



## AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

### FELLOWSHIP GUIDELINES

#### *Veterinary Parasitology*

#### ELIGIBILITY

1. The candidate shall meet the eligibility prerequisites for Fellowship outlined in the *Fellowship Candidate Handbook*.
- Membership of the College must be achieved prior to the Fellowship examination.
  - Membership may be in any discipline.

#### DESCRIPTION

The award of Fellowship in Veterinary Parasitology indicates that the candidate has sufficient training, experience, knowledge and accomplishment in Veterinary Parasitology to be recognised as an authority in this field by his/her colleagues in the veterinary profession.

#### LEARNING OUTCOMES

A candidate is expected to have sufficient training, knowledge and experience to be recognised by colleagues as a specialist in Veterinary Parasitology.

#### LEARNING OUTCOMES

- The candidate will be expected to possess **detailed**<sup>1</sup> knowledge of:
  - The biology, epidemiology, zoonotic importance pathogenesis, diagnosis, and control of helminth infections of domestic, feral, wild (including aquatic) animals in Australia and New Zealand and of importance exotic helminth diseases, qualified by the outcomes listed below.
  - Principles and practical application of parasitology. *The candidate may nominate in advance for approval of the Chief Examiner a specialised area of parasitology.*

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#### <sup>1</sup>Knowledge levels:

**Detailed knowledge** — candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.

**Sound knowledge** — candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

**Basic knowledge** — candidate must know the main points of the topic and the core literature

- Pathogenesis and pathogenetic factors, including host-parasite relationships and mechanisms by which parasites survive, multiply and spread in the environment.
- Gross and histopathological features of parasitic diseases of mammalian and avian domestic species.
- Zoonoses, and Public Health aspects of parasitic diseases, including the parasites (endo- and ecto-) of companion and commercial animals that may infect humans, and the epidemiology control of these zoonoses.
- Principles of treatment, control and prevention of parasitic diseases.
- The candidate will be expected to possess **detailed** knowledge of the following diagnostic procedures used for the investigation of parasitic disease:
  - Immunodiagnosis.
  - Routine procedures used in diagnostic parasitology, and pathology.
- For **internal parasites (nematodes, cestodes, trematodes, protozoans)**, the candidate will be expected to **be able to**:
  - Name, describe and identify the common internal parasites and diagnose the internal parasitoses of the common companion and commercial animal species.
  - Apply basic parasitological knowledge and, using standard identification keys and texts, identify unusual internal parasites in the common companion and commercial animals, and parasites in uncommon companion and commercial animals. Know where to seek help in the identification of internal parasites from zoo animals and wildlife.
  - Examine faeces or urine from companion or commercial animals for parasites, using standard techniques, and identify any parasitic structures present and their origins. Using basic principles, identify similar structures in the faeces and urine of other animals.
  - Examine a blood sample from an animal and identify intra- and intercellular parasites using routine methods including immunological tests where commercially available.
  - Carry out a routine necropsy on a common companion or commercial animal and, using standard methods, recover helminths present in the gastro-intestinal tract, liver or lungs, identify the parasites, and estimate the total population and percentage of individual species. Remove and preserve suitable samples of organs for histopathology and identify parasites in stained tissue sections.
- For **ectoparasites (insects, arachnids)**, the candidate will be expected to **be able to**:
  - Name, describe and identify the common ectoparasites, and diagnose the ectoparasitoses of the common companion and commercial animals.
  - Apply basic parasitological knowledge and, using standard identification keys and texts, identify unusual ectoparasites of the common animals, and ectoparasites of uncommon companion and commercial animals.
  - Examine an animal for ectoparasites and identify the parasites using routine methods and immunological tests where available. Know where to seek help in the identification of ectoparasites on zoo animals and wildlife.
- In the application of parasitological knowledge, the candidate will be expected to **be able to**:

- Explain the epidemiology of the parasitosis and suggest appropriate treatment and control measures, given the history of a parasitic situation, the results of clinical examination and parasitological tests including, where appropriate, necropsy findings.
- Define the extent of a parasitic problem, plan and carry out the investigation, and report findings in writing, using concise and grammatical English and an approved style of citation and referencing.
- Apply appropriate tests to identify or confirm anthelmintic resistance in helminth parasites of farm animals or horses. Based on the results of the tests and knowledge of the management system, suggest alternative control measures for farms and horse establishments.
- Explain, using examples, the role of epidemiological models in predicting outbreaks of, and controlling, parasitic disease.
- Survey the prevalence of parasites in a discrete population, compare prevalence in two or more discrete populations, and determine the geographical distribution of parasites in a dispersed population using appropriate parasitological and statistical methods.
- Identify the need for parasitological information, obtain and evaluate the information from the appropriate printed material, databases and electronic resources.
- Respond to the need of the veterinary profession or public for information and advice on parasitic infections in domestic animals, including poultry and caged birds, by communication in an appropriate medium using concise and effective language.
- Have a general understanding of molecular biology in veterinary parasitology, especially as it pertains to taxonomy and therapy.

## **EXAMINATIONS**

Refer to the *Fellowship Candidate Handbook*.

## **TRAINING PROGRAMS**

Refer to the *Fellowship Candidate Handbook*.

## **TRAINING IN RELATED DISCIPLINES**

Refer to the *Fellowship Candidate Handbook*.

Candidates for Fellowship in Veterinary Parasitology must spend time as stipulated by the *Fellowship Candidate Handbook* in any or all of the following related disciplines: clinical pathology, microbiology, immunology, toxicology, parasitology, epidemiology and clinical medicine

## **EXTERNSHIPS**

Refer to the *Fellowship Candidate Handbook*.

