Table 1: Helminth parasites recovered from 12 pigeons.

Parasite	Number infected	Percent infected
Nematoda Dispharynx spiralis Ascaridia columbae Cestoda Raillietina sp.	1 3 8	8.3 25 75

Worm burdens were generally low, possibly because the pigeons were examined during a cold and dry period. Since some of these helminths may infect chickens, pigeons and chickens should not be raised together. Although the worm burdens were low, the pigeons should be treated with a broad spectrum anthelmintic, since the level of infection may increase seasonally.

All the pigeons were found to be serologically positive for *T. gondii* at titres of 1:256 (Table 2). This was interesting since the pigeons were apparently healthy. *T. gondii* is a common parasite of many animal species and humans, in whom it causes an influenza-like illness, but may cause congenital infections with serious consequences⁷. Toxoplasmosis is a common cause of abortions in sheep and goats in Botswana² and is a potential human health problem of great concern. There are other reports of isolation of *T. gondii* from birds^{3,4}. Pigeons that carry *T. gondii* may be considered to be a potential source of infection to pigeon keepers, particularly those who are immunosuppressed by HIV/AIDS.

ACKNOWLEDGEMENT

This study was financially supported by the Research and Publications Committee

Table 2: Seroprevalence of antibodies to Toxoplasma gondii.

Household	Number tested	Percent positive
1	4	100
2	6	100
3	6	100
Total	16	100

of the Botswana College of Agriculture.

REFERENCES

- Bennett G F, Peirce M A 1990 The haemoproteid parasites of the pigeons and doves (Columbiadae). Journal of Natural History 24, 311–325
- Binta M G, Mushi E Z, Raborokgwe M, Monyame R K, Ndebele, T R 1998 The prevalence in Botswana of antibodies to *Toxoplasma gondii* in goats with a history of abortion. *Zimbabwe Veterinary Journal* 29: 47–58
- Dhillon A S, Thacker H L, Winterfield R W 1982 Toxoplasmosis in mynahs. Avian Diseases 26: 445–449
- Dubey J P 1986 Toxoplasmosis. Journal of the American Veterinary Medical Association 189: 166–170
- Mushi E Z, Binta M G, Chabo R G, Mathaio M, Ndebele R T 1999 Haemoproteus in domestic pigeons in Sebele, Gaborone, Botswana. Onderstepoort Journal of Veterinary Research 66, 29–32
- Soulsby J L 1986 Genus: Haemoproteus Kruse, 1890. In Soulsby E J L (ed.) Helminths, arthropods and Protozoa of domesticated animals (7th edn). Baillière Tindall, London: 700–705
- Stewart C G, Turner G V S 1994 Toxoplasmosis. In Coetzer J A W, Thomson G R, Tustin R C (eds) *Infectious diseases of livestock* in southern Africa. Oxford University Press, Cape Town: 238–244
- Zinkl J G 1986 Avian haematology. In Jain N C (ed.) Schalm's veterinary haematology (4th edn). Lee & Febiger, Philadelphia: 256–273
- Zwart P 1986 Pigeons and doves. In Fowler M E (ed.) Zoo & wild animal medicine (2nd edn). W B Saunders, Philadelphia: 440–445

Book review — Boek resensie

Diseases of poultry: world trade and public health implications

OIE: Scientific and Technical Review volume 19(2)

Coordinated by C W Beard and M S McNulty

2000 (August). Office International des Épizooties, Paris, 330 pp., soft cover. Price €40. ISBN 92 9044 516 5.

With the expansion of global trade in especially animals and animal products, harmonisation of the regulations applicable to trade in animals and animal products is of paramount importance. While animal diseases must not be used as unjustified non-tariff trade barriers, the danger of expanded trade resulting in the dissemination of animal disease into areas of the world that had previously been free of the disease or threatening public health in any way must never be underestimated.

It is with the above in mind that this review was compiled to act as an international standard to facilitate the control of poultry diseases and trade in poultry and poultry products among nations

This review is a compilation of chapters, written by experts of world renown, on poultry diseases considered important for trade purposes (many of which are included in Lists A and B of the OIE). Chapters include: the paratyphoid salmonellae, campylobacteriosis, fowl typhoid and pullorum disease, fowl cholera, avian chlamydiosis, avian mycoplasmosis, Newcastle disease and other avian paramyxoviruses, highly pathogenic avian influenza, infectious laryngotracheitis, infectious bronchitis, infectious bursal disease, Marek's disease, leukosis and

reticuloendotheliosis, poult enteritis complex, rhinotracheitis virus, adenoviruses, reo virus and a final chapter on ostrich diseases.

While the coordinators state that this publication is not intended to replace any of the existing texts on poultry diseases, it still stands as one of the most recent reviews of all the main poultry diseases in the world and is to be highly recommended. Areas covered within the chapters include a summary, historical background, isolation and identification of the organism, epidemiology, pathology, control and prevention and public health and international trade implications. The chapters are well referenced and are up to date.

This review is to be recommended to everybody involved in the trade of poultry and poultry products. Included in this group must be the veterinarians who are responsible for the certification of freedom from disease, which 'is only as good as the competence and honesty of those who provide it' (quote taken from the concluding remarks of the coordinators).

Neil Duncan

Faculty of Veterinary Science University of Pretoria