References and Notes

- B. R. Scheffers, L. De Meester, T. C. L. Bridge, A. A. Hoffmann, J. M. Pandolfi, R. T. Corlett, S. H. M. Butchart, P. Pearce-Kelly, K. M. Kovacs, D. Dudgeon, M. Pacifici, C. Rondinini, W. B. Foden, T. G. Martin, C. Mora, D. Bickford, J. E. M. Watson, The broad footprint of climate change from genes to biomes to people. *Science* 354, aaf7671 (2016). doi:10.1126/science.aaf7671 Medline
- 2. J. M. Tylianakis, R. K. Didham, J. Bascompte, D. A. Wardle, Global change and species interactions in terrestrial ecosystems. *Ecol. Lett.* **11**, 1351–1363 (2008). doi:10.1111/j.1461-0248.2008.01250.x Medline
- 3. C. Parmesan, Ecological and evolutionary responses to recent climate change. *Annu. Rev. Ecol. Evol. Syst.* **37**, 637–669 (2006). doi:10.1146/annurev.ecolsys.37.091305.110100
- 4. J. L. Blois, P. L. Zarnetske, M. C. Fitzpatrick, S. Finnegan, Climate change and the past, present, and future of biotic interactions. *Science* **341**, 499–504 (2013). doi:10.1126/science.1237184 Medline
- 5. C. Barbraud, H. Weimerskirch, Emperor penguins and climate change. *Nature* **411**, 183–186 (2001). doi:10.1038/35075554 Medline
- O. Gilg, K. M. Kovacs, J. Aars, J. Fort, G. Gauthier, D. Grémillet, R. A. Ims, H. Meltofte, J. Moreau, E. Post, N. M. Schmidt, G. Yannic, L. Bollache, Climate change and the ecology and evolution of Arctic vertebrates. *Ann. N. Y. Acad. Sci.* 1249, 166–190 (2012). doi:10.1111/j.1749-6632.2011.06412.x Medline
- 7. W. J. Sydeman, E. Poloczanska, T. E. Reed, S. A. Thompson, Climate change and marine vertebrates. *Science* **350**, 772–777 (2015). doi:10.1126/science.aac9874 Medline
- 8. D. Lack, Population Studies of Birds (Oxford Univ. Press, 1966).
- 9. P. M. Bennett, I. P. F. Owens, *Evolutionary Ecology of Birds: Life Histories, Mating Systems, and Extinction* (Oxford Univ. Press, 2002).
- 10. M. A. Colwell, *Shorebird Ecology, Conservation, and Management* (Univ. of California Press, 2010).
- 11. C. D. G. Harley, Climate change, keystone predation, and biodiversity loss. *Science* **334**, 1124–1127 (2011). doi:10.1126/science.1210199 Medline
- 12. H. Meltofte et al., Effects of Climate Variation on the Breeding Ecology of Arctic Shorebirds

 Meddelelser om Grønland Bioscience 59 (Danish Polar Center, 2007).
- 13. T. Caro, Antipredator Defences in Birds and Mammals (Univ. of Chicago Press, 2005).
- 14. R. Ricklefs, An analysis of nesting mortality in birds. *Smithson. Contrib. Zool.* **9**, 1–48 (1969). doi:10.5479/si.00810282.9
- 15. A. F. Skutch, Clutch size, nesting success, and predation on nests of Neotropical birds, reviewed. *Ornithol. Monogr.* **36**, 575–594 (1985). doi:10.2307/40168306
- T. M. Blackburn, P. Cassey, R. P. Duncan, K. L. Evans, K. J. Gaston, Avian extinction and mammalian introductions on oceanic islands. *Science* 305, 1955–1958 (2004). doi:10.1126/science.1101617 Medline

- 17. J. del Hoyo, A. Elliott, J. Sargatal, D. A. Christie, E. de Juana, Eds., *Handbook of the Birds of the World Alive* (Lynx Edicions, 2018); www.hbw.com.
- 18. BirdLife International, IUCN Red List for birds (2018); http://datazone.birdlife.org/species/search.
- 19. Materials and methods are available as supplementary materials.
- 20. B. J. M. Stutchbury, E. S. Morton, *Behavioral Ecology of Tropical Birds* (Academic Press, 2001).
- 21. B. A. DeGregorio, S. J. Chiavacci, T. J. Benson, J. H. Sperry, P. J. Weatherhead, Nest predators of North American birds: Continental patterns and implications. *Bioscience* **66**, 655–665 (2016). doi:10.1093/biosci/biw071
- 22. T. Piersma, T. Lok, Y. Chen, C. J. Hassell, H.-Y. Yang, A. Boyle, M. Slaymaker, Y.-C. Chan, D. S. Melville, Z.-W. Zhang, Z. Ma, Simultaneous declines in summer survival of three shorebird species signals a flyway at risk. *J. Appl. Ecol.* **53**, 479–490 (2016). doi:10.1111/1365-2664.12582
- 23. C. E. Studds, B. E. Kendall, N. J. Murray, H. B. Wilson, D. I. Rogers, R. S. Clemens, K. Gosbell, C. J. Hassell, R. Jessop, D. S. Melville, D. A. Milton, C. D. T. Minton, H. P. Possingham, A. C. Riegen, P. Straw, E. J. Woehler, R. A. Fuller, Rapid population decline in migratory shorebirds relying on Yellow Sea tidal mudflats as stopover sites. *Nat. Commun.* **8**, 14895 (2017). doi:10.1038/ncomms14895 Medline
- 24. M. Roodbergen, B. van der Werf, H. Hötker, Revealing the contributions of reproduction and survival to the Europe-wide decline in meadow birds: Review and meta-analysis. *J. Ornithol.* **153**, 53–74 (2012). doi:10.1007/s10336-011-0733-y
- 25. M. Munro, What's killing the world's shorebirds? *Nature* **541**, 16–20 (2017). doi:10.1038/541016a Medline
- 26. R. A. Ims, J.-A. Henden, S. T. Killengreen, Collapsing population cycles. *Trends Ecol. Evol.* **23**, 79–86 (2008). doi:10.1016/j.tree.2007.10.010 Medline
- 27. K. L. Kausrud, A. Mysterud, H. Steen, J. O. Vik, E. Østbye, B. Cazelles, E. Framstad, A. M. Eikeset, I. Mysterud, T. Solhøy, N. C. Stenseth, Linking climate change to lemming cycles. *Nature* **456**, 93–97 (2008). doi:10.1038/nature07442 Medline
- 28. Y. Aharon-Rotman, M. Soloviev, C. Minton, P. Tomkovich, C. Hassell, M. Klaassen, Loss of periodicity in breeding success of waders links to changes in lemming cycles in Arctic ecosystems. *Oikos* **124**, 861–870 (2014). doi:10.1111/oik.01730
- 29. T. Cornulier, N. G. Yoccoz, V. Bretagnolle, J. E. Brommer, A. Butet, F. Ecke, D. A. Elston, E. Framstad, H. Henttonen, B. Hörnfeldt, O. Huitu, C. Imholt, R. A. Ims, J. Jacob, B. Jędrzejewska, A. Millon, S. J. Petty, H. Pietiäinen, E. Tkadlec, K. Zub, X. Lambin, Europe-wide dampening of population cycles in keystone herbivores. *Science* **340**, 63–66 (2013). doi:10.1126/science.1228992 Medline
- 30. S. M. Bierman, J. P. Fairbairn, S. J. Petty, D. A. Elston, D. Tidhar, X. Lambin, Changes over time in the spatiotemporal dynamics of cyclic populations of field voles (*Microtus agrestis* L.). *Am. Nat.* **167**, 583–590 (2006). doi:10.1086/501076 Medline

