

Principles of Animal Communication, Second Edition
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Chapter 10: Signal Evolution

Literature Cited

- 1 Abel, E. L. 1991. Alarm substance emitted by rats in the forced-swim test is a low volatile pheromone. *Physiology and Behavior* 50: 723–727.
- 2 Ackerl, K., M. Atzmueller, and K. Grammer. 2002. The scent of fear. *Neuroendocrinology Letters* 23: 79–84.
- 3 Adams, E. S. and R. L. Caldwell. 1990. Deceptive communication in asymmetric fights of the stomatopod crustacean *Gonodactylus bredini*. *Animal Behaviour* 39: 706–716.
- 4 Adams, E. S. and M. Mesterton-Gibbons. 1995. The cost of threat displays and the stability of deceptive communication. *Journal of Theoretical Biology* 175: 405–421.
- 5 Ahtiainen, J. J., R. V. Alatalo, R. Kortet, and M. J. Rantala. 2004. Sexual advertisement and immune function in an arachnid species (Lycosidae). *Behavioral Ecology* 15: 602–606.
- 6 Ahtiainen, J. J., R. V. Alatalo, R. Kortet, and M. J. Rantala. 2006. Immune function, dominance and mating success in drumming male wolf spiders *Hygrolycosa rubrofasciata*. *Behavioral Ecology and Sociobiology* 60: 826–832.
- 7 Al-Hassan, J. M., M. Thomson, K. R. Criddle, B. Summers, and R. S. Criddle. 1985. Catfish epidermal secretions in response to threat or injury: a novel defense response. *Marine Biology* 88: 117–123.
- 8 Alcock, J., D. T. Gwynne, and I. R. Dadour. 1989. Acoustic signaling, territoriality, and mating in whistling moths, *Hecatesia thyridion* (Agaristidae). *Journal of Insect Behavior* 2: 27–37.
- 9 Alcock, J. and W. J. Bailey. 1995. Acoustic communication and the mating system of the Australian whistling moth *Hecatesia exultans* (Noctuidae, Agaristinae). *Journal of Zoology* 237: 337–352.
- 10 Alexander, R. D. 1967. Acoustical communication in arthropods. *Annual Review of Entomology* 12: 495–526.

- 11 Amici, F., J. Call, and F. Aureli. 2009. Variation in withholding of information in three monkey species. *Proceedings of the Royal Society B-Biological Sciences* 276: 3311–3318.
- 12 Andersson, S. 2000. Efficacy and content in avian colour signals. In *Animal Signals: Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen, and G. Rosenqvist, eds.), pp. 47–60. Trondheim, Norway: Tapir Academic Press.
- 13 Andrew, R. J. 1956. Intention movements of flight in certain passerines. *Behaviour* 10: 179–204.
- 14 Andrew, R. J. 1957. The aggressive and courtship behaviour of certain emberizines. *Behaviour* 10: 255–308.
- 15 Andrews, R. J. 1972. The information potentially available in mammal displays. In *Non-verbal Communication* (R. A. Hinde, ed.), pp. 179–206. Cambridge: Cambridge University Press.
- 16 Anselme, P. 2007. Some conceptual problems with the classical theory of behaviour. *Behavioural Processes* 75: 259–275.
- 17 Anselme, P. 2008. Abnormal patterns of displacement activities: A review and reinterpretation. *Behavioural Processes* 79: 48–58.
- 18 Apaloo, J. 2009. Evolutionary matrix games and optimization theory. *Journal of Theoretical Biology* 257: 84–89.
- 19 Apaloo, J., J. S. Brown, and T. L. Vincent. 2009. Evolutionary game theory: ESS, convergence stability, and NIS. *Evolutionary Ecology Research* 11: 489–515.
- 20 Arak, A. and M. Enquist. 1993. Hidden preferences and the evolution of signals. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 340: 207–213.
- 21 Armstrong, E. A. 1950. The nature and function of displacement activities. *Symposia of the Society for Experimental Biology* 4: 361–387.
- 22 Arnqvist, G. and L. Rowe. 2005. *Sexual Conflict*. Princeton: Princeton University Press.
- 23 Arnqvist, G. 2006. Sensory exploitation and sexual conflict. *Philosophical Transactions of the Royal Society B-Biological Sciences* 361: 375–386.
- 24 August, P. V. and J. G. T. Anderson. 1987. Mammal sounds and motivation-structural rules: a test of the hypothesis. *Journal of Mammalogy* 68: 1–9.

- 25 Aureli, F. and C. P. Vanschaik. 1991. Post-conflict behavior in long-tailed macaques (*Macaca fascicularis*). 1. The social events. *Ethology* 89: 89–100.
- 26 Autumn, K., M. J. Ryan, and D. B. Wake. 2002. Integrating historical and mechanistic biology enhances the study of adaptation. *Quarterly Review of Biology* 77: 383–408.
- 27 Bachman, G. C. and M. A. Chappell. 1998. The energetic cost of begging behaviour in nestling house wrens. *Animal Behaviour* 55: 1607–1618.
- 28 Baenninger, R. 1997. On yawning and its functions. *Psychonomic Bulletin and Review* 4: 198–207.
- 29 Baerends, G. P. and J. Baerends-van Roon. 1950. An introduction to the study of the ethology of the cichlid fishes. *Behaviour Supplement* 1: 1–242.
- 30 Barlow, G. W. 1972. Attitude of fish eye-lines in relation to body shape and to stripes and bars. *Copeia* 1: 4–12.
- 31 Bart, H. L. and L. M. Page. 1991. Morphology and adaptive significance of fin knobs in egg-clustering darters. *Copeia* 1: 80–86.
- 32 Basolo, A. L. 1990. Female preference predates the evolution of the sword in swordtail fish. *Science* 250: 808–810.
- 33 Basolo, A. L. 1995. A further examination of a preexisting bias favoring a sword in the genus *Xiphophorus*. *Animal Behaviour* 50: 365–375.
- 34 Basolo, A. L. 1995. Phylogenetic evidence for the role of a preexisting bias in sexual selection. *Proceedings of the Royal Society of London Series B-Biological Sciences* 259: 307–311.
- 35 Basolo, A. L. 1996. The phylogenetic distribution of a female preference. *Systematic Biology* 45: 290–307.
- 36 Bear, A. and O. Hasson. 1997. The predatory response of a stalking spider, *Plexippus paykulli*, to camouflage and prey type. *Animal Behaviour* 54: 993–998.
- 37 Beauchamp, G. and G. D. Ruxton. 2007. False alarms and the evolution of antipredator vigilance. *Animal Behaviour* 74: 1199–1206.
- 38 Bee, M. A., S. A. Perrill, and P. C. Owen. 2000. Male green frogs lower the pitch of acoustic signals in defense of territories: a possible dishonest signal of size? *Behavioral Ecology* 11: 169–177.

- 39 Beecher, M. D., S. E. Campbell, J. M. Burt, C. E. Hill, and J. C. Nordby. 2000. Song-type matching between neighbouring song sparrows. *Animal Behaviour* 59: 21–27.
- 40 Bell, G. 1978. Handicap principle in sexual selection. *Evolution* 32: 872–885.
- 41 Berglund, A., A. Bisazza, and A. Pilastro. 1996. Armaments and ornaments: an evolutionary explanation of traits of dual utility. *Biological Journal of the Linnean Society* 58: 385–399.
- 42 Bergstrom, C. T. and M. Lachmann. 1997. Signalling among relatives. I. Is costly signalling too costly? *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 352: 609–617.
- 43 Bergstrom, C. T. and M. Lachmann. 1998. Signaling among relatives. III. Talk is cheap. *Proceedings of the National Academy of Sciences of the United States of America* 95: 5100–5105.
- 44 Berridge, K. C. 2004. Motivation concepts in behavioral neuroscience. *Physiology and Behavior* 81: 179–209.
- 45 Bezerra, B. M., A. S. Souto, and G. Jones. 2010. Vocal repertoire of golden-backed uakaris (*Cacajao melanocephalus*): Call structure and context. *International Journal of Primatology* 31: 759–778.
- 46 Blomberg, S. P., T. Garland, and A. R. Ives. 2003. Testing for phylogenetic signal in comparative data: Behavioral traits are more labile. *Evolution* 57: 717–745.
- 47 Blumstein, D. T., J. Steinmetz, K. B. Armitage, and J. C. Daniel. 1997. Alarm calling in yellow-bellied marmots: II. The importance of direct fitness. *Animal Behaviour* 53: 173–184.
- 48 Bokony, V., A. Z. Lendvai, and A. Liker. 2006. Multiple cues in status signalling: The role of wingbars in aggressive interactions of male house sparrows. *Ethology* 112: 947–954.
- 49 Bomze, I. and C. Pawlowitsch. 2008. One-third rules with equality: Second-order evolutionary stability conditions in finite populations. *Journal of Theoretical Biology* 254: 616–620.
- 50 Booth, W. D. 1987. Factors affecting the pheromone composition of voided boar saliva. *Journal of Reproduction and Fertility* 81: 427–431.
- 51 Borgia, G. 2006. Preexisting male traits are important in the evolution of elaborated male sexual display. *Advances in the Study of Behavior* 36: 249–303.

- 52 Bouwma, P. E. and W. F. Herrnkind. 2009. Sound production in Caribbean spiny lobster *Panulirus argus* and its role in escape during predatory attack by *Octopus briareus*. *New Zealand Journal of Marine and Freshwater Research* 43: 3–13.
- 53 Boyce, M. S. 1990. The Red Queen visits sage grouse leks. *American Zoologist* 30: 263–270.
- 54 Boyd, R. and P. J. Richerson. 1989. The Evolution of indirect reciprocity. *Social Networks* 11: 213–236.
- 55 Bradshaw, J. W.S. 1992. *The Behaviour of the Domestic Cat*. Wallingford, Oxon: CAB International.
- 56 Brady, C. A. 1981. The vocal repertoires of the bush dog (*Speothos venaticus*), crab-eating fox (*Cerdocyon thous*), and maned wolf (*Chrysocyon brachyurus*). *Animal Behaviour* 29: 649–669.
- 57 Branham, M. A. and J. W. Wenzel. 2001. The evolution of bioluminescence in cantharoids (Coleoptera: Elateroidea). *Florida Entomologist* 84: 565–586.
- 58 Branham, M. A. and J. W. Wenzel. 2003. The origin of photic behavior and the evolution of sexual communication in fireflies (Coleoptera: Lampyridae). *Cladistics-the International Journal of the Willi Hennig Society* 19: 1–22.
- 59 Brilot, B. O. and R. A. Johnstone. 2003. The limits to cost-free signalling of need between relatives. *Proceedings of the Royal Society of London Series B-Biological Sciences* 270: 1055–1060.
- 60 Briskie, J. V., P. R. Martin, and T. E. Martin. 1999. Nest predation and the evolution of nestling begging calls. *Proceedings of the Royal Society of London Series B-Biological Sciences* 266: 2153–2159.
- 61 Bronstein, P. M. 1983. Onset of combat in male *Betta splendens*. *Journal of Comparative Psychology* 97: 135–139.
- 62 Bronstein, P. M. 1983. Agonistic sequences and the assessment of opponents in male *Betta splendens*. *American Journal of Psychology* 96: 163–177.
- 63 Brooks, R. and D. J. Kemp. 2001. Can older males deliver the good genes? *Trends in Ecology and Evolution* 16: 308–313.
- 64 Brown, J. L. 1964. The integration of agonistic behavior in the Steller's jay, *Cyanocitta stelleri* (Gmelin). *University of California Publications in Zoology* 60: 223–328.

- 65 Buchanan, K. L., K. A. Spencer, A. R. Goldsmith, and C. K. Catchpole. 2003. Song as an honest signal of past developmental stress in the European starling (*Sturnus vulgaris*). *Proceedings of the Royal Society of London Series B-Biological Sciences* 270: 1149–1156.
- 66 Bugnyar, T. and B. Heinrich. 2006. Pilfering ravens, *Corvus corax*, adjust their behaviour to social context and identity of competitors. *Animal Cognition* 9: 369–376.
- 67 Burley, N. T. and R. Symanski. 1998. “A taste for the beautiful”: Latent aesthetic mate preferences for white crests in two species of Australian grassfinches. *American Naturalist* 152: 792–802.
- 68 Byrne, R. W. and A. Whiten. 1985. Tactical deception of familiar individuals in baboons (*Papio ursinus*). *Animal Behaviour* 33: 669–673.
- 69 Byrne, R. W. and A. Whiten. 1992. Cognitive evolution in primates: evidence from tactical deception. *Man* 27: 609–627.
- 70 Byrne, R. W. and L. A. Bates. 2010. Primate social cognition: uniquely primate, uniquely social, or just unique? *Neuron* 65: 815–830.
- 71 Bywater, C. L., M. J. Angilletta, and R. S. Wilson. 2008. Weapon size is a reliable indicator of strength and social dominance in female slender crayfish (*Cherax dispar*). *Functional Ecology* 22: 311–316.
- 72 Bywater, C. L. and R. S. Wilson. 2010. Costs and benefits of unreliable signalling in males of the two-toned fiddler crab (*Uca vomeris*). *Integrative and Comparative Biology* 50: E22–E22.
- 73 Candolin, U. 1999. The relationship between signal quality and physical condition: is sexual signalling honest in the three-spined stickleback? *Animal Behaviour* 58: 1261–1267.
- 74 Caro, T. and T. Stankowich. 2010. The function of contrasting pelage markings in artiodactyls. *Behavioral Ecology* 21: 78–84.
- 75 Caro, T. M. 1986. The functions of stotting in Thomson gazelles: some tests of the predictions. *Animal Behaviour* 34: 663–684.
- 76 Caro, T. M. 1995. Pursuit-deterrence revisited. *Trends in Ecology and Evolution* 10: 500–503.
- 77 Castles, D. L. and A. Whiten. 1998. Post-conflict behaviour of wild olive baboons. II. Stress and self-directed behaviour. *Ethology* 104: 148–160.

