. & Revez, M. A. (2002). Song discrimination by male cicadas *Cicada barbara lusitanica* (Homoptera, Cicadidae). *J. Exp. Biol.*, **205**, 1285-1292.
- Fonseca, P. J. & Revez, M. A. (2002). Temperature dependence of cicada songs (Homoptera, Cicadoidea). *J. Comp. Physiol. A.*, **187**, 971-976.
- Fonseca, P. J. & Popov, A. V. (1997). Directionality of the tympanal vibrations in a cicada: a biophysical analysis. *J. Comp. Physiol. A.*, **180**, 417-427.
- Fonseca, P. J. (1996). Sound production in cicadas: timbal muscle activity during calling song and protest song. *Bioacoustics*, **7**, 13-31.
- Fonseca, P. J. & Popov, A. V. (1994). Sound radiation in a cicada: The role of different structures. *J. Comp. Physiol. A.*, **175**, 349-361.
- Forrest, T. G., Miller, G. L. & Zagar, J. R. (1993). Sound propagation in shallow water: implications for acoustic communication by aquatic animals. *Bioacoustics*, **4**, 259-270.
- Forrest, T. G. & Hoy, R. R. (1995). Predation risk for night-flying beetles and other insects. *Am. Zool.*, **35**, 41A.
- Forrest, T. G., Farris, H. E. & Hoy, R. R. (1995). Ultrasound acoustic startle response in scarab beetles. *J. Exp. Biol.*, **198**, 2593-2598.
- Forrest, T. G. & Raspet, R. (1994). Models of female choice in acoustic communication. *Behav. Ecol.*, **5**, 293-303.

- Fries, G. & Elsner, N. (1996). Transection of intraganglionic connections causes synchrony of hindleg stridulation in the gomphocerine grasshopper *Stenobothrus lineatus*. *Naturwissenschaften*, **83**, 284-287.
- 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. (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., Otero, L. D., Orellana, A. & Surlykke, A. (2000). Auditory sensitivity and diel flight activity in neotropical Lepidoptera. *Ann. Entomol. Soc. Am.*, **93**, 956-965.
- Fullard, J. H., Forrest, E. & Surlykke, A. (1998). Intensity responses of the single auditory receptor of notodontid moths: A test of the peripheral interaction hypothesis in moth ears. *J. Exp. Biol.*, **201**, 3419-3424.
- Fullard, J. H., Simmons, J. A. & Saillant, P. A. (1994). Jamming bat echolocation: the dogbane tiger moth *Cygnia tenera* times its clicks to the terminal attack calls of the big brown bat *Eptesicus fuscus*. *J. Exp. Biol.*, **194**, 285-298.
- Fullard, J. H. & Napoleone, N. (2001). Diel flight periodicity and the evolution of auditory defences in the Macrolepidoptera. *Anim. Behav.*, **62**, 349-368.
- Fullard, J. H., Dawson, J. W., Otero, L. D. & Surlykke, A. (1997). Bat-deafness in day-flying moths (Lepidoptera, Notodontidae, Doptinae). *J. Comp. Physiol. A.*, **181**, 477-483.
- Fullard, J. H. (1994). Auditory changes in noctuid moths endemic to a bat-free niche. *J. Evol. Biol.*, **7**, 435-445.
- Fullard, J. H. (1988). The tuning of moth ears. *Experientia*, **44**, 423-428.
- Fullard, J. H. & Dawson, J. W. (1999). Why do diurnal moths have ears? *Naturwissenschaften*, **86**, 276-279.
- Fullard, J. H. & Yack, J. E. (1993). The evolutionary biology of insect hearing. *Trends Ecol. Evol.*, **8**, 248-252.
- Galliart, P. L. & Shaw, K. C. (1996). The effect of variation in parameters of the male calling song of the katydid, *Amblycorypha parvipennis* (Orthoptera: Tettigoniidae), on female phonotaxis and phonoreponse. *J. Insect Behav.*, **9**, 841-855.
- Garcia, M. D., Clemente, M. E., Hernandez, A. & Presa, J. J. (1997). First data on the communicative behaviour of three Mediterranean grasshoppers (Orthoptera: Acrididae). *J. Orth. Res.*, **6**, 113-116.
- Garcia, M. D., Clemente, M. E. & Presa, J. J. (1998). The song of *Omocestus femoralis* Bolivar, 1908 and *O. kaestneri* Harz, 1972 (Orthoptera, Caelifera, Acrididae). *Bol. R. Soc. Esp. Hist. Nat. (Sec. Biol)*, **94**, 5-13 (Spanish).
- Garcia, M. D., Clemente, M. E. & Presa, J. J. (1994). The acoustic behaviour of *Dociostaurus jagoi occidentalis* Soltani, 1978 (Orthoptera, Acrididae). *Zool. Baetica*, **5**, 79-87.
- Garcia, M. D., Clemente, M. E. & Presa, J. J. (1995). Description of the song of *Chorthippus binotatus binotatus* (Charpentier, 1825)(Orthoptera: Acrididae). Its taxonomic status and its distribution in the Iberian Peninsula. *Boln. Asoc. Esp. Ent.*, **19**, 229-242 (Spanish).
- Geng, Z., Zhu, D., Sun, Y., Cai, H. & Chen, J. (1989). Study on the courtship song of six species in *Drosophila takahashii* subgroup. *Acta Genetica Sinica*, **16**, 448-454.
- Gerhardt, H. C. (1994). Selective responsiveness to long-range acoustic signals in insects and anurans. *Am. Zool.*, **34**, 706-714.
- Gilbert, F. (1995). Mate localization and acoustic orientation in *Chorthippus biguttulus* in a natural environment. Thesis; University of Göttingen. (German).
- Gilbert, F. & Elsner, N. (2000). Directional hearing of a grasshopper in the field. *J. Exp. Biol.*, **203**, 983-993.
- Gillham, M. C. & de Vrijer, P. W. F. (1995). Patterns of variation in the acoustic calling signals of *Chloriona* planthoppers (Homoptera: Delphacidae) coexisting on the common reed *Phragmites australis*. *Biol. J. Linn. Soc.*, **54**, 245-269.
- Givois, V. & Pollack, G. S. (2000). Sensory habituation of auditory receptor neurons: Implications for sound localization. *J. Exp. Biol.*, **203**, 2529-2537.
- Gleason, J. M., Nuzhdin, S. V. & Ritchie, M. G. (2002). Quantitative trait loci affecting a courtship signal in *Drosophila melanogaster*. *Heredity*, **89**, 1-6.
- Gleason, J. M. & Ritchie, M. G. (1998). Evolution of courtship song and reproductive isolation in the *Drosophila willistoni* species complex: Do sexual signals diverge the most quickly? *Evolution*, **52**, 1493-1500.
- Goepfert, M. C. & Wasserthal, L. T. (1999). Auditory sensory cells in hawkmoths: identification, physiology and structure. *J. Exp. Biol.*, **202**, 1579-1587.
- Goepfert, M. C. & Wasserthal, L. T. (1999). Hearing with the mouthparts: behavioural responses and the structural basis of ultrasound perception in acheroiine hawkmoths. *J. Exp. Biol.*, **202**, 909-918.
- Goepfert, M. C., Surlykke, A. & Wasserthal, L. T. (2002). Tympanal and atympanal 'mouth-ears' in hawkmoths (Sphingidae). *Proc. Roy. Soc. Lond. B.*, **269**, 89-95.
- Goepfert, M. C. & Daniel, R. (2002). The mechanical basis of *Drosophila* audition. *J. Exp. Biol.*, **205**, 1199-1208.

- Gogala, M. (1997). Acoustic diversity in tropical cicadas: examples from S.E. Asia. *Bioacoustics*, **8**, 250-251.
- Gogala, M. & Riede, K. (1995). Time sharing of song activity by cicadas in Temengor Forest Reserve, Hulu Perak, and in Sabah, Malaysia. *Malay. Nat. J.*, **48**, 297-305.
- Gogala, M. (1995). Songs of four cicada species from Thailand. *Bioacoustics*, **6**, 101-116.
- Gogala, M. (1998). Use of acoustic methods to find, locate and recognize singing cicadas in Slovenia, Croatia and Macedonia. *Bioacoustics*, **9**, 156.
- Gogala, M. & Popov, A. V. (1996). Bioacoustic survey of cicadas. *Bioacoustics*, **6**, 300-301.
- Gogala, M. & Trilar, T. (1999). The song structure of *Cicadetta montana macedonica* Schedl with remarks on songs of related singing cicadas (Hemiptera: Auchenorrhyncha: Cicadomorpha: Tibicinidae). *Reichenbachia*, **33**, 91-97.
- Gopfert, M. C., Briegel, H. & Robert, D. (1999). Mosquito hearing: Sound induced antennal vibrations in male and female *Aedes aegypti*. *J. Exp. Biol.*, **202**, 2727-2738.
- Gopfert, M. C. & Wasserthal, L. T. (1999). Hearing with the mouthparts: Behavioural responses and the structural basis of ultrasound perception in acherontiine hawkmoths. *J. Exp. Biol.*, **202**, 909-928.
- Gopfert, M. C. & Wasserthal, L. T. (1999). Auditory sensory cells in hawkmoths: Identification, physiology and structure. *J. Exp. Biol.*, **202**, 1579-1588.
- Gorczyca, M. & Hall, J. C. (1987). The INSECTAVOX, an integrated device for recording and amplifying courtship songs. *Drosophila Information Service*, **66**, 157-160.
- Goulson, D., Birch, M. C. & Wyatt, T. D. (1994). Mate location in the deathwatch beetle, *Xestobium rufillosum* de Geer (Anobiidae): Orientation to substrate vibrations. *Anim. Behav.*, **47**, 899-907.
- Gray, D. A. & Eckhardt, G. (2001). Is cricket courtship song condition dependent? *Anim. Behav.*, **62**, 871-877.
- Gray, D. A. & Cade, W. H. (2000). Sexual selection and speciation in field crickets. *Proc. Natl. Acad. Sci. USA*, **97**, 14449-14454.
- Gray, D. A. (1997). Female house crickets, *Acheta domesticus*, prefer the chirps of large males. *Anim. Behav.*, **54**, 1553-1562.
- Gray, D. A. & Cade, W. H. (1999). Sex, death and genetic variation: natural and sexual selection on cricket song. *Proc. Roy. Soc. Lond. B.*, **266**, 707-709.
- Green, S. V. (1995). Song characteristics of certain Namibian grasshoppers (Orthoptera: Acrididae: Gomphocerinae). *Afr. Entomol.*, **3**, 1-6.
- Greenacre, M. L., Ritchie, M. G., Byrne, B. C. & Kyriacou, C. P. (1993). Female song preference and the period gene in *Drosophila*. *Behav. Genet.*, **23**, 85-90.
- Greenfield, M. D., Tourtellot, M. K. & Snedden, W. A. (1997). Precedence effects and the evolution of chorusing. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **264**, 1355-1361.
- Greenfield, M. D. (1997). Acoustic communication in Orthoptera. In *The Bionomics of Grasshoppers, Katydid and Their Kin* (S. K. Gangwere, M. C. Muralirangan and M. Muralirangan, eds.). Cambridge University Press; Cambridge, pp. 197-230.
- Greenfield, M. D. (1990). Evolution of acoustic communication in the genus *Neoconocephalus*: Discontinuous songs, synchrony, and interspecific interactions. In *The Tettigoniidae: Biology, Systematics and Evolution* (W. J. Bailey and D. C. F. Rentz, eds.). Crawford House Press; Bathurst, N.S.W., Australia, pp. 71-97.
- Greenfield, M. D. (1994). Synchronous and alternating choruses in insects and anurans: common mechanisms and diverse functions. *Am. Zool.*, **34**, 605-615.
- Greenfield, M. D. (1992). The evening chorus of the desert clicker, *Ligurotettix coquilletti* (Orthoptera: Acrididae): Mating investment with delayed returns. *Ethology*, **91**, 265-278.
- Greenfield, M. D. (1993). Inhibition of male calling by heterospecific signals: Artifact of chorusing or abstinence during suppression of female phonotaxis? *Naturwissenschaften*, **80**, 570-573.
- 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.
- Greenfield, M. D. & Minckley, R. L. (1993). Acoustic dueling in tarbush grasshoppers: Settlement of territorial contests via alternation of reliable signals. *Ethology*, **95**, 309-326.
- Greenfield, M. D. & Roizen, I. (1993). Katydid synchronous chorusing is an evolutionarily stable outcome of female choice. *Nature*, **364**, 618-620.
- Guerra, P. A. & Morris, G. K. (2002). Calling communication in meadow katydids (Orthoptera, Tettigoniidae): Female preferences for species-specific wingstroke rates. *Behaviour*, **139**, 23-43.
- Gupta, A. P. (1993). Meeting of cuticle, stridulatory and hearing organs, ovarioles and oogenesis, egg, chorion, spermatozoa, and midgut cell junctions, held at the 19th International Congress of Entomology, Beijing, China, June 18-July 4, 1992. *Int. J. Insect Morphol. Embryol.*, **22**, 77-486.
- Gwynne, D. T. (1995). Phylogeny of the Ensifera (Orthoptera): A hypothesis supporting multiple origins of acoustical signalling, complex spermatophores and maternal care in crickets, katydids, and weta. *J.*

Orth. Res., **4**, 203-218.

- Gwynne, D. & Bailey, W. J. (1999). Female-female competition in katydid: Sexual selection for increased sensitivity to a male signal? *Evolution*, **53**, 546-551.
- Hack, M. A. (1997). The energetic costs of fighting in the house cricket, *Acheta domesticus* L. *Behav. Ecol.*, **8**, 28-36.
- Hagstrum, D. W. & Flinn, P. W. (1993). Comparison of acoustical detection of several species of stored-grain beetles (Coleoptera, Curculionidae, Tenebrionidae, Bostrichidae, Cucujidae) over a range of temperatures. *J. Econ. Entomol.*, **86**, 1271-1278.
- Hanada, S., Isobe, Y., Wada, K. & Nagoshi, M. (1994). Drumming behavior of two stonefly species, *Microperla brevicauda* Kawai (Peltoperlidae) and *Kamimuria tibialis* (Pictet)(Perlidae), in relation to other behaviors. *Aquat. Insects*, **16**, 75-89.
- Hanrahan, S. A. & Kirchner, W. H. (1994). Acoustic orientation and communication in desert tenebrionid beetles in sand dunes. *Ethology*, **97**, 26-32.
- Hardt, M. & Watson, A. H. D. (1999). Distribution of input and output synapses on the central branches of bushcricket and cricket auditory afferent neurones: Immunocytochemical evidence for GABA and glutamate in different populations of presynaptic boutons. *J. Comp. Neurol.*, **403**, 281-294.
- Harrison, R. G. & Bogdanowicz, S. M. (1995). Mitochondrial DNA phylogeny of North American field crickets: perspectives on the evolution of life cycles, songs, and habitats. *J. Evol. Biol.*, **8**, 209-232.
- Hartley, J. C. & Stephen, R. O. (1997). Physical aspects of sound production in Orthoptera. *Metalepta*, **17**(2), 10.
- Hartley, J. C. (1993). Acoustic behaviour and phonotaxis in the duetting ephippigerines *Steropleurus nobrei* and *S. stali* (Tettigoniidae). *Zool. J. Linn. Soc.*, **107**, 155-167.
- Hedrick, A. V. (1986). Female preferences for male calling bout duration in a field cricket. *Behav. Ecol. Sociobiol.*, **19**, 73-77.
- Hedrick, A. & Weber, T. (1998). Variance in female responses to the fine structure of male song in the field cricket, *Gryllus integer*. *Behav. Ecol.*, **9**, 582-591.
- Hedrick, A. V. (2000). Crickets with extravagant mating songs compensate for predation risk with extra caution. *Proc. Roy. Soc. Lond. B.*, **267**, 671-675.
- Hedwig, B. (2000). Control of cricket stridulation by a command neuron: Efficacy depends on the behavioral state. *J. Neurophysiol.*, **83**, 712-722.
- Hedwig, B. (1996). A descending brain neuron elicits stridulation in the cricket *Gryllus bimaculatus* (de Geer). *Naturwissenschaften*, **83**, 428-429.
- Hedwig, B. (1993). The impact of stridulation on auditory information processing in the acridid grasshopper *Omocestus viridulus* L. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 386-393.
- Hedwig, B. (2001). Singing and hearing: Neuronal mechanisms of acoustic communication in orthopterans. *Zoology* (Jena), **103**, 140-149.
- Hedwig, B. (1993). Functional significance and stridulatory interneurons in the acridid grasshopper *Omocestus viridulus* L. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 394-399.
- Hedwig, B. & Heinrich, R. (1997). Identified descending brain neurons control different stridulatory motor patterns in an acridid grasshopper. *J. Comp. Physiol. A.*, **180**, 285-294.
- Hedwig, B. & Meyer, J. (1994). Auditory information processing in stridulating grasshoppers: Tympanic membrane vibrations and neurophysiology. *J. Comp. Physiol. A.*, **174**, 121-131.
- Heidelbach, J. & Dambach, M. (1997). Wing-flick signals in the courtship of the African cave cricket, *Phaeophilacris spectrum*. *Ethology*, **103**, 827-843.
- Heinrich, R. (2002). Impact of descending brain neurons on the control of stridulation, walking, and flight in Orthoptera. *Microsc. Res. Tech.*, **56**, 292-301.
- Heinrich, R., Wenzel, B. & Elsner, N. (2001). A role for muscarinic excitation: control of specific singing behavior by activation of the adenylate cyclase pathway in the brain of grasshoppers. *Proc. Natl. Acad. Sci. USA*, **98**, 9919-9923.
- Heinrich, R., Wenzel, B. & Elsner, N. (2001). Pharmacological brain stimulation releases elaborate stridulatory behaviour in gomphocerine grasshoppers: Conclusions for the organization of the central nervous system. *J. Comp. Physiol. A.*, **187**, 155-169.
- Heinrich, R., Rozwod, K. & Elsner, N. (1998). Neuropharmacological evidence for inhibitory cephalic control mechanisms of stridulatory behaviour in grasshoppers. *J. Comp. Physiol. A.*, **183**, 389-399.
- Heinrich, R., Jatho, M. & Kalmring, K. (1993). Acoustic transmission characteristics of the tympanal tracheae of bushcrickets Tettigoniidae. II. Comparative studies of the tracheae of seven species. *J. Acoust. Soc. Am.*, **93**, 3481-3489.
- Heller, K.-G. (1997). Speciation in Orthoptera and the role of song pattern and genitalia evolution. *Metalepta*, **17**(2), 9.