- 31. L. McKinnon, P. A. Smith, E. Nol, J. L. Martin, F. I. Doyle, K. F. Abraham, H. G. Gilchrist, R. I. G. Morrison, J. Bêty, Lower predation risk for migratory birds at high latitudes. *Science* **327**, 326–327 (2010). doi:10.1126/science.1183010 Medline
- 32. M. A. Schlaepfer, M. C. Runge, P. W. Sherman, Ecological and evolutionary traps. *Trends Ecol. Evol.* **17**, 474–480 (2002). doi:10.1016/S0169-5347(02)02580-6
- 33. J. A. van Gils, S. Lisovski, T. Lok, W. Meissner, A. Ożarowska, J. de Fouw, E. Rakhimberdiev, M. Y. Soloviev, T. Piersma, M. Klaassen, Body shrinkage due to Arctic warming reduces red knot fitness in tropical wintering range. *Science* **352**, 819–821 (2016). doi:10.1126/science.aad6351 Medline
- 34. V. Kubelka *et al.*, Data and R codes from: Global pattern of nest predation is disrupted by climate change in shorebirds. Dryad (2018); doi.org/10.5061/dryad.45g90h4
- 35. J. del Hoyo, N. J. Collar, Eds., *HBW and BirdLife International Ilustrated Checklist of the Birds of the World. Volume 1: Non-passerines* (Lynx Edicions, 2014).
- 36. F. Gill, D. Donsker, Eds., IOC World Bird List (v 6.3) (2016); www.worldbirdnames.org.
- 37. A. Poole, Ed., *The Birds of North America Online* (Cornell Lab of Ornithology, 2015); http://bna.birds.cornell.edu/bna.
- 38. S. Cramp, K. E. L. Simmons, Eds., *Handbook of the Birds of Europe, the Middle East, and North Africa: The Birds of the Western Palearctic, Volume III: Waders to Gulls* (Oxford Univ. Press, 1983).
- 39. E. Lappo, P. Tomkovich, E. Syroechkovskiy, *Atlas of Breeding Waders in the Russian Arcic* (Russian Academy of Sciences, 2012).
- 40. E. K. Urban, C. H. Fry, S. Keith, Eds., *The Birds of Africa. Volume II: Game Birds to Pigeons* (Academic Press, 1986).
- 41. J. del Hoyo, A. Elliott, J. Sargatal, Eds., *Handbook of the Birds of the World. Vol. 3. Hoatzin to Auks* (Lynx Edicions, 1996).
- 42. S. Marchant, P. J. Higgins, Eds., *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2: Raptors to Lapwings* (Oxford Univ. Press, 1993).
- 43. P. J. Higgins, S. J. J. F. Davies, Eds., *Handbook of Australian, New Zealand and Antarctic Birds. Volume 3: Snipe to Pigeons* (Oxford Univ. Press, 1996).
- 44. M. A. MacDonald, M. Bolton, Predation on wader nests in Europe. *Ibis* **150**, 54–73 (2008). doi:10.1111/j.1474-919X.2008.00869.x
- 45. E. L. Weiser, S. C. Brown, R. B. Lanctot, H. R. Gates, K. F. Abraham, R. L. Bentzen, J. Bêty, M. L. Boldenow, R. W. Brook, T. F. Donnelly, W. B. English, S. A. Flemming, S. E. Franks, H. G. Gilchrist, M.-A. Giroux, A. Johnson, S. Kendall, L. V. Kennedy, L. Koloski, E. Kwon, J.-F. Lamarre, D. B. Lank, C. J. Latty, N. Lecomte, J. R. Liebezeit, L. McKinnon, E. Nol, J. Perz, J. Rausch, M. Robards, S. T. Saalfeld, N. R. Senner, P. A. Smith, M. Soloviev, D. Solovyeva, D. H. Ward, P. F. Woodard, B. K. Sandercock, Effects of environmental conditions on reproductive effort and nest success of Arctic-breeding shorebirds. *Ibis* 160, 608–623 (2018). doi:10.1111/ibi.12571