- 78** Castles, D. L., A. Whiten, and F. Aureli. 1999. Social anxiety, relationships and self-directed behaviour among wild female olive baboons. *Animal Behaviour* 58: 1207–1215.
- 79** Catchpole, C. K. and P. J. B. Slater. 2008. *Bird Song: Biological Themes and Variations*. Cambridge: Cambridge University Press.
- 80** Cator, L. J., K. R. Ng'Habi, R. R. Hoy, and L. C. Harrington. 2010. Sizing up a mate: variation in production and response to acoustic signals in *Anopheles gambiae*. *Behavioral Ecology* 21: 1033–1039.
- 81** Chen, D. and J. Haviland-Jones. 2000. Human olfactory communication of emotion. *Perceptual and Motor Skills* 91: 771–781.
- 82** Chen, D., A. Katdare, and N. Lucas. 2006. Chemosignals of fear enhance cognitive performance in humans. *Chemical Senses* 31: 415–423.
- 83** Cheney, D. L. and R. M. Seyfarth. 1985. Vervet monkey alarm calls: manipulation through shared information? *Behaviour* 94: 150–166.
- 84** Cheney, D. L. and R. M. Seyfarth. 1989. Redirected aggression and reconciliation among vervet monkeys, *Cercopithecus aethiops*. *Behaviour* 110: 258–275.
- 85** Chivers, D. P. and R. J. F. Smith. 1998. Chemical alarm signalling in aquatic predator-prey systems: a review and prospectus. *Ecoscience* 5: 338–352.
- 86** Christy, J. H. 1995. Mimicry, mate choice, and the sensory trap hypothesis. *American Naturalist* 146: 171–181.
- 87** Christy, J. H. and P. R. Y. Backwell. 1995. The sensory exploitation hypothesis. *Trends in Ecology and Evolution* 10: 417–417.
- 88** Christy, J. H., J. K. Baum, and P. R. Y. Backwell. 2003. Attractiveness of sand hoods built by courting male fiddler crabs, *Uca musica*: test of a sensory trap hypothesis. *Animal Behaviour* 66: 89–94.
- 89** Christy, J. H. and D. Rittschof. 2011. Deception in visual and chemical communication in Crustaceans. In *Chemical Communication in Crustaceans* (M. Thiel and T. Breithaupt, eds.), pp. 313–333. Heidelberg, Germany: Springer.
- 90** Clutton-Brock, T. H. and S. D. Albon. 1979. Roaring of red deer and the evolution of honest advertisement. *Behaviour* 69: 145–170.
- 91** Clutton-Brock, T. H. 1984. Reproductive effort and terminal investment in iteroparous animals. *American Naturalist* 123: 212–229.

- 92** Clutton-Brock, T. H. and G. A. Parker. 1995. Punishment in animal societies. *Nature* 373: 209–216.
- 93** Compton, L. A., J. A. Clarke, J. Seidensticker, and D. R. Ingrisano. 2001. Acoustic characteristics of white-nosed coati vocalizations: A test of motivation-structural rules. *Journal of Mammalogy* 82: 1054–1058.
- 94** Conner, W. E. 1987. Ultrasound: its role in the courtship of the arctiid moth, *Cyenia tenera*. *Experientia* 43: 1029–1031.
- 95** Conner, W. E. 1999. ‘Un chant d’appel amoureux’: Acoustic communication in moths. *Journal of Experimental Biology* 202: 1711–1723.
- 96** Cooper, M. A., F. Aureli, and M. Singh. 2007. Sex differences in reconciliation and post-conflict anxiety in bonnet macaques. *Ethology* 113: 26–38.
- 97** Corcoran, A. J., W. E. Conner, and J. R. Barber. 2010. Anti-bat tiger moth sounds: Form and function. *Current Zoology* 56: 358–369.
- 98** Coss, R. G., K. L. Guse, N. S. Poran, and D. G. Smith. 1993. Development of antislake defenses in California ground squirrels (*Spermophilus beecheyi*). II. Microevolutionary effects of relaxed selection from rattlesnakes. *Behaviour* 124: 137–164.
- 99** Costa-Leonardo, A. M., F. E. Casarin, and J. T. Lima. 2009. Chemical communication in isoptera. *Neotropical Entomology* 38: 1–6.
- 100** Cressman, R. 2003. *Evolutionary Dynamics and Extensive Form Games*. Cambridge, MA: MIT Press.
- 101** Cuervo, J. J., F. deLope, A. P. Møller, and J. Moreno. 1996. Energetic cost of tail streamers in the barn swallow (*Hirundo rustica*). *Oecologia* 108: 252–258.
- 102** Cullen, J. M. 1966. Reduction of ambiguity through ritualization. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 251: 363–374.
- 103** Cuthill, I. C., M. Stevens, J. Sheppard, T. Maddocks, C. A. Parraga, and T. S. Troscianko. 2005. Disruptive coloration and background pattern matching. *Nature* 434: 72–74.
- 104** Cynx, J., R. Lewis, B. Tavel, and H. Tse. 1998. Amplitude regulation of vocalizations in noise by a songbird, *Taeniopygia guttata*. *Animal Behaviour* 56: 107–113.

- 105** D’Innocenzo, B., A. M. Salzano, C. D’Ambrosio, A. Gazzano, A. Niccolini, C. Sorce, F. R. Dani, A. Scaloni, and P. Pelosi. 2006. Secretory proteins as potential semiochemical carriers in the horse. *Biochemistry* 45: 13418–13428.
- 106** Daanje, A. 1950. On locomotory movements in birds and the intention movements derived from them. *Behaviour* 3: 48–98.
- 107** DaCosta, J. M., G. M. Spellman, P. Escalante, and J. Klicka. 2009. A molecular systematic revision of two historically problematic songbird clades: *Aimophila* and *Pipilo*. *Journal of Avian Biology* 40: 206–216.
- 108** DaCosta, M. A., P. Larson, J. P. Donahue, and S. J. Weller. 2006. Phylogeny of milkweed tussocks (Aretiidae: Arctiinae: Phaegopterini) and its implications for evolution of ultrasound communication. *Annals of the Entomological Society of America* 99: 723–742.
- 109** Dally, J. M., N. J. Emery, and N. S. Clayton. 2006. Food-caching western scrub-jays keep track of who was watching when. *Science* 312: 1662–1665.
- 110** Darden, S. K. and T. Dabelsteen. 2006. Ontogeny of swift fox *Vulpes velox* vocalizations: production, usage and response. *Behaviour* 143: 659–681.
- 111** Darwin, C. 1859. *On the Origin of Species*. London: Murray.
- 112** Darwin, C. 1872. *The Expression of the Emotions in Man and the Animals*. London: John Murray.
- 113** Davis, J. M. 1975. Socially induced flight reactions in pigeons. *Animal Behaviour* 23: 597–601.
- 114** Davis, J. W. F. and P. O’Donald. 1976. Sexual selection for a handicap: a critical analysis of Zahavi’s model. *Journal of Theoretical Biology* 57: 345–354.
- 115** Dawkins, M. S. 1993. Are there general principles of signal design? *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 340: 251–255.
- 116** Dawkins, M. S. and T. Guilford. 1994. Design of an intention signal in the bluehead wrasse (*Thalassoma bifasciatum*). *Proceedings of the Royal Society of London Series B-Biological Sciences* 257: 123–128.
- 117** Dawkins, R. and J. R. Krebs. 1978. Animal signals: Information or manipulation? In *Behavioural Ecology* (J. R. Krebs and N. B. Davies, eds.), pp. 282–309. Oxford: Blackwell Scientific Publications.
- 118** Dawkins, R. 1986. *The Blind Watchmaker*. Oxford: Oxford University Press.

- 119** Day, G. I. 1985. *Javelina research and management in Arizona*. Phoenix, AZ: Arizona Game and Fish Department.
- 120** De Jaegher, K. 2003. Error-proneness as a handicap signal. *Journal of Theoretical Biology* 224: 139–152.
- 121** de Queiroz, A. and P. H. Wimberger. 1993. The usefulness of behavior for phylogeny estimation: Levels of homoplasy in behavioral and morphological characters. *Evolution* 47: 46–60.
- 122** de Waal, F. B. M. 1990. Sociosexual behavior used for tension regulation in all age and sex combinations among bonobos. In *Pedophilia: Biosocial Dimensions* (J. R. Feierman, ed.), pp. 378–393. New York: Springer-Verlag.
- 123** Dickey, B. F. and T. M. McCarthy. 2007. Predator–prey interactions between crayfish (*Orconectes juvenilis*) and snails (*Physa gyrina*) are affected by spatial scale and chemical cues. *Invertebrate Biology* 126: 57–66.
- 124** Dieckmann, U. and R. Law. 1996. The dynamical theory of coevolution: A derivation from stochastic ecological processes. *Journal of Mathematical Biology* 34: 579–612.
- 125** Doebeli, M. and I. Ispolatov. 2010. Continuously stable strategies as evolutionary branching points. *Journal of Theoretical Biology* 266: 529–535.
- 126** Dorries, K. M., E. Adkins-Regan, and B. P. Halpern. 1997. Sensitivity and behavioral responses to the pheromone androstenone are not mediated by the vomeronasal organ in domestic pigs. *Brain Behavior and Evolution* 49: 53–62.
- 127** Driver, P. M. and D. A. Humphries. 1970. Protean displays as inducers of conflict. *Nature* 226: 968–969.
- 128** Ducrest, A. L., L. Keller, and A. Roulin. 2008. Pleiotropy in the melanocortin system, coloration and behavioural syndromes. *Trends in Ecology and Evolution* 23: 502–510.
- 129** Dugatkin, L. A. and H. K. Reeve, eds. 1998. *Game Theory and Animal Behavior*. Oxford University Press: New York NY.
- 130** Elgar, M. A. 1986. The establishment of foraging flocks in house sparrows: risk of predation and daily temperature. *Behavioral Ecology and Sociobiology* 19: 433–438.
- 131** Elgar, M. A. 1986. House sparrows establish foraging flocks by giving chirrup calls if the resources are divisible. *Animal Behaviour* 34: 169–174.

- 132** Elgar, M. A., H. McKay, and P. Woon. 1986. Scanning, pecking and alarm flights in house sparrows. *Animal Behaviour* 34: 1892–1894.
- 133** Ellis, J. M.S., T. A. Langen, and E. C. Berg. 2009. Signalling for food and sex? Begging by reproductive female white-throated magpie-jays. *Animal Behaviour* 78: 615–623.
- 134** Emery, N. J. and N. S. Clayton. 2001. Effects of experience and social context on prospective caching strategies by scrub jays. *Nature* 414: 443–446.
- 135** Endler, J. A. and A. L. Basolo. 1998. Sensory ecology, receiver biases and sexual selection. *Trends in Ecology and Evolution* 13: 415–420.
- 136** Endler, J. A. 2000. Evolutionary implications of the interaction between animal signals and the environment. In *Animal Signals: Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen, and G. Rosenqvist, eds.), pp. 11–46. Trondheim, Norway: Tapir Academic Press.
- 137** Enquist, M. 1985. Communication during aggressive interactions with particular reference to variation in choice of behavior. *Animal Behaviour* 33: 1152–1161.
- 138** Enquist, M., E. Plane, and J. Roed. 1985. Aggressive communication in fulmars (*Fulmarus glacialis*) competing for food. *Animal Behaviour* 33: 1007–1020.
- 139** Enquist, M. and A. Arak. 1993. Selection of exaggerated male traits by female aesthetic senses. *Nature* 361: 446–448.
- 140** Enquist, M. and A. Arak. 1994. Symmetry, beauty and evolution. *Nature* 372: 169–172.
- 141** Enquist, M., A. Arak, S. Ghirlanda, and C. A. Wachtmeister. 2002. Spectacular phenomena and limits to rationality in genetic and cultural evolution. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 357: 1585–1594.
- 142** Eshel, I. 1983. Evolutionary and continuous stability. *Journal of Theoretical Biology* 103: 99–111.
- 143** Eshel, I., U. Motro, and E. Sansone. 1997. Continuous stability and evolutionary convergence. *Journal of Theoretical Biology* 185: 333–343.
- 144** Estes, R. D. 1991. *The Behavior Guide to African Mammals*. Berkeley: University of California Press.

