Veterinary parasitologists: not lost but proactive!

Claudio Genchi1, Alexander J. Trees2, Dennis E. Jacobs3 and Philippe Dorchies4

1 Dipartimento di Patologia Animale, Igiene e Sanita’ Pubblica Veterinaria Sezione di Patologia Generale e Parasitologia, Università degli Studi di Milano, Via Celoria 10, 20133 Milano, Italy
2 Liverpool School of Tropical Medicine, Liverpool L3 5QA, UK
3 The Royal Veterinary College, University of London, North Mymms, Hatfield AL9 7TA, UK
4 Ecole Nationale Ve´ te´ rinaire, 23 Chemin des Capelles, 31076 Toulouse, France

Corresponding author: Dorchies, P. (p.dorchies@envt.fr).
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The letter ‘Parasitologists lost?’ by Barnish et al. [1] records the concern of medical parasitologists that, if present trends continue, there will soon be no teachers with the necessary skills and background knowledge to impart broad field experience and to give instruction in basic, but important, diagnostic skills. This problem is not unique to medical parasitology because the same tendency has been evident for some time in veterinary parasitology.

Of course, in western countries, the overall importance of animal parasitism is decreasing. Over the past three decades, great progress has been made towards the improved control of many important parasitic infections of domesticated animals. These advances have been achieved mainly through the introduction of highly efficient antiparasitic drugs and also through a better understanding of the epidemiological factors that determine disease and of parasite bionomics (i.e. environmental influences on developmental dynamics of non-parasitic life-cycle stages). In more recent years, immunology and molecular biology have contributed new knowledge, which is gradually being applied to diagnosis, molecular epidemiology and vaccine development. Nevertheless, new problems are constantly appearing that demand specialist input from veterinary parasitologists. Recent examples are listed in Box 1. For additional information on the current problems and needs of veterinary parasitology, see Refs [2,3].

In view of the limited resources available to most parasitological institutions in Europe, it is difficult to cope with this broad spectrum of tasks on an institutional and national level. Therefore, international cooperation in research and education is essential. Unfortunately, as with medical parasitology, veterinary parasitology has been exposed to a slow but persistent erosion of teaching staff with broad field experience and basic diagnostic skills. A recent article on the prevalence of Fasciola hepatica [4] states that ‘there is no absolute diagnostic test’ for this commonplace cause of mortality and morbidity in ruminants, thereby exemplifying the continuing need for training in such competences. We are not fighting a rearguard action but issuing an alert. Veterinary parasitologists have to embrace, develop and employ the newest technologies but must not forget that, first of all, the parasitologist must be able to identify a parasite by its appearance, diagnose the disease it causes and know its biology to design rational control programmes.

Faced with the prospect that veterinary parasitology could become less clearly identified as an independent discipline and, instead, relegated to a mere component of veterinary dermatology, herd health management and veterinary public health, the World Association for the Advancement of Veterinary Parasitology (WAAVP: http://www.waavp.org) held a symposium ‘Teaching Veterinary Parasitology’ in 2001, which was convened by J. Eckert. It was agreed that the discipline had to establish itself as an entity and that, in Europe, this could be done within the framework of the European Board of Veterinary Specialisation (EBVS: http://www.ebvs.org). An application was made and the arguments proved compulsive. Provisional recognition of the European Veterinary Parasitology College (EVPC: http://www.eurovetpar.org) was granted in 2003 (Box 2). The EVPC organizing committee (20 founding members from 12 European countries) has just completed the task of appointing the central core of de facto recognized specialists. Although EBVS rules allow
full ‘diplomate’ status (i.e. eligibility for entry in the register of European Veterinary Specialists) to be awarded only to veterinarians, nonveterinarian experts are welcomed as valued and participative EVPC members. One of the priorities of EVPC is to maintain an appropriate balance and dialogue between the clinical and scientific aspects of our discipline. Currently, EVPC has 200 members from 27 countries, including nine diplomates from North America, where there is no equivalent specialist board.

In this way, the future needs of the European Community are being addressed by establishing training programmes that will enable graduate veterinarians to acquire in-depth, specialist knowledge of veterinary parasitology and its supporting disciplines under the supervision and guidance of an EVPC diplomate. Completion of an approved training programme provides eligibility to sit the qualifying examination. The first candidates are due to sit the examination in the autumn of 2007. Maybe the future need not be as bleak as feared by our counterparts in medical parasitology.

Acknowledgments

C.G. is the president, A.T. is the vice president, D.J. is the executive secretary and P.D. is the past president of the EVPC.

References


Box 1. Current challenges for veterinary parasitology

1. Drug resistance in parasite populations
   The extent and nature of parasite resistance to drugs in different classes of livestock require better definition. Effective management systems are urgently needed to combat existing problems and to prolong the useful life of currently used drugs.
   Examples include coccidia in poultry, nematodes in sheep and horses, and ectoparasites of sheep.

2. Consumer demand for pathogen- and residue-free food
   Alternative parasite management methods are needed to reduce dependency on chemicals and drugs. Improved methodologies are required to control some parasitic zoonoses.
   Examples include toxoplasmosis, Toxocara infections and cysticercosis.

3. Regulatory pressure on veterinary remedies
   Toxicological and environmental concerns are increasingly restricting established control methods for some animal-welfare problems.
   Examples include psoroptic mange (sheep scab) in sheep and histomonosis (blackhead) in poultry.

4. Epidemiological surveillance and biosecurity
   Epidemiological patterns of disease are increasingly being influenced by new farming methods, global warming and climate change, associated disease-vector movements, economic and social factors, growing world trade and animal transportation across open borders. Enhanced vigilance and international collaboration are therefore necessary.
   For example, ovine bluetongue disease has crossed the Mediterranean from North Africa and is spreading in Europe carried, presumably, by Culicoides vectors, canine leishmaniosis and babesiosis cases are occurring in nonendemic areas such as the UK and cryptosporidiosis is
becoming more widespread in calves and goats.

5. Emerging parasitoses and zoonoses
‘New’ parasites continue to be discovered and familiar species are being recorded in previously nonendemic regions.
For example, a previously unknown protozoon, Neospora caninum, is now recognized to be a major cause of abortion in cattle and Echinococcus multilocularis is now established in the fox population of 12 Central European countries (compared with just four in the 1980s).

Box 2. The main objectives of the EVPC

1. To promote aptitude and proficiency in veterinary parasitology.
2. To instruct graduate veterinarians in the science and practice of veterinary parasitology and its supporting disciplines (e.g. immunology, epidemiology, pathology, pharmacology).
3. To provide graduate veterinarians with the opportunity to pursue a career in teaching, research, diagnostics, industry or regulatory and governmental practice of veterinary parasitology.
4. To advance veterinary parasitology through promotion of research and publications.