**African horse sickness resources**

**Major Resources**

* Wirth, W & Hubert, A. The *Culicoides* of South-East Asia. Memoirs of the American Entomological Institute Number 44. 514 pages. Available to download at <https://apps.dtic.mil/docs/citations/ADA262514>
* Mellor et al. African horse sickness. Archives of Virology: 14. 1998. 344 Pages.

<https://www.springer.com/gp/book/9783211831335>

* St. George, T.D. and Peng Kegao (ed.) 1996. Bluetongue disease in Southeast Asia and the Pacific. Proceedings of the First Southeast Asia and Pacific Regional Bluetongue Symposium, Greenlake Hotel, Kunming, P.R. China, 22-24 August 1995. ACIAR Proceedings No. 66, 272p.

**Reviews**

* Carpenter, S., et al., African Horse Sickness Virus: History, Transmission, and Current Status, in Annual Review of Entomology, Vol 62, M.R. Berenbaum, Editor. 2017. p. 343-358.
* Purse, B.V., et al., Bionomics of Temperate and Tropical *Culicoides* Midges: Knowledge Gaps and Consequences for Transmission of *Culicoides*-Borne Viruses, in Annual Review of Entomology, Vol 60, M.R. Berenbaum, Editor. 2015. p. 373.
* Zientara, S., C.T. Weyer, and S. Lecollinet, African horse sickness. Revue Scientifique Et Technique-Office International Des Epizooties, 2015. **34**(2): p. 315-327.
* Robin, M., et al., African horse sickness: The potential for an outbreak in disease-free regions and current disease control and elimination techniques. Equine Veterinary Journal, 2016. **48**(5): p. 659-669.
* Sergeant, E.S., et al., Quantitative Risk Assessment for African Horse Sickness in Live Horses Exported from South Africa. Plos One, 2016. **11**(3).
* Meiswinkel, R., Venter, G.J. & Nevill, E.M. (2004). Vectors: *Culicoides* spp. J.A.W. Coetzer, R.C. Tustin (Eds.), Infectious Diseases of Livestock, Oxford University Press, Cape Town, pp. 93–136.

**Vector competence of *Culicoides***

* Carpenter, S., et al., Vector competence of *Culicoides* for arboviruses: three major periods of research, their influence on current studies and future directions. Revue Scientifique Et Technique-Office International Des Epizooties, 2015. **34**(1): p. 97-112.
* Venter, G.J., et al., The oral susceptibility of South African field populations of *Culicoides* to African horse sickness virus. Medical and Veterinary Entomology, 2009. **23**(4): p. 367-378.

**Dispersal of *Culicoides***

* Sanders, C.J., et al., Quantification of within- and between-farm dispersal of *Culicoides* biting midges using an immunomarking technique. Journal of Applied Ecology, 2017. **54**(5): p. 1429-1439.
* Burgin, L.E., et al., Investigating Incursions of Bluetongue Virus Using a Model of Long-Distance *Culicoides* Biting Midge Dispersal. Transboundary and Emerging Diseases, 2013. **60**(3): p. 263-272.
* Eagles, D., Deveson, T., Walker, P.J., Zalucki, M.P., Durr, P., (2012). Evaluation of long-distance dispersal of *Culicoides* midges into northern Australia using a migration model. Medical and Veterinary Entomology, 26, 334–340.
* Bishop AL, Kirkland PD, McKenzie HJ & Barchia IM. 1996. The dispersal of *Culicoides* *brevitarsis* in eastern New South Wales and associations with the occurrence of arbovirus infections in cattle. Australian Veterinary Journal **73**, 174–178.
* Eagles, D, Melville L, Weir R, Davis S, Bellis G, Zalucki MP, Walker PJ and Durr PA, 2014. Long-distance aerial dispersal modelling of *Culicoides* biting midges: case studies of incursions into Australia. BMC Veterinary Research, 10:135.
* Murray MD (1987) Local dispersal of the biting‑midge *Culicoides brevitarsis* Kieffer (Diptera: Ceratopogonidae) in South‑Eastern Australia. Australian Journal of Zoology. **35**:559‑573.