- Heller, K.-G. & Achmann, R. (1993). The ultrasonic song of the moth *Amyna natalis* (Lepidoptera: Noctuidae: Acontiinae). *Bioacoustics*, **5**, 89-97.
- Heller, K.-G. & von Helversen, D. (1993). Calling behaviour in bushcrickets of the genus *Poecilimon* with differing communication systems (Orthoptera, Tettigonioidea, Phaneropteridae). *J. Insect Behav.*, **6**, 361-377.
- Heller, K.-G. (1988). *Bioacoustics of the European Bush Crickets*. Josef Margraf; Weikersheim, Germany (German).
- Heller, K.-G. (1995). Acoustic signalling in palaeotropical bushcrickets (Orthoptera: Tettigonioidea: Pseudophyllidae): does predation pressure by eavesdropping enemies differ in the Palaeo- and Neotropics? *J. Zool.*, **237**, 469-485.
- Heller, K.-G. & Achmann, R. (1995). Ultrasound communication in the pyralid moth species *Symmoracma minoralis* (Lepidoptera: Pyralidae: Nymphulinae). *Entomol. Gen.*, **20**, 1-9.
- Heller, K.-G., von Helversen, O. & Sergejeva, M. (1997). Indiscriminate response behaviour in a female bushcricket: sex role reversal in selectivity of acoustic mate recognition? *Naturwissenschaften*, **84**, 252-255.
- Heller, K.-G. (1987). Warm-up and stridulation in the bushcricket *Hexacentrus unicolor* Serville (Orthoptera, Conocephalidae, listroscelinae). *J. Exp. Biol.*, **126**, 97-109.
- Heller, K.-G. & Krahe, R. (1994). Sound production and hearing in the pyralid moth *Symmoracma minoralis*. *J. Exp. Biol.*, **187**, 101-111.
- Helversen, D. von & von Helversen, O. (1987). Innate receiver mechanisms in the acoustic communication of orthopteran insects. In *Aims and Methods in Neuroethology* (D. M. Guthrie, ed.). Manchester university Press, pp. 104-150.
- Helversen, D. von (1998). Is the ramped shape of pulses in the song of grasshoppers adaptive for directional hearing? *Naturwissenschaften*, **85**, 186-188.
- Helversen, O. von (1986). Song and courtship in the *Chorthippus albomarginatus*-group (Orthoptera: Acrididae). *Zool. Jb. Syst.*, **113**, 319-342 (German).
- Helversen, D. von & von Helversen, O. (1997). Recognition of sex in the acoustic communication of the grasshopper *Chorthippus biguttulus* (Orthoptera, Acrididae). *J. Comp. Physiol. A.*, **180**, 373-386.
- Helversen, D. von, Schul, J. & Kleindienst, H. U. (2000). Male recognition mechanism for female responses implies a dilemma for their localisation in a phaneropterine bushcricket. *J. Comp. Physiol. A.*, **186**, 1153-1158.
- Helversen, D. von & von Helversen, O. (1995). Acoustic pattern recognition and orientation in orthopteran insects: Parallel or serial processing? *J. Comp. Physiol. A.*, **177**, 767-774.
- Helversen, D. von (1997). Acoustic communication and orientation in grasshoppers. In *Orientation and Communication in Arthropods* (M. Lehrer, ed.). Birkhaeuser; Basel, pp. 301-341.
- Helversen, D. von & Rheinlaender, J. (1988). Interaural intensity and time discrimination in an unrestrained grasshopper: a tentative behavioural approach. *J. Comp. Physiol. A.*, **162**, 333-340.
- Helversen, O. von & Helversen, D. von (1994). Forces driving coevolution of song and song recognition in grasshoppers. In *Neural Basis of Behavioural Adaptations* (K. Schildberger & N. Elsner, eds.). *Forsch. Zool.*, **39**, Gustav-Fischer-Verlag, pp. 253-284.
- Helversen, D. von & Wendler, G. (2000). Coupling of visual to auditory cues during phonotactic approach in the phaneropterine bushcricket *Poecilimon affinis*. *J. Comp. Physiol. A.*, **186**, 729-736.
- Helversen, D. von (1993). "Absolute steepness" of ramps as an essential cue for auditory pattern recognition by a grasshopper (Orthoptera: Acrididae; *Chorthippus biguttulus* L.). *J. Comp. Physiol. A.*, **172**, 633-639.
- Helversen, D. von & von Helversen, O. (1998). Acoustic pattern recognition in a grasshopper: processing in the time or frequency domain? *Biol. Cybern.*, **79**, 467-476.
- Hennig, R. M. & Weber, T. (1997). Filtering of temporal parameters of the calling song by cricket females of two closely related species: A behavioral analysis. *J. Comp. Physiol. A.*, **180**, 621-630.
- Hennig, R. M., Weber, T., Huber, F., Kleindienst, H.-U., Moore, T. E. & Popov, A. V. (1993). A new function for an old structure: the timbal muscle in cicada females. *Naturwissenschaften*, **80**, 324-326.
- Henry, C. S., Martinez Wells, M. L. & Simon, C. M. (1999). Convergent evolution of courtship songs among cryptic species of the *Carnea* group of green lacewings (Neuroptera: Chrysopidae: *Chrysoperla*). *Evolution*, **53**, 1165-1179.
- Henry, C. S. (1994). Singing and cryptic speciation in insects. *Trends Ecol. Evol.*, **9**, 388-392.
- Henry, C. S., Martinez Wells, M. & Pupedis, R. J. (1993). Hidden taxonomic diversity within *Chrysoperla plorabunda* (Neuroptera: Chrysopidae): Two new species based on courtship songs. *Ann. Entomol. Soc. Am.*, **86**, 1-13.
- Henry, C. S. (1993). *Chrysoperla johnsoni* (Neuroptera, Chrysopidae): acoustic evidence for full species status. *Ann. Entomol. Soc. Am.*, **86**, 14-25.
- Henry, C. S., Brooks, S. J., Johnson, J. B. & Duelli, P. (1999). Revised concept of *Chrysoperla mediterranea*

- (Holzel), a green lacewing associated with conifers: Courtship songs across 2800 kilometres of Europe (Neuroptera: Chrysopidae). *System. Entomol.*, **24**, 335-350.
- Hickling, R. & Brown, R. L. (2000). Analysis of acoustic communication by ants. *J. Acoust. Soc. Am.*, **108**, 1920-1929.
- Hill, P. S. M. (1998). Environmental and social influences on calling effort in the prairie mole cricket (*Gryllotalpa major*). *Behav. Ecol.*, **9**, 101-108.
- Hill, P. S. M. & Shadley, J. R. (1997). Substrate vibration as a component of a calling song. *Naturwissenschaften*, **84**, 460-463.
- Hill, P. S. M. & Shadley, J. R. (2001). Talking back: Sending soil vibration signals to lekking prairie mole cricket males. *Am. Zool.*, **41**, 1200-1214.
- Hill, P. S. M. (1996). The communication repertoire of the prairie mole cricket. *Am. Zool.*, **36**, 92A.
- Hintze-Podufal, C. & von Hermann, G. (1996). The development of the tympanic organs of wax moth species and their inverted scolopidia (Lepidoptera: Pyralidae: Galleriinae). *Entomol. Gen.*, **20**, 195-201 (German).
- Hirabayashi, K. & Ogawa, K.-I. (1999). The efficiency of artificial wingbeat sounds for capturing midges in black light traps. *Entomol. Exp. Appl.*, **92**, 233-238.
- Hirschberger, P. (2001). Stridulation in *Aphodius* dung beetles: Behavioral context and intraspecific variability of song patterns in *Aphodius ater* (Scarabaeidae). *J. Insect Behav.*, **14**, 69-88.
- Hoback, W. W. & Wagner, W. E. Jr. (1997). The energetic cost of calling in the variable field cricket, *Gryllus lineaticeps*. *Physiol. Entomol.*, **22**, 286-290.
- Hoffart, C. & Hill, P. S. M. (2000). Morphological and molecular phylogenetic analyses of the Gryllotalpidae: What came first, the chirp or the trill? *Am. Zool.*, **40**, 1060.
- Hoffmann, E. & Jatho, M. (1995). The acoustic trachea of tettigoniids as an exponential horn: Theoretical calculations and bioacoustical measurements. *J. Acoust. Soc. Am.*, **98**, 1845-1851.
- Hoikkala, A. & Moro, S. (2000). SEM search for sound production and sound perception organs in a variety of *Drosophila* species. *Microsc. Res. Tech.*, **50**, 161-168.
- Hoikkala, A., Aspi, J. & Suvanto, L. (1998). Male courtship song frequency as an indicator of male genetic quality in an insect species, *Drosophila montana*. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **265**, 503-508.
- Hoikkala, A., Kaneshiro, K. Y. & Hoy, R. R. (1994). Courtship songs of the picture-winged *Drosophila planitibia* subgroup species. *Anim. Behav.*, **47**, 1363-1374.
- Hoikkala, A. & Crossley, S. (2000). Copulatory courtship in *Drosophila*: Behavior and songs of *D. birchii* and *D. serrata*. *J. Insect Behav.*, **13**, 71-86.
- Hoikkala, A. & Suvanto, L. (1999). Male courtship song frequency as an indicator of male mating success in *Drosophila montana*. *J. Insect Behav.*, **12**, 599-609.
- Hoikkala, A., Crossley, S. & Castillo-Melendez, C. (2000). Copulatory courtship in *Drosophila birchii* and *D. serrata*, species recognition and sexual selection. *J. Insect Behav.*, **13**, 361-373.
- Hoikkala, A. & Kaneshiro, K. Y. (1997). Variation in male wing song characters in *Drosophila plantibia* (Hawaiian picture-winged *Drosophila* group). *J. Insect Behav.*, **10**, 425-436.
- Hoikkala, A. & Isoherranen, E. (1997). Variation and repeatability of courtship song characters among wild-caught and laboratory-reared *Drosophila montana* and *D. littoralis* males (Diptera: Drosophilidae). *J. Insect Behav.*, **10**, 193-202.
- Hoikkala, A., Paallysaho, S., Aspi, J. & Lumme, J. (2000). Localization of genes affecting species differences in male courtship song between *Drosophila virilis* and *D. littoralis*. *Genet. Res.*, **75**, 37-46.
- Hoikkala, A. & Aspi, J. (1993). Criteria of female mate choice in *Drosophila littoralis*, *D. montana* and *D. ezoana*. *Evolution*, **47**, 768-777.
- Hollander, J. Den & Barrientos, L. L. (1994). Acoustic and morphometric differences between allopatric populations of *Pterophylla beltrani* (Orthoptera: Tettigoniidae: Pseudophyllinae). *J. Orth. Res.*, **2**, 29-34.
- Holman, J. (1994). Possible sound producing structures present in some Macrosiphini (Homoptera: Aphididae). *Eur. J. Entomol.*, **91**, 97-101.
- Horseman, G. & Huber, F. (1994). Sound localisation in crickets. II. Modelling the role of a simple neural network in the prothoracic ganglion. *J. Comp. Physiol. A.*, **175**, 339-413.
- Hoy, R. R. & Robert, D. (1995). Tympanal hearing in insects. *Ann. Rev. Entomol.*, **40**, 433-450.
- 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.
- Hoy, R. R. & Robert, D. (1996). Tympanal hearing in insects. *Ann. Rev. Entomol.*, **41**, 433-450.
- Hoy, R. R. (1992). Genetic and temperature coupling between sender and receiver in acoustic biocommunication systems. *Semin. Neurosci.*, **4**, 377-383.

- Huang, Y., Orti, G., Sutherlin, M., Duhachek, A. & Zera, A. (2000). Phylogenetic relationships of North American field crickets inferred from mitochondrial DNA data. *Molec. Phylogen. Evol.*, **17**, 48-57.
- Huber, F. (2000). 50 years of research in acoustic communication in crickets: Behaviour and neurobiology. *Verh. Westd. Entom. Tag 1998*, 1-31 (German).
- Huerta, C., Halfpfer, G. & Fresneau, D. (1992). Inhibition of stridulation in *Necrophorus* (Coleoptera: Silphidae): consequences for reproduction. *Elytron*, **6**, 151-157.
- Hunt, R. E. (1994). Vibrational signals associated with mating behavior in the treehopper, *Enchenopa binotata* Say (Hemiptera: Homoptera: Membracidae). *J. New York Entomol. Soc.*, **102**, 266-270.
- Hunt, J. & Allen, G. R. (1998). Fluctuating asymmetry, call structure and the risk of attack from phonotactic parasitoids in the bushcricket *Sciarasaga quadrata* (Orthoptera: Tettigoniidae). *Oecologia*, **116**, 356-364.
- Hunt, R. E. (1993). Role of vibrational signals in mating behavior of *Spissistilus festinus* (Homoptera: Membracidae). *Ann. Entomol. Soc. Am.*, **86**, 356-361.
- Hutchinson, J. M. C. (1997). The geometry of phonotaxis and herds: optimal trajectories and target spacing when quality is detectable at a distance. *Adv. Ethol.*, **32**, 168.
- Imaizumi, K. & Pollack, G. S. (1999). Neural coding of sound frequency by cricket auditory receptors. *J. Neurosci.*, **19**, 1508-1514.
- Ingrisch, S. (1995). Evolution of the *Chorthippus biguttulus* group (Orthoptera, Acrididae) in the Alps, based on morphology and stridulation. *Rev. Suisse Zool.*, **102**, 475-535.
- Isoherranen, E., Aspi, J. & Hoikkala, A. (1999). Inheritance of species differences in female receptivity and song requirement between *Drosophila virilis* and *D. montana*. *Hereditas* (Lund), **131**, 203-209.
- Isoherranen, E., Aspi, J. & Hoikkala, A. (1999). Variation and consistency of female preferences for simulated courtship songs in *Drosophila virilis*. *Anim. Behav.*, **57**, 619-625.
- Itoh, M. T. & Murakami, S. (2002). The effect of female wings on male courtship behavior in the cricket *Gryllus bimaculatus*. *Naturwissenschaften*, **89**, 230-232.
- Jablonski, P. G & Wilcox, R. S. (1996). Signalling asymmetry in the communication of the water strider *Aquarius remigis* in the context of dominance and spacing in the non-mating season. *Ethology*, **102**, 353-359.
- Jacobs, K., Otte, B. & Lakes-Harlan, R. (1998). Tympanal receptor cells of *Schistocerca gregaria*: Correlation of soma positions and dendritic attachment sites, central projections and physiologies. *J. Exp. Zool.*, **283**, 270-285.
- Jang, Y. & Greenfield, M. D. (1996). Ultrasonic communication and sexual selection in wax moths: female choice based on energy and asynchrony of male signals. *Anim. Behav.*, **51**, 1095-1106.
- Jang, Y. & Greenfield, M. D. (1998). Absolute versus relative measurements of sexual selection: Assessing the contribution of ultrasonic signal characters to mate attraction in lesser wax moth, *Achroia grisella* (Lepidoptera, Pyralidae). *Evolution*, **52**, 1383-1393.
- Jang, Y., Collins, R. D. & Greenfield, M. D. (1997). Variation and repeatability of ultrasonic sexual advertisement signals in *Achroia grisella* (Lepidoptera: Pyralidae). *J. Insect. Behav.*, **10**, 87-98.
- Jang, Y. (1997). *Evolution and genetics of mate preference in an ultrasonic pyralid moth*. Ph.D. Dissertation. University of Kansas, Lawrence, USA.
- Jatho, M., Schul, J., Stiedl, O. & Kalming, K. (1994). Specific differences in sound production and pattern recognition in tettigoniids. *Behav. Processes*, **31**, 293-300.
- Jefferey, J., Mapoma, M., Sickler, M., Mashaud, L., Snyder, K., Atkins, G. & Stout, J. (2000). Transformational encoding of two behaviorally significant features of the male's calling song by a single, first order interneuron in female crickets. *Soc. Neurosci. Abstr.*, **26**.
- Jeffery, J., Stout, J. & Atkins, G. (2001). The role of prothoracic interneurons in the recognition of the male's calling song by four species of female crickets. *Soc. Neurosci. Abstr.*, **27**, 1982.
- Jeraj, M. & Walter, G. H. (1998). Vibrational communication in *Nezara viridula*: response of Slovenian and Australian bugs to one another. *Behav. Process.*, **44**, 51-58.
- Jia, F.-Y., Greenfield, M. D. & Collins, R. D. (2001). Ultrasonic signal competition between male wax moths. *J. Insect Behav.*, **14**, 19-33.
- Jian, J., Yang, X., Wang, Y., Xu, M., Chen, H & Tang, H. (1995). Neural control of sound production in Mingming cicada. *Sci. China, Ser. B.*, **38**, 676-687.
- 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, C. (1993). Song preferences in female *Drosophila melanogaster*. M.Sc. Thesis. University of Wales, College of Cardiff.
- Joseph, K. J. (1991). SEM study of the stridulatory organs in the giant dung beetle *Heliocopris dominus* (Scarabaeidae) with observations on the significance of the sound production. *Entomon*, **16**, 319-322.