## **ACTIVITY LOG CATEGORIES**

Refer to the *Fellowship Candidate Handbook*.

The Activity Log should be recorded in a format similar to the example in the *Fellowship Candidate Handbook*, Appendix E-2.

The Activity Log Summary should be divided by BOTH body system AND species. *See the examples in the Fellowship Candidate Handbook, Appendix F-1 and F-2.*

## RECOMMENDED READING LIST

The candidate is expected to research the depth and breadth of the knowledge of the discipline. This list is intended to guide the candidate to some core references and other resource material. The list is not comprehensive and is not intended as an indicator of the content of the examination.

### Books (most current editions of the following texts)

*Animal Health in Australia:*

Vol. 5 (1984) *Protozoal and Rickettsial Diseases* (IL Callow).

Vol. 8 (1986) *Helminth Parasites of Sheep and Cattle* (VG Cole).

Reviews, University of Sydney, Post Graduate Committee in Veterinary Science:-

No.17 (1977) *Canine Parasitology* (Kelly J).

No.24 (1984) *Parasitic Diseases of the Cat in Australia* (Prescott).

No.26 (1985) *Veterinary Anthelmintics* (Arundel JH).

No.28 (1985) *Parasitic Diseases of the Horse* (Arundel JH).

No 31 (1990) *Clinical Parasitology of Dogs* (Dunsmore JD, Shaw SE).

No 32 (1995) *Parasites of Cattle* (Smeal MG)

Adam KMG, Paul J, Zaman V (1971) *Medical and Veterinary Protozoology, An Illustrated Guide* Churchill Livingstone, Edinburgh.

Albiston HE (1967) *Diseases of Domestic Animals in Australia Part2 Arthropod Infestations (Flies, Lice and Fleas)* Commonwealth of Australia, Department of Health.

Collins GH *Veterinary Parasitology 3 and 4* (Current Edition) Faculty of Veterinary Science, University of Sydney. (*Manuals prepared for undergraduate veterinary students*).

Dunn AM (1978) *Veterinary Helminthology* William Heinemann Medical Books Ltd, London.

Geering WA, Forman AJ, Nunn MJ (1995) *Exotic Diseases of Animals. A Field Guide for Australian Veterinarians*. Australian Government Publishing Service, Canberra.

Georgi JR (1985) *Parasitology for Veterinarians* WB Saunders, Philadelphia.

*Manual of Veterinary Parasitological Techniques* Reference Book 418 (1971) Ministry of Agriculture and fisheries and Food, Her Majesty's Stationary Office, London.

Roberts FR (1970) *Australian Ticks* CSIRO.

Sloss MW, Kemp RL (1978) *Veterinary Clinical Parasitology* 5<sup>th</sup> Edition Iowa State University press Ames, Iowa.

Soulsby EJJ (1982) *Helminths, Arthropods and Protozoa of Domestic Animals (7<sup>th</sup> Edition of Monnig's Veterinary Helminthology & Entomology)* Balliere, Tyndall Cassell, London.

Soulsby EJJ (1965) *Textbook of Veterinary Clinical Parasitology Volume 1 Helminths* Blackwell Scientific Publications, Oxford.

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Thienpont D, Rochette F, Vanparijs OFJ (1979) *Diagnosing Helminthiasis through Coprological Examination* Jansen Research Foundation.

Whitlock JH (1960) *Diagnosis of Veterinary Parasitisms* Lea & Febiger, Philadelphia.

Buxton A, Fraser G (1977) *Animal Microbiology* Blackwell Scientific Publications, Oxford.

Carlton WW, McGavin MD (1995) *Thomson's Special Veterinary Pathology* second Edition.

Cotran RS, Kumar V, Robbins SL *Robbins Pathological Basis of Disease* WB Saunders, Philadelphia.

Jubb KVF, Kennedy PC, Palmer N *Pathology of Domestic Animals* Academic Press, San Diego.

Quinn PJ, Carter, ME, Markey B, Carter GR (1994) *Clinical Veterinary Microbiology* Mosby, Edinburgh; Harcourt Publishers Ltd.

Slauson DO, Cooper BJ (1982), *Mechanisms of Disease* Williams & Wilkins, Baltimore. \*

Thomson R (1984) *General Veterinary Pathology* 2<sup>nd</sup> Edition. WB Saunders, Philadelphia.\*

*Fish Diseases: Proceedings 106* Refresher Course for Veterinarians, Post Graduate Committee in Veterinary Science, 23-27 May 1988.

Humphrey JD, Langdon JS (1985) *Diseases of Australian Fish and Shellfish* Proceedings of Workshop Australian Fish Health Reference Laboratory, Regional Veterinary laboratory, Benalla 27-30 May 1985.

Noga EJ (1996) *Fish Disease. Diagnosis and Treatment* Mosby-Year Book Inc, Missouri.

Roberts RJ (2001) *Fish Pathology* 3<sup>rd</sup> Edition. WB Saunders London.

#### **Journals (particularly of the immediate past 5 years).**

*American Journal of Veterinary Research.*

*Australian Veterinary Journal.*

*NZ Veterinary Journal.*

*Research in Veterinary Science.*

*Veterinary Pathology.*

*Veterinary Parasitology*

*International Journal for Parasitology*

*Journal of Parasitology*

*Veterinary Record*

*Journal of the American Veterinary Medical Association*

#### **Journals for Review Articles**

*Immunology Today.*

*New England Journal of Medicine.*

*The Compendium of Continuing Education*

*Parasitology Today*

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*Trends in Parasitology***FURTHER INFORMATION**

For further information contact the College Office

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