**Ecology of *Culicoides***

* Diarra, M., et al., Seasonal dynamics of *Culicoides* (Diptera: Ceratopogonidae) biting midges, potential vectors of African horse sickness and bluetongue viruses in the Niayes area of Senegal. Parasites & Vectors, 2014. **7**.
* Fall, M., et al., *Culicoides* (Diptera: Ceratopogonidae) midges, the vectors of African horse sickness virus - a host/vector contact study in the Niayes area of Senegal. Parasites & Vectors, 2015. **8**.
* Fall, M., et al., Host preferences and circadian rhythm of *Culicoides* (Diptera: Ceratopogonidae), vectors of African horse sickness and bluetongue viruses in Senegal. Acta Tropica, 2015. **149**: p. 239-245.
* Riddin, M.A., et al., Bloodmeal analysis in *Culicoides* midges collected near horses, donkeys and zebras in the Eastern Cape, South Africa. Medical and Veterinary Entomology, 2019. **33**(4): p. 467-475.
* Viennet, E., et al., Host preferences of Palaearctic *Culicoides* biting midges: implications for transmission of orbiviruses. Medical and Veterinary Entomology, 2013. **27**(3): p. 255-266.
* Viennet, E., et al., Assessment of vector/host contact: comparison of animal-baited traps and UV-light/suction trap for collecting *Culicoides* biting midges (Diptera: Ceratopogonidae), vectors of Orbiviruses. Parasites & Vectors, 2011. **4**.
* Viennet, E., et al., Host-Seeking Activity of Bluetongue Virus Vectors: Endo/Exophagy and Circadian Rhythm of *Culicoides* in Western Europe. Plos One, 2012. **7**(10).
* Bellis, G.A., Melville, L.F., Hunt, N.T. & Hearnden, M.N. (2004). Temporal activity of biting midges (Diptera: Ceratopogonidae) on cattle near Darwin, Northern Territory Australia. Veterinaria Italiana, 40(3):324-328.
* Braverman et al 2008, Nocturnal activity of *Culicoides* imicola Kieffer (Diptera: Ceratopogonidae). Russian Entomological Journal 17{1): 37-39

**Midge abundance in southern Asia and Australasia**

* Archana M, D'Souza PE, Renuka Prasad C and Byregowda SM (2014) Seasonal prevalence of different species of *Culicoides* in Bangalore rural and urban districts of South India, Veterinary World 7(7): 517-521.
* Sukarsih, Daniels, P.W., Sendow, I. & Soleha, E. (1993). Longitudinal studies of *Culicoides* associated with livestock in Indonesia. pp. 203–208 in Uren, M.F. & Kay, B.H. (eds) Arbovirus Research in Australia Proceedings of the 6th Symposium. Brisbane,Queensland
* Thepparat, A., Tsuruishi, T. & Ketavan, C. (2012) Species Diversity and Abundance of *Culicoides* spp. in Sakaew Province. Ramkhamhaeng University Journal of Research, 15 (2), 65–80. [in Thai]
* Harsha, R.H., Mazumdar, A., 2014. Prevalence and age grading of *Culicoides* spp.(Diptera: ceratopogonidae), potent vectors of bluetongue disease of farm animals in Bikaner, Rajasthan. Proceedings of the. Zoological Society of Kolkata. 68 (2), 212–216.
* Liu Y-Q et al 2018. Molecular differentiation and species composition of genus *Culicoides* biting midges (Diptera: Ceratopogonidae) in different habitats in southern China. Veterinary Parasitology 254: 49-57.
* Standfast, H.A., Dyce, A.L. & Muller, M.J. (1985). Vectors of bluetongue virus in Australia. In: T.L. Barber, M.M. Jochim and B.1. Osburn ( Editors), Bluetongue and Related Orbiviruses. Proceedings of the International Symposium, Monterey, California, January 1984. Alan R. Liss. N.Y. Progress in Clinical Biological Research. 178. pp. 177-186.
* Buckley JJ (1938) On *Culicoides* as a vector of *Onchocerca gibsoni* (Cleland & Johnson, 1910). Journal of Helminthology. **16**:121‑158.