- Jun-Xian, S. (1993). A peripheral mechanism for auditory directionality in the bushcricket *Gampsocleis gratiosa*: acoustic tracheal system. *J. Acoust. Soc. Am.*, **94**, 1211-1217.
- Kalmring, K., Roessler, W., Hoffmann, E., Jatho, M. & Unrast, C. (1995). Causes of the differences in detection of low frequencies in the auditory receptor organs of two species of bushcrickets. *J. Exp. Zool.*, **272**, 103-115.
- Kalmring, K., Roessler, C. & Unrast, W. (1994). Complex tibial organs in the forelegs, midlegs and hindlegs of the bushcricket *Gampsocleis gratiosa* (Tettigoniidae): Comparison of the physiology of the organs. *J. Exp. Zool.*, **270**, 155-161.
- Kalmring, K. & Jatho, M. (1994). The effect of blocking inputs of the acoustic trachea on the frequency tuning of primary auditory receptors in two species of tettigoniids. *J. Exp. Zool.*, **270**, 360-371.
- Kalmring, K., Jatho, M., Roessler, W. & Sickman, T. (1997). Acousto-vibratory communication in bushcrickets (Orthoptera: Tettigoniidae). *Entomol. Gen.*, **21**, 265-291.
- Kalmring, K., Roessler, W., Ebendt, R., Ahi, J. & Lakes, R. (1993). The auditory receptor organs in the forelegs of bush-crickets: physiology, receptor cell arrangement, and morphology of the tympanal and intermediate organs of three closely related species. *Zool. Jahrb. Abt. Allg. Zool. Physiol. Tiere*, **97**, 75-94.
- Kamper, G. & Vedenina, V. Y. (1998). Frequency-intensity characteristics of cricket cercal interneurons: units with high-pass functions. *J. Comp. Physiol. A.*, **182**, 715-724.
- Kehlmaier, C. (2000). Studies upon the distribution, the life-cycle, and the male mating song of *Cercopis vulnerata* Rossi, 1807 (Auchenorrhyncha: Cercopidae) at the Schildstein in Lueneburg (Lower Saxony, Germany). *Braunschw. Naturkundl. Schr.*, **6**, 69-84.
- Kerr, W. E. (1994). Communication among *Melipona* workers (Hymenoptera: Apidae). *J. Insect Behav.*, **7**, 123-128.
- Kiflawi, M. & Gray, D. A. (2000). Size-dependent response to conspecific mating calls by male crickets. *Proc. Roy. Soc. Lond. B.*, **267**, 2157-2161.
- King, I. M. (1999). Species-specific sounds in water bugs of the genus *Micronecta*. Part 2, Chorusing. *Bioacoustics*, **10**, 19-29.
- King, I. M. (1999). Acoustic communication and mating behaviour in water bugs of the genus *Micronecta*. *Bioacoustics*, **10**, 115-130.
- King, I. M. (1997). Acoustic behaviour of water bugs of the genus *Micronecta kirkaldy* (Heteroptera: Corixidae). Ph.D. thesis, University of Melbourne.
- King, I. M. (1999). Species-specific sounds in water bugs of the genus *Micronecta*. Part 1, Sound analysis. *Bioacoustics*, **9**, 297-323.
- Kingsolver, J. M., Romero, N. J. & Johnson, C. D. (1993). Files and scrapers: Circumstantial evidence for stridulation in three species of *Amblycerus*, one new (Coleoptera: Bruchidae). *Pan-Pac Entomol.*, **69**, 122-132.
- Kirchner, W. H. (1993). Vibrational signals in the tremble dance of the honeybee, *Apis mellifera*. *Behav. Ecol. Sociobiol.*, **33**, 169-172.
- Kirchner, W. H. & Dreller, C. (1993). Acoustical signals in the dance language of the giant honeybee *Apis dorsata*. *Behav. Ecol. Sociobiol.*, **33**, 67-72.
- Kirchner, W. H., Lindauer, M. & Michelsen, A. (1988). Honeybee dance communication. Acoustical indication of direction in round dances. *Naturwissenschaften*, **75**, 629-630.
- Kirchner, W. H. (1994). Hearing in honeybees: The mechanical response of the bee's antenna to near field sound. *J. Comp. Physiol. A.*, **175**, 261-265.
- Kirchner, W. H., Broecker, I. & Tautz, J. (1994). Vibrational alarm communication in the damp-wood termite *Zootermopsis nevadensis*. *Physiol. Entomol.*, **19**, 187-190.
- Klappert, K. & Reinhold, K. (2001). What makes the song of a male grasshopper so irresistible? *Zoology (Jena)*, **103**, Suppl. 3, 45.
- Klaassen, R. E. & Furgason, E. S. (1988). Characterization of ultrasonic signals generated by concealed insects. *IEEE 1988 Ultrasonics Symposium*, **2**, 923-927.
- Knopek, L. von & Hintze-Podufal, C. (1986). On the morphology of the abdominal tympanic organ of the little wax moth *Achroia grisella* (Fbr.). *Zool. Jahrb., Abt. Anat. Ontog. Tiere*, **114**, 83-93.
- Knyazev, A. N. & Chudakova, I. V. (1993). Hormonal regulation of acoustic communication in crickets: effects of larval castration. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 345-354.
- Koehler, U. & Lakes-Harlan, R. (2001). Auditory behaviour of a parasitoid fly (*Emblemasoma auditrix*, Sarcophagidae, Diptera). *J. Comp. Physiol. A.*, **187**, 581-587.
- Koessl, M. & Boyan, G. S. (1998). Otoacoustic emissions from a nonvertebrate ear. *Naturwissenschaften*, **85**, 124-127.
- Koessl, M. & Boyan, G. S. (1998). Acoustic distortion products from the ear of a grasshopper. *J. Acoust. Soc.*

Am., **104**, 326-335.

- Kolluru, G. R. (1998). Sex can be dangerous: Acoustically-orienting parasitoids on field crickets (Orthoptera: Gryllidae). *Metalepta*, **18(1)**, 5-7.
- Kolluru, G. R. (1999). Variation and repeatability of calling behavior in crickets subject to a phonotactic parasitoid fly. *J. Insect Behav.*, **12**, 611-626.
- Kon, M., Akemi, O. E., Numata, H. & Hidaka, T. (1988). Comparison of the mating behaviour between two sympatric species, *Nezara antennata* and *Nezara viridula* (Heteroptera: Pentatomidae), with special reference to sound emission. *J. Ethol.*, **2**, 91-98.
- Konopka, R. J., Kyriacou, C. P. & Hall, J. C. (1996). Mosaic analysis in the *Drosophila* CNS of circadian and courtship song rhythms affected by a period clock mutation. *J. Neurogenet.*, **11**, 117-139.
- Kos, M. & Gogala, M. (2000). The cicadas of the *Purana nebulilinea* group (Homoptera, Cicadidae) with a note on their songs. *Tijdschrift Entomol.*, **143**, 1-26.
- Krahe, R. & Ronacher, B. (1993). Long rise times of sound pulses in grasshopper songs improve the directionality cues received by the CNS from the auditory receptors. *J. Comp. Physiol., A.*, **173**, 425-434.
- Krahe, R., Budinger, E. & Ronacher, B. (2002). Coding of a sexually dimorphic song feature by auditory interneurons of grasshoppers: The role of leading inhibition. *J. Comp. Physiol. A.*, **187**, 977-985.
- Kreusel, B. & Haeuser, C. L. (1997). Relationships between tympanal organ structure and activity patterns in ctenuchine moths (Lepidoptera, Arctiidae). *Verh. Deutsch. Zool. Ges.*, **90**, 176.
- Kyriacou, C. P., van den Berg, M. & Hall, J. C. (1990). Courtship song rhythms in wild-type and period mutant *Drosophila* revisited. *Behav. Genet.*, **20**, 631-658.
- Kyriacou, C. P., Greenacre, M. L., Thackeray, J. R. & Hall, J. C. (1993). Genetic and molecular analysis of song rhythms in *Drosophila*. In *Cellular Clocks Series, Vol. 4. Molecular Genetics of Biological Rhythms* (M. W. Young, ed). Marcel Dekker, Inc.; New York, pp. 171-193.
- Lakes-Harlan, R., Stoelting, H. & Moore, T. E. (2000). Phonotactic behaviour of a parasitoid fly (*Emblemasoma auditrix*, Diptera, Sarcophagidae) in response to the calling song of its host cicada (*Okanagana rimosa*, Homoptera, Cicadidae). *Zoology (Jena)*, **103**, 31-39.
- Lakes-Harlan, R., Stumpner, A. & Allen, G. R. (1995). Functional adaptations of the auditory system of two parasitoid fly species, *Therobia leonidei* and *Homotrixia* spec. In *Nervous Systems and Behaviour 1995* (M. Burrows, T. Matheson, P. L. Newland and H. Schuppe, eds.). Thieme-Verlag; New York, p. 358.
- Lakes-Harlan, R., Jacobs, K. & Heinrich, R. (1998). Identification of auditory interneurons in situ and in vitro by tracer injection into an afferent neuropil of *Locusta migratoria*. *Naturwissenschaften*, **85**, 240-243.
- Lakes-Harlan, R. & Pfahler, C. (1995). Regeneration of axotomized tympanal nerve fibres in the adult grasshopper *Chorthippus biguttulus* (L.) (Orthoptera: Acrididae). *J. Comp. Physiol. A.*, **176**, 796-807.
- Lang, F. (1996). Noise filtering in the auditory system of *Locusta migratoria* L. *J. Comp. Physiol. A.*, **179**, 575-585.
- Lang, F. (2000). Acoustic communication distances of a gomphocerine grasshopper. *Bioacoustics*, **10**, 233-258.
- Lapshin, D. N. & Zhantiev, O. D. (1993). The effect of rhythmic sound signals on the cricket flight system. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 370-375.
- Lapshin, D. N., Fyodorova, M. V. & Zhantiev, R. D. (1993). Emission and perception of ultrasounds in some noctuid moths (Lepidoptera, Noctuidae). In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 363-369.
- Larsen, O. N., Kleindienst, H.-U. & Michelsen, A. (1989). Biophysical aspects of sound reception. In *Cricket Behavior and Neurobiology* (F. Huber, T. E. Moore & W. Loher, eds.). Cornell University Press; Ithaca, pp. 364-390.
- Lees, D. C. (1992). Foreleg stridulation in male *Urania* moths (Lepidoptera, Uraniidae). *Zool. J. Linn. Soc.*, **106**, 163-170.
- Lehmann, G. & Heller, K.-G. (1998). Bushcricket song structure and predation by the acoustically orienting parasitoid fly *Therobia leonidei* (Diptera: Tachinidae: Ormiini). *Behav. Ecol. Sociobiol.*, **43**, 239-245.
- Lehmann, A. & Heller, K.-G. (1997). Evolution of signals and preferences in acoustically communicating bushcrickets. *Adv. Ethol.*, **32**, 207.
- Leiler, T.-E. (1992). Sound production by lamiine larvae (Coleoptera, Cerambycidae). *Entomol. Tidskr.*, **113**, 55-56.
- Leis, M., Sbrenna-Micciarelli, A. & Sbrenna, G. (1992). Communication in termites: preliminary observations on the vibratory movements of *Kaloterme flavicollis* (Fabr.) (Isoptera, Kalotermitidae). *Ethol. Ecol. Evol.*, **2**, 111-114.
- Lewis, F., Fullard, J. H. & Morrill, S. (1993). Auditory influences on the flight behaviour of moths at a Nearctic site. II. Flight times, heights and erraticism. *Can. J. Zool.*, **71**, 1562-1568.

