

## Emerging sparganosis (*Spirometra* sp.) in wild boar (*Sus scrofa*): implications for veterinarians, hunters, and consumers

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Sparganosis is a parasitic zoonosis caused by plerocercoid larvae of *Spirometra* sp., belonging to a genus of cestode that reproduces mainly in cat- and dog-like carnivores. The first intermediate hosts for the parasite are copepods, in which procercoids infective for the second intermediate hosts develop. The second intermediate hosts and paratenic hosts can be vertebrates such as: amphibians, reptiles, birds, mammals (rodents, insectivores, mustelids, man, primates and swine) in which subcutaneous plerocercoids causing sparganosis develops. Human sparganosis, usually diagnosed in Asia, is observed as subcutaneous nodules and internal infection of the eye, brain or lung. The main source of infection in humans is consumption of raw or undercooked amphibians and reptiles. However, the consumption of wild boar (*Sus scrofa*) meat as a possible cause of human sparganosis cannot be excluded as wild boar may be a paratenic host of *Spirometra* sp., as it has been recorded in Asia and Belarus. In 2016 we found plerocercoids of *Spirometra* sp. in four wild boar. All animals were hunted in Białowieża Primeval Forest (BPF), Poland. The average length of sparganum was 103mm (range 30–290mm). Plerocercoids were found subcutaneously and in muscle tissue. A sequence of an evolutionary conserved nuclear 18S rRNA gene of length greater than 500 bp was used for genetic specification of the samples. The sequences were identical to the sequences of the *Spirometra* sp. described previously in badger (*Meles meles*) from BPF. As far as is known wild boar as a host of *Spirometra* sp. has never been reported in European Union countries and North America. There are no sparganosis routine guidelines for vets and there is a high probability that hunted wild boar infected with *Spirometra* sp. plerocercoids are not diagnosed and subsequently consumed by humans worldwide. The possibility of human sparganosis occurrence resulting from consumption of undercooked or smoked wild boar meat is very likely especially in the areas where wild boar is an approved food source. Public awareness of emerging zoonoses has increased considerably, as they have a potentially serious impact on human health and economy. It has therefore become a priority to inform the public about possibilities and consequences of *Spirometra* sp. infection given the current situation. Of equal importance is dissemination of information on sparganosis effects and appropriate meat cooking procedures among both hunters and consumers.