**Control of *Culicoides***

* Harrup, L.E., M.A. Miranda, and S. Carpenter, Advances in control techniques for *Culicoides* and future prospects. Veterinaria Italiana, 2016. **52**(3-4): p. 247-264.
* Dominguez, M., et al., 'High-health, high-performance' horses: risk mitigation strategies for OIE-listed diseases. Revue Scientifique Et Technique-Office International Des Epizooties, 2015. **34**(3): p. 837-848.

Insecticides

* Venail, R., et al., How do species, population and active ingredient influence insecticide susceptibility in *Culicoides* biting midges (Diptera: Ceratopogonidae) of veterinary importance? Parasites & Vectors, 2015. **8**.
* Venail, R., et al., Laboratory and Field-Based Tests of Deltamethrin Insecticides Against Adult *Culicoides* Biting Midges. Journal of Medical Entomology, 2011. **48**(2): p. 351-357.
* De Keyser, R., et al., Insecticidal effects of deltamethrin in laboratory and field populations of *Culicoides* species: how effective are host-contact reduction methods in India. Parasites & Vectors, 2017. **10**.
* Doherty, W.M., Bishop, A.L., Melville, L.F., Johnson, S.J., Bellis, G.A. & Hunt N.T. (2004). Protection of cattle from *Culicoides* spp. in Australia by shelter and chemical treatments. Veterinaria Italiana, 40(3):320-323.
* Standfast et al 1984 Mortality of *Culicoides* brevitarsis fed on cattle treated with ivermectin. Journal of Economic Entomology, 77:419-421

Stabling

* Baker, T., et al., Can insecticide-treated netting provide protection for Equids from *Culicoides* biting midges in the United Kingdom? Parasites & Vectors, 2015. **8**.
* Lincoln, V.J., et al., Protection of horses against *Culicoides* biting midges in different housing systems in Switzerland. Veterinary Parasitology, 2015. **210**(3-4): p. 206-214.
* Meiswinkel, R., M. Baylis, and K. Labuschagne, Stabling and the protection of horses from *Culicoides* bolitinos (Diptera : Ceratopogonidae), a recently identified vector of African horse sickness. Bulletin of Entomological Research, 2000. **90**(6): p. 509-515.
* Page, P., et al., The effect of alphacypermethrin-treated mesh protection against African horse sickness virus vectors on jet stall microclimate, clinical variables and faecal glucocorticoid metabolites of horses. Bmc Veterinary Research, 2017. **13**.
* Page, P.C., et al., Efficacy of alphacypermethrin-treated high density polyethylene mesh applied to jet stalls housing horses against *Culicoides* biting midges in South Africa. Veterinary Parasitology, 2015. **210**(1-2): p. 84-90.
* Calvete, C., Estrada, R., Miranda, M.A. et al. (2009) Entry of bluetongue vector *Culicoides* imicola into livestock premises in Spain. Medical and Veterinary Entomology, **23**, 202–208

Repellents

* Braverman, Y. and Chizov‐Ginzburg, A., 1997. Repellency of synthetic and plant‐derived preparations for *Culicoides* imicola. Medical and Veterinary Entomology, 11(4), pp.355-360.
* González, M., Venter, G.J., López, S., Iturrondobeitia, J.C. and Goldarazena, A., 2014. Laboratory and field evaluations of chemical and plant‐derived potential repellents against *Culicoides* biting midges in northern Spain. Medical and veterinary entomology, 28(4), pp.421-431.
* Herholz, C., Kopp, C., Wenger, M., Mathis, A., Wägeli, S. and Roth, N., 2016. Efficacy of the repellent N, N-diethyl-3-methyl-benzamide (DEET) against tabanid flies on horses evaluated in a field test in Switzerland. Veterinary parasitology, 221, pp.64-67.
* Page, P.C., Labuschagne, K., Nurton, J.P., Venter, G.J. and Guthrie, A.J., 2009. Duration of repellency of N, N-diethyl-3-methylbenzamide, citronella oil and cypermethrin against *Culicoides* species when applied to polyester mesh. Veterinary parasitology, 163(1-2), pp.105-109.
* Venter, G.J., Labuschagne, K., Boikanyo, S.N. and Morey, L., 2014. Assessment of the repellent effect of citronella and lemon eucalyptus oil against South African *Culicoides* species. Journal of the South African Veterinary Association, 85(1), pp.01-05.