- Lewis, L. A. & Schneider, S. S. (2000). The modulation of worker behavior by the vibration signal during house hunting in swarms of the honeybee, *Apis mellifera*. *Behav. Ecol. Sociobiol.*, **48**, 154-164.
- Lewis, L. A., Schneider, S. S. & Degradi-Hoffman, G. (2002). Factors influencing the selection of recipients by workers performing vibration signals in colonies of the honeybee, *Apis mellifera*. *Anim. Behav.*, **63**, 361-367.
- Li, K. & Lian, Z. (1999). Sound structure analyses of three species of crickets (Orthoptera: Grylloidea) from Hubei Province. *Entomotaxonomia*, **21**, 187-190.
- Li, K. & Zheng, Z. (1999). Sound characteristics analysis and the identification of six species of *Loxoblemmus* (Orthoptera: Grylloidea). *Entomotaxonomia*, **21**, 17-21.
- Libersat, F., Murray, J. A. & Hoy, R. R. (1994). Frequency as a releaser in the courtship song of two crickets, *Gryllus bimaculatus* (de Geer) and *Teleogryllus oceanicus*: A neuroethological analysis. *J. Comp. Physiol. A*, **174**, 485-494.
- Lickman, K., Murray, A.-M. & Cade, W. H. (1998). Effect of mating on female phonotactic response in *Gryllus integer* (Orthoptera: Gryllidae). *Can. J. Zool.*, **76**, 1263-1268.
- Lin, Y. Z., Kalmring, K., Jatho, M., Sickmann, T. & Rossler, W. (1993). Auditory receptor organs in the forelegs of *Gampsocleis gratiosa* (Tettigoniidae): morphology and function of the organs in comparison to the frequency parameters of the conspecific song. *J. Exp. Zool.*, **267**, 377-388.
- Lins, F. & Elsner, N. (1995). Descending stridulatory interneurons in the suboesophageal ganglion of two grasshopper species. I. Anatomy and song-specific activity. *J. Comp. Physiol. A*, **176**, 809-821.
- Lins, F. & Elsner, N. (1995). Descending stridulatory interneurons in the suboesophageal ganglion of two grasshopper species. II. Influence upon the stridulatory patterns. *J. Comp. Physiol. A*, **176**, 823-833.
- Loher, W., Weber, T. & Huber, F. (1993). The effect of mating on phonotactic behaviour in *Gryllus bimaculatus* (De Geer). *Physiol. Entomol.*, **18**, 57-66.
- Loher, W., Weber, T., Rembold, H. & Huber, F. (1992). Persistence of phonotaxis in females of four species of crickets following allatectomy. *J. Comp. Physiol. A*, **171**, 325-341.
- Lorier, E., Garcia, M. D., Clemente, M. E. & Presa, J. J. (2002). Acoustic behavior of *Metaleptea adspersa* (Orthoptera: Acrididae). *Can. Entomol.*, **134**, 113-123.
- Luca, P. A. de & Morris, G. K. (1998). Courtship communication in meadow katydids: female preference for large male vibrations. *Behaviour*, **135**, 777-793.
- Lund, H. H., Webb, B. & Hallam, J. (1998). Physical and temporal scaling considerations in a robot model of cricket calling song preference. *Artific. Life*, **4**, 95-107.
- Lyal, C. H. C. & King, T. (1996). Elytro-tergal stridulation in weevils (Insecta: Coleoptera: Curculionioidea). *J. Nat. Hist.*, **30**, 703-773.
- MacDermid, V. & Fullard, J. (1998). Not all receptor cells are equal: Octopamine exerts no influence on auditory thresholds in the noctuid moth *Catocala cerogama*. *Naturwissenschaften*, **85**, 505-507.
- Machens, C. K., Stemmler, M. B., Prinz, P., Ritz, R., Ronacher, R. & Herz, A. V. (2000). Representation of acoustic communication signals in the grasshopper auditory system. *Soc. Neurosci. Abstr.*, **26**.
- Machens, C. K., Stemmler, M. B., Prinz, P., Krahe, R., Ronacher, B. & Herz, A. V. (2001). Representation of acoustic communication signals by insect auditory receptor neurons. *J. Neurosci.*, **21**, 3215-3227.
- Malkmus, R. (1995). Who calls here: Frog or cricket? *Sauria, Berlin*, **17**, 35-38 (German).
- Mankin, R. W. (1994). Acoustical detection of *Aedes taeniorhynchus* swarms and emergence exoduses in remote salt marshes. *J. Am. Mosq. Control. Assoc.*, **10**, 302-308.
- Martin, S. D., Gray, D. A. & Cade, W. H. (2000). Fine-scale temperature effects on cricket calling song. *Can. J. Zool.*, **78**, 706-712.
- Martinez Wells, M. & Henry, C. S. (1994). Behavioral responses of hybrid lacewings (Neuroptera: Chrysopidae) to courtship songs. *J. Insect Behav.*, **7**, 649-662.
- Mason, A. C., Morris, G. K. & Hoy, R. R. (1999). Peripheral frequency mismatch in the primitive ensiferan *Cyphoderris monstrosa* (Orthoptera: Haglidae). *J. Comp. Physiol. A*, **184**, 543-551.
- Mason, A. C. & Bailey, W. J. (1998). Ultrasound hearing and male-male communication in Australian katydids (Tettigoniidae: Zaprochilinae) with sexually dimorphic ears. *Physiol. Entomol.*, **23**, 139-149.
- Mason, A. C. & Schildberger, K. (1993). Auditory interneurons in *Cyphoderris monstrosa* (Orthoptera, Haglidae). *J. Comp. Physiol. A*, **171**, 749-757.
- Mason, A. C. (1996). Territoriality and the function of song in the primitive acoustic insect *Cyphoderris monstrosa* (Orthoptera: Haglidae). *Anim. Behav.*, **51**, 211-224.
- Mason, A. C., Forrest, T. G. & Hoy, R. R. (1998). Hearing in mole crickets (Orthoptera: Gryllotalpidae) at sonic and ultrasonic frequencies. *J. Exp. Biol.*, **201**, 1967-1979.
- Mason, A. C., Oshinsky, M. L. & Hoy, R. R. (2001). Hyperacute directional hearing in a microscale auditory system. *Nature*, **410**, 686-690.
- Mayer, F. & von Helversen, O. (2001). Sexual selection in a hybrid population of the grasshopper *Chorthippus biguttulus*. *Zoology (Jena)*, **103**, Suppl. 3, 47.

- Mbata, K. J. (1992). Some observations on the reproductive behaviour of *Acanthoplus speiseri* Brancsik (Orthoptera: Tettigoniidae: Hetrodinae). *Insect Sci. Appl.*, **13**, 19-26.
- Mbata, K. J. (1992). Functional morphology of the stridulatory apparatus of *Acanthoplus speiseri* Brancsik (Orthoptera: Tettigoniidae, Hetrodinae). *J. Entomol. Soc. South Afr.*, **55**, 227-244.
- McVean, A. & Field, L. H. (1996). Communication by substratum vibration in the New Zealand tree weta, *Hemideina femorata* (Stenopelmatidae: Orthoptera). *J. Zool.*, **239**, 101-122.
- Meier, T. & Reichert, H. (1990). Embryonic development and evolutionary origin of the orthopteran auditory organs. *J. Neurobiol.*, **21**, 592-610.
- Meyer, J. & Elsner, N. (1997). Can spectral cues contribute to species separation in closely related grasshoppers? *J. Comp. Physiol. A.*, **180**, 171-180.
- Meyer, J. (1994). Possibilities and limits in the adaptation of hearing on the demands of intraspecific communication in field crickets. A biophysical, electrophysiologic and behavioural study. Dissertation. University of Göttingen (German).
- Meyer, J. & Hedwig, B. (1995). The influence of tracheal pressure changes on the responses of the tympanal membrane and auditory receptors in the locust *Locusta migratoria* L. *J. Exp. Biol.*, **198**, 1327-1339.
- Meyer, J. & Elsner, N. (1996). How well are frequency sensitivities of grasshopper ears tuned to species-specific song spectra? *J. Exp. Biol.*, **199**, 1631-1642.
- Meyhoefer, R., Casas, J. & Dorn, S. (1994). Host location by a parasitoid using leafminer vibrations: characterizing the vibrational signals produced by the leafmining host. *Physiol. Entomol.*, **19**, 349-359.
- Meyhofer, R. & Casas, J. (1999). Vibratory stimuli in host location by parasitic wasps. *J. Insect Physiol.*, **45**, 967-971.
- Michelsen, A. & Elsner, N. (1999). Sound emission and the acoustic far field of a singing acridid grasshopper (*Omocestus viridulus* L.). *J. Exp. Biol.*, **202**, 1571-1578.
- Michelsen, A. & Rohrseitz, K. (1997). Sound localisation in a habitat: an analytical approach to quantifying the degradation of directional cues. *Bioacoustics*, **7**, 291-313.
- Michelsen, A. (1998). Biophysics of sound localization in insects. In *Comparative Hearing: Insects*. (R. R. Hoy, A. N. Popper and R. R. Fay, eds.). Springer; New York, pp. 18-62.
- Michelsen, A., Popov, A. V. & Lewis, B. (1994). Physics of directional hearing in the cricket *Gryllus bimaculatus*. *J. Comp. Physiol. A.*, **175**, 153-162.
- Michelsen, A. & Rohrseitz, K. (1995). Directional sound processing and interaural sound transmission in a small and a large grasshopper. *J. Exp. Biol.*, **198**, 1817-1827.
- Michelsen, A. (1994). Directional hearing in crickets and other small animals. *Fortschr. Zool.*, **39**, 195-207.
- Michelsen, A. & Fonseca, P. (2000). Spherical sound radiation patterns of singing grass cicadas, *Tympanistalna gastrica*. *J. Comp. Physiol. A.*, **186**, 163-168.
- Michelsen, A. & Loehe, G. (1995). Tuned directionality in cricket ears. *Nature*, **375**, 639.
- Michelsen, A., Heller, K.-G., Stumpner, A. & Rohrseitz, K. (1994). A new biophysical method to determine the gain of the acoustic trachea in bushcrickets. *J. Comp. Physiol. A.*, **175**, 145-151.
- Michelsen, A., Towne, W. F., Kirchner, W. H. & Kryger, P. (1987). The acoustic near field of a dancing honeybee. *J. Comp. Physiol. A.*, **161**, 633-643.
- Miklas, N., Stritih, N., Cokl, A., Virant-Doberlet, M. & Renou, M. (2001). The influence of substrate on male responsiveness to the female calling song in *Nezara viridula*. *J. Insect Behav.*, **14**, 313-332.
- Miles, R. N., Robert, D. & Hoy, R. R. (1995). Mechanically coupled ears for directional hearing in the parasitoid fly *Ormia ochracea*. *J. Acoust. Soc. Am.*, **98**, 3059-3070.
- 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, 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.
- Minckley, R. L. & Greenfield, M. D. (1995). Psychoacoustics of female phonotaxis and the evolution of male signal interactions in Orthoptera. *Ethol. Ecol. Evol.*, **7**, 235-243.
- Minckley, R. L., Greenfield, M. D. & Tourtellot, M. K. (1995). Chorus structure in tarbush grasshoppers: inhibition, selective phonoresponse and signal competition. *Anim. Behav.*, **50**, 579-594.
- Monge-Najera, J., Hernandez, F., Gonzalez, M. I., Soley, J., Araya, j. & Zolla, S. (1998). Spatial distribution, territoriality and sound production by tropical cryptic butterflies (*Hamadryas*, Lepidoptera: Nymphalidae): implications for the 'industrial melanism' debate. *Revista de Biologica Tropical*, **46**, 297-330.
- Monge-Najera, J. & Hernandez, F. (1991). A morphological search for the sound mechanism of *Hamadryas* butterflies (Lepidoptera: Nymphalidae). *J. Res. Lepid.*, **30**, 196-208.
- Moore, T. E., Huber, F., Weber, T., Klein, U. & Bock, C. (1993). Interaction between visual and phonotactic orientation during flight in *Magiccada cassini* (Homoptera: Cicadidae). *Great Lakes Entomol.*, **26**,

199-221.

- Morris, G. K. & Mason, A. C. (1995). Covert stridulation: novel sound generation by a South American katydid. *Naturwissenschaften*, **82**, 96-98.
- Morris, G. K., Mason, A. C., Wall, P. & Belwood, J. J. (1994). High ultrasonic and tremulation signals in Neotropical katydids (Orthoptera, Tettigoniidae). *J. Zool.*, **233**, 129-163.
- Morris, G. K., DeLuca, P. A., Norton, M. & Mason, A. C. (2002). Calling-song function in male haglids (Orthoptera: Haglidae, *Cyphoderris*). *Can. J. Zool.*, **80**, 271-285.
- Moss, J. T. & Moulds, M. S. (2000). A new species of *Psaltoda stal*, with notes on comparative morphology and song structure (Hemiptera: Cicadidae). *Austr. Entomol.*, **27**, 47-60.
- Moulin, B., Rybak, F., Aubin, T. & Jallon, J. M. (2001). Compared ontogenesis of courtship song components of males from the sibling species, *D. melanogaster* and *D. simulans*. *Behav. Genet.*, **31**, 299-308.
- Moulin, B. & Rybak, F. (1998). Ontogenesis of *Drosophila* courtship song. *Bioacoustics*, **9**, 153.
- Mueller, P. & Robert, D. (2001). A shot in the dark: the silent quest of a free-flying phonotactic fly. *J. Exp. Biol.*, **204**, 1039-1052.
- Muller, K. L. (1998). The role of conspecifics in habitat settlement in a territorial grasshopper. *Anim. Behav.*, **56**, 479-485.
- Murray, A.-M. & Cade, W. H. (1997). Longitudinal studies of selection and mating behavior in field crickets. *Metalepta*, **17(2)**, 9.
- Naessig, W. A., Oberprieler, R. G. & Duke, N. J. (1992). Preliminary observations on sound production in South African hawk moths (Lepidoptera: Sphingidae). *J. Entomol. Soc. South. Afr.*, **55**, 277-279.
- Navia, B. J., Atkins, G., Fang, H., Rawson, R. & Stout, J. (2000). Evaluation of inhibitory inputs onto the 13 auditory interneuron in the cricket and their role in syllable period selective phonotaxis. *Soc. Neurosci. Abstr.*, **26**.
- Neems, R. M. & Butlin, R. K. (1993). Divergence in mate finding behaviour between two subspecies of the meadow grasshopper *Chorthippus parallelus* (Orthoptera, Acrididae). *J. Insect Behav.*, **6**, 421-430.
- Neems, R. M., Dooher, K., Butlin, R. K. & Shorrocks, B. (1997). Differences in male courtship song among the species of the *quinaria* group of *Drosophila*. *J. Insect Behav.*, **10**, 237-246.
- Nelson, C. M. & Nolen, T. G. (1997). Courtship song, male agonistic encounters, and female mate choice in the house cricket, *Acheta domesticus* (Orthoptera: Gryllidae). *J. Insect Behav.*, **10**, 557-570.
- Niedzlek-Feaver, M. (1995). Crepitation, pair formation, and female choice in *Chortophaga viridifasciata* (DeGeer)(Orthoptera: Acrididae). *J. Orth. Res.*, **4**, 131-142.
- Nischk, F. (1998). Bioacoustic niches of crickets (Orthoptera, Gryllidae): A comparison of neotropical forest ecosystems. *Verh. Westd. Entom. Tag 1997*, **177-186** (German).
- Nolen, T. C., Lam, C., Wong, J., Luayon, L. & Luayon, J. (1992). High frequency components in the rivalry song of territorial male crickets: multiple functions for aversion to ultrasound. *Proc. Int. Congr. Neuroethol.*, **3**.
- Noor, M. A. F., Williams, M. A., Alvarez, D. & Ruiz-Garcia, M. (2000). Lack of evolutionary divergence in courtship songs of *Drosophila pseudoobscura* subspecies. *J. Insect Behav.*, **13**, 255-262.
- Noor, M. A. F. & Aquadro, C. (1998). Courtship songs of *Drosophila pseudoobscura* and *D. persimilis*: analysis of variation. *Anim. Behav.*, **56**, 115-125.
- 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.
- Northcott, M. A. & Fullard, J. H. (1996). The closed-loop nature of the tymbal response in the dogbane tiger moth, *Cycnia tenera* (Lepidoptera, Arctiidae). *Brain Behav. Evol.*, **48**, 130-136.
- Nummelin, M. (1987). Ripple signals of the water strider *Limnoporus rufoscutellatus* (Heteroptera, Gerridae). *Ann. Zool. Fenn.*, **53**, 17-22.
- Ohnishi, K. & Yamaguchi, T. (1993). Light-induced, sound-induced, and ultrasound-induced cercal movements in flying crickets. *Zool. Sci.*, **10**, 749-756.
- Oliveira, P. A. P., Simoes, P. C. & Quartau, J. A. (2001). Calling songs of certain orthopteran species (Insecta, Orthoptera) in southern Portugal. *Anim. Biodiv. Conserv.*, **24**, 65-79.
- Olvido, A. E. & Mousseau, T. A. (1995). Effect of rearing environment on calling song plasticity in the striped ground cricket. *Evolution*, **49**, 1271-1277.
- Orci, K. M., Ragge, D. R. & Reynolds, W. J. (2002). A re-examination of the taxonomy of *Euchorthippus pulvinatus* and related species on the basis of morphology and song (Orthoptera: Acrididae). *J. Nat. Hist.*, **36**, 585-600.
- Orci, K. M., Szovenyi, G. & Nagy, B. (2001). Description of the song of *Isophya beybienkoi* (Orthoptera, Tettigoniidae). *Biologia* (Bratislava), **56**, 489-495.
- Ordish, R. G. (1992). Aggregation and communication of the Wellington weta *Hemideina crassidens* (Blanchard)(Orthoptera: Stenopelmatidae). *N. Z. Entomol.*, **15**, 1-8.
- Otazo, A., Corro, F. & Portilla, N. (1989). Acoustic stimuli evoke spikes from the last abdominal ganglion in an