- 145** Evans, C. S. and P. Marler. 1994. Food calling and audience effects in male chickens, *Gallus gallus*: their relationships to food availability, courtship and social facilitation. *Animal Behaviour* 47: 1159–1170.
- 146** Ewer, R. F. 1968. *Ethology of Mammals*. New York: Plenum Press.
- 147** Feighny, J. A., K. E. Williamson, and J. A. Clarke. 2006. North American elk bugle vocalizations: male and female bugle call structure and context. *Journal of Mammalogy* 87: 1072–1077.
- 148** Fichtel, C., K. Hammerschmidt, and U. Jurgens. 2001. On the vocal expression of emotion: A multi-parametric analysis of different states of aversion in the squirrel monkey. *Behaviour* 138: 97–116.
- 149** Fitch, W. T. 1997. Vocal tract length and formant frequency dispersion correlate with body size in rhesus macaques. *Journal of the Acoustical Society of America* 102: 1213–1222.
- 150** Fitch, W. T. and M. D. Hauser. 2003. Unpacking “honesty”: vertebrate vocal production and the evolution of acoustic signals. In *Acoustic Communication* (A. M. Simmons, A. N. Popper, and R. R. Fay, eds.), pp. 65–137. New York: Springer.
- 151** Fitze, P. S., B. Tschirren, J. Gasparini, and H. Richner. 2007. Carotenoid-based plumage colors and immune function: Is there a trade-off for rare carotenoids? *American Naturalist* 169: S137-S144.
- 152** Fitzgibbon, C. D. and J. H. Fanshawe. 1988. Stotting in Thomson’s gazelles: an honest signal of condition. *Behavioral Ecology and Sociobiology* 23: 69–74.
- 153** Fitzpatrick, S. 1998. Birds’ tails as signaling devices: Markings, shape, length, and feather quality. *American Naturalist* 151: 157–173.
- 154** Fleishman, L. J. 1992. The influence of the sensory system and the environment on motion patterns in the visual displays of anoline lizards and other vertebrates. *American Naturalist* 139: S36-S61.
- 155** Foelix, R. F. 1982. *The Biology of Spiders*. Cambridge, MA: Harvard University Press.
- 156** Frean, M. and E. R. Abraham. 2001. Rock–scissors–paper and the survival of the weakest. *Proceedings of the Royal Society of London Series B-Biological Sciences* 268: 1323–1327.
- 157** Friesen, R. G. and D. P. Chivers. 2006. Underwater video reveals strong avoidance of chemical alarm cues by prey fishes. *Ethology* 112: 339–345.

- 158** Frischknecht, M. 1993. The breeding coloration of male three-spined sticklebacks (*Gasterosteus aculeatus*) as an indicator of energy investment in vigor. *Evolutionary Ecology* 7: 439–450.
- 159** Fudenberg, D., M. A. Nowak, C. Taylor, and L. A. Imhof. 2006. Evolutionary game dynamics in finite populations with strong selection and weak mutation. *Theoretical Population Biology* 70: 352–363.
- 160** Fullard, J. H. and J. E. Yack. 1993. The evolutionary biology of insect hearing. *Trends in Ecology and Evolution* 8: 248–252.
- 161** Fuller, R. C., D. Houle, and J. Travis. 2005. Sensory bias as an explanation for the evolution of mate preferences. *American Naturalist* 166: 437–446.
- 162** Fuller, R. C. 2009. A test of the critical assumption of the sensory bias model for the evolution of female mating preference using neural networks. *Evolution* 63: 1697–1711.
- 163** Funk, D. H. and D. W. Tallamy. 2000. Courtship role reversal and deceptive signals in the long-tailed dance fly, *Rhamphomyia longicuada*. *Animal Behaviour* 59: 411–421.
- 164** Galvan, I. and J. J. Sanz. 2008. The cheek plumage patch is an amplifier of dominance in great tits. *Biology Letters* 4: 12–15.
- 165** Gans, C. and P. F. Maderson. 1973. Sound producing mechanisms in recent reptiles: review and comment. *American Zoologist* 13: 1195–1203.
- 166** Garamszegi, L. Z., J. Torok, G. Hegyi, E. Szollosi, B. Rosivall, and M. Eens. 2007. Age-dependent expression of song in the collared flycatcher, *Ficedula albicollis*. *Ethology* 113: 246–256.
- 167** Gardner, A. and S. A. West. 2004. Cooperation and punishment, especially in humans. *American Naturalist* 164: 753–764.
- 168** Geritz, S. A. H., J. A. J. Metz, E. Kisdi, and G. Meszina. 1997. Dynamics of adaptation and evolutionary branching. *Physical Review Letters* 78: 2024–2027.
- 169** Geritz, S. A. H., E. Kisdi, G. Meszina, and J. A. J. Metz. 1998. Evolutionarily singular strategies and the adaptive growth and branching of the evolutionary tree. *Evolutionary Ecology* 12: 35–57.
- 170** Getty, T. 1998. Handicap signalling: when fecundity and viability do not add up. *Animal Behaviour* 56: 127–130.

- 171** Getty, T. 2006. Sexually selected signals are not similar to sports handicaps. *Trends in Ecology and Evolution* 21: 83–88.
- 172** Ghirlanda, S. and M. Enquist. 2003. A century of generalization. *Animal Behaviour* 66: 15–36.
- 173** Gibson, G. and I. Russell. 2006. Flying in tune: sexual recognition in mosquitoes. *Current Biology* 16: 1311–1316.
- 174** Gibson, R. and J. W. Bradbury. 1985. Sexual selection in lekking sage grouse: phenotypic correlates of male mating success. *Behavioral Ecology and Sociobiology* 18: 117–123.
- 175** Gibson, R. M. 1996. Female choice in sage grouse: the roles of attraction and active comparison. *Behavioral Ecology and Sociobiology* 39: 55–59.
- 176** Gil, D., J. L. S. Cobb, and P. J. B. Slater. 2001. Song characteristics are age dependent in the willow warbler, *Phylloscopus trochilus*. *Animal Behaviour* 62: 689–694.
- 177** Gokhale, C. S. and A. Traulsen. 2010. Evolutionary games in the multiverse. *Proceedings of the National Academy of Sciences of the United States of America* 107: 5500–5504.
- 178** Goodale, E. and S. W. Kotagama. 2005. Testing the roles of species in mixed-species bird flocks of a Sri Lankan rain forest. *Journal of Tropical Ecology* 21: 669–676.
- 179** Gouzoules, H. and S. Gouzoules. 2000. Agonistic screams differ among four species of macaques: the significance of motivation-structural rules. *Animal Behaviour* 59: 501–512.
- 180** Gouzoules, H. and S. Gouzoules. 2002. Primate communication: By nature honest, or by experience wise? *International Journal of Primatology* 23: 821–848.
- 181** Grafen, A. 1990a. Sexual selection unhandicapped by the Fisher process. *Journal of Theoretical Biology* 144: 473–516.
- 182** Grafen, A. 1990. Biological signals as handicaps. *Journal of Theoretical Biology* 144: 517–546.
- 183** Green, D. J. and E. A. Krebs. 1995. Courtship feeding in ospreys *Pandion haliaetus*: a criterion for mate assessment. *Ibis* 137: 35–43.

- 184** Greene, H. W. 1988. Antipredator mechanisms in reptiles. In *Biology of Reptilia, Volume 16, Ecology B: Defense and Life History* (C. Gans and R. B. Huey, eds.), pp. 1–152. New York: Alan R. Liss, Inc.
- 185** Greenewalt, C. H. 1968. *Bird Song: Acoustics and Physiology*. Washington, D.C.: Smithsonian Institution Press.
- 186** Greenfield, M. D. and R. L. Minckley. 1993. Acoustic dueling in tarbush grasshoppers: settlement of territorial contests via alternation of reliable signals. *Ethology* 95: 309–326.
- 187** Greenfield, M. D. 1994. Cooperation and conflict in the evolution of signal interactions. *Annual Review of Ecology and Systematics* 25: 97–126.
- 188** Greenfield, M. D. and T. Weber. 2000. Evolution of ultrasonic signalling in wax moths: discrimination of ultrasonic mating calls from bat echolocation signals and the exploitation of an anti-predator receiver bias by sexual advertisement. *Ethology Ecology and Evolution* 12: 259–279.
- 189** Greenfield, M. D. and H. Hohendorf. 2009. Independence of sexual and anti-predator perceptual functions in an acoustic moth: implications for the receiver bias mechanism in signal evolution. *Ethology* 115: 1137–1149.
- 190** Greig, E. I. and M. D. Greenfield. 2004. Sexual selection and predator avoidance in an acoustic moth: discriminating females take fewer risks. *Behaviour* 141: 799–815.
- 191** Grether, G. F., J. Hudon, and D. F. Millie. 1999. Carotenoid limitation of sexual coloration along an environmental gradient in guppies. *Proceedings of the Royal Society of London Series B-Biological Sciences* 266: 1317–1322.
- 192** Grether, G. F. 2000. Carotenoid limitation and mate preference evolution: a test of the indicator hypothesis in guppies (*Poecilia reticulata*). *Evolution* 54: 1712–1724.
- 193** Grether, G. F., G. R. Kolluru, F. H. Rodd, J. de la Cerda, and K. Shimazaki. 2005. Carotenoid availability affects the development of a colour-based mate preference and the sensory bias to which it is genetically linked. *Proceedings of the Royal Society B-Biological Sciences* 272: 2181–2188.
- 194** Gros-Louis, J. J., S. E. Perry, C. Fichtel, E. Wikberg, H. Gilkenson, S. Wofsy, and A. Fuentes. 2008. Vocal repertoire of *Cebus capucinus*: acoustic structure, context, and usage. *International Journal of Primatology* 29: 641–670.
- 195** Gualla, F., P. Cermelli, and S. Castellano. 2008. Is there a role for amplifiers in sexual selection? *Journal of Theoretical Biology* 252: 255–271.

- 196** Guilford, T. and M. S. Dawkins. 1991. Receiver psychology and the evolution of animal signals. *Animal Behaviour* 42: 1–14.
- 197** Guilford, T. and M. S. Dawkins. 1993. Receiver psychology and the design of animal signals. *Trends in Neurosciences* 16: 430–436.
- 198** Guilford, T. and M. S. Dawkins. 1995. What are conventional signals? *Animal Behaviour* 49: 1689–1695.
- 199** Haddon, J. E. and S. Killcross. 2007. Contextual control of choice performance: Behavioral, neurobiological, and neurochemical influences. In *Reward and Decision Making in Corticobasal Ganglia Networks* (B. W. Balleine, K. Doya, J. O’Doherty, and M. Sakagami, eds.), pp. 250–269. Oxford: Blackwell Publishing.
- 200** Haftorn, S. 2000. Contexts and possible functions of alarm calling in the willow tit, *parus montanus*; The principle of ‘better safe than sorry’. *Behaviour* 137: 437–449.
- 201** Hagelin, J. C. 2002. The kinds of traits involved in male–male competition: a comparison of plumage, behavior, and body size in quail. *Behavioral Ecology* 13: 32–41.
- 202** Halkin, S. L. 1997. Nest-vicinity song exchanges may coordinate biparental care of northern cardinals. *Animal Behaviour* 54: 189–198.
- 203** Hamblin, S. and P. L. Hurd. 2007. Genetic algorithms and non-ESS solutions to game theory models. *Animal Behaviour* 74: 1005–1018.
- 204** Hammerstein, P. 1981. The role of asymmetries in animal contests. *Animal Behaviour* 29: 193–205.
- 205** Hanlon, R. T. and J. B. Messenger. 1996. *Cephalopod Behaviour*. Cambridge: Cambridge University Press.
- 206** Hansen, S. and L. J. K. Drake af Hagelsrum. 1984. Emergence of displacement activities in the male rat following thwarting of sexual behavior. *Behavioral Neuroscience* 98: 868–883.
- 207** Hanson, M. T. and R. G. Coss. 2001. Age differences in arousal and vigilance in California ground squirrels (*Spermophilus beecheyi*). *Developmental Psychobiology* 39: 199–206.
- 208** Harrington, F. H. 1987. Aggressive howling in wolves. *Animal Behaviour* 35: 7–12.
- 209** Harris, T. R., W. T. Fitch, L. M. Goldstein, and P. J. Fashing. 2006. Black and white colobus monkey (*Colobus guereza*) roars as a source of both honest and exaggerated information about body mass. *Ethology* 112: 911–920.