- 46. J. M. Durant, D. Hjermann, G. Ottersen, N. C. Stenseth, Climate and the match or mismatch between predator requirements and resource availability. *Clim. Res.* **33**, 271–283 (2007). doi:10.3354/cr033271
- 47. T. D. Mitchell, P. D. Jones, An improved method of constructing a database of monthly climate observations and associated high-resolution grids. *Int. J. Climatol.* **25**, 693–712 (2005). doi:10.1002/joc.1181
- 48. H. F. Mayfield, Suggestions for calculating nest success. Wilson Bull. 87, 456–466 (1975).
- 49. H. Mayfield, Nesting success calculated from exposure. Wilson Bull. 73, 255–261 (1961).
- 50. S. J. Dinsmore, G. C. White, F. L. Knopf, Advanced techniques for modeling avian nest survival. *Ecology* **83**, 3476–3488 (2002). doi:10.1890/0012-9658(2002)083[3476:ATFMAN]2.0.CO;2
- 51. N. J. Aebischer, Multi-way comparisons and generalized linear models of nest success: Extensions of the Mayfield method. *Bird Study* **46** (sup1), S22–S31 (1999). doi:10.1080/00063659909477228
- 52. D. H. Johnson, Estimating nest success: The Mayfield method and an alternative. *Auk* **96**, 651–661 (1979).
- 53. G. Kulesza, An analysis of clutch-size in New World passerine birds. *Ibis* **132**, 407–422 (1990). doi:10.1111/j.1474-919X.1990.tb01059.x
- 54. N. P. Myhrvold, E. Baldridge, B. Chan, D. Sivam, D. L. Freeman, S. K. M. Ernest, An amniote life-history database to perform comparative analyses with birds, mammals, and reptiles. *Ecology* **96**, 3109–000 (2015). doi:10.1890/15-0846R.1
- 55. G. Jehle, A. A. Yackel Adams, J. A. Savidge, S. K. Skagen, Nest survival estimation: A review of alternatives to the mayfield estimator. *Condor* **106**, 472–484 (2004). doi:10.1650/7411
- 56. A. J. Beintema, Inferring nest success from old records. *Ibis* **138**, 568–570 (1996). doi:10.1111/j.1474-919X.1996.tb08084.x
- 57. M. Favero, Biologia reproductiva de la paloma Antárctica, *Chionis alba* (Charadriiformes) en las islas Shetland del sur Antartida [in Italian with English abstract]. *Riv. Ital. di Ornitol.* **63**, 33–40 (1993).
- 58. C. S. Moitoret, T. R. Walker, P. D. Martin, "Predevelopment surveys of nesting birds at two sites in the Kuparuk Oilfield, Alaska, 1988–1992" (U.S. Fish and Wildlife Service, NAES-TR-96-02, 1996).
- 59. A. F. Skutch, Do tropical birds rear as many young as they can nourish? *Ibis* **91**, 430–455 (1949). doi:10.1111/j.1474-919X.1949.tb02293.x
- 60. T. Piersma, P. Wiersma, J. A. van Gils, The many unknowns about plovers and sandpipers of the world: Introduction to a wealth of research opportunities highly relevant for shorebird conservation. *Wader Study Gr. Bull.* **82**, 23–33 (1997).
- 61. W. D. Robinson, G. Rompré, T. R. Robinson, Videography of Panama bird nests shows snakes are principal predators. *Ornitol. Neotrop.* **16**, 187–195 (2005).

- 62. P. J. Weatherhead, G. Blouin-Demers, Understanding avian nest predation: Why ornithologists should study snakes. *J. Avian Biol.* **35**, 185–190 (2004). doi:10.1111/j.0908-8857.2004.03336.x
- 63. J. J. Roper, R. R. Goldstein, A test of the Skutch hypothesis: Does activity at nests increase nest predation risk? *J. Avian Biol.* **28**, 111–116 (1997). doi:10.2307/3677304
- 64. E. M. Griebeler, T. Caprano, K. Böhning-Gaese, Evolution of avian clutch size along latitudinal gradients: Do seasonality, nest predation or breeding season length matter? *J. Evol. Biol.* 23, 888–901 (2010). doi:10.1111/j.1420-9101.2010.01958.x Medline
- 65. J. J. Roper, K. A. Sullivan, R. E. Ricklefs, Avoid nest predation when predation rates are low, and other lessons: Testing the tropical–temperate nest predation paradigm. *Oikos* **119**, 719–729 (2010). doi:10.1111/j.1600-0706.2009.18047.x
- 66. W. Teunissen, H. Schekkerman, F. Willems, F. Majoor, Identifying predators of eggs and chicks of Lapwing *Vanellus vanellus* and Black-tailed Godwit *Limosa limosa* in the Netherlands and the importance of predation on wader reproductive output. *Ibis* **150**, 74–85 (2008). doi:10.1111/j.1474-919X.2008.00861.x
- 67. P. Lloyd, Variation in nest predation among arid-zone birds. *Ostrich* **75**, 228–235 (2004). doi:10.2989/00306520409485449
- 68. M. L. Stephens, thesis, University of Chicago, Chicago, IL (1984).
- 69. J. C. T. Menezes, M. Â. Marini, Predators of bird nests in the Neotropics: A review. *J. Field Ornithol.* **88**, 99–114 (2017). doi:10.1111/jofo.12203
- 70. L. McKinnon, D. Berteaux, J. Bêty, Predator-mediated interactions between lemmings and shorebirds: A test of the alternative prey hypothesis. *Auk* **131**, 619–628 (2014). doi:10.1642/AUK-13-154.1
- 71. D. Gallant, B. G. Slough, D. G. Reid, D. Berteaux, Arctic fox versus red fox in the warming Arctic: Four decades of den surveys in north Yukon. *Polar Biol.* **35**, 1421–1431 (2012). doi:10.1007/s00300-012-1181-8
- 72. M. J. Crawley, *The R Book* (Wiley, 2013).
- 73. S. N. Wood, Thin plate regression splines. *J. R. Stat. Soc. Series B Stat. Methodol.* **65**, 95–114 (2003). doi:10.1111/1467-9868.00374
- 74. S. N. Wood, Generalized Additive Models: An Introduction with R (Chapman & Hall, 2006).
- 75. R Development Core Team, R: A language and environment for statistical computing (2017); www.r-project.org.
- 76. H. Wickham, *ggplot2: Elegant Graphics for Data Analysis* (Springer Publishing Company, 2009).
- 77. W. Jetz, G. H. Thomas, J. B. Joy, K. Hartmann, A. O. Mooers, The global diversity of birds in space and time. *Nature* **491**, 444–448 (2012). doi:10.1038/nature11631 Medline
- 78. C. Küpper, J. Augustin, A. Kosztolányi, T. Burke, J. Figuerola, T. Székely, Kentish versus Snowy plover: Phenotypic and genetic analyses of *Charadrius alexandrinus* reveal divergence of Eurasian and American subspecies. *Auk* **126**, 839–852 (2009). doi:10.1525/auk.2009.08174

