

BUGS ON THE MOVE: TRANSPORT OF ANIMALS ACROSS EUROPE AND ASSOCIATED RISKS FOR PARASITIC DISEASES

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Increased movement of both large and small animals across Europe is an important risk factor for introducing parasites and parasitic diseases into previously unaffected geographical areas. Not only this, but changes in climate and the development of ideal conditions for vector establishment and spread can also explain how certain vector-borne diseases have recently been introduced into northern European countries.

In companion animals, this is particularly important for several vector-borne diseases (*Dirofilaria* sp, *Leishmania infantum*, tick-borne pathogens (TBPs)) and several ectoparasites (for example, *Rhipicephalus sanguineus*). Indeed, several studies carried out recently have reported that as much as 30% of dogs travelling from countries endemic for *Ehrlichia canis*, *Babesia* sp and *Leishmania infantum* can introduce these pathogens into new areas. Even though current legislation of many northern European countries requires that dogs and cats must receive acaricide treatment 24 - 48 hours before entering non-endemic areas, *Rhipicephalus sanguineus* has tended to move north (France, in Belgium, Germany and The Netherlands) from its previously Mediterranean distribution, probably being transported on dogs. Numerous imported cases of *Dirofilaria immitis* and *D. repens* have been reported in northern Europe and, more recently, several autochthonous cases have been confirmed in Switzerland, Germany and the Netherlands.

Movement of large animals, especially cattle, is strongly regulated for infectious diseases, but less attention has been paid to parasites, with the exception of those that are agents of zoonotic diseases, for which meat inspection legislation exists. Recent outbreaks of psoroptic mange in cattle and sheep in Great Britain emphasize the need for greater control of ectoparasitic infection. Following the introduction of two, infected Belgian Blue cattle from Belgium in 2006 and a further two in 2008, there have now been outbreaks of the disease in over 25 farms in Wales and the disease is spreading. 144 suspect outbreaks of sheep scab have been reported in Scotland following the introduction of infected sheep from Ireland. Of even greater concern is the fact that preventive measures, such as administration of macrocyclic lactones before importation are proving to be ineffective.

Veterinarians and national veterinary authorities must face new challenges in the diagnosis, treatment and control of these emerging or re-emerging parasites.