Rice Breast Disease (Sarcocystosis) Annual Project Update

What is sarcocystosis disease?

Sarcocsytosis is a parasitic disease caused by numerous species of *Sarcocystis* parasites that can infect a wide range of wild animals, domestic pets, or livestock animals. In most cases there is an asymptomatic response, meaning that there are often no observable signs that an animal is infected, except in a few specific instances such as in Sea Otters (*Enhydra lutris*) where *Sarcocystis neurona* can cause severe neurological problems or death. However, like most cases, waterfowl species do not often display physical signs of sarcocystosis disease. Therefore, post-mortem inspection for cysts is the easiest way to determine if sarcocysts are present. The cysts only appear in prey species such as waterfowl (known as intermediate hosts), whereas predators (known as end hosts) are usually unaffected and simply pass the eggs of the parasite into the environment through faecal matter after eating infected prey (Figure 1). The cycle begins again when prey species consume water or food sources, such as grassy vegetation, that are contaminated with parasitic eggs from the predators' faeces (Figure 1).

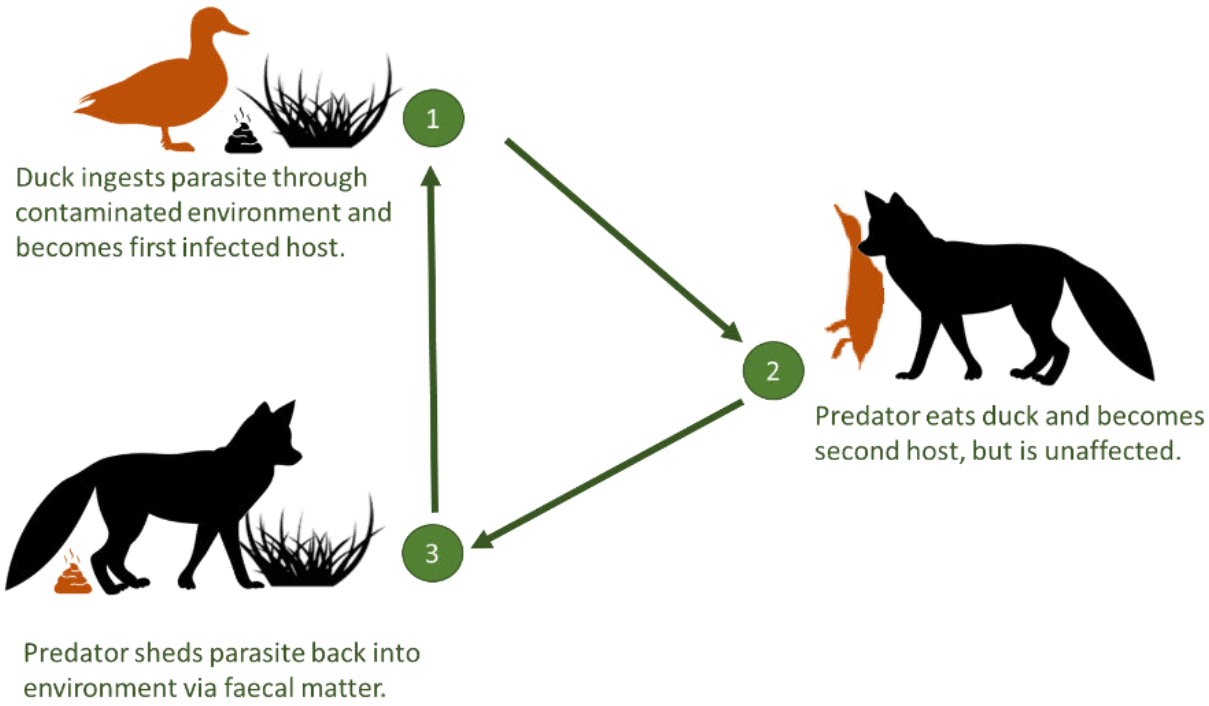

Figure 1. An outline of the *Sarcocystis spp.* parasite lifecycle between waterfowl (intermediate host) and predators (end host).

Why do we need your help?

This parasitic disease has been relatively common in North American Waterfowl as far back as the 19th Century, but cases have been rare in Europe until 2002. Since then, reports of rice breast have increased and become more widespread with reports in Norway, Poland, Finland, Lithuania, Hungary, Denmark, and the UK.

As an emerging disease, monitoring the occurrence and spread of it is vital to understanding the potential impacts it may have on our native and migratory waterfowl populations. The current method of monitoring generally relies on wildfowlers to report suspected cases. In the UK you can report cases through BASC's online reporting form. We suspect that the disease is still significantly underreported in the UK and likely across other parts of Europe too, therefore we urge you to inspect all shot waterfowl and report any findings to us so that we can map and better understand the spread and impact of this disease in the UK.

How to identify and report suspected cases

Sarcocystosis disease causes rice-grain-like cysts to develop, usually in the breast muscle of the bird but sometimes in other muscles too (Figure 2). The cysts can vary in size and in earlier stages of infection there may only be few cysts visible. These cysts are likely to go unnoticed when the bird is whole, therefore breasting shot waterfowl is the best way to ensure you can inspect the bird thoroughly before eating it.

Figure 2. An example of the rice-grain-like cysts in the breast

There are not often signs of the disease when the bird is alive and in several cases, hunters have observed that the infected bird was strong in flight and didn't appear any different to other birds in the flock, highlighting the importance of inspecting wildfowl breasts before consumption.

The 2023/24 season at a glance…

Three different waterfowl species suspected to have sarcocystosis were reported in the 2023/24 season with a similar number of cases reported in mallard and wigeon (Figure 3). Almost all birds were adults and nearly two thirds of all reported birds were identified as males.

Figure 3. The number of suspected sarcocystosis cases per species reported in the 2023/4 season.

This year remember to…

- ✓ Be vigilant
- ✓ Inspect the breast muscle of shot waterfowl before consuming
- ✓ Report any suspected cases of rice breast disease through BASC's surveillance form.
- ✓ Encourage others to do the same

For more information about this project and how to participate, visit BASC's Sarcocystosis Project Page. If you have any questions, contact monitoring@basc.org.uk.