- 79. E. P. Martins, T. F. Hansen, Phylogenies and the comparative method: A general approach to incorporating phylogenetic information into the analysis of interspecific data. *Am. Nat.* **149**, 646–667 (1997). doi:10.1086/286013
- 80. T. Garland Jr., A. R. Ives, Using the past to predict the present: Confidence intervals for regression equations in phylogenetic comparative methods. *Am. Nat.* **155**, 346–364 (2000). doi:10.1086/303327 Medline
- 81. W. Jetz, R. P. Freckleton, Towards a general framework for predicting threat status of datadeficient species from phylogenetic, spatial and environmental information. *Philos. Trans. R. Soc.London B Biol. Sci.* **370**, 20140016 (2015). doi:10.1098/rstb.2014.0016 Medline
- 82. R. P. Freckleton, W. Jetz, Space versus phylogeny: disentangling phylogenetic and spatial signals in comparative data. *Proc. R. Soc. B-Biological Sci.* **276**, 21–30 (2009).
- 83. T. Therneau, The lmekin function (2018); https://cran.r-project.org/web/packages/coxme/vignettes/lmekin.pdf.
- 84. D. Bates, M. Maechler, Package "lme4". R Package Version 0.999999-0 (2012); http://www2.uaem.mx/r-mirror/web/packages/lme4/lme4.pdf.
- 85. E. C. Taylor, thesis, University of Cambridge, Cambridge, UK (2006).
- 86. M. S. Nadeem, T. Mahmood, M. Mahmood-Ul-Hassan, Breeding success of the Stone Curlew *Burhinus oedicnemus* in Nag Valley (1999–2001), Kharan, Pakistan. *Turk. J. Zool.* **38**, 510–514 (2014). doi:10.3906/zoo-1305-41
- 87. R. Dobson, Breeding data on the water thicknee in the Mpenjati Nature Reserve. *Bird Numbers* **13**, 38–39 (2004).
- 88. C. Lishman, E. Nol, Ecology and habitat selection of the Magellanic Plover (*Pluvianellus socialis*): A little-known Patagonian shorebird. *Wilson J. Ornithol.* **124**, 487–496 (2012). doi:10.1676/11-035.1
- 89. D. F. Tessler, L. S. Garding, "Black Oystercatcher Distribution and Productivity in the Beardslee Islands, Glacier Bay National Park and Preserve, Alaska" (Glacier Bay National Park and Preserve Gustavus, 2006).
- 90. J. B. Sabine, J. M. Meyers, S. H. Schweitzer, A simple, inexpensive video camera setup for the study of avian nest activity. *J. Field Ornithol.* **76**, 293–297 (2005). doi:10.1648/0273-8570-76.3.293
- 91. E. Barbieri, R. T. C. Delchiaro, Reprodução da ave piru-piru (*Haematopus palliatus*, Temminck 1820, Haematopodidae) no litoral sul do Estado de São Paulo, Brasil. *Biota Neotrop.* **9**, 285–288 (2009) [in Portuguese with English abstract]. doi:10.1590/S1676-06032009000400033
- 92. K. M. Calf, L. G. Underhill, Productivity of African Black Oystercatchers *Haematopus moquini* on Robben Island, South Africa, in the 2001–2002 breeding season. *Wader Study Gr. Bull.* **99**, 45–49 (2002).

- 93. H. A. Scott, W. R. J. Dean, L. H. Watson, Breeding success and changes in numbers of African Black Oystercatchers *Hameotopus moquini* in relation to habitat quality and protection status. *Mar. Ornithol.* **39**, 189–199 (2011).
- 94. K. F. D. Hughey, thesis, University of Canterbury, Christchurch, NZ (1985).
- 95. A. J. Beintema, G. J. D. M. Müskens, Nesting success of birds breeding in Dutch agricultural grasslands. *J. Appl. Ecol.* **24**, 743–758 (1987). doi:10.2307/2403978
- 96. A. G. Rudenko, The Oystercatcher *Haematopus ostralegus* in the Black Sea Nature Reserve. *Int. Wader Stud.* **10**, 261–263 (1998).
- 97. D. B. Jackson, R. E. Green, The importance of the introduced hedgehog (*Erinaceus europaeus*) as a predator of the eggs of waders (Charadrii) on machair in South Uist, Scotland. *Biol. Conserv.* **93**, 333–348 (2000). doi:10.1016/S0006-3207(99)00135-4
- 98. R. Ottvall, Nest survival among waders breeding on coastal meadows: The relative importance of predation and trampling damages by livestock. *Ornis Svec.* **15**, 89–96 (2005) [in Swedish with English summary].
- 99. B. Lauro, E. Nol, Patterns of habitat use for Pied and Sooty Oystercatchers nesting at the Furneaux Islands, Australia. *Condor* **97**, 920–934 (1995). doi:10.2307/1369531
- 100. B. Michaux, Breeding records for variable oystercatchers (*Haematopus unicolor*) at Long Bay Regional Park and Okura Estuary, Auckland. *Notornis* **60**, 178–179 (2013).
- 101. P. J. Moore, C. Reid, Effectiveness of management on the breeding success of Chatham Island oystercatchers (*Haematopus chathamensis*). N.Z. J. Zool. **36**, 431–446 (2009). doi:10.1080/03014223.2009.9651476
- 102. J. A. Cuervo, Hatching success in Avocet *Recurvirostra avosetta* and Black-winged Stilt *Himantopus himantopus*. *Bird Study* **52**, 166–172 (2003). doi:10.1080/00063650509461387
- 103. R. J. Pierce, Diferences in susceptibility to predation during nesting between Pied and Black Stilts (*Himantopus* ssp.). *Auk* **103**, 273–280 (1986).
- 104. G. Herring, J. T. Ackerman, J. Y. Takekawa, C. A. Eagles-Smith, J. M. Eadie, Identifying nest predators of American Avocets (*Recurvirostra americana*) and Black-necked Stilts (*Himantopus mexicanus*) in San Srancisco Bay, California. *Southwest. Nat.* **56**, 35–43 (2011). doi:10.1894/KF-14.1
- 105. C. Bain, "Breeding wader habitats in a upland area of North Wales (Hiraethog)" (Sandy, 1987).
- 106. H. Galbraith, Effect of agriculture on the breeding ecology of Lapwings *Vanellus vanellus*. *J. Appl. Ecol.* **25**, 487–503 (1988). doi:10.2307/2403839
- 107. D. Baines, The roles of predation, food and agricultural practice in determining the breeding success of the Lapwing (*Vanellus vanellus*) on upland grasslands. *J. Anim. Ecol.* **59**, 915–929 (1990). doi:10.2307/5022
- 108. Å. Berg, T. Lindberg, K. G. Källebrink, Hatching success of lapwings on farmland: Differences between habitats and colonies of different sizes. *J. Anim. Ecol.* **61**, 469–476 (1992). doi:10.2307/5337

