- for equine viral arteritis with different virus strains. *Veterinary Record* 28: 574–576
- 10. Golnik W, Michalska Z, Michalak T 1981. Natural equine viral arteritis in foals. Schweizer Archiv für Tierheilkunde 123: 523–533
- 11. Golnik W, Moraillon A, Golnik J 1986 Identification and antigenic comparison of equine arteritis virus isolated from an outbreak of epidemic abortion of mares. *Journal of Veterinary Medicine* 33: 413–417
- Hannant D, Holmes M A, Leadon D P, Livesay G J 1995 The immune system. In Higgins A J, Wright I M (eds) *The equine* manual. W B Saunders Company, London: 103–121
- Holt J G, Krieg N R, Sneath P H A, Stanley J T, Williams S T 1994. Bergey's manual of determinative bacteriology (9th edn). Williams & Wilkins, Baltimore
- 14. Jones T C, Doll E R, Bryans J T 1957 The lesions of equine viral arteritis. *Cornell Veterinarian* 57: 52–68
- 15. McCollum W H 1969 Development of a modified virus strain and vaccine for equine viral arteritis. *Journal of the American Veterinary Association* 2: 293–299
- 16. McCollum W H 1976 Studies of passive immunity in foals to equine viral arteritis. Veterinary Microbiology 1: 45–54
- 17. McCollum W H, Swerczek T W 1978 Studies on an epizootic of equine viral arteritis in racehorses. *Journal of Equine Medicine and Surgery* 2: 293–299
- 18. McCollum W H, Timoney P J 1984 The pathogenic qualities of the 1984 strain of equine arteritis virus. In *Proceedings of Grayson Foundation International Conference of Thoroughbred Breeders Organizations, Dromoland Castle, Ireland,* 31 October –

- 1 November 1984: 34-47
- 19. McCollum W H, Prickett M E, Bryans J T 1971 Temporal distribution of equine arteritis virus in respiratory mucosa, tissues and body fluids of horses infected by inhalation. Research in Veterinary Science 12: 459–464
- 20. McCollum W H, Timoney P J, Tengelsen L A 1995. Clinical, virological and serological responses of donkeys to intranasal inoculation with the KY-84 strain of equine arteritis virus. *Journal of Comparative Pathology* 112: 207–211
- 21. Michalska Z, Golnik W 1992 Zmiany morfologiczne u płodow poronionych w wyniku zakazenia wirusem zapalenia tetnic koni. *Medycyna Weterynaryjna* 48: 270–272
- Michalska Z, Ğolnik W 1993 Wirusowe zapalenie tetnic koni (Equine viral arteritis – EVA) u zrebiat. Medycyna Weterynaryjna 49: 15–17
- 23. Morailon A, Moraillon R 1978 Results of an epidemiological investigation on viral arteritis in France and some other European and African countries. *Annales de Recherches Veterinaires* 9: 43–54
- 24. Murphy T, McCollum W H, Timoney P J, Klingeborn B W, Hyllseth B, Golnik W, Erasmus B 1992 Genomic variability among globally distributed isolates of equine arteritis virus. *Veterinary Microbiology* 32: 101–115
- 25. Paweska J T, Barnard B J H 1993 Serological evidence of equine arteritis virus in donkeys in South Africa. *Onderstepoort Journal of Veterinary Research* 60: 155–158
- 26. Paweska J T, Aitchison H, Chirnside E D, Barnard B J H 1996 Transmission of the South African asinine strain of equine arteritis virus (EAV) among horses and between donkeys and horses. *Onderstepoort*

- Journal of Veterinary Research 63: 189-196
- 27. Paweska J T, Binns M M, Woods P S A, Chirnside E D 1997 A survey for antibodies to equine arteritis virus in donkeys, mules and zebra using virus neutralisation (VN) and enzyme linked immunosorbent assay (ELISA). Equine Veterinary Journal 29: 40–43, 337–338
- 28. Paweska J T, Volkmann D H, Barnard B J H, Chirnside E D 1995 Sexual and in-contact transmission of asinine strain of equine arteritis virus among donkeys. *Journal of Clinical Microbiology* 33: 3296–3299
- Quinn P J, Carter M E, Markey B K, Carter G R 1994 Clinical veterinary microbiology. Mosby, London
- Timoney P J, McCollum W H 1987 Equine viral arteritis. Canadian Veterinary Journal 28: 693–695
- 31. Timoney P J, McCollum W H 1991 Equine viral arteritis: current clinical and economic significance. *Proceedings of the American Association of Equine Practitioners* 36: 403–409
- 32. Timoney P J, McCollum W H, Murphy T W, Roberts A W, Willard J G, Carrswell G D 1987 The carrier state in equine viral arteritis infection in the stallion with specific emphasis on the venereal mode of virus transmission. *Journal of Reproduction and Fertility, Supplement* 35: 95–102
- Vaala W E, Hamir A N, Dubovi E, Timoney P J, Ruiz B 1992 Fatal congenitally acquired infection with equine arteritis virus in a neonatal Thoroughbred. Equine Veterinary Journal 24: 155–158
- 34. Vaala W E, Marr C M, Maxon A D, Sertich P L 1995 Perinatology. In Higgins A J, Wright I M (eds) *The equine manual.* W B Saunders Company, London: 637–723

Book review — Boekresensie

Ratite management, medicine and surgery

Edited by T N Tully and S M Shane

1996. Krieger Publishing Company, Malabar, Florida, USA, 160 pp., hard cover. Price £35.95. ISBN 0 89464 874 8.

In an attempt to collate the latest information in this rapidly expanding field and with the stated aim to serve a production-oriented ratite industry, 19 authors share 17 chapters on clinical anatomy, nutrition, biosecurity, restraint and handling, reproduction, hatchery management, anaesthesiology, surgical conditions, clinical haematology and chemistry, parasites, infectious diseases, developmental problems, therapeutics, examination and health certification, and jurisprudence.

The best chapters are those on nutrition (outstanding) and on clinical conditions and procedures. However, ratites have nothing in common with poultry, and this distinction has not always been made, as some of the other chapters clearly are adaptations of poultry papers. The chapter on infectious diseases appears in the main to be orientated towards North America. In addition to omissions, it also contains a number of inaccuracies: megabacteriosis, although reported from North America

as well as from South Africa, is not mentioned. There are several published reports on chlamydiosis in ostriches. The H7Nl strain of avian influenza did not cause mortality in ostrich chicks in Israel.

The ongoing outbreak of velogenic Newcastle disease in South Africa, which started in 1993, is not mentioned either. Perivascular lymphocytic cuffing in brains of ostriches that died of Newcastle disease has never been reported.

One forms the impression that the editors were in a hurry to submit the book to the publishers. However, that should not detract from its good points and from the wealth of information it contains. The clinician, particularly, will find this book to be a valuable addition to his library.

F W Huchzermeyer Pathology Section Onderstepoort Veterinary Institute