Larval habitat removal

* Harrup, L.E., et al., Does covering of farm-associated *Culicoides* larval habitat reduce adult populations in the United Kingdom? Veterinary Parasitology, 2014. **201**(1-2): p. 137-145.

**Collection of *Culicoides***

* Brown, B.V. (2012). A Simple Light Trap for Collecting Small Insects. Entomological News, 122(2):188-191.
* Dyce AL, Standfast HA and Kay BH (1972) Collection and preparation of biting midges (fam. Ceratopogonidae) and other small diptera for virus isolation. Journal of the Australian Entomological Society. **11**:91‑96.
* Scheffer, E.G., Venter, G.J., Labuschagne, K., Page, P.C., Mullens, B.A., MacLachlan, N.J., Osterrieder, N. and Guthrie, A.J., 2012. Comparison of two trapping methods for *Culicoides* biting midges and determination of African horse sickness virus prevalence in midge populations at Onderstepoort, South Africa. Veterinary Parasitology, 185(2-4), pp.265-273.

**Identification of *Culicoides***

* Harrup, L.E., et al., *Culicoides* Latreille (Diptera: Ceratopogonidae) taxonomy: Current challenges and future directions. Infection Genetics and Evolution, 2015. **30**: p. 249-266.
* Harrup, L.E., et al., DNA barcoding and surveillance sampling strategies for *Culicoides* biting midges (Diptera: Ceratopogonidae) in southern India. Parasites & Vectors, 2016. **9**.
* Ratanaworabhan, N.C., *Culicoides* of Northern Thailand. Mosquito News, 1977. **37**(2): p. 287-288.
* Thepparat, A., et al., Ten species of *Culicoides* Latreille (Diptera: Ceratopogonidae) newly recorded from Thailand. Zootaxa, 2015. **4033**(1): p. 48-56.
* Boorman, J. (1989). *Culicoides* (Diptera: Ceratopogonidae) of the Arabian Peninsula with notes on their medical and veterinary importance. Fauna of Saudi Arabia, 10, 160-224.
* Howarth, F.G. (1985). Biosystematics of the *Culicoides* of Laos (Diptera: Ceratopogonidae). International Journal of Entomology, 27:1–96.
* Yu, Y.-X., Liu,J.-H., Liu, G.-P., Liu, Z.-J., Hao, B.-S., Yan, G. & Zhao, T.-S. (2005). Ceratopogonidae of China, Insecta, Diptera [in Chinese]. Volumes 1-2. 1699 pp., Military Medical Science Press, Beijing.
* Lien, J.-C., et al. 1998. A Revision of the genus *Culicoides* of Taiwan; Part III. Subgenera *Culicoides*, Haemophoructus and Mono*Culicoides* (Diptera, Ceratopogonidae). Journal of Taiwan Museum, 51(2): 33- 70
* Lien , J.-C., Weng, M.-H. and Lin, C.-C. 1997. A Revision of the genus *Culicoides* of Taiwan; Part I. Subgenus Trithecoides (Diptera, Ceratopogonidae). Journal of Taiwan Museum, 50(2): 155- 187
* Lien , J.-C., Weng, M.-H. and Lin, C.-C. 1998. A Revision of the genus *Culicoides* of Taiwan; Part II. Subgenus Avaritia (Diptera, Ceratopogonidae). Journal of Taiwan Museum, 51(1): 21- 48
* Pakarnseree, L. (1976) Taxonomic study of *Culicoides* (Diptera: Ceratopogonidae) at Phuket and Songkhla, Southern Thailand. Department of Entomology. MScThesis, Kasetsart University Graduate School, Bangkok, 170 pp. [in Thai]
* Bellis GA. Key to females of economically important species of *Culicoides* subgenus Avaritia from southern Asia and Australasia using characters visible under a stereomicroscope. <https://www.gnatwork.ac.uk/african-horse-sickness-resources>.