- 109. D. Blomqvist, O. C. Johansson, Trade-offs in nest site selection in coastal populations of Lapwings *Vanellus vanellus*. *Ibis* **137**, 550–558 (1995). doi:10.1111/j.1474-919X.1995.tb03266.x
- 110. L.-Å. Flodin, H. Hirsimäki, L.-G. Norén, Associative breeding of waders on shore meadows in southwestern Sweden: Predator protection or habitat selection? *Ornis Svec.* **5**, 23–30 (1995) [in Swedish with English summary].
- 111. J. D. Hart, T. P. Milsom, A. Baxter, P. F. Kelly, W. K. Parkin, The impact of livestock on Lapwing *Vanellus vanellus* breeding densities and performance on coastal grazing marsh. *Bird Study* **49**, 67–78 (2002). doi:10.1080/00063650209461246
- 112. L. Schröpfer, Choice of breeding habitat, hatching success and local population density of Northern Lapwing (*Vanellus vanellus*) in South-west Bohemia in 1992-2001. *Erica* **10**, 127–138 (2002) [in Czech with German summary].
- 113. M. Šálek, P. Šmilauer, Predation on Northern Lapwing *Vanellus vanellus* nests: The effect of population density and spatial distribution of nests. *Ardea* **90**, 51–60 (2002).
- 114. H. Köster, H. A. Bruns, Haben Wiesenwögel in binnenländischen Schutzgebieten ein "Fuchsproblem"?. *Berichte zum vogelschutz* **40**, 57–74 (2003) [in German].
- 115. S. Junker, H. Düttmann, R. Ehrnsberger, Schlupferfolg und kükenmortalität beim Kiebitz (*Vanellus vanellus*) auf unterschiedlich gemanagten Grünlandflächen in der Stollhammer Wisch (Landkreis Wesermarsch, Niedersachsen). *Osnabrücker Naturwissenschaftliche Mitteilungen* 32, 111–122 (2006) [in German with English summary].
- 116. F. E. Sharpe, thesis, University of Bath, Bath, UK (2006).
- 117. S. Kragten, G. R. De Snoo, Nest success of Lapwings *Vanellus vanellus* on organic and conventional arable farms in the Netherlands. *Ibis* **149**, 742–749 (2007). doi:10.1111/j.1474-919X.2007.00702.x
- 118. A. Puchta, J. Ulmer, B. Schönenberger, A. Burtscher, Situation of Northern Lapwing *Vanellus vanellus* in the Austrian Rhine Valley. *Ornithol. Beobachter* **106**, 275–296 (2009) [in German with English summary].
- 119. V. Zámečník, V. Kubelka, M. Šálek, Visible marking of wader nests to avoid damage by farmers does not increase nest predation. *Bird Conserv. Int.* **28**, 293–301 (2018). doi:10.1017/S0959270916000617
- 120. E. Makrigianni, S. Sgardelis, K. Poirazidis, A. Athanasiadis, Breeding biology and nesting site selection by the spur-winged plover *Hoplopterus spinosus* in the Evros Delta, NE Greece. *J. Nat. Hist.* **42**, 333–344 (2008). doi:10.1080/00222930701835225
- 121. B. Ade, Some observations on the breeding of Crowned Plowers (1977). *Bokmakierie* **31**, 9–16 (1979).
- 122. M. Takahashi, K. Ohkawara, Breeding behavior and reproductive success of Grey-headed Lapwing *Vanellus cinereus* on farmland in central Japan. *Ornitholog. Sci.* **6**, 1–9 (2007). doi:10.2326/1347-0558(2007)6[1:BBARSO]2.0.CO;2
- 123. M. L. Barlow, P. M. Muller, R. R. Sutton, Breeding data on the Spur-winged Plover in Southland, New Zealand. *Notornis* **19**, 212–249 (1972).

- 124. M. A. Giese, D. N. Jones, Timing and success of breeding in subtropical Masked Lapwings. *Corella* **20**, 69–74 (1996).
- 125. A. P. A. Cardilini, M. A. Weston, D. G. Nimmo, P. Dann, C. D. H. Sherman, Surviving in sprawling suburbs: Suburban environments represent high quality breeding habitat for a widespread shorebird. *Landsc. Urban Plan.* **115**, 72–80 (2013). doi:10.1016/j.landurbplan.2013.04.001
- 126. M. Watson, J. M. Wilson, M. Koshkin, B. Sherbakov, F. Karpov, A. Gavrilov, H. Schielzeth, M. Brombacher, N. J. Collar, W. Cresswell, Nest survival and productivity of the critically endangered Sociable Lapwing *Vanellus gregarius*. *Ibis* **148**, 489–502 (2006). doi:10.1111/j.1474-919X.2006.00555.x
- 127. R. D. Sheldon, J. Kamp, M. A. Koshkin, R. S. Urazaliev, T. K. Iskakov, R. H. Field, A. R. Salemgareev, V. V. Khrokov, V. A. Zhuly, S. L. Sklyarenko, P. F. Donald, Breeding ecology of the globally threatened Sociable Lapwing *Vanellus gregarius* and the demographic drivers of recent declines. *J. Ornithol.* **154**, 501–516 (2013). doi:10.1007/s10336-012-0921-4
- 128. R. A. S. Cerboncini, T. V. Braga, J. J. Roper, F. C. Passos, How to capture breeding Southern Lapwing *Vanellus chilensis*. *Rev. Bras. Ornitol.* **23**, 1–4 (2015).
- 129. E. S. A. Santos, R. H. Macedo, Helpers increase daily survival rate of Southern Lapwing (*Vanellus chilensis*) nests during the incubation stage. *bioRxiv* (2017). 10.1101/179606
- 130. I. Byrkjedal, Antipredator behaviour and breeding success in Greater Golden-Plover and Eurasian Dotterel. *Condor* **89**, 40–47 (1987). doi:10.2307/1368758
- 131. H. Schekkerman, I. Tulp, K. M. Calf, J. J. de Leeuw, "Studies on breeding shorebirds at Medusa Bay, Taimyr, in summer 2002" (Wageningen, 2004).
- 132. Arctic Shorebird Demographics Network, Arctic Shorebird Demographics Network Data Archive, (2016); www.aoncadis.org/dataset/ASDN.html.
- 133. A. Kondratyev, *Biologija Kulikov v Tundrach Severo-Vostoka Azii* [in Russian] (Nauka, 1982).
- 134. P. S. Tomkovich, A. G. Dondua, On peculiarities of the Grey Plover (*Pluvialis squatarola*) population on Wrangle Island, the Arctic Far East of Russia. *Ornitologia* **36**, 103–113 (2011) [in Russian with English summary].
- 135. D. E. Wills, J. Murray, R. G. Powlesland, Impact of management on the breeding success of the northern New Zealand dotterel (*Charadrius obscurus aquilonius*) on Matakana Island, Bay of Plenty. *Notornis* **50**, 1–10 (2003).
- 136. M. W. Pienkowski, Breeding biology and population dynamics of Ringed plovers *Charadrius hiaticula* in Britain and Greenland: Nest-predation as a possible factor limiting distribution and timing of breeding. *J. Zool.* **202**, 83–114 (1984). doi:10.1111/j.1469-7998.1984.tb04289.x
- 137. J. R. Jehl Jr., Patterns of hatching success in subarctic birds. *Ecology* **52**, 169–173 (1971). doi:10.2307/1934750