- arctiid moth. *Naturwissenschaften*, **76**, 430-431.
- Otero, L. D. (1990). The stridulatory organ in *Hamadryas* (Nymphalidae): Preliminary observations. *J. Lepidopt. Soc.*, **44**, 285-288.
- Otis, G. W., Patton, K. & Tingek, S. (1995). Piping by queens of *Apis cerana* Fabricius 1793 and *Apis koschevnikovi* v Buttel-Reepen 1906. *Apidologie*, **26**, 61-65.
- Otte, D. & Peck, S. B. (1997). New species of *Gryllus* (Orthoptera: Grylloidea: Gryllidae) from the Galapagos Islands. *J. Orth. Res.*, **6**, 161-173.
- Otten, H., Waeckers, F., Battini, M. & Dorn, S. (2001). Efficiency of vibrational sounding in the parasitoid *Pimpla turionellae* is affected by female size. *Anim. Behav.*, **61**, 671-677.
- Otto, D. & Hennig, R. M. (1993). Interneurons descending from the cricket subesophageal ganglion control stridulation and ventilation. *Naturwissenschaften*, **80**, 36-38.
- Paez, V. P., Bock, B. C. & Rand, A. S. (1993). Inhibition of evoked calling of *Dendrobates pumilio* due to acoustic interference from cicada calling. *Biotropica*, **25**, 242-245.
- Paillette, M., Bizat, N. & Joly, D. (1997). Differentiation of dialects and courtship strategies in allopatric populations of *Drosophila teissieri*. *J. Insect Physiol.*, **43**, 809-814.
- Painter-Kurt, S. & Schneider, S. S. (1998). Age and behavior of honey bees, *Apis mellifera* (Hymenoptera, Apidae), that perform vibration signals on queens and queen cells. *Ethology*, **104**, 475-485.
- Painter-Kurt, S. & Schneider, S. S. (1998). Age and behavior of honey bees, *Apis mellifera* (Hymenoptera: Apidae), that perform vibration signals on workers. *Ethology*, **104**, 457-473.
- Palestrini, C., Luzzatto, M., Roggero, A. & Zunino, M. (1997). Acoustic emission in *Megatrupes cavicollis* (Bates 1887)(Coleoptera, Geotrupinae). *Bioacoustics*, **8**, 263-264.
- Palestrini, C., Pensati, F., Barbero, E. & Zunino, M. (1996). Interspecific differences of distress signals in Passalid beetles (Coleoptera, Passalidae). In *Proceedings of the Sixth Conference of the Italian section of the International Union for the study of social insects. Insect Social Life*, Vol. 1., pp. 227-231.
- Palestrini, C. & Zunino, M. (1987). The biological meaning of sounds produced by nesting and subsocial Lamellicorn beetles. In *Ethological Perspectives in Social and Presocial Arthropods. Pubbl. Ist. Entom. Univ. Pavia*, **36**, 81-85.
- Palestrini, C. & Pavan, G. (1995). The stridulation in *Thorectes intermedius* (Costa, 1827)(Coleoptera: Geotrupidae). *Elytron*, **9**, 115-124.
- Parkman, J. P. & Frank, J. H. (1993). Use of a sound trap to inoculate *Steinernema scapterisci* (Rhabditida, Steinernematidae) into pest mole cricket populations (Orthoptera, Gryllotalpidae). *Fla. Entomol.*, **76**, 75-82.
- Pavan, G., de Carli, P., Priano, M., Lachaud, J.-P., Beugnon, G., Fanfani, A. & Giovannotti, M. (1996). Stridulation in 5 species of Neotropical Ponerinae ants (Hymenoptera, Formicidae). In *Proceedings of the Sixth Conference of the Italian section of the International Union for the Study of Social Insects. Insect social life*, Vol. 1, pp. 169-172.
- Pavan, G., Priano, M., de Carli, P., Fanfani, A. & Giovannotti, M. (1997). Stridulatory organ and ultrasonic emission in certain species of ponerine ants (genus: *Ectatomma* and *Pachycondyla*, Hymenoptera, Formicidae). *Bioacoustics*, **8**, 209-221.
- Pavey, C. R. & Burwell, C. J. (1998). Bat predation on eared moths: a test of the allotonic frequency hypothesis. *Oikos*, **81**, 143-151.
- Pavlovic, P. & Cokl, A. (2001). Songs of *Holcostethus strictus* (Fabricius): a different repertoire among landbugs (Heteroptera: Pentatomidae). *Behav. Process.*, **53**, 65-73.
- Pearson, G. A. & Allen, D. M. (1996). Vibrational communication in *Eusattus convexus* LeConte (Coleoptera: Tenebrionidae). *Coleopt. Bull.*, **50**, 391-394.
- Peixoto, A. A., Costa, R. & Hall, J. C. (2000). Molecular and behavioral analysis of sex-linked courtship song variation in a natural population of *Drosophila melanogaster*. *J. Neurogenet.*, **14**, 245-256.
- Peixoto, A. A. & Hall, J. C. (1998). Analysis of temperature-sensitive mutants reveals new genes involved in the courtship song of *Drosophila*. *Genetics*, **148**, 827-838.
- Perez, M., Portilla, N., Otazo, A., Coro, F. & Barro, P. (1988). The auditory system of noctuid moths and its possible role in mating behavior. *Wiss. Z. Humboldt-Univ. Berlin R. Math/Nat. Wiss.*, **37**, 322-327.
- Pfannenstiel, R. S., Hunt, R. E. & Yeorgan, K. V. (1995). Orientation of a hemipteran predator to vibrations produced by feeding caterpillars. *J. Insect Behav.*, **8**, 1-10.
- Pfluger, H.-J. & Field, L. H. (1999). A locust chordotonal organ coding for proprioceptive and acoustic stimuli. *J. Comp. Physiol. A.*, **184**, 169-183.
- Phelan, P. L. (1997). Evolution of mate-signaling in moths: Phylogenetic considerations and predictions from the asymmetric tracking hypothesis. In *Mating Systems in Insects and Arachnids* (J. C. Choe & B. J. Crespi, eds.). Cambridge University Press; Cambridge, pp. 240-256.
- Polhemus, J. T. (1992). Stridulatory mechanisms in aquatic and semi-aquatic Heteroptera. *J. N. Y. Entomol. Soc.*, **102**.

- Pollack, G. S. & Imaizumi, K. (1999). Neural analysis of sound frequency in insects. *Bioessays*, **21**, 295-303.
- Pollack, G. S. (1998). Neural processing of acoustic signals. In *Comparative Hearing: Insects*. (R. R. Hoy, A. N. Popper and R. R. Fay, eds.). Springer; New York, pp. 139-196.
- Pollack, G. (2000). Who, what, where? Recognition and localization of acoustic signals by insects. *Curr. Opin. Neurobiol.*, **10**, 763-767.
- Pollack, G. S. & El-Feghaly, E. (1993). Calling song recognition in the cricket *Teleogryllus oceanicus*: comparison of the effects of stimulus intensity and sound spectrum on selectivity for temporal pattern. *J. Comp. Physiol. A.*, **171**, 759-765.
- Pollack, G. S. (1988). Selective attention in an insect auditory neuron. *J. Neurosci.*, **8**, 2635-2639.
- Pollack, G. S., Givois, V. & Balakrishnan, R. (1998). Air-movement "signals" are not required for female mounting during courtship in the cricket *Teleogryllus oceanicus*. *J. Comp. Physiol. A.*, **183**, 513-518.
- Popov, A. V., Savvateeva-Popova, E. V., Shchekanov, E. E. & Riederer, P. (2001). The effects of age on courtship sound production in fruit flies *Drosophila melanogaster*. *Sensornye Sistemy*, **15**, 167-176.
- Popov, A. V. (1998). Sibling species of the singing cicadas *Cicadette prasina* (Pall.) and *C. pellosoma* (Uhler)(Homoptera, Cicadidae). *Entomol. Rev.*, **78**, 309-318.
- Popov, A. V., Savvateeva-Popova, E. V. & Kamyshev, N. G. (2000). Peculiarities of acoustic communication in fruit flies *Drosophila melanogaster*. *Sensornye Sistemy*, **14**, 60-74.
- Portilla, N., Coro, F., Otazo, A., Perez, M. & Alonso, N. (1987). Mating behavior and auditory information flow in an arctiid moth. *Naturwissenschaften*, **74**, 503-505.
- Poulet, J. & Hedwig, B. (2001). The impact of stridulation on sound processing in the cricket (*G. bimaculatus*). *Zoology (Jena)*, **Suppl. 3**, 21.
- Poulet, J. F. & Hedwig, B. (2001). Tympanic membrane oscillations and auditory receptor activity in the stridulating cricket *Gryllus bimaculatus*. *J. Exp. Biol.*, **204**, 1281-1293.
- Prestwich, K. N. (1995). Is the energetics of calling in an acoustic free field similar to that measured in a metabolic chamber? *Am. Zool.*, **35**, 142A.
- Prestwich, K. N. (1994). The energetics of acoustic signalling in anurans and insects. *Am. Zool.*, **34**, 625-643.
- Prestwich, K. N., Lenihan, K. M. & Martin, D. M. (2000). The control of carrier frequency in cricket calls: a refutation of the subalar-tegmental resonance/auditory feedback model. *J. Exp. Biol.*, **302**, 585-596.
- Priano, M., Pavan, G., Mori, A., Grasso, D., Le Moli, F., Giovannotti, M. & Fanfani, A. (1997). Stridulation in four ant species of the genus *Messor*: ultrasonic emission and description of their stridulatory apparatus (Hymenoptera, Formicidae). *Bioacoustics*, **8**, 265.
- Priano, M., Pavan, G., de Carli, P., Lachaud, J.-P., Fanfani, A. & Giovannotti, M. (1996). Ultrasonic emission in two genera of neotropical ants (Hymenoptera, Formicidae, Ponerinae). *Bioacoustics*, **6**, 319-320.
- Prosser, M. R., Murray, A. M. & Cade, W. H. (1997). The influence of female age on phonotaxis during single and multiple song presentations in the field cricket, *Gryllus integer* (Orthoptera, Gryllidae). *J. Insect Behav.*, **10**, 437-449.
- Pugh, A. R. G. & Ritchie, M. G. (1996). Polygenic control of a mating signal in *Drosophila*. *Heredity*, **77**, 378-382.
- Pye, D. (1997). The emergence of animal ultrasound. *Bioacoustics*, **7**, 235-240.
- Quartau, J. A., Rebelo, M. T., Simoes, P. C., Fernandes, T. M., Claridge, M. F., Drosopoulos, S. & Morgan, J. C. (1999). Acoustic signals of populations of *Cicada orni* L. in Portugal and Greece (Hemiptera: Auchenorrhyncha: Cicadomorpha: Cicadidae). *Reichenbachia*, **33**, 71-80.
- Quartau, J. A., Seabra, S. & Sanborn, A. (2000). Effect of ambient air temperature on the calling song of *Cicada orni* Linnaeus, 1758 (Hemiptera: Cicadidae) in Portugal. *Acta Zool. Cracov.*, **43**, 193-198.
- Ragge, D. R. & Reynolds, W. J. (1998). *The Songs of the Grasshoppers and Crickets of Western Europe*. Harley Books; Colchester.
- Ragge, D. R. (1986). The songs of the western European grasshoppers of the genus *Omocestus* in relation to their taxonomy (Orthoptera: Acrididae). *Bull. Brit. Mus. (Nat. Hist.)*, **53**, 213-249.
- Ralf, H., Wenzel, B. & Elsner, N. (2001). Pharmacological brain stimulation releases elaborate stridulatory behavior in gomphocerine grasshoppers - conclusions for the organization of the nervous control. *J. Comp. Physiol. A.*, **187**, 155-169.
- Ramsauer, N. & Robert, D. (2000). Free-flight phonotaxis in a parasitoid fly: behavioural thresholds, relative attraction and susceptibility to noise. *Naturwissenschaften*, **87**, 315-319.
- Reinhold, K., Greenfield, M. D., Jang, Y. & Broce, A. (1998). Energetic cost of sexual attractiveness: ultrasonic advertisement in wax moths. *Anim. Behav.*, **55**, 905-913.
- Renou, M., Miklas, N., Cokl, A. & Doberlet, M. V. (2001). Courtship behavior in *Nezara viridula* (Heteroptera, Pentatomidae): A matter of songs and pheromones. *Adv. Ethol.*, **36**, 248-249.
- Rheinlaender, J., Hardt, M. & Robinson, D. J. (1986). The directional sensitivity of a bush cricket ear: A behavioural and neurophysiological study of *Leptophyes punctatissima*. *Physiol. Entomol.*, **11**, 309-316.

- Ribaric, D. & Gogala, M. (1996). Acoustic behaviour of some butterfly species of the genus *Erebia* (Lepidoptera: Satyridae). *Acta Entomologica Slovenica*, **4**, 5-12.
- Riede, K. (1993). Bioacoustics of calling communities from a Malaysian lowland rainforest. *Verh. Deutsch. Zool. Ges.*, **86**, 269 (German).
- Riede, K. (1997). Bioacoustic monitoring of insect communities in a Bornean rainforest canopy. In *Canopy Arthropods* (N. E. Stork, J. Adis & R. K. Didham, eds.). Chapman & Hall; London, pp. 442-452.
- Riede, K. (1997). Bioacoustic diversity and resource partitioning in tropical calling communities. In *Tropical Biodiversity and Systematics* (H. Ulrich, ed.). Zoologisches Forschungsinstitut und Museum Alexander Koenig; Bonn, pp. 275-280.
- Riede, K. (1996). Diversity of sound-producing insects in a Bornean lowland rain forest. In *Tropical Rainforest Research - Current Issues* (D. S. Edwards & W. E. Booth, eds.). Kluwer Academic Publishers; Dordrecht, pp. 77-84.
- Riede, K. (1997). Bioacoustic comparison of three tropical cricket communities. *Metalepta*, **17**(2), 9.
- Riede, K. & Kroker, A. (1995). Bioacoustics and niche differentiation in two cicada species from Bornean lowland forest. *Zool. Anz.*, **234**, 43-51.
- Riede, K. (1993). Monitoring biodiversity: analysis of Amazonian rainforest sounds. *Ambio*, **22**, 546-548.
- Riley, J. R. (1994). Acoustic sounding, atmospheric structure and insects. *Int. J. Remote Sensing*, **15**, 293-297.
- Ritchie, M. G. & Kyriacou, C. P. (1994). Genetic variability of courtship song in a population of *Drosophila melanogaster*. *Anim. Behav.*, **48**, 425-434.
- Ritchie, M. G., Yate, V. & Kyriacou, C. P. (1994). Genetic variability of the interpulse interval of courtship song among some European populations of *Drosophila melanogaster*. *Heredity*, **72**, 459-464.
- Ritchie, M. G. (2000). The inheritance of female preference functions in a mate recognition system. *Proc. Roy. Soc. Lond. B.*, **267**, 327-332.
- Ritchie, M. G. & Kyriacou, C. P. (1996). Artificial selection for a courtship signal in *Drosophila melanogaster*. *Anim. Behav.*, **52**, 603-611.
- Ritchie, M. G. & Gleason, J. M. (1995). Rapid evolution of courtship song in *Drosophila willistoni* sibling species. *J. Evol. Biol.*, **8**, 463-479.
- Ritchie, M. G., Racey, S. N., Gleason, J. M. & Wolff, K. (1997). Variability of the bushcricket *Ephippiger ephippiger*: RAPDs and song races. *Heredity*, **79**, 286-294.
- Ritchie, M. G., Saarikettu, M., Livingstone, S. & Hoikkala, A. (2001). Characterization of female preference functions for *Drosophila montana* courtship song and a test of the temperature coupling hypothesis. *Evolution*, **55**, 721-727.
- Ritchie, M. G., Halsey, E. J. & Gleason, J. M. (1999). *Drosophila* song as a species-specific mating signal and the behavioural importance of Kyriacou & Hall cycles in *D. melanogaster* song. *Anim. Behav.*, **58**, 649-657.
- Ritchie, M. G., Townhill, R. M. & Hoikkala, A. (1998). Female preference for fly song: playback experiments confirm the targets of sexual selection. *Anim. Behav.*, **56**, 713-717.
- Ritchie, M. G., Sunter, D. & Hockham, L. R. (1998). Behavioral components of sex role reversal in the tettigoniid bushcricket *Ephippiger ephippiger*. *J. Insect Behav.*, **11**, 481-491.
- Ritchie, M. G. (1995). Evolutionary influences on the receiver system in insect bioacoustics; coevolution and sexual selection. *Bioacoustics*, **6**, 216.
- Ritchie, M. G., Couzin, I. D. & Snedden, W. A. (1995). What's in a song? Female bushcrickets discriminate against the song of older males. *Proc. Roy. Soc. Lond., Ser. B., Biol. Sci.*, **262**, 21-27.
- Robert, D., Amoroso, J. & Hoy, R. R. (1992). The evolutionary convergence of hearing in a parasitoid fly and its cricket host. *Science*, **258**, 1135-1137.
- Robert, D., Miles, R. N. & Hoy, R. R. (1999). Tympanal hearing in the sarcophagid parasitoid fly *Emblemasoma* sp.: The biomechanics of directional hearing. *J. Exp. Biol.*, **202**, 1865-1876.
- Robert, D., Miles, R. N. & Hoy, R. R. (1998). Tympanal mechanics in the parasitoid fly *Ormia ochracea*: intertympanal coupling during mechanical vibration. *J. Comp. Physiol. A.*, **183**, 443-452.
- Robert, D. & Hoy, R. R. (1994). Overhearing cricket love songs. *Natural History*, **103**, 49-51.
- Robert, D. & Hoy, R. R. (1995). Directional hearing in insects: an evolutionary and mechanistic analysis. *Bioacoustics*, **6**, 215.
- Robinson, D. (1990). Acoustic communication between the sexes in bushcrickets. In *The Tettigoniidae: Biology, Systematics and Evolution* (W. J. Bailey & D. C. F. Rentz, eds.). Crawford House Press; Bathurst, New South Wales, pp. 112-129.
- Roces, F., Tautz, J. & Hoelldobler, B. (1993). Stridulation in leaf-cutting ants. Short-range recruitment through plant-borne vibrations. *Naturwissenschaften*, **80**, 521-524.
- Roces, F. & Hoelldobler, B. (1995). Vibrational communication between hitchhikers and foragers in leaf-cutting ants (*Atta cephalotes*). *Behav. Ecol. Sociobiol.*, **37**, 297-302.
- Roces, F. & Hoelldobler, B. (1996). Use of stridulation in foraging leaf-cutting ants: mechanical support during