- 210** Haskell, D. 1994. Experimental evidence that nestling begging behavior incurs a cost due to nest predation. *Proceedings of the Royal Society of London Series B-Biological Sciences* 257: 161–164.
- 211** Hasson, O. 1989. Amplifiers and the handicap principle in sexual selection: a different emphasis. *Proceedings of the Royal Society of London Series B-Biological Sciences* 235: 383–406.
- 212** Hasson, O. 1990. The role of amplifiers in sexual selection: an integration of the amplifying and the Fisherian mechanisms. *Evolutionary Ecology* 4: 277–289.
- 213** Hasson, O. 1991. Sexual displays as amplifiers: practical examples with an emphasis on feather decorations. *Behavioral Ecology* 2: 189–197.
- 214** Hasson, O. 1991. Pursuit-deterrent signals: communication between prey and predator. *Trends in Ecology and Evolution* 6: 325–329.
- 215** Hasson, O., D. Cohen, and A. Shmida. 1992. Providing or hiding information: on the evolution of amplifiers and attenuators of perceived quality differences. *Acta Biotheoretica* 40: 269–283.
- 216** Hasson, O. 1994. Cheating signals. *Journal of Theoretical Biology* 167: 223–238.
- 217** Hasson, O. 1997. Towards a general theory of biological signaling. *Journal of Theoretical Biology* 185: 139–156.
- 218** Hauser, M. D. 1993. The evolution of nonhuman primate vocalizations: effects of phylogeny, body weight, and social context. *American Naturalist* 142: 528–542.
- 219** Hauser, M. D. and P. Marler. 1993. Food-associated calls in rhesus macaques (*Macaca mulatta*). II. Costs and benefits of call production and suppression. *Behavioral Ecology* 4: 206–212.
- 220** Hausfater, G. and D. Takacs. 1987. Structure and function of hindquarter presentations in yellow baboons (*Papio cynocephalus*). *Ethology* 74: 297–319.
- 221** Hill, G. E. 1991. Plumage coloration is a sexually selected indicator of male quality. *Nature* 350: 337–339.
- 222** Hill, P. S. M. 2008. *Vibrational Communication in Animals*. Cambridge, MA: Harvard University Press.
- 223** Hofbauer, J. and K. Sigmund. 1988. *The Theory of Evolution and Dynamical Systems*. Cambridge UK: Cambridge University Press.

- 224** Hogan, J. A. 1997. Energy models of motivation: A reconsideration. *Applied Animal Behaviour Science* 53: 89–105.
- 225** Hogan, J. A. 2005. Causation: the study of behavioural mechanisms. *Animal Biology* 55: 323–341.
- 226** Hölldobler, B. and E. O. Wilson. 1990. *The Ants*. Cambridge, MA: Harvard University Press.
- 227** Hollén, L. I. and M. B. Manser. 2007. Motivation before meaning: motivational information encoded in meerkat alarm calls develops earlier than referential information. *American Naturalist* 169: 758–767.
- 228** Hope, S. 1980. Call form in relation to function in the Steller's jay. *American Naturalist* 116: 788–820.
- 229** Horth, L. 2003. Melanic body colour and aggressive mating behaviour are correlated traits in male mosquitofish (*Gambusia hotbrooki*). *Proceedings of the Royal Society of London Series B-Biological Sciences* 270: 1033–1040.
- 230** Houde, A. E. and J. A. Endler. 1990. Correlated evolution of female mating preferences and male color patterns in the guppy *Poecilia reticulata*. *Science* 248: 1405–1408.
- 231** Howard, R. D. and J. R. Young. 1998. Individual variation in male vocal traits and female mating preferences in *Bufo americanus*. *Animal Behaviour* 55: 1165–1179.
- 232** Humphries, D. A. and P. M. Driver. 1967. Erratic display as a device against predators. *Science* 156: 1767–8.
- 233** Humphries, D. A. and P. M. Driver. 1970. Protean defence by prey animals. *Oecologia* 5: 285–302.
- 234** Hurd, P. L. 1995. Communication in discrete action-response games. *Journal of Theoretical Biology* 174: 217–222.
- 235** Hurd, P. L., C. A. Wachtmeister, and M. Enquist. 1995. Darwin's principle of antithesis revisited: a role for perceptual biases in the evolution of intraspecific signals. *Proceedings of the Royal Society of London Series B-Biological Sciences* 259: 201–205.
- 236** Hurd, P. L. and M. Enquist. 1998. Conventional signalling in aggressive interactions: the importance of temporal structure. *Journal of Theoretical Biology* 192: 197–211.

- 237** Hurd, P. L. and M. Enquist. 2001. Threat display in birds. *Canadian Journal of Zoology-Revue Canadienne De Zoologie* 79: 931–942.
- 238** Hurd, P. L. 2004. Conventional displays: Evidence for socially mediated costs of threat displays in a lizard. *Aggressive Behavior* 30: 326–341.
- 239** Hurd, P. L. and M. Enquist. 2005. A strategic taxonomy of biological communication. *Animal Behaviour* 70: 1155–1170.
- 240** Irving, P. W. 1996. Sexual dimorphism in club cell distribution in the European minnow and immunocompetence signalling. *Journal of Fish Biology* 48: 80–88.
- 241** Iwasa, Y. and A. Pomiankowski. 1991. The evolution of costly mate preferences. II. The handicap principle. *Evolution* 45: 1431–1442.
- 242** Jakobsson, S., T. Radesäter, and T. Järvi. 1979. Fighting behavior of *Nannacara anomala* (Pisces, Cichlidae) males. *Zeitschrift Für Tierpsychologie-Journal of Comparative Ethology* 49: 210–220.
- 243** Janik, V. M. 2000. Whistle matching in wild bottlenose dolphins (*Tursiops truncatus*). *Science* 289: 1355–1357.
- 244** Jawor, J. M. and R. Breitwisch. 2006. Is mate provisioning predicted by ornamentation? A test with northern cardinals (*Cardinalis cardinalis*). *Ethology* 112: 888–895.
- 245** Jennings, D. J., M. P. Gammell, C. M. Carlin, and T. J. Hayden. 2003. Is the parallel walk between competing male fallow deer, *Dama dama*, a lateral display of individual quality? *Animal Behaviour* 65: 1005–1012.
- 246** Jensen, K., J. Call, and M. Tomasello. 2007. Chimpanzees are vengeful but not spiteful. *Proceedings of the National Academy of Sciences of the United States of America* 104: 13046–13050.
- 247** Johnson, K., R. Dalton, and N. Burley. 1993. Preferences of female American goldfinches (*Carduelis tristis*) for natural and artificial male traits. *Behavioral Ecology* 4: 138–143.
- 248** Johnson, K. and B. D. Peer. 2001. Great-tailed Grackle (*Quiscalus mexicanus*). In *Birds of North America* (A. Poole, ed.), pp. 576. Ithaca: Cornell Lab of Ornithology.
- 249** Johnson, L. L. and M. S. Boyce. 1991. Female choice of males with low parasite loads in Sage Grouse. In *Bird-Parasite Interactions: Ecology, Evolution and Behaviour* (J. E. Loye and M. Zuk, eds.), pp. 377–388. Oxford: Oxford University Press.

- 250** Johnstone, R. A. and A. Grafen. 1992. The continuous Sir Philip Sidney game: a simple model of biological signaling. *Journal of Theoretical Biology* 156: 215–234.
- 251** Johnstone, R. A. and A. Grafen. 1992. Error-prone signalling. *Proceedings of the Royal Society of London Series B-Biological Sciences* 248: 229–233.
- 252** Johnstone, R. A. and A. Grafen. 1993. Dishonesty and the handicap principle. *Animal Behaviour* 46: 759–764.
- 253** Johnstone, R. A. 1994. Honest signaling, perceptual error and the evolution of all-or-nothing displays. *Proceedings of the Royal Society of London Series B-Biological Sciences* 256: 169–175.
- 254** Johnstone, R. A. 1995. Sexual selection, honest advertisement and the handicap principle: reviewing the evidence. *Biological Reviews of the Cambridge Philosophical Society* 70: 1–65.
- 255** Johnstone, R. A. 1997. The evolution of animal signals. In *Behavioural Ecology: an Evolutionary Approach* (J. R. Krebs and N. B. Davies, eds.), pp. 155–178. Oxford: Blackwell Scientific Publications.
- 256** Johnstone, R. A. 1998. Conspiratorial whispers and conspicuous displays: games of signal detection. *Evolution* 52: 1554–1563.
- 257** Johnstone, R. A. 1998. Efficacy and honesty in communication between relatives. *American Naturalist* 152: 45–58.
- 258** Johnstone, R. A. 1998. Game theory and communication. In *Game Theory and Animal Behavior* (L. A. Dugatkin and H. K. Reeve, eds.), pp. 94–117. Oxford: Oxford University Press.
- 259** Jones, G., A. Barabas, W. Elliott, and S. Parsons. 2002. Female greater wax moths reduce sexual display behavior in relation to the potential risk of predation by echolocating bats. *Behavioral Ecology* 13: 375–380.
- 260** Jurisevic, M. A. and K. J. Sanderson. 1994. Alarm vocalizations in Australian birds: convergent characteristics and phylogenetic differences. *Emu* 94: 67–77.
- 261** Karino, K. and R. Arai. 2006. Effect of clutch size on male egg-fanning behavior and hatching success in the goby, *Eviota prasina* (Klunzinger). *Journal of Experimental Marine Biology and Ecology* 334: 43–50.
- 262** Kennedy, M., H. G. Spencer, and R. D. Gray. 1996. Hop, step and gape: Do the social displays of the Pelecaniformes reflect phylogeny? *Animal Behaviour* 51: 273–291.

- 263** Kenward, B., C. A. Wachtmeister, S. Ghirlanda, and M. Enquist. 2004. Spots and stripes: the evolution of repetition in visual signal form. *Journal of Theoretical Biology* 230: 407–419.
- 264** Kerr, B., M. A. Riley, M. W. Feldman, and B. J. M. Bohannan. 2002. Local dispersal promotes biodiversity in a real-life game of rock–paper–scissors. *Nature* 418: 171–174.
- 265** Kilner, R. 1995. When do canary parents respond to nestling signals of need? *Proceedings of the Royal Society of London Series B-Biological Sciences* 260: 343–348.
- 266** Kilner, R. 1997. Mouth colour is a reliable signal of need in begging canary nestlings. *Proceedings of the Royal Society of London Series B-Biological Sciences* 264: 963–968.
- 267** Kilner, R. and R. A. Johnstone. 1997. Begging the question: are offspring solicitation behaviours signals of needs. *Trends in Ecology and Evolution* 12: 11–15.
- 268** Kilner, R. and N. B. Davies. 1998. Nestling mouth colour: ecological correlates of a begging signal. *Animal Behaviour* 56: 705–712.
- 269** Kilner, R. M. 2001. A growth cost of begging in captive canary chicks. *Proceedings of the National Academy of Sciences of the United States of America* 98: 11394–11398.
- 270** Kim, T. W., J. H. Christy, and J. C. Choe. 2007. A preference for a sexual signal keeps females safe. *PLoS One* 2: 4.
- 271** Kim, T. W., J. H. Christy, S. Dennenmoser, and J. C. Choe. 2009. The strength of a female mate preference increases with predation risk. *Proceedings of the Royal Society B-Biological Sciences* 276: 775–780.
- 272** Kirkpatrick, M. 1986. The handicap mechanism of sexual selection does not work. *American Naturalist* 127: 222–240.
- 273** Knapp, R. A. and J. T. Kovach. 1991. Courtship as an honest indicator of male parental quality in the bicolor damselfish, *Stegastes partitus*. *Behavioral Ecology* 2: 295–300.
- 274** Kodric-Brown, A. and J. H. Brown. 1984. Truth in advertising: the kinds of traits favored by sexual selection. *American Naturalist* 124: 309–323.

- 275** Kodric-Brown, A. 1985. Female preference and sexual selection for male coloration in the guppy (*Poecilia reticulata*). *Behavioral Ecology and Sociobiology* 17: 199–205.
- 276** Kokko, H. 1997. Evolutionarily stable strategies of age-dependent sexual advertisement. *Behavioral Ecology and Sociobiology* 41: 99–107.
- 277** Kortmulder, K. 1998. Displacement behaviour solving a silent contradiction. *Acta Biotheoretica* 46: 53–63.
- 278** Kotiaho, J., R. V. Alatalo, J. Mappes, and S. Parri. 1996. Sexual selection in a wolf spider: male drumming activity, body size, and viability. *Evolution* 50: 1977–1981.
- 279** Kotiaho, J. S., R. V. Alatalo, J. Mappes, M. G. Nielsen, S. Parri, and A. Rivero. 1998. Energetic costs of size and sexual signalling in a wolf spider. *Proceedings of the Royal Society of London Series B-Biological Sciences* 265: 2203–2209.
- 280** Kotiaho, J. S. 2000. Testing the assumptions of conditional handicap theory: costs and condition dependence of a sexually selected trait. *Behavioral Ecology and Sociobiology* 48: 188–194.
- 281** Krabbe, N. 2004. Pale-headed Brush-finch *Atlapetes pallidiceps*: notes on population size, habitat, vocalizations, feeding, interference competition and conservation. *Bird Conservation International* 14: 77–86.
- 282** Krakauer, D. C. and R. A. Johnstone. 1995. The evolution of exploitation and honesty in animal communication: a model using artificial neural networks. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 348: 355–361.
- 283** Kutsukake, N. 2003. Assessing relationship quality and social anxiety among wild chimpanzees using self-directed behaviour. *Behaviour* 140: 1153–1171.
- 284** Lachmann, M. and C. T. Bergstrom. 1998. Signalling among relatives: II. Beyond the tower of Babel. *Theoretical Population Biology* 54: 146–160.
- 285** Lachmann, M., S. Szamado, and C. T. Bergstrom. 2001. Cost and conflict in animal signals and human language. *Proceedings of the National Academy of Sciences of the United States of America* 98: 13189–13194.
- 286** Laidre, M. E. 2005. Honest signaling of intentions: the importance of performance risk, receiver response, and prior knowledge of opponents in the threat displays of mandrills. *Behaviour* 142: 455–476.

