



## Editorial

## Tradition and innovation: selamectin plus sarolaner. A new tool to control endo- and ectoparasites of cats – a European perspective



Amongst infectious agents, parasites are major players threatening the health and welfare of cats. This is well recognised by practitioners and pet owners and, for the potential role of some parasites as zoonotic agents, also by physicians working in Public Health, at all latitudes, from the poorest to the richest settings. Indeed, many parasites of cats are zoonotic agents infecting humans from pregnancy (toxoplasmosis), through childhood (*Toxocara* spp. and *Ancylostoma* spp.), and all through life (e.g., echinococcosis from accidental ingestion of embryonated eggs). Most importantly, cats share their environment with arthropod parasites (ticks, mites, fleas, and mosquitoes) that also feed on humans, thereby acting as potential vectors of viral, bacterial, protozoal, and helminth pathogens. Therefore, cats and their best friends, humans, are the main characters in this *theatre piece* (human and animal parasitology); they live together with their parasites. The stage for such a *piece* is the whole world from the Brazilian forests, to the Rocky Mountains, through the cosy historical Italian villages, to the savannah villages, the Romanian mountains, the freezing Kamchatka peninsula small towns, and in the south Asian tropical countries.

Although there is much less information on parasitism in cats compared to dogs, parasites are rather common in cats, depending on their habits (stray or owned cats or individuals living in catteries), geographical areas or provenience, environment and, obviously, the use of parasiticides. The overall prevalence of cat endoparasites in Europe (from 20 to 40%) has been calculated in a number of studies based on coproscopic examination. Fleas are the main ectoparasites (up to 70% of cats suffer flea infestation in Austria, Spain and Germany) whereas the distribution of tick species in cats depends on where studies are carried out, with *Ixodes ricinus* and *Rhipicephalus* spp. (i.e., *R. turanicus* and *R. sanguineus sensu lato*), being the most prevalent in Europe. Until recently, detailed clinical efficacy and field studies have not been required in the European Union (EU) for the licensure of tick claims for cats if data were available for the product in dogs. The clinical field studies included in this volume provide up-to-date information on the actual incidence of ticks on cats in the EU from 270 cats enrolled with tick infestations in practices in France, Italy, Hungary and Germany.

Effective ectoparasiticides, alone or in combination, have been formulated in the last decades for cats. Products often target fleas; these include fipronil, which is also efficacious against ticks, imidacloprid, lufenuron, and spinosad, and the endectocide, selamectin, which has broad-spectrum activity against helminths, fleas, and

mites but not ticks. Recently, a new class of ectoparasiticides has been introduced: the isoxazolines (e.g., fluralaner, afoxolaner and sarolaner), with efficacy against fleas and ticks. There are other less common licensed products for tick prevention in cats such as diazinon- and flumethrin-based collars.

Endo- and ectoparasites of cats are a rather frequent finding with co-infections occurring often. Thus effective broad-spectrum products with efficacy against the major endo- and ectoparasites of cats are needed to ensure the health and wellbeing of cats and their owners. In this supplement to *Veterinary Parasitology* a collection of selected papers illustrates the great potential of a new topical combination which merges *tradition and innovation*: selamectin plus sarolaner. This broad-spectrum antiparasitic drug is now available for the treatment and prevention of endo- and ectoparasites of cats. Selamectin (REVOLUTION® or STRONGHOLD®, Zoetis) has been in the market as a topical solution since 1999 for the treatment and prevention of fleas, prevention of heartworm disease, and the treatment of *Otodectes cynotis*, *Toxocara cati*, and *Ancylostoma tubaeforme* in cats. The efficacy spectrum of this well-known product has now been broadened to include ticks by the addition of a new isoxozaline, sarolaner.

Results of the studies included in this issue clearly indicate that a single spot-on application of this new product is efficacious for the treatment and prevention of flea infestations for 5 weeks, for the treatment and prevention of *I. ricinus* and *I. hexagonus* for 5 weeks, for the treatment and prevention of *Dermacentor reticulatus* and *R. sanguineus* for 4 weeks, for the treatment of ear mite infestations by *Otodectes cynotis*, and for the treatment of adult roundworms (*Toxocara cati*) and adult intestinal hookworms (*Ancylostoma tubaeforme*).

Laboratory studies have been corroborated by field studies in which the efficacy of treatments at monthly intervals of this new product against flea and tick infestations has been tested in cats presented as patients in European veterinary clinics. In the field studies, the new product was found to be safe and highly effective against natural infestations of fleas and ticks on cats. Rapid efficacy against fleas (within 24 h of infestation) makes the product useful as part of a treatment strategy for preventing environmental flea contamination and for the control of flea allergic dermatitis, as demonstrated by clinical data in the field study.

The ease of application of a spot-on product is a benefit that cannot be underestimated when treating feline patients. Spot-on products are often better tolerated by cats and hence easier for

owners to administer compared to oral products and to products that must be applied directly to an affected area (such as for ear mites). In addition, a spot-on product overcomes some of the issues with collars, such as intolerance by some cats and potential loss of the collar. The benefits of a spot-on product, especially one with a broad spectrum of activity and a low rate of adverse effects, increase owner compliance and improve protection of cats against endo- and ectoparasites.

The broad-spectrum efficacy provided by the combination of selamectin plus sarolaner, along with the ease of a monthly spot-on application, ensures the protection of cats against endo- and ectoparasites and provides pet owners and practitioners with a new tool to further improve cat health and welfare.

#### **Conflict of interest**

Zoetis supported the editorial assistance provided by Dr. Domenico Otranto and Dr. Susan Little.

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