- cutting or short-range recruitment signal? *Behav. Ecol. Sociobiol.*, **39**, 293-299.
- Roces, F. & Manrique, G. (1996). Different stridulatory vibrations during sexual behaviour and disturbance in the blood-sucking bug *Triatoma infestans* (Hemiptera: Reduviidae). *J. Insect Physiol.*, **42**, 231-238.
- Rodriguez, M. A. & Angulo, A. O. (2000). Stridulatory apparatus and bioacoustic model of call song of two species of Gryllidae from Chile (Orthoptera: Ensifera: Tettigoniidae: Gryllidae). *Gayana*, **64**, 47-60.
- Roemer, H. & Krusch, M. (2000). A gain-control mechanism for processing of chorus sounds in the afferent auditory pathway of the bushcricket *Tettigonia viridissima* (Orthoptera: Tettigoniidae). *J. Comp. Physiol. A.*, **186**, 181-191.
- Roemer, H. & van Staaden, M. J. (1997). Constraints on acoustic communication in insects. *Adv. Ethol.*, **32**, 28.
- Roemer, H., Marquart, V. & Hardt, M. (1988). Organization of a sensory neuropile in the auditory pathway of two groups of orthopterans. *J. Comp. Neurol.*, **275**, 201-215.
- Roemer, H. (1993). Environmental and biological constraints for the evolution of long-range signalling and hearing in acoustic insects. *Philos. Trans. R. Soc. Lond. B. Biol. Sci.*, **340**, 179-185.
- Roemer, H. (1991). Ecological constraints for the evolution of hearing and sound communication in insects. In *The Evolutionary Biology of Hearing* (D. B. Webster, R. R. Fay & A. N. Popper, eds.). Springer Verlag; Berlin, pp. 79-94.
- Roemer, H., Spickermann, M. & Bailey, W. (1998). Sensory basis for sound intensity discrimination in the bushcricket *Requena verticalis* (Tettigoniidae, Orthoptera). *J. Comp. Physiol. A.*, **182**, 595-607.
- Roemer, H., Hedwig, B. & Ott, S. (1997). Proximate mechanism of female preference for the leader male in synchronizing bushcrickets (*Mecopoda elongata*). In *Proceedings of the 25th Goettingen Neurobiology Conference*, Vol. II (N. Elsner & H. Waessle, eds), pp. 322.
- Roff, D. A., Mousseau, T. A. & Howard, D. J. (1999). Variation in genetic architecture of calling song among populations of *Allonemobius socius*, *A. fasciatus* and a hybrid population: Drift or selection? *Evolution*, **53**, 216-224.
- Ronacher, B., Krahe, R. & Hennig, R. M. (2000). Effects of signal duration on the recognition of masked communication in the grasshopper *Chorthippus biguttulus*. *J. Comp. Physiol. A.*, **186**, 1065-1072.
- Ronacher, B. & Krahe, R. (2000). Temporal integration vs. parallel processing: coping with the variability of neuronal messages in directional hearing of insects. *Eur. J. Neurosci.*, **12**, 2147-2156.
- Ronacher, B. & Stumpner, A. (1993). Parallel processing of song pattern and sound direction by ascending auditory interneurons in the grasshopper *Chorthippus biguttulus*. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 376.
- Ronacher, B. & Krahe, R. (1998). Song recognition in the grasshopper *Chorthippus biguttulus* is not impaired by shortening song signals: implications for neuronal encoding. *J. Comp. Physiol. A.*, **183**, 729-735.
- Ronacher, B., Stumpner, A., Sokoliuk, T. & Herrmann, B. (1993). Acoustic communication of grasshopper males after lesions in the thoracic connectives: correlation with the ascending projections of identified auditory neurons. *Zool. Jahrb. Abt. Allg. Zool. Physiol. Tiere*, **97**, 199-214.
- Rossler, W. & Schul, J. (1993). Processing of complex song parameters by parallel neuronal activity within the auditory system of two closely related bushcricket species. *Zool. Jahrb. Abt. Allg. Zool. Physiol. Tiere*, **97**, 95-110.
- Rotenberry, J. T., Zuk, M., Simmons, L. W. & Hayes, C. (1996). Phonotactic parasitoids and cricket song structure: An evaluation of alternative hypotheses. *Evol. Ecol.*, **10**, 233-243.
- Rowell, G. A. & Cade, W. H. (1993). Simulation of alternative male reproductive behavior: calling and satellite behavior in field crickets. *Ecol. Modell.*, **65**, 265-280.
- Ryan, M. A. & Walter, G. H. (1992). Sound communication in *Nezara viridula* L. (Heteroptera, Pentatomidae): further evidence that signal transmission is substrate borne. *Experientia*, **48**, 1112-1115.
- Ryan, M. A., Cokl, A. & Walter, G. H. (1996). Differences in vibratory sound communication between a Slovenian and an Australian population of *Nezara viridula* (L.) (Heteroptera: Pentatomidae). *Behav. Processes*, **36**, 183-193.
- Rydell, J., Roininen, H. & Philip, K. W. (2000). Persistence of bat defence reactions in high Arctic moths (Lepidoptera). *Proc. Roy. Soc. Lond. B.*, **267**, 553-557.
- 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., Skals, N., Surlykke, A. & Svensson, M. (1997). Hearing and bat defence in geometrid winter moths. *Proc. R. Soc. Lond. B.*, **264**, 83-88.
- Rydell, J., Johes, G. & Waters, D. (1995). Echolocating bats and hearing moths: who are the winners? *Oikos*, **73**, 419-424.
- Ryder, J. J. & Siva-Jothy, M. T. (2000). Male calling song provides a reliable signal of immune function in a cricket. *Proc. Roy. Soc. Lond. B.*, **267**, 1171-1175.
- Ryder, J. J. & Siva-Jothy, M. T. (2001). Quantitative genetics of immune function and body size in the house cricket, *Acheta domesticus*. *J. Evol. Biol.*, **14**, 646-653.

- Sakaluk, S. K., Snedden, W. A., Jacobson, K. A. & Eggert, A.-K. (1995). Sexual competition in sagebrush crickets: must males hear calling rivals? *Behav. Ecol.*, **16**, 250-257.
- Sakaluk, S. K. & Snedden, W. A. (1990). Nightly calling durations of male sagebrush crickets (*Cyphoderris strepitans*): size, mating and seasonal effects. *Oikos*, **57**, 153-160.
- Sanborn, A. E. & Phillips, P. K. (1995). No acoustic benefit to subterranean calling in the cicada *Okanagana pallidula* Davis (Homoptera: Tibicinidae). *Great Basin Nat.*, **55**, 374-376.
- Sanborn, A. F. & Phillips, P. K. (1999). Analysis of acoustic signals produced by the cicada *Platypedia puthami* variety *lutea* (Homoptera: Tibicinidae). *Ann. Entomol. Soc. Am.*, **92**, 451-455.
- Sanborn, A. F. & Phillips, P. K. (2001). Re-evaluation of the *Diceroprocta delicata* (Homoptera: Cicadidae) species complex. *Ann. Entomol. Soc. Am.*, **94**, 159-165.
- Sanborn, A. F. & Phillips, P. K. (1995). Scaling of sound pressure level and body size in cicadas (Homoptera: Cicadidae; Tibicinidae). *Ann. Entomol. Soc. Am.*, **88**, 479-484.
- Sanborn, A. F. (1997). Body temperature and the acoustic behavior of the cicada *Tibicen winnemanna* (Homoptera: Cicadidae). *J. Insect Behav.*, **10**, 257-263.
- Sanborn, A. F. & Mate, S. (2000). Thermoregulation and the effect of body temperature on call temporal parameters in the cicada *Diceroprocta olympusa* (Homoptera: Cicadidae). *Comp. Biochem. Physiol. A.*, **125**, 141-148.
- Sanborn, F. (2001). Timbal muscle physiology in the endothermic cicada *Tibicen winnemanna* (Homoptera: Cicadidae). *Comp. Biochem. Physiol. A.*, **130**, 9-19.
- Sanderford, M. V. & Conner, W. E. (1995). Acoustic courtship communication in *Syntomeida epilais* Wik. (Lepidoptera: Arctiidae, Ctenuchinae). *J. Insect Behav.*, **8**, 19-32.
- Sanderford, M. V., Coro, F. & Conner, W. E. (1998). Courtship behavior in *Empyreuma affinis* Roths. (Lepidoptera, Arctiidae, Ctenuchinae): Acoustic signals and tympanic organ response. *Naturwissenschaften*, **85**, 82-87.
- Sanderford, M. V. (1992). *Acoustic Courtship Communication of the Polka-dot Wasp Moth, Syntomeida epilais Walker* (Lepidoptera, Arctiidae, Ctenuchinae). Ph.D. thesis. Wake Forest University; Winston-Salem, NC.
- Satokangas, P., Liimatainen, J. O. & Hoikkala, A. (1994). Songs produced by the females of the *Drosophila virilis* group of species. *Behav. Genet.*, **24**, 263-272.
- Sauer, A. E. & Stein, W. (1999). Sensorimotor pathways processing vibratory signals from the femoral chordotonal organ of the stick insect. *J. Comp. Physiol. A.*, **185**, 21-31.
- Savitskii, V. Yu. (2000). Acoustic signals, ecological features, and reproductive isolation of grasshoppers of the genus *Dociostaurus* (Orthoptera, Acrididae) in semidesert. *Zoologicheskii Zhurnal*, **79**, 1168-1184.
- Saxena, R. C., Zhang, Z. T. & Boncodin, M. E. M. (1993). Neem oil affects courtship signals and mating behaviour of brown planthopper *Nilaparvata lugens* Stal (Homoptera, Delphacidae) females. *J. Appl. Entomol.*, **116**, 127-132.
- Schaeffer, S. & Lakes-Harlan, R. (2001). Embryonic development of the central projection of auditory afferents (*Schistocerca gregaria*, Orthoptera, Insecta). *J. Neurobiol.*, **46**, 97-112.
- Scheffrahn, R. H., Robbins, W. P., Busey, P., Su, N.-Y. & Mueller, R. K. (1993). Evaluation of a novel, hand-held acoustic emissions detector to monitor termites (Isoptera: Kalotermitidae, Rhinotermitidae) in wood. *J. Econ. Entomol.*, **86**, 1720-1729.
- Schildberger, K., Huber, F. & Wohlers, D. W. (1989). Central auditory pathway: neuronal correlates of phonotactic behavior. In *Cricket Behavior and Neurobiology* (F. Huber, T. E. Moore & W. Loher, eds.). Cornell University Press.
- Schmitt, M. (1991). Stridulatory devices of leaf beetles (Chrysomelidae) and other Coleoptera. In *Advances in Coleopterology* (M. Zunino, X. Belles & M. Blas, eds.). Asociacion Europea de Coleopterologia; pp. 263-280.
- Schneider, S. S. (1987). The modulation of workers activity by the vibration dance of the honey bee, *Apis mellifera* (Hymenoptera: Apidae). *Ethology*, **74**, 211-218.
- Schneider, S. S., Stamps, J. A. & Gary, N. E. (1986). The vibration dance of the honey bee. I. Communication regulating foraging on two time scales. *Anim. Behav.*, **34**, 386-391.
- Schneider, S. S., Painter-Kurt, S. & Degrandi-Hoffman, G. (2001). The role of the vibration signal during queen competition in colonies of the honeybee, *Apis mellifera*. *Anim. Behav.*, **61**, 1173-1180.
- Schneider, S. S. (1991). Modulation of queen activity by the vibration dance in swarming colonies of the African honey bee, *Apis mellifera scutellata* (Hymenoptera: Apidae). *J. Kansas Entomol. Soc.*, **64**, 269-278.
- Schuetze, H. & Elsner, N. (2001). Stridulatory pattern generation in acridid grasshoppers: metathoracic interneurons in *Stenobothrus rubicundus* (Germar 1817). *J. Comp. Physiol. A.*, **187**, 529-540.
- Schul, J. (1999). Neuronal basis for spectral song discrimination in the bushcricket *Tettigonia cantans*. *J. Comp. Physiol. A.*, **184**, 457-461.
- Schul, J., Holderied, M., von Helversen, D. & von Helversen, O. (1999). Directional hearing in grasshoppers:

- Neurophysiological testing of a bioacoustic model. *J. Exp. Biol.*, **202**, 121-134.
- Schul, J., von Helversen, D. & Weber, T. (1998). Selective phonotaxis in *Tettigonia cantans* and *T. viridissima* in song recognition and discrimination. *J. Comp. Physiol. A.*, **182**, 687-694.
- Schul, J. (1997). Neuronal basis of phonotactic behaviour in *Tettigonia viridissima* hair: processing of behaviourally relevant signals by auditory afferents and thoracic interneurons. *J. Comp. Physiol. A.*, **180**, 573-583.
- Schul, J. (1998). Song recognition by temporal cues in a group of closely related bushcricket species (genus *Tettigonia*). *J. Comp. Physiol. A.*, **183**, 401-410.
- Schul, J. & Schulze, W. (2001). Phonotaxis during walking and flight: are differences in selectivity due to predation pressure? *Naturwissenschaften*, **88**, 438-442.
- Seeley, T. D. & Tautz, J. (2001). Worker piping in honey bee swarms and its role in preparing for liftoff. *J. Comp. Physiol. A.*, **187**, 667-676.
- Sergejeva, M. V. & Popov, A. V. (1994). Ontogeny of positive phonotaxis in female crickets, *Gryllus bimaculatus* De Geer: Dynamics of sensitivity, frequency-intensity domain, and selectivity to temporal pattern of the male calling song. *J. Comp. Physiol. A.*, **174**, 381-389.
- Sergejeva, M. V., Popov, A. V. & Shuvalov, V. F. (1993). Ontogeny of selectivity of positive phonotaxis in female crickets *Gryllus bimaculatus* to temporal parameters of the male calling song. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 319-327.
- Shade, R. E., Furgason, E. S. & Murdock, L. L. (1990). Detection of hidden insect infestations by feeding-generated ultrasonic signals. *Am. Entomol.*, **36**, 231-234.
- Shadley, J. R. & Hill, P. S. M. (2000). Talking back: Sending soil vibration signals to lekking prairie mole cricket males. *Am. Zool.*, **40**, 1207.
- Shaw, K. L. & Herlihy, D. P. (2000). Acoustic preference functions and song variability in the Hawaiian cricket *Laupala cerasina*. *Proc. Roy. Soc. Lond. B.*, **267**, 577-584.
- Shaw, K. L. (2000). Further acoustic diversity in Hawaiian forests: two new species of Hawaiian cricket (Orthoptera: Gryllidae: Trigonidiinae: *Laupala*). *Zool. J. Linn. Soc.*, **129**, 73-91.
- Shaw, K. C., Bitzer, R. J., Galliard, P. L., Troendle, M. A. & Shaffer, C. S. (1995). Effect of a strong, DC-induced magnetic field on circadian singing activity of the house cricket (Orthoptera: Gryllidae). *Ann. Am. Entomol. Soc.*, **88**, 362-365.
- Shaw, S. R. (1994). Re-evaluation of the absolute threshold and response mode of the most sensitive known "vibration" detector, the cockroach's subgenual organ: A cochlea-like displacement threshold and a direct response to sound. *J. Neurobiol.*, **25**, 1167-1185.
- Shaw, K. L. (1999). A nested analysis of song groups and species boundaries in the Hawaiian cricket genus *Laupala*. *Mol. Phylogen. Evol.*, **11**, 332-341.
- Shaw, K. L. & Parsons, Y. M. (2002). Divergence of mate recognition behavior and its consequences for genetic architectures of speciation. *Am. Natur.*, **159**, S61-S75.
- Shaw, K. L. (1993). *The evolution of song groups in the Hawaiian cricket genus Laupala*. Ph.D. dissertation. Washington University; St. Louis.
- Shaw, K. L. (1993). Rapid song evolution and an historical test of reproductive character displacement in a Hawaiian cricket. *Metalepta*, **14**(3), 22.
- Shaw, K. L. (1996). Polygenetic inheritance of a behavioral phenotype: Interspecific genetics of song in the Hawaiian cricket genus *Laupala*. *Evolution*, **50**, 256-266.
- Shchekanov, E. E. & Popov, A. V. (1993). Chlordimeform affects phonotaxis in crickets. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 336-344.
- Shelly, T. E. (2000). Male signalling and lek attractiveness in the Mediterranean fruit fly. *Anim. Behav.*, **60**, 245-251.
- Shen, J. & Xu, Z. (1995). An intracellular study on low-frequency acoustic signal processing in locust: Structure and function of the cercus-to-giant interneuron system. *Sci. China (Ser. B.)*, **38**, 1210-1221.
- Shen, J.-X. (1993). A peripheral mechanism for auditory directionality in the bushcricket *Gampsocleis gratiosa*: Acoustic tracheal system. *J. Acoust. Soc. Am.*, **94**, 1211-1217.
- Shi, F.-M., Yang, P.-L. & Jiang, S.-N. (2001). Studies on the songs and stridulatory organs of *Euconocephalus nasutus* (Thunberg) and *E. pallidus* (Redtenbacher). *Zool. Res.*, **22**, 115-119.
- Shuman, D., Coffelt, J. A., Vick, K. W. & Mankin, R. W. (1993). Quantitative acoustical detection of larvae feeding inside kernels of grain. *J. Econ. Entomol.*, **86**, 933-938.
- Sickmann, T., Kalmring, K. & Mueller, A. (1997). The auditory-vibratory system of the bushcricket *Polysarcus denticauda* (Phaneropterinae, Tettigoniidae). *Hear. Res.*, **104**, 155-166.
- Simmons, L. W., Zuk, M. & Rotenberry, J. T. (2001). Geographic variation in female preference functions and male songs of the field cricket *Teleogryllus oceanicus*. *Evolution*, **55**, 1386-1394.