- 138. E. H. Cooper, J. M. & Miller, in *The Ecology, Status and Conservation of Marine and Shoreline Birds of the Queen Charlotte Islands*, K. Vermeer, K. H. Morgan, Eds. (Canadian Wildlife Service, 1997), pp. 123–129.
- 139. N. Katayama, T. Amano, S. Ohori, The effects of gravel bar construction on breeding Long-billed Plovers. *Waterbirds* **33**, 162–168 (2010). doi:10.1675/063.033.0204
- 140. L. Dolanský, P. Žďárek, Breeding of the Common Sandpiper (*Actitis hypoleucos*) and the Little Ringed Plover (*Charadrius dubius*) on the Orlice river near Hradec Králové. *Panurus* 11, 107–114 (2001) [in Czech with English summary].
- 141. E. Cepáková, M. Šálek, J. Cepák, T. Albrecht, Breeding of Little Ringed Plovers *Charadrius dubius* in farmland: Do nests in fields suffer from predation? *Bird Study* **54**, 284–288 (2007). doi:10.1080/00063650709461487
- 142. P. W. Bergstrom, thesis, University of Chicago, Chicago, ILL, (1982).
- 143. A. C. Brown, K. Brindock, Breeding success and nest site selection by a Caribbean population of Wilson's Plovers. *Wilson J. Ornithol.* **123**, 814–819 (2011). doi:10.1676/10-195.1
- 144. K. F. Kantrud, H. & Higgins, Nest and nest site characteristics of some ground-nesting, non-passerine birds of northern grasslands. *Prairie Nat.* **24**, 67–84 (1992).
- 145. D. H. Catlin, J. D. Fraser, J. H. Felio, J. B. Cohen, Piping Plover habitat selection and nest success on natural, managed, and engineered sandbars. *J. Wildl. Manage.* **75**, 305–310 (2011). doi:10.1002/jwmg.46
- 146. I. M. G. Richardson, thesis, University of Alberta, Edmonton, CAN (1999).
- 147. C. L. White, thesis, University of Regina, Regina, CAN (2005).
- 148. S. Zefania, R. Ffrench-Constant, P. R. Long, T. Székely, Breeding distribution and ecology of the threatened Madagascar Plover *Charadrius thoracicus*. *Ostrich* **79**, 43–51 (2008). doi:10.2989/OSTRICH.2008.79.1.5.362
- 149. F. Burns, N. McCulloch, T. Székely, M. Bolton, The impact of introduced predators on an island endemic, the St Helena Plover, *Charadrius sanctaehelenae*. *Bird Conserv. Int.* **23**, 125–135 (2013). doi:10.1017/S0959270913000245
- 150. T. Székely, I. Karsai, T. D. Williams, Determination of clutch-size in the Kentish Plover *Charadrius alexandrinus. Ibis* **136**, 341–348 (1994). doi:10.1111/j.1474-919X.1994.tb01105.x
- 151. L. Pietrelli, A. Tinelli, A. Cannavicci, M. Biondi, Breeding of some Charadriidae at Castelporziano and wire mesh predators enclosures management. *Uccelli d'Italia* **26**, 53–58 (2001) [in Italian with English summary].
- 152. A. Kosztolányi, S. Javed, C. Küpper, I. C. Cuthill, A. Al Shamsi, T. Székely, Breeding ecology of Kentish Plover *Charadrius alexandrinus* in an extremely hot environment. *Bird Study* **56**, 244–252 (2009). doi:10.1080/00063650902792106
- 153. M. AlRashidi, A. Kosztolányi, M. Shobrak, T. Székely, Breeding ecology of the Kentish Plover, *Charadrius alexandrinus*, in the Farasan Islands, Saudi Arabia. *Zool. Middle East* **53**, 15–24 (2011). doi:10.1080/09397140.2011.10648858

- 154. K. Carmona-Isunza, M. C. Küpper, T. Serrano-Meneses, M. A. Székely, Courtship behavior differs between monogamous and polygamous plovers. *Behav. Ecol. Sociobiol.* **69**, 2035–2042 (2015). doi:10.1007/s00265-015-2014-x
- 155. M. AlRashidi, Breeding biology of the Kentish Plover *Charadrius alexandrinus* in the Sabkhat Al-Fasl Lagoons, Saudi Arabia (Aves: Charadriiformes). *Zool. Middle East* **62**, 105–111 (2016). doi:10.1080/09397140.2016.1182771
- 156. P. W. C. Paton, "Breeding ecology of snowy plovers at Great Salt Lake" thesis, Utah State University, Logan, UT (1994).
- 157. J. R. Rupert, "The brood-rearing habitat, brood home range, and fecundity of the Snowy Plover (*Charadrius alexandrinus*) in coastal Southern Texas" thesis, The University of Texas-Pan American, Edinburg, TX (1997).
- 158. K. K. Neuman, thesis, San Jose State University, San Jose, CA (2003).
- 159. S. A. Demers, C. W. Robinson-Nilsen, Monitoring Western Snowy Plover nests with remote surveillance systems in San Francisco Bay, California. *J. Fish Wildl. Manag.* **3**, 123–132 (2012). doi:10.3996/062011-JFWM-036
- 160. L. X. L. Tan, K. L. Buchanan, G. S. Maguire, M. A. Weston, Cover, not caging, influences chronic physiological stress in a ground-nesting bird. *J. Avian Biol.* **46**, 482–488 (2015). doi:10.1111/jav.00625
- 161. M. Yasué, M. Patterson, P. Dearden, Are saltfats suitable supplementary nesting habitats for Malaysian Plovers *Charadrius peronii* threatened by beach habitat loss in Thailand? *Bird Conserv. Int.* 17, 211–223 (2007). doi:10.1017/S0959270907000780
- 162. J. R. Keedwell, M. D. Sanders, Nest monitoring and predator visitation at nests of Banded Dotterels. *Condor* **104**, 899–902 (2002). doi:10.1650/0010-5422(2002)104[0899:NMAPVA]2.0.CO;2
- 163. B. Dowling, M. A. Weston, Managing a breeding population of the Hooded Plover *Thinornis rubricollis* in a high-use recreational environment. *Bird Conserv. Int.* **9**, 255–270 (1999). doi:10.1017/S0959270900003440
- 164. B. Baird, P. Dann, The breeding biology of hooded plovers, *Thinornis rubricollis*, on Phillip Island, Victoria. *Emu* **103**, 323–328 (2003). doi:10.1071/MU02031
- 165. A. Davis, Breeding biology of the New Zealand Shore Plover *Thinornis novaeseelandiae*. *Notornis* **41**, 195–208 (1994).
- 166. Y.-H. Hsu, L. L. Severinghaus, Nest-site selection of the Greater Painted Snipe (*Rostratula benghalensis*) in fallow fields of I-Lan, Taiwan. *Taiwania* **56**, 195–200 (2011).
- 167. W. R. Tarboton, Aspects of breeding biology of the African Jacana. *Ostrich* **63**, 141–157 (1992).
- 168. S. H. M. Butchart, Population structure and breeding system of the sex-role reversed, polyandrous Bronze-winged Jacana *Metopidius indicus*. *Ibis* **142**, 93–102 (2000).
- 169. D. R. Osborne, Replacement nesting and polyandry in the Wattled Jacana. *Wilson Bull.* **94**, 206–208 (1982).