- 287** Laidre, M. E. and J. L. Yorzinski. 2005. The silent bared-teeth face and the crest-raise of the mandrill (*Mandrillus sphinx*): a contextual analysis of signal function. *Ethology* 111: 143–157.
- 288** Laidre, M. E. 2006. Manipulation without mind-reading: information suppression and leakage during food discovery by mandrills (*Mandrillus sphinx*). *Behaviour* 143: 365–392.
- 289** Lawrence, L. 1967. Comparative life-history study of four species of woodpeckers. *Ornithological Monographs* 5: 1–156.
- 290** Le Roux, A., M. I. Cherry, and M. B. Manser. 2009. The vocal repertoire in a solitary foraging carnivore, *Cynictis penicillata*, may reflect facultative sociality. *Naturwissenschaften* 96: 575–584.
- 291** Leavens, D. A., F. Aureli, W. D. Hopkins, and C. W. Hyatt. 2001. Effects of cognitive challenge on self-directed behaviors by chimpanzees (*Pan troglodytes*). *American Journal of Primatology* 55: 1–14.
- 292** Leech, S. M. and M. L. Leonard. 1996. Is there an energetic cost to begging in nestling tree swallows (*Tachycineta bicolor*)? *Proceedings of the Royal Society of London Series B-Biological Sciences* 263: 983–987.
- 293** Lehmann, L., F. Rousset, D. Roze, and L. Keller. 2007. Strong reciprocity or strong ferocity? A population genetic view of the evolution of altruistic punishment. *American Naturalist* 170: 21–36.
- 294** Leimar, O. 2009. Multidimensional convergence stability. *Evolutionary Ecology Research* 11: 191–208.
- 295** Leston, D. and J. W. S. Pringle. 1963. Acoustical behaviour of Hemiptera. In *Acoustic Behaviour of Animals* (R.-G. Busnel, ed.), pp. 391–411. Amsterdam: Elsevier.
- 296** Lewis, E. E. and J. H. Cane. 1990. Stridulation as a primary antipredator defense of a beetle. *Animal Behaviour* 40: 1003–1004.
- 297** Leyhausen, P. 1979. *Cat Behavior: the predatory and social behavior of domestic and wild cats*. New York: Garland STPM Press.
- 298** Lindstrom, L., J. J. Ahtiainen, J. Mappes, J. S. Kotiaho, A. Lyytinen, and R. V. Alatalo. 2006. Negatively condition dependent predation cost of a positively condition dependent sexual signalling. *Journal of Evolutionary Biology* 19: 649–656.

- 299** Lorenz, K. 1941. Vergleichende Bewegungsstudien an Anatinen. *Journal für Ornithologie* 89: 19–29.
- 300** Lotem, A. 1993. Secondary sexual ornaments as signal: the handicap approach and three potential problems. *Ethologia* 3: 209–218.
- 301** Lotem, A. 1998. Differences in begging behaviour between barn swallow, *Hirundo rustica*, nestlings. *Animal Behaviour* 55: 809–818.
- 302** Lotem, A. 1998. Higher levels of begging behavior by small nestlings: a case of a negatively correlated handicap. *Israel Journal of Zoology* 44: 29–45.
- 303** Lott, D. F. 2002. *American Bison: a natural history*. Berkeley: University of California Press.
- 304** Macías Garcia, C. and E. Ramirez. 2005. Evidence that sensory traps can evolve into honest signals. *Nature* 434: 501–505.
- 305** Maestripieri, D., G. Schino, F. Aureli, and A. Troisi. 1992. A modest proposal: displacement activities as an indicator of emotions in primates. *Animal Behaviour* 44: 967–979.
- 306** Manaster, J. 2006. *Javelinas*. Lubbock, TX: Texas Tech University Press.
- 307** Manrique, G. and P. E. Schilman. 2000. Two different vibratory signals in *Rhodnius prolixus* (Hemiptera: Reduviidae). *Acta Tropica* 77: 271–278.
- 308** Manson, J. H., S. Perry, and A. R. Parish. 1997. Nonconceptive sexual behavior in bonobos and capuchins. *International Journal of Primatology* 18: 767–786.
- 309** Manson, J. H. and S. Perry. 2000. Correlates of self-directed behaviour in wild white-faced capuchins. *Ethology* 106: 301–317.
- 310** Mappes, J., R. V. Alatalo, J. Kotiaho, and S. Parri. 1996. Viability costs of condition-dependent sexual male display in a drumming wolf spider. *Proceedings of the Royal Society of London Series B-Biological Sciences* 263: 785–789.
- 311** Marchetti, K. 1993. Dark habitats and bright birds illustrate the role of the environment in species divergence. *Nature* 362: 149–152.
- 312** Marler, P., A. Dufty, and R. Pickert. 1986. Vocal communication in the domestic chicken: II. Is a sender sensitive to the presence and nature of a receiver? *Animal Behaviour* 34: 194–198.

- 313** Marler, P., S. Karakashian, and M. Gyger. 1991. Do animals have the option of withholding signals when communication is inappropriate? The audience effect. In *Cognitive ethology: the minds of other animals* (C. Ristau, ed.), pp. 135–186. Hillsdale, NJ: Lawrence Erlbaum Associates.
- 314** Martins, E. P. 2000. Adaptation and the comparative method. *Trends in Ecology and Evolution* 15: 296–299.
- 315** Marzluff, J. M. and R. P. Balda. 1992. *The Pinyon Jay: Behavioral Ecology of a Colonial and Cooperative Corvid*. London: T. and A. D. Poyser.
- 316** Masataka, N. 1994. Lack of correlation between body size and frequency of vocalizations in young female Japanese macaques (*Macaca fuscata*). *Folia Primatologica* 63: 115–118.
- 317** Masters, W. M. 1979. Insect disturbance stridulation: its defensive role. *Behavioral Ecology and Sociobiology* 5: 187–200.
- 318** Matsouka, S. 1980. Pseudo warning call in titmice. *Tori* 29: 87–90.
- 319** Maynard Smith, J. 1956. Fertility, mating behaviour and sexual selection in *Drosophila subobscura*. *Journal of Genetics* 54: 261–279.
- 320** Maynard Smith, J. and G. R. Price. 1973. Logic of animal conflict. *Nature* 246: 15–18.
- 321** Maynard Smith, J. 1974. Theory of games and evolution of animal conflicts. *Journal of Theoretical Biology* 47: 209–221.
- 322** Maynard Smith, J. 1976. Sexual selection and handicap principle. *Journal of Theoretical Biology* 57: 239–242.
- 323** Maynard Smith, J. 1982. Do animals convey information about their intentions? *Journal of Theoretical Biology* 97: 1–5.
- 324** Maynard Smith, J. 1982. *Evolution and the Theory of Games*. Cambridge: Cambridge University Press.
- 325** Maynard Smith, J. 1991. Honest signaling: the Philip Sidney game. *Animal Behaviour* 42: 1034–1035.
- 326** Maynard Smith, J. 1994. Must reliable signals always be costly? *Animal Behaviour* 47: 1115–1120.
- 327** Maynard Smith, J. and D. G.C. Harper. 1995. Animal signals: models and terminology. *Journal of Theoretical Biology* 177: 305–311.

- 328** Maynard Smith, J. and D. G. C. Harper. 2003. *Animal Signals*. Oxford: Oxford University Press.
- 329** McCarty, J. P. 1996. The energetic cost of begging in nestling passerines. *Auk* 113: 178–188.
- 330** McFarland, D. 1985. *Animal Behavior*. Menlo Park, CA: Benjamin Cummings.
- 331** McGill, B. J. and J. S. Brown. 2007. Evolutionary game theory and adaptive dynamics of continuous traits. *Annual Review of Ecology Evolution and Systematics* 38: 403–435.
- 332** McGraw, K. J., G. E. Hill, and R. S. Parker. 2005. The physiological costs of being colourful: nutritional control of carotenoid utilization in the American goldfinch, *Carduelis tristis*. *Animal Behaviour* 69: 653–660.
- 333** McLennan, D. A. 1991. Integrating phylogeny and experimental ethology: from pattern to process. *Evolution* 45: 1773–1789.
- 334** McShane, L. J., J. A. Estes, M. L. Riedman, and M. M. Staedler. 1995. Repertoire, structure, and individual variation of vocalizations in the sea otter. *Journal of Mammalogy* 76: 414–427.
- 335** Metz, J. A.J., S. A. H. Geritz, G. Meszéna, F. J. A. Jacobs, and J. S. van Heerwaarden. 1996. Adaptive dynamics, a geometrical study of the consequences of nearly faithful reproduction. In *Stochastic and Spatial Structures of Dynamical Systems* (S. J. van Strien and S. M. Verduyn Lunel, eds.), pp. 183–231. Amsterdam, Netherlands: North-Holland Publishing Company.
- 336** Meyer, A., J. M. Morrissey, and M. Schartl. 1994. Recurrent origin of a sexually selected trait in *Xiphophorus* fishes inferred from a molecular phylogeny. *Nature* 368: 539–542.
- 337** Miller, P. J. O., A. D. Shapiro, P. L. Tyack, and A. R. Solow. 2004. Call-type matching in vocal exchanges of free-ranging resident killer whales, *Orcinus orca*. *Animal Behaviour* 67: 1099–1107.
- 338** Møller, A. P. 1987. Social control of deception among status signaling house sparrows *Passer domesticus*. *Behavioral Ecology and Sociobiology* 20: 307–311.
- 339** Møller, A. P. 1987. Variation in badge size in male house sparrows *Passer domesticus*: evidence for status signaling. *Animal Behaviour* 35: 1637–1644.

- 340** Møller, A. P. 1988. Badge size in the house sparrow *Passer domesticus*: effects of intrasexual and intersexual selection. *Behavioral Ecology and Sociobiology* 22: 373–378.
- 341** Møller, A. P. 1988. False alarm calls as a means of resource usurpation in the great tit *Parus major*. *Ethology* 79: 25–30.
- 342** Møller, A. P. 1988. Female choice selects for male sexual tail ornaments in the monogamous swallow. *Nature* 332: 640–642.
- 343** Møller, A. P. 1989. Viability costs of male tail ornaments in a swallow. *Nature* 339: 132–135.
- 344** Møller, A. P. 1990. Deceptive use of alarm calls by male swallows, *Hirundo rustica*: a new paternity guard. *Behavioral Ecology* 1: 1–6.
- 345** Møller, A. P. 1990. Effects of parasitism by a hematophagous mite on reproduction in the barn swallow. *Ecology* 71: 2345–2357.
- 346** Møller, A. P. 1994. Male ornament size as a reliable cue to enhanced offspring viability in the barn swallow. *Proceedings of the National Academy of Sciences of the United States of America* 91: 6929–6932.
- 347** Møller, A. P. and F. Delope. 1994. Differential costs of a secondary sexual character: an experimental test of the handicap principle. *Evolution* 48: 1676–1683.
- 348** Møller, A. P., F. Delope, and J. M. L. Caballero. 1995. Foraging costs of a tail ornament: experimental evidence from two populations of barn swallows *Hirundo rustica* with different degrees of sexual size dimorphism. *Behavioral Ecology and Sociobiology* 37: 289–295.
- 349** Molles, L. E. and S. L. Vehrencamp. 2001. Songbird cheaters pay a retaliation cost: evidence for auditory conventional signals. *Proceedings of the Royal Society of London Series B-Biological Sciences* 268: 2013–2019.
- 350** Moretz, J. A. and M. R. Morris. 2003. Evolutionarily labile responses to a signal of aggressive intent. *Proceedings of the Royal Society of London Series B-Biological Sciences* 270: 2271–2277.
- 351** Moretz, J. A. and W. Rogers. 2004. An ethological analysis of the breeding behavior of the fantail darter, *Etheostonia flabellare*. *American Midland Naturalist* 152: 140–144.
- 352** Morris, D. 1956. The feather postures of birds and the problem of the origin of social signals. *Behaviour* 9: 75–113.