- Simmons, L. W. & Bailey, W. J. (1993). Agonistic communication between males of a zaprochiline katydid (Orthoptera: Tettigoniidae). *Behav. Ecol.*, **4**, 364-368.
- Simmons, L. W. & Zuk, M. (1992). Variability in call structure and pairing success of male field crickets, *Gryllus bimaculatus*: the effects of age, size and parasite load. *Anim. Behav.*, **44**, 1145-1152.
- Simmons, L. W. & Ritchie, M. G. (1996). Symmetry in the songs of crickets. *Proc. R. Soc. Lond. B.*, **263**, 305-311.
- Simmons, L. W. (1995). Correlates of male quality in the field cricket, *Gryllus campestris* L.: age, size, and symmetry determine pairing success in field populations. *Behav. Ecol.*, **6**, 376-381.
- Sismondo, E. (1990). Synchronous, alternating, and phase-locked stridulation by a tropical katydid. *Science*, **249**, 55-58.
- Sismondo, E. (1993). Ultrasubharmonic resonance and nonlinear dynamics in the song of *Oecanthus nigricornis* F. Walker (Orthoptera, Gryllidae). *Int. J. Insect Morphol. Embryol.*, **22**, 217-231.
- Skals, N. & Surlykke, A. (1999). Sound production by abdominal tymbal organs in two moth species: The green silver-line and the scarce silver-line (Noctuoidea: Nolidae: Chloephorinae). *J. Exp. Biol.*, **202**, 2937-2950.
- Skals, N., Surlykke, A. & Soerensen, A. (1997). Sound production with an abdominal tymbal organ in a noctuid moth *Pseudoips fagana*. *Bioacoustics*, **8**, 263.
- Snedden, W. A. & Irazuzta, S. (1994). Attraction of female sagebrush crickets to male song: the importance of field bioassays. *J. Insect Behav.*, **7**, 233-236.
- Snedden, W. A., Tosh, C. R. & Ritchie, M. G. (1994). The ultrasonic mating signal of the male lesser wax moth. *Physiol. Entomol.*, **19**, 367-372.
- Snedden, W. A. & Greenfield, M. D. (1998). Females prefer leading males: relative call timing and sexual selection in katydid choruses. *Anim. Behav.*, **56**, 1091-1098.
- Snedden, W. A., Greenfield, M. D. & Jang, Y. (1998). Mechanisms of selective attention in grasshopper choruses: who listens to whom? *Behav. Ecol. Sociobiol.*, **43**, 59-66.
- Sobel, E. C. & Tank, D. W. (1994). In vivo Ca²⁺ dynamics in a cricket auditory neuron: an example of chemical computation. *Science*, **263**, 823-826.
- Souza, N. A. de, Ward, R. D., Hamilton, J. G. C., Kyriacou, C. P. & Peixoto, A. A. (2002). Copulation songs in three siblings of *Lutzomyia longipalpis* (Diptera: Psychodidae). *Trans. Roy. Soc. Trop. Medic. Hygiene*, **96**, 102-103.
- Spangler, H. G. (1991). Do honey bees encode distance information into the wing vibrations of the waggle dance? *J. Insect Behav.*, **4**, 15-20.
- Spangler, H. G. & Takessian, A. (1986). Further observations on sound production by the lesser wax moth, *Achroia grisella* (F.) (Lepidoptera: Pyralidae). *J. Kansas Ent. Soc.*, **59**, 555-557.
- Stein, W. & Sauer, A. E. (1999). Physiology of vibration sensitive afferents in the femoral chordotonal organ of the stick insect. *J. Comp. Physiol. A.*, **184**, 253-263.
- Stephen, R. O. & Hartley, J. C. (1995). Control of call carrier frequency in the bush cricket *Ruspolia nitidula*. *Bioacoustics*, **6**, 163-170.
- Stewart, K. W. (1997). Vibrational communication in insects: epitome in the language of stoneflies? *Amer. Ent.*, **43**, 81-91.
- Stiedl, O. (1991). Acousto-vibratory behaviour studies on Ephemeroptera grasshoppers in laboratory and biotop. Ph.D. thesis. University of Marburg (German).
- Stiedl, O., Hoffmann, E. & Kalmring, K. (1994). Chirp rate variability in male song of *Ephippigerida taeniata* (Orthoptera: Ensifera). *J. Insect Behav.*, **7**, 171-182.
- Stokes, D. R. & Josephson, R. K. (1999). Power and control muscle of cicada song. *Am. Zool.*, **39**, 72A-73A.
- Stout, J., Carlson, N., Bingol, H., Ramseier, J., Bronsert, M. & Atkins, G. (1997). The L3 neuron and an associated prothoracic network are involved in calling song recognition by female crickets. *Invertebrate Neurosci.*, **3**, 145-153.
- Stout, J., Hao, J., Coburn, P., Standish, T., Heinrich, C. & Atkins, G. (1998). Correlation of nicotinic receptor-like-mRNA expression with excitatory input into the behaviorally important L1 and L3 auditory interneurons of the cricket, *Acheta domesticus*. *J. Exp. Zool.*, **281**, 109-123.
- Stout, J., Hao, J., Kim, P., Mbungu, D., Bronsert, M., Slikkers, S., Maier, J., Kim, D., Bacchus, K. & Atkins, G. (1998). Regulation of the phonotactic threshold of the female cricket, *Acheta domesticus* hair: juvenile hormone III, allatectomy, L1 auditory neuron thresholds and environmental factors. *J. Comp. Physiol. A.*, **182**, 635-645.
- Stritih, N., Virant-Doberlet, M. & Cokl, A. (2000). Green stink bug *Nezara viridula* detects differences in amplitude between courtship song vibrations at stem and petiolus. *Pfluegers Archiv: Eur. J. Physiol.*, **439**, Suppl., R190-R192.
- Stumpner, A. (1999). Comparison of morphology and physiology of two plurisegmental sound-activated interneurons in a bushcricket. *J. Comp. Physiol. A.*, **185**, 199-205.

- Stumpner, A. (1996). Tonotopic organization of the hearing organ in a bushcricket. Physiological characterization and complete staining of auditory receptor cells. *Naturwissenschaften*, **83**, 81-84.
- Stumpner, A. (2002). A species-specific frequency filter through specific inhibition, not specific excitation. *J. Comp. Physiol. A.*, **188**, 239-248.
- Stumpner, A. & von Helversen, D. (2001). Evolution and function of auditory systems in insects. *Naturwissenschaften*, **88**, 159-170.
- Stumpner, A. & Meyer, S. (2001). Songs and the function of song elements in four duetting bushcricket species (Ensifera, Phaneropteridae, *Barbitistes*). *J. Insect Behav.*, **14**, 511-534.
- Stumpner, A. & Meyer, S. (2001). Songs and their neuronal processing in some bushcrickets. *Zoology (Jena)*, **103**, Suppl. 3, 22.
- Stumpner, A. (1999). An interneurone of unusual morphology is tuned to the female song frequency in the bushcricket *Ancistrura nigrovittata* (Orthoptera, Phaneropteridae). *J. Exp. Biol.*, **202**, 2071-2082.
- Stumpner, A. & von Helversen, O. (1994). Song production and song recognition in a group of sibling grasshopper species (*Chorthippus dorsatus*, *Ch. dichrous* and *Ch. loratus*: Orthoptera, Acrididae). *Bioacoustics*, **6**, 1-23.
- Stumpner, A. (1988). Auditory thoracic interneurons in *Chorthippus biguttulus* L.: Morphological and physiological characterization and description of their filter traits for behaviourally relevant sound playbacks. Thesis. University Erlangen (German).
- Stumpner, A. & Heller, K.-G. (1992). Morphological and physiological differences of the auditory system in three related bushcrickets (Orthoptera: Phaneropteridae, *Poecilimon*). *Physiol. Entomol.*, **17**, 73-80.
- Stumpner, A. & Lakes-Harlan, R. (1996). Auditory interneurons in a hearing fly (*Therobia leonidei*, Ormiini, Tachinidae, Diptera). *J. Comp. Physiol. A.*, **178**, 227-233.
- Stumpner, A., Atkins, G. & Stout, J. F. (1995). Processing of unilateral and bilateral auditory inputs by the ON1 and L1 interneurons of the cricket *Acheta domesticus* and comparison to other cricket species. *J. Comp. Physiol. A.*, **177**, 379-388.
- Staadens, M. J. van & Roemer, H. (1997). Acoustic behaviour and the genetic structure of bladder grasshopper populations. *Adv. Ethol.*, **32**, 279.
- Staadens, M. van & Roemer, H. (1998). Sexual signalling in bladder grasshoppers: Tactical design for maximal calling range. *J. Exp. Biol.*, **200**, 2597-2608.
- Staadens, M. J. van & Huber, R. (2001). Multidisciplinary dissection of behavioral arousal: The role of muscarinic acetylcholine stimulation in grasshopper stridulatory behavior. *Proc. Natl. Acad. Sci. USA*, **98**, 9468-9470.
- Sueur, J. & Puissant, S. (2000). Sound production of a French population of the cicada *Cicadivetta tibialis* (Panzer, 1798)(Hemiptera: Cicadoidea: Cicadidae). *Ann. Soc. Entomol. France*, **36**, 261-268.
- Sueur, J. & Aubin, T. (2002). Acoustic communication in the Palearctic red cicada, *Tibicina haematodes*: Chorus organisation, calling-song structure, and signal recognition. *Can. J. Zool.*, **80**, 126-136.
- Sueur, J. (2002). Cicada acoustic communication: Potential sound partitioning in a multispecies community from Mexico (Hemiptera: Cicadomorpha: Cicadidae). *Biol. J. Linn. Soc.*, **75**, 379-394.
- Surlykke, A., Filskov, M., Fullard, J. H. & Forrest, E. (1999). Auditory relationships to size in noctuid moths: Bigger is better. *Naturwissenschaften*, **86**, 238-241.
- Surlykke, A. & Treat, A. E. (1995). Hearing in wintermoths. *Naturwissenschaften*, **82**, 382-384.
- Surlykke, A., Larsen, O. N. & Michelsen, A. (1988). Temporal coding in the auditory receptor of the moth ear. *J. Comp. Physiol. A.*, **162**, 367-374.
- Surlykke, A., Skals, N., Rydell, J. & Svensson, M. (1998). Sonic hearing in a diurnal geometrid moth, *Archiearis parthenias*, temporally isolated from bats. *Naturwissenschaften*, **85**, 36-37.
- Surlykke, A. & Filskov, M. (1997). Hearing in geometrid moths. *Naturwissenschaften*, **84**, 356-359.
- Suvanto, L., Liimatainen, J. O., Tregenza, T. & Hoikkala, A. (2000). Courtship signals and mate choice of the flies of inbred *Drosophila montana* strains. *J. Evol. Biol.*, **13**, 583-592.
- Suvanto, L., Hoikkala, A. & Liimatainen, J. O. (1994). Secondary courtship songs and inhibitory songs of *Drosophila virilis*-group males. *Behav. Genet.*, **24**, 85-94.
- Suvanto, L., Liimatainen, J. O. & Hoikkala, A. (1999). Variability and evolvability of male song characters in *Drosophila montana* populations. *Hereditas (Lund)*, **130**, 13-18.
- Tauber, E. & Eberl, D. F. (2001). Song production in auditory mutants of *Drosophila*: the role of sensory feedback. *J. Comp. Physiol. A.*, **187**, 341-348.
- Tauber, E., Cohan, D., Greenfield, M. D. & Pener, M. P. (2001). Duet singing and female choice in the bushcricket *Phaneroptera nana*. *Behaviour*, **138**, 411-430.
- Tauber, E. & Pener, M. P. (2000). Song recognition in female bushcrickets *Phaneroptera nana*. *J. Exp. Biol.*, **203**, 597-604.
- Tauber, E. & Eberl, D. F. (2002). The effect of male competition on the courtship song of *Drosophila melanogaster*. *J. Insect Behav.*, **15**, 109-120.

- Tauber, E. (2001). Bidirectional communication system in katydids: The effect on chorus structure. *Behav. Ecol.*, **12**, 308-312.
- Tautz, J., Roces, F. & Hoelldobler, B. (1995). Use of a sound-based vibratome by leaf-cutting ants. *Science*, **267**, 84-87.
- Thomson, G. (1991). A possible sound producing structure in *Maniola* butterflies (Lepidoptera, Nymphalidae). *Nota Lepidopterol.*, **14**, 171-178.
- Tishechkin, D. Yu. (1992). Acoustic signalization of *Paralimnini* leafhoppers (Homoptera, Cicadellidae, Deltocephalinae). *Entomol. Rev.*, **71**, 158-165.
- Tishechkin, D. Yu. (1998). Acoustic signals of Issidae (Homoptera, Cicadinea, Fulgoroidea) compared with signals of some other Fulgoroidea and notes on taxonomic status of the subfamily Caliscelinae. *Entomol. Rev.*, **78**, 884-892.
- Tishechkin, D. Yu. (1998). Acoustic signals and morphological characters of leafhoppers belonging to *Aphrodes bicinctus* group (Homoptera, Cicadellidae) from European Russia. *Entomol. Rev.*, **78**, 370-377.
- Tomaru, M. & Oguma, Y. (1994). Differences in courtship song in the species of the *Drosophila auraria* complex. *Anim. Behav.*, **47**, 133-140.
- Tomaru, M., Matsubayashi, H. & Oguma, Y. (1998). Effects of courtship song in interspecific crosses among the species of the *Drosophila auraria* complex (Diptera: Drosophilidae). *J. Insect Behav.*, **11**, 383-398.
- Tomaru, M. & Oguma, Y. (1994). Genetic basis and evolution of species-specific courtship song in the *Drosophila auraria* complex. *Genet. Res.*, **63**, 11-17.
- Tomaru, M., Matsubayashi, H. & Oguma, Y. (1995). Heterospecific inter-pulse intervals of courtship song elicit female rejection in *Drosophila biauaria*. *Anim. Behav.*, **50**, 905-914.
- Tomaru, M. & Oguma, Y. (2000). Mate choice in *Drosophila melanogaster* and *D. sechellia*: criteria and their variation depending on courtship song. *Anim. Behav.*, **60**, 797-804.
- Tomaru, M., Doi, M., Higuchi, H. & Oguma, Y. (2000). Courtship song recognition in the *Drosophila melanogaster* complex: heterospecific songs make females receptive in *D. melanogaster*, but not in *D. sechellia*. *Evolution*, **54**, 1286-1294.
- Toms, R. B., Ferguson, J. W. H. & Becker, S. (1993). Relationship between body temperature and air temperature in stridulating male crickets, *Gryllus bimaculatus* (Orthoptera: Gryllidae). *S. Afr. J. Zool.*, **28**, 71-73.
- Toms, R. B. (1993). Incidental effects and evolution of sound producing organs in tree crickets (Orthoptera, Oecanthidae). *Int. J. Insect Morphol. Embryol.*, **22**, 207-216.
- Tougaard, J. (1999). Detection of short pure-tone stimuli in the noctuid ear: what are temporal and integration time all about? *J. Comp. Physiol. A.*, **183**, 563-572.
- Tougaard, J. (1999). Receiver operating characteristics and temporal integration in an insect auditory receptor cell. *J. Acoust. Soc. Am.*, **106**, 3711-3718.
- 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.
- Tougaard, J. (1996). Energy detection and temporal integration in the noctuid A1 auditory receptor. *J. Comp. Physiol. A.*, **178**, 669-677.
- Towne, W. F. (1995). Frequency discrimination in the hearing of honey bees (Hymenoptera: Apidae). *J. Insect Behav.*, **8**, 281-286.
- Travassos, M. A. & Pierce, N. E. (2000). Acoustics, context and function of vibrational signalling in a lycaenid butterfly-ant mutualism. *Anim. Behav.*, **60**, 13-26.
- Tregenza, T., Pritchard, V. L. & Butlin, R. K. (2000). Patterns of trait divergence between populations of the meadow grasshopper, *Chorthippus parallelus*. *Evolution*, **54**, 574-585.
- Triblehorn, J. D. & Yager, D. D. (2001). Mantis auditory interneuron MR-501-T3 stops responding during the critical period just before capture by a flying bat. *Soc. Neurosci. Abstr.*, **27**, 1920.
- Triblehorn, J. D. & Yager, D. D. (2001). Broad versus narrow auditory tuning and corresponding bat-evasive flight behaviour in praying mantids. *J. Zool.*, **254**, 27-40.
- 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.
- Tschuch, G. (1993). Sound production in mutillid wasps (Mutillidae, Hymenoptera). *Bioacoustics*, **5**, 123-129.
- Tschuch, G. (1996). Analysis of signals from stridulatory organs without any resonance. *Bioacoustics*, **6**, 310.
- Tschuch, G. (1994). Stridulatory organs of Mutillid wasps (Hymenoptera). *Bioacoustics*, **6**, 71-72.
- Tschuch, G. & Brothers, D. J. (1999). Modeling vibration and sound production in insects with nonresonant stridulatory organs. *J. Acoust. Soc. Am.*, **106**, 3706-3710.
- Tuckerman, J. F., Gwynne, D. T. & Morris, G. K. (1993). Reliable acoustic cues for female mate preference in a katydid *Scudderia curvicauda* (Orthoptera, Tettigoniidae). *Behav. Ecol.*, **4**, 106-113.
- Vedenina, V. Yu, Rozhkova, G. I. & Byzov, A. L. (1993). Medial giant interneuron of the cricket nerve cord:

- directional sensitivity in adults and nymphs. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhaeuser Verlag; Basel, pp. 410-416.
- Vedenina, V. Yu. & Bukhvalova, M. A. (2001). Contributions to the study of acoustic signals of grasshoppers (Orthoptera: Acrididae: Gomphocerinae) from Russia and adjacent countries. 2. Calling songs of widespread species recorded in different localities. *Russ. Entomol. J.*, **10**, 93-123.
- Veech, J. A., Benedix Jr., J. H. & Howard, D. J. (1996). Lack of calling song displacement between two closely related ground crickets. *Evolution*, **50**, 1982-1989.
- Victorsson, J. & Wikars, L.-O. (1997). Sound production and cannibalism in larvae of the pine-sawyer beetle *Monochamus sutor* L. (Coleoptera: Cerambycidae). *Entomol. Tidsskr.*, **117**, 29-33.
- Viktorsson, J. & Wikars, L.-O. (1996). Sound production and cannibalism in larvae of the pine-sawyer beetle *Monochamus sutor* L. (Coleoptera: Cerambycidae). *Entomol. Tidsskr.* (Uppsala), **117**, 29-33.
- Virant-Doberlet, M., Cokl, A. & Stritih, N. (2000). Vibratory songs of hybrids from Brazilian and Slovenian populations of the green stink bug *Nezara viridula*. *Pfluegers Archiv: Eur. J. Physiol.*, **439**, Suppl., R196-R198.
- Visscher, P. K., Shepardson, J., McCart, L. & Camazine, S. (1999). Vibration signal modulates the behavior of house-hunting honey bees (*Apis mellifera*). *Ethology*, **105**, 759-769.
- Waeckers, F. L., Mitter, E. & Dorn, S. (1998). Vibrational sounding by the pupal parasitoid *Pimpla (Coccygomimus) turionellae*: an additional solution to the reliability-detectability problem. *Biol. Control*, **11**, 141-146.
- Wagner, Jr., W. E. & Reiser, M. G. (2000). The importance of calling song and courtship song in female mate choice in the variable field cricket. *Anim. Behav.*, **59**, 1219-1226.
- Wagner, Jr., W. E., Smeds, M. R. & Wiegmann, D. D. (2001). Experience affects female responses to male song in the variable field cricket *Gryllus lineaticeps* (Orthoptera, Gryllidae). *Ethology*, **107**, 769-776.
- Wagner, W. E., Jr. & Hoback, W. W. (1999). Nutritional effects on male calling behaviour in the variable field cricket. *Anim. Behav.*, **57**, 89-95.
- Wagner, W. E., Jr. (1996). Convergent song preferences between female field crickets and acoustically orienting parasitoid flies. *Behav. Ecol.*, **7**, 279-285.
- Wagner, W. E. Jr., Murray, A.-M. & Cade, W. H. (1995). Phenotypic variation in the mating preferences of female field crickets, *Gryllus integer*. *Anim. Behav.*, **49**, 1269-1281.
- Walker, T. J. (1998). Trilling field crickets in a zone of overlap (Orthoptera: Gryllidae: *Gryllus*). *Ann. Entomol. Soc. Am.*, **91**, 175-184.
- Walker, T. J. (1993). Phonotaxis in female *Ormia ochracea* (Diptera, Tachinidae): a parasitoid of field crickets. *J. Insect Behav.*, **6**, 389-410.
- Walker, T. J. (2000). Pulse rates in the songs of trilling field crickets (Orthoptera: Gryllidae: *Gryllus*). *Ann. Entomol. Soc. Am.*, **93**, 565-572.
- Ware, A. B. (1994). Factors eliciting stridulation by the ponerine ant *Strebiognathus aethiopicus* Smith (Hymenoptera: Formicidae). *Afr. Entomol.*, **2**, 31-36.
- 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. (1996). The peripheral auditory characteristics of noctuid moths: information encoding and endogenous noise. *J. Exp. Biol.*, **199**, 857-868.
- 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.*, **258B**, 41-46.
- Waters, D. A. (1993). The auditory response of noctuid moths to the echolocation calls of bats. Ph.D. thesis. University of Bristol.
- Watson, A. H. D. & Mardt, M. (1996). Distribution of synapses on two local auditory interneurons, ON1 and ON2, in the prothoracic ganglion of the cricket: relations with GABA-immunoreactive neurones. *Cell Tiss. Res.*, **283**, 231-246.
- Webb, B. (1996). A cricket robot. *Sci. Am.*, **Dec.**, 62-67.
- Webb, B. (1995). Using robots to model animals: A cricket test. *Robotics and Autonomous Systems*, **16**, 117-132.
- Webb, B. & Scutt, T. (2000). A simple latency-dependent spiking neuron model of cricket phonotaxis. *Biol. Cybern.*, **82**, 247-269.
- Webb, B. (1998). Robots, crickets and ants: models of neural control of chemotaxis and phonotaxis. *Neural Networks*, **11**, 1479-1496.
- Weber, T., Moore, T. E., Huber, F. & Klein, U. (1987). Sound production in periodical cicadas (Homoptera: Cicadidae: *Magicicada septendecim*, *M. cassini*). In *Proc. 6th Auchen Meeting, Turin, Italy, 7-11 Sept. 1987*, pp. 329-336.
- Weber, T. & Thorson, J. (1989). Phonotactic behavior of walking crickets. In *Cricket Behavior and*

- Neurobiology* (F. Huber, T. E. Moore & W. Loher, eds.). Cornell University Press; Ithaca, N. Y., pp. 310-339.
- Weber, T. (1993). Allatectomized females of *Gryllus bimaculatus* and *Acheta domesticus* develop and maintain phonotaxis. In *Advances in Life Sciences: Sensory Systems of Arthropods* (K. Wiese et al., eds). Birkhauser Verlag, Basel, pp. 355-362.
- Welbergen, P. & Lankinen, P. (1991). A practical device for sound recording of *Drosophila*. *Drosophila Inform. Serv.*, **70**, 263-264.
- Wells, M. M. (1993). Laboratory hybridization in green lacewings (Neuroptera: Chrysopidae: *Chrysoperla*): Evidence for genetic incompatibility. *Can. J. Zool.*, **71**, 233-237.
- Wenzel, B., Elsner, N. & Hedwig, B. (1998). Microinjection of neuroactive substances into brain neuropil controls stridulation in the cricket *Gryllus bimaculatus* (de Geer). *Naturwissenschaften*, **85**, 452-454.
- Wenzel, B. & Hedwig, B. (1999). Neurochemical control of cricket stridulation revealed by pharmacological microinjections into the brain. *J. Exp. Biol.*, **202**, 2203-2216.
- White, P. R., Birch, M. C., Church, S., Jay, C., Rowe, E. & Keenlyside, J. J. (1993). Intraspecific variability in the tapping behavior of the deathwatch beetle, *Xestobium rufovillosum* (Coleoptera: Anobiidae). *J. Insect Behav.*, **6**, 549-562.
- Wiegmann, D. D. (1999). Search behaviour and mate choice by female field crickets, *Gryllus integer*. *Anim. Behav.*, **58**, 1293-1298.
- Wilcox, R. S. & Distephano, J. D. (1991). Vibratory signals enhance mate guarding in a water strider (Hemiptera: Gerridae). *J. Insect Behav.*, **4**, 43-50.
- Williams, M. A., Blouin A. G. & Noor, M. A. (2001). Courtship songs of *Drosophila pseudoobscura* and *D. persimilis*. II. Genetics of species differences. *Heredity*, **86**, 68-77.
- Wilson, L. M., Henry, C. S., Johnson, J. B. & McCaffrey, J. P. (1993). Sound production in *Phrydiuchus tau* (Coleoptera, Curculionidae). *Ann. Entomol. Soc. Am.*, **86**, 621-630.
- Winter, A. J. de (1995). Genetic control and evolution of acoustic signals in planthoppers (Homoptera: Delphacidae). *Res. Popul. Ecol.*, **37**, 99-104.
- Winter, A. J. de & Rollenhagen, T. (1993). Differences in preference for species-specific female calls between acoustically experienced and acoustically naive male *Ribautodelphax* planthoppers (Homoptera, Delphacidae). *J. Insect Behav.*, **6**, 411-419.
- Wolda, H. (1993). Diel and seasonal patterns of mating calls in some neotropical cicadas: acoustic interference. *Proc. Koninklijke Nederl. Akad. Wet., Biol. Chem. Geol. Phys. Med. Sci.*, **96**, 369-381.
- Wolf, H. & von Helversen, O. (1986). Switching off of an auditory interneuron during stridulation in the acridid grasshopper *Chorthippus biguttulus* L. *J. Comp. Physiol. A*, **158**, 861-871.
- Wyk, J. W. van & Ferguson, W. H. (1995). Communicatory constraints on field crickets *Gryllus bimaculatus* calling at low ambient temperatures. *J. Insect Physiol.*, **41**, 837-841.
- Wytenbach, R. A., May, M. L. & Hoy, R. R. (1996). Categorical perception of sound frequency by crickets. *Science*, **273**, 1542-1544.
- Wytenbach, R. A. & Hoy, R. R. (1993). Demonstration of the precedence effect in an insect. *J. Acoust. Soc. Am.*, **94**, 777-784.
- Wytenbach, R. A. & Hoy, R. R. (1999). Categorical perception of behaviorally relevant stimuli by crickets. In *The Design of Animal Communication* (M. D. Hauser and M. Konishi, eds.). MIT Press; Cambridge, Massachusetts, pp. 559-576.
- Yack, J. E. & Fullard, J. H. (2000). Ultrasonic hearing in nocturnal butterflies. *Nature*, **403**, 265-266.
- Yack, J. E., Otero, L. D., Dawson, J. W., Surlykke, A. & Fullard, J. H. (2000). Sound production and hearing in the blue cracker butterfly, *Hamadryas feronia* (Lepidoptera, Nymphalidae) from Venezuela. *J. Exp. Biol.*, **203**, 3689-3702.
- Yager, D. D. & Scaffidi, D. J. (1993). Cockroach homolog of the mantis tympanal nerve. *Soc. Neurosci. Abstr.*, **19**, 340.
- Yager, D. D. (1996). Nymphal development of the auditory system in the praying mantis *Hierodula membranacea* Burmeister (Dictyoptera, Mantidae). *J. Comp. Neurol.*, **364**, 199-210.
- Yager, D. D., Cook, A. P., Pearson, D. L. & Spangler, H. G. (2000). A comparative study of ultrasound-triggered behaviour in tiger beetles (Cicindelidae). *J. Zool.*, **251**, 355-368.
- Yager, D. D. (1999). Structure, development, and evolution of insect auditory systems. *Microscopy Research and Technique*, **47**, 380-400.
- Yager, D. D. (1990). Sexual dimorphism of auditory function and structure in praying mantises (Mantodea; Dictyoptera). *J. Zool.*, **221**, 517-537.
- Yager, D. D. & Spangler, H. G. (1995). Characterization of auditory afferents in the tiger beetle *Cicindela marutha* Dow. *J. Comp. Physiol., A.*, **176**, 587-599.
- Yager, D. D. & Hoy, R. R. (1987). The midline metathoracic ear of the praying mantis, *Mantis religiosa*. *Cell Tissue Res.*, **250**, 531-541.

- Yager, D. D. (1995). Of praying mantises, tiger beetles and the evolution of ultrasound-triggered defensive behaviors. *Am. Zool.*, **35**, 41A.
- Yager, D. D. (1996). Serially homologous ears perform frequency range fractionation in the praying mantis, *Creobroter* (Mantodea, Hymenopodidae). *J. Comp. Physiol. A.*, **178**, 463-475.
- Yager, D. D. & Hoy, R. R. (1986). The cycloplan ear: a new sense for the praying mantis. *Science*, **231**, 727-729.
- Yager, D. D., & Tola, K. C. (1994). Transection of the mantis tympanal nerve homolog in the cockroach alters resting posture, escape turning, and responses to substrate vibration. *Am. Zool.*, **34**, 469.
- Yamada, H., Tomaru, M. & Oguma, Y. (2000). An influence of female fluttering for wing vibration of heterospecific male courtship in sexual isolation between *Drosophila ananassae* and *D. pallidosa*. *Genes & Genet. Syst.*, **75**, 369.
- Yasuda, K. & Tokuzato, M. (1999). Sound production during mating and disturbance in the West Indian sweet potato weevil, *Euscepes postfasciatus* (Fairmaire)(Coleoptera: Curculionidae). *Appl. Entomol. Zool.*, **34**, 443-448.
- Yokokura, T., Ueda, R. & Yamamoto, D. (1995). Phenotypic and molecular characterization of croaker, a new mating behavior mutant of *Drosophila melanogaster*. *Jap. J. Genet.*, **70**, 103-117.
- Young, D. & Bennet-Clark, H. C. (1995). The role of the tymbal in cicada sound production. *J. Exp. Biol.*, **198**, 1001-1019.
- Ziegler, D. D. & Stewart, K. W. (1986). Female response thresholds of two stonefly (Plecoptera) species to computer simulated and modified male drumming calls. *Anim. Behav.*, **34**, 929-931.
- Zuk, M., Simmons, L. W. & Cupp, L. (1993). Calling characteristics of parasitized and unparasitized populations of the field cricket *Teleogryllus oceanicus*. *Behav. Ecol. Sociobiol.*, **33**, 339-343.
- Zuk, M., Rotenberry, J. T. & Simmons, L. W. (1998). Calling songs of field crickets (*Teleogryllus oceanicus*) with and without phonotactic parasitoid infection. *Evolution*, **52**, 166-171.
- Zuk, M., Simmons, L. W. & Rotenberry, J. T. (1995). Acoustically-orienting parasitoids in calling and silent males of the field cricket *Teleogryllus oceanicus*. *Ecol. Entomol.*, **20**, 380-383.
- Zuk, M. & Simmons, L. W. (1997). Reproductive strategies: crickets (Orthoptera: Gryllidae). In *Mating Systems in Insects and Arachnids* (J. C. Choe & B. J. Crespi, eds.). Cambridge University Press; Cambridge, pp. 89-109.
- Zuk, M., Rotenberry, J. T. & Simmons, L. W. (2001). Geographical variation in calling song of the field cricket *Teleogryllus oceanicus*: The importance of spatial scale. *J. Evol. Biol.*, **14**, 731-741.