- 170. A. N. Hoodless, J. C. Coulson, Breeding biology of the Woodcock *Scolopax rusticola* in Britain. *Bird Study* **45**, 195–204 (1998). doi:10.1080/00063659809461091
- 171. H. E. Miller, M. J. Jordan, Relationship between exotic invasive shrubs and America Woodcock (*Scolopax minor*) nest success and habitat selection. *J. Pa. Acad. Sci.* **85**, 132–139 (2011).
- 172. C. M. Miskelly, Breeding systems of New Zealand Snipe *Coenocorypha aucklandic*a and Chatham Island Snipe *C. pusilla*; are they food limited? *Ibis* **132**, 366–379 (1990). doi:10.1111/j.1474-919X.1990.tb01056.x
- 173. E. Mongin, Snipes *Gallinago gallinago*, *Gallinago media* and *Lymnocryptes minimus* in Belarus, in *Snipes of the Eastern Baltic Region and Belarus*, S. Svazas, E. Mongin, G. Grishanov, A. Kuresoo, W. Meissner, Eds. (OMPO, 2002), pp. 15–35.
- 174. J. N. Yarovikova, Breeding biology of the Common Snipe in Kaliningrad region. *Berkut* **12**, 93–99 (2003) [in Russian with English summary].
- 175. N. M. Groen, L. Hemerik, Reproductive success and survival of Black-tailed Godwits *Limosa limosa* in a declining local population in The Netherlands. *Ardea* **90**, 239–248 (2002).
- 176. N. Groen, R. Mes, I. Fefelov, I. Tupitsyn, Eastern Black-tailed Godwits *Limosa limosa melanuroides* in the Selenga Delta, Lake Baikal, Siberia. *Wader Study Gr. Bull.* **110**, 48–53 (2006).
- 177. T. Larsen, J. Moldsvor, Antipredator behaviour and breeding assotiations of Bar-tailed Godwits and Whimbrels. *Auk* **109**, 601–608 (1992).
- 178. M. A. Skeel, Nesting success, density, philopatry, and nest-site selection of the Whimbrel (*Numenius phaeopus*) in different habitats. *Can. J. Zool.* **61**, 218–225 (1983). doi:10.1139/z83-027
- 179. E. Pulliainen, L. Saari, Breeding biology of the Whimbrel *Numenius phaeopus* in eastern Finnish Lapland. *Ornis Fenn.* **70**, 110–116 (1993).
- 180. B. Katrínardóttir, J. A. Alves, H. Sigurjónsdóttir, P. Hersteinsson, T. G. Gunnarsson, The effects of habitat type and volcanic eruptions on the breeding demography of Icelandic Whimbrels *Numenius phaeopus*. *PLOS ONE* **10**, e0131395 (2015). doi:10.1371/journal.pone.0131395 Medline
- 181. Å. Berg, Factors affecting nest-site choice and reproductive success of Curlews *Numenius arquata* on farmland. *Ibis* **134**, 44–51 (1992). doi:10.1111/j.1474-919X.1992.tb07228.x
- 182. M. C. Grant, C. Orsman, J. Easton, C. Lodge, M. Smith, G. Thompson, S. Rodwell, N. Moore, Breeding success and causes of breeding failure of curlew *Numenius arquata* in Northern Ireland. *J. Appl. Ecol.* **36**, 59–74 (1999). doi:10.1046/j.1365-2664.1999.00379.x
- 183. J. Valkama, D. Currie, E. Korpimäki, Differences in the intensity of nest predation in the curlew *Numenius arquata*: A consequence of land use and predator densities? *Ecoscience* **6**, 497–504 (1999). doi:10.1080/11956860.1999.11682552