- 353** Morris, D. 1957. "Typical intensity" and its relationship to the problem of ritualization. *Behaviour* 11: 1–12.
- 354** Morris, D. 1959. The comparative ethology of grassfinches (Erythrurae) and mannikins (Amadinae). *Proceedings of the Zoological Society of London* 131: 389–439.
- 355** Morton, E. S. 1977. Occurrence and significance of motivation structural rules in some bird and mammal sounds. *American Naturalist* 111: 855–869.
- 356** Mountjoy, D. J. and R. E. Lemon. 1995. Extended song learning in wild European starlings. *Animal Behaviour* 49: 357–366.
- 357** Moynihan, M. 1970. Some behavior patterns of platyrrhine monkeys. II. *Saguinus geoffroyi* and some other tamarins. *Smithsonian Contributions to Zoology* 28: 1–77.
- 358** Munn, C. A. 1986. Birds that cry wolf. *Nature* 319: 143–145.
- 359** Nakamaru, M. and U. Dieckmann. 2009. Runaway selection for cooperation and strict-and-severe punishment. *Journal of Theoretical Biology* 257: 1–8.
- 360** Nakano, R., T. Takanashi, T. Fujii, N. Skals, A. Surlykke, and Y. Ishikawa. 2009. Moths are not silent, but whisper ultrasonic courtship songs. *Journal of Experimental Biology* 212: 4072–4078.
- 361** Nakano, R., T. Takanashi, N. Skals, A. Surlykke, and Y. Ishikawa. 2010. Ultrasonic courtship songs of male Asian corn borer moths assist copulation attempts by making the females motionless. *Physiological Entomology* 35: 76–81.
- 362** Nanay, B. 2005. Can cumulative selection explain adaptation? *Philosophy of Science* 72: 1099–1112.
- 363** Negro, J. J., J. H. Sarasola, F. Farinas, and I. Zorrilla. 2006. Function and occurrence of facial flushing in birds. *Comparative Biochemistry and Physiology A-Molecular and Integrative Physiology* 143: 78–84.
- 364** Norris, K. J. 1990. Female choice and the evolution of the conspicuous plumage coloration of monogamous male great tits. *Behavioral Ecology and Sociobiology* 26: 129–138.
- 365** Nowak, M. A., A. Sasaki, C. Taylor, and D. Fudenberg. 2004. Emergence of cooperation and evolutionary stability in finite populations. *Nature* 428: 646–650.
- 366** Nowak, M. A. and K. Sigmund. 2005. Evolution of indirect reciprocity. *Nature* 437: 1291–1298.

- 367** Nowak, M. A. 2006. *Evolutionary Dynamics: Exploring the Equations of Life*. Cambridge, MA: Belknap (Harvard University) Press.
- 368** Nowicki, S., S. Peters, and J. Podos. 1998. Song learning, early nutrition and sexual selection in songbirds. *American Zoologist* 38: 179–190.
- 369** Nowicki, S., W. A. Searcy, and S. Peters. 2002. Brain development, song learning and mate choice in birds: a review and experimental test of the “nutritional stress hypothesis.” *Journal of Comparative Physiology A-Neuroethology Sensory Neural and Behavioral Physiology* 188: 1003–1014.
- 370** Nunn, C. L. 1999. The evolution of exaggerated sexual swellings in primates and the graded-signal hypothesis. *Animal Behaviour* 58: 229–246.
- 371** Nur, N. and O. Hasson. 1984. Phenotypic plasticity and the handicap principle. *Journal of Theoretical Biology* 110: 275–297.
- 372** Ohtsuki, H., P. Bordaïob, and M. A. Nowak. 2007. The one-third law of evolutionary dynamics. *Journal of Theoretical Biology* 249: 289–295.
- 373** Oliveira, R. F., J. A. Miranda, N. Carvalho, E. J. Goncalves, M. S. Grober, and R. S. Santos. 2000. Male mating success in the Azorean rock-pool blenny: the effects of body size, male behaviour and nest characteristics. *Journal of Fish Biology* 57: 1416–1428.
- 374** Olson, V. A. and I. P. F. Owens. 1998. Costly sexual signals: are carotenoids rare, risky or required? *Trends in Ecology and Evolution* 13: 510–514.
- 375** Olsson, M. 1994. Nuptial coloration in the sand lizard, *Lacerta agilis*: an intra-sexually selected cue to fighting ability. *Animal Behaviour* 48: 607–613.
- 376** Ord, T. J. and J. A. Stamps. 2008. Alert signals enhance animal communication in “noisy” environments. *Proceedings of the National Academy of Sciences of the United States of America* 105: 18830–18835.
- 377** Osborne, L. 2005. Information content of male agonistic displays in the territorial tawny dragon (*Ctenophorus decresii*). *Journal of Ethology* 23: 189–197.
- 378** Ostlund, S. and I. Ahnesjö. 1998. Female fifteen-spined sticklebacks prefer better fathers. *Animal Behaviour* 56: 1177–1183.
- 379** Otte, D. 1974. Effects and functions in the evolution of signaling systems. *Annual Review of Ecology and Systematics* 5: 385–414.

- 380** Owings, D. H., M. P. Rowe, and A. S. Rundus. 2002. The rattling sound of rattlesnakes (*Crotalus viridis*) as a communicative resource for ground squirrels (*Spermophilus beecheyi*) and burrowing owls (*Athene cunicularia*). *Journal of Comparative Psychology* 116: 197–205.
- 381** Page, L. M. and H. L. Bart. 1989. Egg mimics in darters (Pices: Percidae). *Copeia* 514–517.
- 382** Page, L. M. 2000. Etheostomatinae. In *Percid Fishes: Systematics, Ecology, and Exploitation* (J. F. Craig, ed.), pp. 225–253. Oxford: Blackwell Science.
- 383** Page, L. M. and J. H. Knouft. 2000. Variation in egg-mimic size in the guardian darter, *Etheostoma oophylax* (Percidae). *Copeia* 782–785.
- 384** Pagel, M. 1994. Evolution of conspicuous estrous advertisement in Old World monkeys. *Animal Behaviour* 47: 1333–1341.
- 385** Pampoulie, C., K. Lindstrom, and C. M. St. Mary. 2004. Have your cake and eat it too: male sand gobies show more parental care in the presence of female partners. *Behavioral Ecology* 15: 199–204.
- 386** Pariser, E. C., M. M. Mariette, and S. C. Griffith. 2010. Artificial ornaments manipulate intrinsic male quality in wild-caught zebra finches (*Taeniopygia guttata*). *Behavioral Ecology* 21: 264–269.
- 387** Parker, G. A. 1979. Sexual selection and sexual conflict. In *Sexual selection and reproductive competition in insects* (M. S. Blum and N. A. Blum, eds.), pp. 123–166. New York: Academic Press.
- 388** Parker, G. A. 1983. Arms races in evolution—an ESS to the opponent-independent costs game. *Journal of Theoretical Biology* 101: 619–648.
- 389** Parker, G. A. 1984. Evolutionarily stable strategies. In *Behavioural Ecology: An Evolutionary Approach, Second Edition* (J. R. Krebs and N. B. Davies, eds.), pp. 30–61. Oxford UK: Blackwell Scientific Publications.
- 390** Parri, S., R. V. Alatalo, J. Kotiaho, and J. Mappes. 1997. Female choice for male drumming in the wolf spider *Hygrolycosa rubrofasciata*. *Animal Behaviour* 53: 305–312.
- 391** Patek, S. N. 2001. Spiny lobsters stick and slip to make sound—These crustaceans can scare off predators even when their usual armour turns soft. *Nature* 411: 153–154.

- 392** Patel, R., R. A. Mulder, and G. C. Cardoso. 2010. What makes vocalisation frequency an unreliable signal of body size in birds? A study on black swans. *Ethology* 116: 554–563.
- 393** Pearce, G. P., P. E. Hughes, and W. D. Booth. 1988. The involvement of boar submaxillary salivary gland secretions in boar-induced precocious puberty attainment in the gilt. *Animal Reproduction Science* 16: 125–134.
- 394** Pennetier, C., B. Warren, K. R. Dabire, I. J. Russell, and G. Gibson. 2010. “Singing on the wing” as a mechanism for species recognition in the malarial mosquito *Anopheles gambiae*. *Current Biology* 20: 131–136.
- 395** Peters, A. 2007. Testosterone and carotenoids: an integrated view of trade-offs between immunity and sexual signalling. *Bioessays* 29: 427–430.
- 396** Peters, R. A. and C. S. Evans. 2003. Introductory tail-flick of the Jacky dragon visual display: signal efficacy depends upon duration. *Journal of Experimental Biology* 206: 4293–4307.
- 397** Pfefferle, D. and J. Fischer. 2006. Sounds and size: identification of acoustic variables that reflect body size in hamadryas baboons, *Papio hamadryas*. *Animal Behaviour* 72: 43–51.
- 398** Plenge, M., E. Curio, and K. Witte. 2000. Sexual imprinting supports the evolution of novel male traits by transference of a preference for the colour red. *Behaviour* 137: 741–758.
- 399** Pomiankowski, A. 1987. Sexual selection: the handicap principle does work sometimes. *Proceedings of the Royal Society of London Series B-Biological Sciences* 231: 123–145.
- 400** Poole, A., ed. 2004. *The Birds of North America Online*. Cornell Laboratory of Ornithology: Ithaca, NY.
- 401** Poole, J. H. 1989. Announcing intent: the aggressive state of musth in African elephants. *Animal Behaviour* 37: 140–152.
- 402** Popp, J. W. 1987. Risk and effectiveness in the use of agonistic displays by American goldfinches. *Behaviour* 103: 141–156.
- 403** Porter, B. A., A. C. Fiumera, and J. C. Avise. 2002. Egg mimicry and allopaternal care: two mate-attracting tactics by which nesting striped darter (*Etheostoma virgatum*) males enhance reproductive success. *Behavioral Ecology and Sociobiology* 51: 350–359.

- 404** Pough, F. H., R. M. Andrews, J. E. Cadle, M. L. Crump, A. H. Savitsky, and K. D. Wells. 2003. *Herpetology*, 3rd Edition. Upper Saddle River, NJ: Pearson Education.
- 405** Premack, D. and G. Woodruff. 1978. Does the chimpanzee have a theory of mind? *Behavioral and Brain Sciences* 1: 515–526.
- 406** Proctor, H. C. 1991. The evolution of copulation in water mites: a comparative test for nonreversing characters. *Evolution* 45: 558–567.
- 407** Proctor, H. C. 1991. Courtship in the water mite *Neumania papillator*: males capitalize on female adaptations for predation. *Animal Behaviour* 42: 589–598.
- 408** Proctor, H. C. 1992. Effect of food deprivation on mate searching and spermatophore production in male water mites (Acari, Unionicolidae). *Functional Ecology* 6: 661–665.
- 409** Proctor, H. C. 1992. Sensory exploitation and the evolution of male mating behavior: a cladistic test using water mites (Acari, Parasitengona). *Animal Behaviour* 44: 745–752.
- 410** Quinn, V. S. and D. K. Hews. 2000. Signals and behavioural responses are not coupled in males: aggression affected by replacement of an evolutionarily lost colour signal. *Proceedings of the Royal Society of London Series B-Biological Sciences* 267: 755–758.
- 411** Ramer, J. D., T. A. Jenssen, and C. J. Hurst. 1983. Size-related variation in the advertisement call of *Rana clamitans* (Anura, Ranidae), and its effect on conspecific males. *Copeia* 141–155.
- 412** Rand, D. G., H. Ohtsuki, and M. A. Nowak. 2009. Direct reciprocity with costly punishment: generous tit-for-tat prevails. *Journal of Theoretical Biology* 256: 45–57.
- 413** Reby, D. and K. McComb. 2003. Anatomical constraints generate honesty: acoustic cues to age and weight in the roars of red deer stags. *Animal Behaviour* 65: 519–530.
- 414** Redondo, T. and F. Castro. 1992. Signaling of nutritional need by magpie nestlings. *Ethology* 92: 193–204.
- 415** Reeve, H. K. 1997. Evolutionarily stable communication between kin: a general model. *Proceedings of the Royal Society of London Series B-Biological Sciences* 264: 1037–1040.