- 184. A. I. Antonov, Nesting ecology of the Eastern Curlew, *Numenius madagascariensis* (Linnaeus, 1766) in the South of the species range. *Russ. J. Ecol.* **41**, 345–346 (2010). doi:10.1134/S1067413610040119
- 185. R. L. Redmond, D. A. Jenni, Population ecology of Long-billed Curlew (*Numenius americanus*) in Western Idaho. *Auk* **103**, 755–767 (1986).
- 186. A. G. Larionov, On biology of some species of shorebirds (*Tringa glareola, T. stagnatilis, Xenus cinereus*) of the Lena-Amga River junction. *Rus. Ornithol. Z.* **24**, 3253–3260 (2015) [in Russian].
- 187. N. Christian, M. H. Hancock, A 25-year study of breeding Greenshanks territory occupancy, breeding success and the effects of new woodland. *Br. Birds* **102**, 203–210 (2009).
- 188. E. Pulliainen, L. Saari, Breeding biology of the Wood Sandpiper *Tringa glareola* in eastern Finnish Lapland. *Ornis Fenn.* **68**, 127–128 (1991).
- 189. E. I. Cuthbertson, G. T. Foggitt, M. A. Bell, A census od common sandpipers in the Sedbergh area, 1951. *Br. Birds* **45**, 171–175 (1952).
- 190. P. K. Holland, J. E. Robson, D. W. Yalden, The breeding biology of the Common Sandpiper *Actitis hypoleucos* in the Peak District. *Bird Study* **29**, 99–110 (1982). doi:10.1080/00063658209476744
- 191. R. Cialdini, G. Orians, Nesting studies of the spotted sandpiper. *Passeng. Pigeon* **6**, 79–81 (1944).
- 192. J. Robert, J. T. Miller, Nesting of the Spotted Sandpiper at Detroit, Michigan. *Auk* **65**, 558–567 (1948). doi:10.2307/4080606
- 193. H. Hays, Polyandry in the spotted sandpiper. Living Bird 11, 43–57 (1972).
- 194. L. W. Oring, M. L. Knudson, Monogamy and polyandry in the spotted sandpiper. *Living Bird* 11, 59–73 (1972).
- 195. J. A. R. Alberico, J. M. Reed, L. W. Oring, Nesting near the common tern colony increases and decreases spotted sandpiper nest predation. *Auk* **108**, 904–910 (1991).
- 196. D. E. Perkins, P. A. Smith, G. H. Gilchrist, The breeding ecology of ruddy turnstones (*Arenaria interpres*) in the eastern Canadian Arctic. *Polar Rec. (Gr. Brit.)* **43**, 135–142 (2007). doi:10.1017/S0032247407006092
- 197. P. S. Tomkovich, Breeding biology of the Great Knot, Calidris tenuirostris. *Bulleteň Mosk. obščestva Ispit. Prir. otděl Biol.* **106**, 13–22 (2001) [in Russian with English summary].
- 198. D. F. Parmelee, Breeding behaviour of the Sanderling in the Canadian High Arctic. *Living Bird* **1970**, 97–146 (1970).
- 199. J. Hansen, L. H. Hansen, N. M. Schmidt, Bird monitoring at Zackenberg, Northeast Greenland, 2007. *Bird Popul.* **10**, 56–67 (2010).
- 200. C. L. Gratto, F. Cooke, R. I. G. Morrison, Nesting success of yearling and older breeders in the Semipalmated Sandpiper, *Calidris pusilla. Can. J. Zool.* **61**, 1133–1137 (1983). doi:10.1139/z83-149

- 201. B. K. Sandercock, Incubation capacity and clutch size determination in two calidrine sandpipers: A test of the four-egg threshold. *Oecologia* **110**, 50–59 (1997). doi:10.1007/s004420050132 Medline
- 202. R. T. Holmes, Ecological factors influencing the breeding season schedule of Western Sandpipers (*Calidris mauri*) in Subarctic Alaska. *Am. Midl. Nat.* **87**, 472–491 (1972). doi:10.2307/2423577
- 203. V. V. Morozov, P. S. Tomkovich, "Breeding biology of Red-necked Stint (*Calidris ruficollis*) on eastern Chukotski Peninsula. [in Russian with English summary]" in *Ptitsy osvaivajemych tetritorij, Sbornik trudov Zoologičeskogo muzeja MGU*, O. I. Rossolimo, Ed. (1988), pp. 184–206.
- 204. A. Rönkä, K. Koivula, M. Ojanen, K. Pakanen, M. Pohjoismäki, K. Rannikko, P. Rauhala, Increased nest predation in a declining and threatened Temminck's Stint *Calidris temminckii* population. *Ibis* **148**, 55–65 (2006). doi:10.1111/j.1474-919X.2006.00481.x
- 205. R. L. Thomson, V.-M. Pakanen, D. M. Tracy, L. Kvist, D. B. Lank, A. Rönkä, K. Koivula, Providing parental care entails variable mating opportunity costs for male Temminck's stints. *Behav. Ecol. Sociobiol.* **68**, 1261–1272 (2014). doi:10.1007/s00265-014-1737-4
- 206. L. McKinnon, J. Bêty, Effect of camera monitoring on survival rates of High-Arctis shorebird nests. *J. Field Ornithol.* **80**, 280–288 (2009). doi:10.1111/j.1557-9263.2009.00231.x
- 207. M. L. Reid, R. D. Montgomerie, Seasonal patterns of nest defence by Baird's sandpipers. *Can. J. Zool.* **63**, 2207–2211 (1985). doi:10.1139/z85-325
- 208. M. Soloviev, V. Golovnyuk, A. Popovkina, "Breeding conditions and numbers of birds on Taimyr, 2009: Report of the Wader Monitoring Project on Taimyr" (2010).
- 209. H. Schekkerman, L. G. Van Roomen, M. W. J. Underhill, Growth, behaviour of broods and weather-related variation in breeding productivity of Curlew Sandpipers *Calidris ferruginea*. *Ardea* **86**, 153–168 (1998).
- 210. E. P. Pierce, L. W. Oring, E. Røskaft, J. T. Lifjeld, Why don't female purple sandpipers perform brood care? A removal experiment. *Behav. Ecol.* **21**, 275–283 (2010). doi:10.1093/beheco/arp187
- 211. P. E. Jönsson, Reproduction and survival in a declining population of the Southern Dunlin *Calidris alpina schinzii. Wader Study Gr. Bull.* **60**, 56–68 (1991).
- 212. C. M. Kagarise, Breeding biology of the Wilson's Phalarope in North Dakota. *Bird Band*. **50**, 12–22 (1979). doi:10.2307/4512403
- 213. B. Walpole, E. Nol, V. Johnston, Breeding habitat preference and nest success of Rednecked Phalaropes on Niglintgak Island, Northwest Territories. *Can. J. Zool.* **86**, 1346–1357 (2008). doi:10.1139/Z08-119
- 214. A. T. Gonçalves, thesis, University of Bath, 2014).
- 215. K. Seymour, P. Harding, C. Carmona-Isunza, T. Székely, "Breeding ecology of the endemic subspecies of cream-coloured courser, *Cursorius cursor exsul*, in Maio, Cape Verde" (University of Bath, 2015).

- 216. S. Hanane, J. Boukhriss, S. Selmi, Breeding ecology of Collared Pratincoles *Glareola* pratincola in two coastal habitats in northwest Morocco. *Bird Study* **57**, 236–243 (2010). doi:10.1080/00063651003610569
- 217. A. Brosset, Le cycle de reproduction de la Glareole *Glareola nuchalis*; ses determinants ecologiques et comportementaux [in French with English summary]. *Rev. D Ecol. Terre Vie* **33**, 95–108 (1979).
- 218. G. D. Williams, M. P. Coppinger, G. L. Maclean, Distribution and breeding of the Rock Pranticole on the Upper and Middle Zambezi river. *Ostrich* **60**, 55–64 (1989). doi:10.1080/00306525.1989.9634510