- 416** Reinhard, J., A. Quintana, L. Sreng, and J. L. Clement. 2003. Chemical signals inducing attraction and alarm in European Reticulitermes termites (Isoptera, Rhinotermitidae). *Sociobiology* 42: 675–691.
- 417** Ręk, P. and T. S. Osiejuk. 2010. Sophistication and simplicity: conventional communication in a rudimentary system. *Behavioral Ecology* 21: 1203–1210.
- 418** Rice, C. G. 1995. On the origin of sexual displays in caprids. *Zeitschrift für Säugetierkunde-International Journal of Mammalian Biology* 60: 53–62.
- 419** Rice, W. R. 1996. Sexually antagonistic male adaptation triggered by experimental arrest of female evolution. *Nature* 381: 232–234.
- 420** Richards, D. G. 1981. Alerting and message components in songs of rufous-sided towhees. *Behaviour* 76: 223–249.
- 421** Riechert, S. E. 1978. Games spiders play: behavioral variability in territorial disputes. *Behavioral Ecology and Sociobiology* 3: 135–162.
- 422** Robbins, R. L. 2000. Vocal communication in free-ranging African wild dogs (*Lycaon pictus*). *Behaviour* 137: 1271–1298.
- 423** Robbins, R. L. and E. K. McCreery. 2003. African wild dog pup vocalizations with special reference to Morton's model. *Behaviour* 140: 333–351.
- 424** Robertson, J. G. M. 1986. Male territoriality, fighting and assessment of fighting ability in the Australian frog *Uperoleia rugosa*. *Animal Behaviour* 34: 763–772.
- 425** Rockenbach, B. and M. Milinski. 2006. The efficient interaction of indirect reciprocity and costly punishment. *Nature* 444: 718–723.
- 426** Rodd, F. H., K. A. Hughes, G. F. Grether, and C. T. Baril. 2002. A possible non-sexual origin of mate preference: are male guppies mimicking fruit? *Proceedings of the Royal Society of London Series B-Biological Sciences* 269: 475–481.
- 427** Rodríguez, R. L. and M. D. Greenfield. 2004. Behavioural context regulates dual function of ultrasonic hearing in lesser waxmoths: bat avoidance and pair formation. *Physiological Entomology* 29: 159–168.
- 428** Rodríguez, R. L. 2009. Trait duplication by means of sensory bias. *Behavioral Ecology* 20: 1376–1381.
- 429** Rodríguez-Gironés, M. A., J. M. Zuniga, and T. Redondo. 2001. Effects of begging on growth rates of nestling chicks. *Behavioral Ecology* 12: 269–274.

- 430** Rohwer, S. 1975. Social significance of avian winter plumage variability. *Evolution* 29: 593–610.
- 431** Rohwer, S. 1977. Status signaling in Harris sparrows: some experiments in deception. *Behaviour* 61: 106–129.
- 432** Rohwer, S. and F. C. Rohwer. 1978. Status signaling in Harris sparrows: experimental deceptions achieved. *Animal Behaviour* 26: 1012–1022.
- 433** Rohwer, S. and P. W. Ewald. 1981. The cost of dominance and advantage of subordination in a badge signaling system. *Evolution* 35: 441–454.
- 434** Rohwer, S., P. W. Ewald, and F. C. Rohwer. 1981. Variation in size, appearance, and dominance within and among the sex and age classes of Harris' sparrows. *Journal of Field Ornithology* 52: 291–303.
- 435** Rohwer, S. 1982. The evolution of reliable and unreliable badges of fighting ability. *American Zoologist* 22: 531–546.
- 436** Rohwer, S. 1985. Dyed birds achieve higher social status than controls in Harris sparrows. *Animal Behaviour* 33: 1325–1331.
- 437** Ron, S. R., J. C. Santos, and D. C. Cannatella. 2006. Phylogeny of the túngara frog genus *Engystomops* (= *Physalaemus pustulosus* species group; Anura: Leptodactylidae). *Molecular Phylogenetics and Evolution* 39: 392–403.
- 438** Ron, S. R. 2008. The evolution of female mate choice for complex calls in tungara frogs. *Animal Behaviour* 76: 1783–1794.
- 439** Rosenthal, G. G. and C. S. Evans. 1998. Female preference for swords in *Xiphophorus helleri* reflects a bias for large apparent size. *Proceedings of the National Academy of Sciences of the United States of America* 95: 4431–4436.
- 440** Rowe, C. 1999. Receiver psychology and the evolution of multicomponent signals. *Animal Behaviour* 58: 921–931.
- 441** Rowe, C. and J. Skelhorn. 2004. Avian psychology and communication. *Proceedings of the Royal Society of London Series B-Biological Sciences* 271: 1435–1442.
- 442** Rowe, M. P., R. G. Coss, and D. H. Owings. 1986. Rattlesnake rattles and burrowing owl hisses: a case of acoustic Batesian mimicry. *Ethology* 72: 53–71.
- 443** Rowell, J. T., S. P. Ellner, and H. K. Reeve. 2006. Why animals lie: how dishonesty and belief can coexist in a signaling system. *American Naturalist* 168: E180–E204.

- 444** Ryan, M. J. 1990. Signals, species, and sexual selection. *American Scientist* 78: 46–52.
- 445** Ryan, M. J. 1990. Sexual selection, sensory systems, and sensory exploitation. *Oxford Surveys in Evolutionary Biology* 7: 157–195.
- 446** Ryan, M. J. and A. S. Rand. 1990. The sensory basis of sexual selection for complex calls in the Túngara frog, *Physalaemus pustulosus* (sexual selection for sensory exploitation). *Evolution* 44: 305–314.
- 447** Ryan, M. J. and A. S. Rand. 1993. Sexual selection and signal evolution: the ghost of biases past. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 340: 187–195.
- 448** Ryan, M. J. 1998. Sexual selection, receiver biases, and the evolution of sex differences. *Science* 281: 1999–2003.
- 449** Ryan, M. J. and A. S. Rand. 1999. Phylogenetic influence on mating call preferences in female túngara frogs, *Physalaemus pustulosus*. *Animal Behaviour* 57: 945–956.
- 450** Sadd, B., L. Holman, H. Armitage, F. Lock, R. Marland, and M. T. Siva-Jothy. 2006. Modulation of sexual signalling by immune challenged male mealworm beetles (*Tenebrio molitor*, L.): evidence for terminal investment and dishonesty. *Journal of Evolutionary Biology* 19: 321–325.
- 451** Saino, N. and A. P. Møller. 1996. Sexual ornamentation and immunocompetence in the barn swallow. *Behavioral Ecology* 7: 227–232.
- 452** Satischandra, S. H. K., P. Kodituwakku, S. W. Kotagama, and E. Goodale. 2010. Assessing “false” alarm calls by a drongo (*Dicrurus paradiseus*) in mixed-species bird flocks. *Behavioral Ecology* 21: 396–403.
- 453** Schaefer, H. M. and N. Stobbe. 2006. Disruptive coloration provides camouflage independent of background matching. *Proceedings of the Royal Society B-Biological Sciences* 273: 2427–2432.
- 454** Schassburger, R. M. 1993. *Vocal Communication in the Timber Wolf, Canis lupus, Linnaeus: Structure, Motivation, and Ontogeny*. Berlin: Paul Parey Scientific Publishers.
- 455** Schenkel, R. 1947. Austrucks-Studien an Wölfen. *Behaviour* 1: 81–129.
- 456** Schilman, P. E., C. R. Lazzari, and G. Manrique. 2001. Comparison of disturbance stridulations in five species of triatominae bugs. *Acta Tropica* 79: 171–178.

- 457** Schlupp, I., M. Waschulewski, and M. J. Ryan. 1999. Female preferences for naturally-occurring novel male traits. *Behaviour* 136: 519–527.
- 458** Scholes, E. 2006. Courtship ethology of Carola's Parotia (*Parotia carolae*). *Auk* 123: 967–990.
- 459** Schroeder, L. and R. Huber. 2001. Fight strategies differ with size and allometric growth of claws in crayfish, *Orconectes rusticus*. *Behaviour* 138: 1437–1449.
- 460** Searcy, W. A. and S. Nowicki. 2005. *The Evolution of Animal Communication: Reliability and Deception in Signaling Systems*. Princeton, NJ: Princeton University Press.
- 461** Secondi, J., P. M. den Hartog, and C. ten Cate. 2003. To trill or not to trill? Territorial response to a heterospecific vocal trait in male collared doves, *Streptopelia decaocto*. *Behavioral Ecology* 14: 694–701.
- 462** Seeley, T. D. 1998. Thoughts on information and integration in honey bee colonies. *Apidologie* 29: 67–80.
- 463** Semple, S. and K. McComb. 1996. Behavioural deception. *Trends in Ecology and Evolution* 11: 434–437.
- 464** Senar, J. C. 1990. Agonistic communication in social species: What is communicated? *Behaviour* 112: 270–283.
- 465** Senar, J. C. 2006. Color displays and intrasexual signals of aggression and dominance. In *Bird Coloration* (G. E. Hill and K. J. McGraw, eds.), pp. 87–136. Cambridge, MA: Harvard University Press.
- 466** Setchell, J. M. and E. J. Wickings. 2004. Sexual swelling in mandrills (*Mandrillus sphinx*): a test of the reliable indicator hypothesis. *Behavioral Ecology* 15: 438–445.
- 467** Setchell, J. M., M. J. E. Charpentier, I. B. Bedjabaga, P. Reed, E. J. Wickings, and L. A. Knapp. 2006. Secondary sexual characters and female quality in primates. *Behavioral Ecology and Sociobiology* 61: 305–315.
- 468** Seyfarth, R. M. and D. L. Cheney. 2003. Meaning and emotion in animal vocalizations. In *Emotions inside out: 130 Years after Darwin's the Expression of the Emotions in Man and Animals* (P. Ekman, J. J. Campos, R. J. Davidson, and F. B. M. DeWaal, eds.), pp. 32–55. New York: New York Academy of Sciences.
- 469** Shaw, K. 1995. Phylogenetic tests of the sensory exploitation model of sexual selection. *Trends in Ecology and Evolution* 10: 117–120.

- 470** Shine, R., T. Langkilde, and R. T. Mason. 2003. Cryptic forcible insemination: male snakes exploit female physiology, anatomy, and behavior to obtain coercive matings. *American Naturalist* 162: 653–667.
- 471** Short, L. L. 1971. Systematics and behavior of some North American woodpeckers, genus *Picoides* (Aves). *Bulletin of the American Museum of Natural History* 145: 1–117.
- 472** Short, L. L. 1982. *Woodpeckers of the World*. Greenville, DE: Delaware Museum of Natural History.
- 473** Silk, J. B., E. Kaldor, and R. Boyd. 2000. Cheap talk when interests conflict. *Animal Behaviour* 59: 423–432.
- 474** Simmons, R. B. and W. E. Conner. 1996. Ultrasonic signals in the defense and courtship of *Euchaetes egle* Drury and *E. bolteri* Stretch (Lepidoptera: Arctiidae). *Journal of Insect Behavior* 9: 909–919.
- 475** Sinervo, B. and R. Calsbeek. 2006. The developmental, physiological, neural, and genetical causes and consequences of frequency-dependent selection in the wild. *Annual Review of Ecology Evolution and Systematics* 37: 581–610.
- 476** Sinervo, B., B. Heulin, Y. Surget-Groba, J. Clobert, D. B. Miles, A. Corl, A. Chaine, and A. Davis. 2007. Models of density-dependent genic selection and a new rock–paper–scissors social system. *American Naturalist* 170: 663–680.
- 477** Slocombe, K. E. and K. Zuberbühler. 2005. Agonistic screams in wild chimpanzees (*Pan troglodytes schweinfurthii*) vary as a function of social role. *Journal of Comparative Psychology* 119: 67–77.
- 478** Smith, C. L., D. A. Van Dyk, P. W. Taylor, and C. S. Evans. 2009. On the function of an enigmatic ornament: wattles increase the conspicuousness of visual displays in male fowl. *Animal Behaviour* 78: 1433–1440.
- 479** Smith, R. J. F. 1982. The adaptive significance of the alarm substance-fright reaction system. In *Chemoreception in Fishes* (T. J. Hara, ed.), pp. 327–342. New York: Elsevier Science.
- 480** Smith, R. J. F. 1992. Alarm signals in fishes. *Reviews in Fish Biology and Fisheries* 2: 33–63.
- 481** Smuts, B. B. and J. M. Watanabe. 1990. Social relationships and ritualized greetings in adult male baboons (*Papio cynocephalus anubis*). *International Journal of Primatology* 11: 147–172.

- 482** Sorensen, P. W. 1992. Hormonally derived sex pheromones in goldfish: a model for understanding the evolution of sex pheromone systems in fish. *Biological Bulletin* 183: 173–177.
- 483** Sorensen, P. W. and N. E. Stacey. 1997. Evolution and specialization of fish hormonal pheromones. In *Advances in Chemical Signals in Vertebrates* (R. E. Johnston, D. Müller-Schwarze, and P. W. Sorensen, eds.), pp. 15–48. New York: Kluwer Academic/Plenum Publishers.
- 484** Sotavalta, O. 1963. The flight sounds of insects. In *Acoustic Behaviour of Animals* (R.-G. Busnel, ed.), pp. 374–411. Amsterdam: Elsevier.
- 485** Spencer, K. A., K. L. Buchanan, A. R. Goldsmith, and C. K. Catchpole. 2004. Developmental stress, social rank and song complexity in the European starling (*Stumus vulgaris*). *Proceedings of the Royal Society of London Series B-Biological Sciences* 271: S121-S123.
- 486** Steger, R. and R. L. Caldwell. 1983. Intraspecific deception by bluffing: a defense strategy of newly molted stomatopods (Arthropoda: Crustacea). *Science* 221: 558–560.
- 487** Stevens, M. 2005. The role of eyespots as anti-predator mechanisms, principally demonstrated in the Lepidoptera. *Biological Reviews* 80: 573–588.
- 488** Stevens, M., I. C. Cuthill, A. M. M. Windsor, and H. J. Walker. 2006. Disruptive contrast in animal camouflage. *Proceedings of the Royal Society B-Biological Sciences* 273: 2433–2438.
- 489** Stewart, K. A. and E. A. MacDougall-Shackleton. 2008. Local song elements indicate local genotypes and predict physiological condition in song sparrows *Melospiza melodia*. *Biology Letters* 4: 240–242.
- 490** Strange, R. M. 2001. Female preference and the maintenance of male fin ornamentation in three egg-mimic darters (Pisces: Percidae). *Journal of Freshwater Ecology* 16: 267–271.
- 491** Stuart, A. E., F. F. Hunter, and D. C. Currie. 2002. Using behavioural characters in phylogeny reconstruction. *Ethology Ecology and Evolution* 14: 129–139.
- 492** Stuart-Fox, D. M., D. Firth, A. Moussalli, and M. J. Whiting. 2006b. Multiple signals in chameleon contests: designing and analysing animal contests as a tournament. *Animal Behaviour* 71: 1263–1271.
- 493** Surlykke, A. and J. H. Fullard. 1989. Hearing of the Australian whistling moth, *Hecatesia thyridion*. *Naturwissenschaften* 76: 132–134.

- 494** Swan, D. C. and J. F. Hare. 2008. The first cut is the deepest: primary syllables of Richardson's ground squirrel, *Spermophilus richardsonii*, repeated calls alert receivers. *Animal Behaviour* 76: 47–54.
- 495** Számadó, S. 2000. Cheating as a mixed strategy in a simple model of aggressive communication. *Animal Behaviour* 59: 221–230.
- 496** Számadó, S. 2003. Threat displays are not handicaps. *Journal of Theoretical Biology* 221: 327–348.
- 497** Számadó, S. 2008. How threat displays work: species-specific fighting techniques, weaponry and proximity risk. *Animal Behaviour* 76: 1455–1463.
- 498** Tamura, N. 1995. Postcopulatory mate guarding by vocalization in the Formosan squirrel. *Behavioral Ecology and Sociobiology* 36: 377–386.
- 499** Tarano, Z. 2001. Variation in male advertisement calls in the neotropical frog *Physalaemus enesefae*. *Copeia* 1064–1072.
- 500** Tarano, Z. and M. J. Ryan. 2002. No pre-existing biases for heterospecific call traits in the frog *Physalaemus enesefae*. *Animal Behaviour* 64: 599–607.
- 501** Taylor, A. M. and D. Reby. 2010. The contribution of source-filter theory to mammal vocal communication research. *Journal of Zoology* 280: 221–236.
- 502** Taylor, C., D. Fudenberg, A. Sasaki, and M. A. Nowak. 2004. Evolutionary game dynamics in finite populations. *Bulletin of Mathematical Biology* 66: 1621–1644.
- 503** Taylor, P. D. and L. Jonker. 1978. Evolutionary stable strategies and game dynamics. *Mathematical Biosciences* 40: 145–156.
- 504** Taylor, P. W., O. Hasson, and D. L. Clark. 2000. Body postures and patterns as amplifiers of physical condition. *Proceedings of the Royal Society of London Series B-Biological Sciences* 267: 917–922.
- 505** Thapar, V. 1986. *Tigers: Portrait of a Predator*. London: Collins.
- 506** Thompson, C. W. and M. C. Moore. 1991. Throat color reliably signals status in male tree lizards, *Urosaurus ornatus*. *Animal Behaviour* 42: 745–753.
- 507** Tibbetts, E. A. and A. Izzo. 2010. Social punishment of dishonest signalers caused by mismatch between signal and behavior. *Current Biology* 20: 1637–1640.
- 508** Tinbergen, N. 1951. *The Study of Instinct*. Oxford: Oxford University Press.

- 509** Tinbergen, N. 1952. “Derived” activities; their causation, biological significance, origin, and emancipation during evolution. *Quarterly Review of Biology* 27: 1–32.
- 510** Toates, F. 1986. *Motivational Systems*. Cambridge: Cambridge University Press.
- 511** Tobias, J. A. and N. Seddon. 2002. Female begging in European robins: do neighbors eavesdrop for extrapair copulations? *Behavioral Ecology* 13: 637–642.
- 512** Traulsen, A., J. C. Claussen, and C. Hauert. 2005. Coevolutionary dynamics: From finite to infinite populations. *Physical Review Letters* 95: 238701.
- 513** Traulsen, A., J. C. Claussen, and C. Hauert. 2006. Coevolutionary dynamics in large, but finite populations. *Physical Review of Letters* 74: 011901
- 514** Traulsen, A., J. M. Pacheco, and L. A. Imhof. 2006. Stochasticity and evolutionary stability. *Physical Review of Letters* 74: 011901
- 515** Traulsen, A., Y. Iwasa, and M. A. Nowak. 2007. The fastest evolutionary trajectory. *Journal of Theoretical Biology* 249: 617–623.
- 516** Troisi, A., G. Schino, M. Dantoni, N. Pandolfi, F. Aureli, and F. R. Damato. 1991. Scratching as a behavioral index of anxiety in macaque mothers. *Behavioral and Neural Biology* 56: 307–313.
- 517** Underwood, T. J., D. W. Tallamy, and J. D. Pesek. 1997. Bioluminescence in firefly larvae: a test of the aposematic display hypothesis (Coleoptera: Lampyridae). *Journal of Insect Behavior* 10: 365–370.
- 518** van Dongen, W. F. D. 2006. Variation in singing behaviour reveal possible functions of song in male golden whistlers. *Behaviour* 143: 57–82.
- 519** Vanhooydonck, B., R. Van Damme, A. Herrel, and D. J. Irschick. 2007. A performance based approach to distinguish indices from handicaps in sexual selection studies. *Functional Ecology* 21: 645–652.
- 520** Vehrencamp, S. L. 2000. Handicap, index, and conventional signal elements of bird song. In *Animal Signals: Signalling and Signal Design in Animal Communication* (Y. Espmark, T. Amundsen, and G. Rosenqvist, eds.), pp. 277–300. Trondheim: Tapir Publishers.
- 521** Vehrencamp, S. L. 2001. Is song-type matching a conventional signal of aggressive intentions? *Proceedings of the Royal Society of London Series B-Biological Sciences* 268: 1637–1642.

- 522** Vehrencamp, S. L., A. F. Ritter, M. Keever, and J. W. Bradbury. 2003. Responses to playback of local vs. distant contact calls in the orange-fronted conure, *Aratinga canicularis*. *Ethology* 109: 37–54.
- 523** Virga, V. 2005. Self-directed behaviors in dogs and cats. *Veterinary Medicine* 100: 212–223.
- 524** Waas, J. R. 1991. The risks and benefits of signaling aggressive motivation: a study of cave-dwelling little blue penguins. *Behavioral Ecology and Sociobiology* 29: 139–146.
- 525** Wager, B. R. and M. D. Breed. 2000. Does honey bee sting alarm pheromone give orientation information to defensive bees? *Annals of the Entomological Society of America* 93: 1329–1332.
- 526** Walther, F. R. 1984. *Communication and Expression in Hoofed Mammals*. Bloomington: Indiana University Press.
- 527** Wanker, R., Y. Sugama, and S. Prinage. 2005. Vocal labelling of family members in spectacled parrotlets, *Forpus conspicillatus*. *Animal Behaviour* 70: 111–118.
- 528** Waters, D. A. 2003. Bats and moths: what is there left to learn? *Physiological Entomology* 28: 237–250.
- 529** Weary, D. M. and D. Fraser. 1995. Calling by domestic piglets: reliable signals of need. *Animal Behaviour* 50: 1047–1055.
- 530** Weller, S. J., N. L. Jacobson, and W. E. Conner. 1999. The evolution of chemical defences and mating systems in tiger moths (Lepidoptera: Arctiidae). *Biological Journal of the Linnean Society* 68: 557–578.
- 531** Whiten, A. and R. W. Byrne. 1988. Tactical deception in primates. *Behavioral and Brain Sciences* 11: 233–244.
- 532** Whitham, J. C. and D. Maestripieri. 2003. Primate rituals: the function of greetings between male Guinea baboons. *Ethology* 109: 847–859.
- 533** Whiting, M. J., K. A. Nagy, and P. W. Bateman. 2003. Evolution and maintenance of social status signalling badges: experimental manipulations in lizards. In *Lizard Social Behavior* (S. F. Fox, J. K. McCoy, and T. A. Baird, eds.), pp. 47–82. Baltimore, MD: Johns Hopkins University Press.
- 534** Wiley, R. H. 1983. The evolution of communication: information and manipulation. In *Communication* (T. R. Halliday and P. J. B. Slater, eds.), pp. 82–113. Oxford: Blackwell.

- 535** Williams, G. C. 1966. Natural selection costs of reproduction and a refinement of Lack's principle. *American Naturalist* 100: 687–690.
- 536** Wilson, E. O. 1971. *The Insect Societies*. Cambridge, MA: Harvard University Press.
- 537** Wilson, J. D. 1992. Correlates of agonistic display by great tits *Parus major*. *Behaviour* 121: 168–214.
- 538** Wilson, P. L., M. C. Towner, and S. L. Vehrencamp. 2000. Survival and song-type sharing in a sedentary subspecies of the Song Sparrow. *Condor* 102: 355–363.
- 539** Wilson, R. S., M. J. Angilletta, R. S. James, C. Navas, and F. Seebacher. 2007. Dishonest signals of strength in male slender crayfish (*Cherax dispar*) during agonistic encounters. *American Naturalist* 170: 284–291.
- 540** Wilson, R. S., R. S. James, C. Bywater, and F. Seebacher. 2009. Costs and benefits of increased weapon size differ between sexes of the slender crayfish, *Cherax dispar*. *Journal of Experimental Biology* 212: 853–858.
- 541** Winkler, H. and L. L. Short. 1978. A comparative analysis of acoustical signals in pied woodpeckers (Aves: Picoides). *Bulletin of the American Museum of Natural History* 160: 1–109.
- 542** Wisenden, B. D. 2000. Olfactory assessment of predation risk in the aquatic environment. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 355: 1205–1208.
- 543** Wisenden, B. D., K. A. Vollbrecht, and J. L. Brown. 2004. Is there a fish alarm cue? Affirming evidence from a wild study. *Animal Behaviour* 67: 59–67.
- 544** Witt, P. W. and J. S. Rovner, eds. 1982. *Spider Communication: Mechanisms and Ecological Significance*. Princeton University Press: Princeton, NJ.
- 545** Wong, M. Y. L., P. M. Buston, P. L. Munday, and G. P. Jones. 2007. The threat of punishment enforces peaceful cooperation and stabilizes queues in a coral-reef fish. *Proceedings of the Royal Society B-Biological Sciences* 274: 1093–1099.
- 546** Zahavi, A. 1975. Mate selection: selection for a handicap. *Journal of Theoretical Biology* 53: 205–214.
- 547** Zahavi, A. 1977. Cost of honesty: (further remarks on handicap principle). *Journal of Theoretical Biology* 67: 603–605.
- 548** Zahavi, A. 1980. Ritualization and the evolution of movement signals. *Behaviour* 72: 77–81.

- 549** Zahavi, A. 1982. The pattern of vocal signals and the information they convey. *Behaviour* 80: 1–8.
- 550** Zahavi, A. 1987. The theory of signal selection and some of its implications. In *International Symposium of Biological Evolution* (V. P. Delfino, ed.), pp. 305–327. Bari, Italy: Adriatic Editrice.
- 551** Zahavi, A. 1992. Sexual selection: badges and signals. *Trends in Ecology and Evolution* 7: 30–31.
- 552** Zahavi, A. 1993. The fallacy of conventional signaling. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 340: 227–230.
- 553** Zahavi, A. and A. Zahavi. 1997. *The Handicap Principle: A Missing Piece of Darwin's Puzzle*. Oxford: Oxford University Press.
- 554** Zhou, D., B. Wu, and H. Ge. 2010. Evolutionary stability and quasi-stationary strategy in stochastic evolutionary game dynamics. *Journal of Theoretical Biology* 264: 874–881.
- 555** Zuberbühler, K., D. Jenny, and R. Bshary. 1999. The predator deterrence function of primate alarm calls. *Ethology* 105: 477–490.
- 556** Zumpe, D. and R. P. Michael. 1979. Relation between the hormonal status of the female and direct and redirected aggression by male rhesus monkeys (*Macaca mulatta*). *Hormones and Behavior* 12: 269–279.