

## Canine leishmaniasis on the Garden Route

Lesley van Helden

In October, a dog was presented to a private veterinarian in Plettenberg Bay with alopecia on both shoulders and flaky skin around the tail. A biopsy was taken and showed lymphohistiocytic dermatitis with possible intracytoplasmic protozoa: highly suspect for leishmaniasis. Kidney involvement was also indicated by other diagnostic tests.

The dog was one of two in the household that had been imported from Spain in March 2023. Both dogs had undergone a standard pre-import indirect fluorescent antibody test for *Leishmania* infection, which was negative. This test was repeated in October 2024 and both dogs tested positive.

Leishmaniasis is a disease caused by parasites in the genus *Leishmania* that can affect several species of mammals, including dogs, rodents, livestock and humans. The parasite is transmitted between hosts by biting female sandflies (Fig. 1) in many parts of the world (Fig. 2). In humans, approximately 1.2 million new clinical cases of leishmaniasis occur annually worldwide, causing approximately 30 000 deaths.

Very little information regarding the presence and distribution of sand flies in South Africa is available, but local species have been described. The possibility of the parasite being transmitted by South African sand flies or by other vectors has not been investigated. Furthermore, the current distribution of sand fly vectors has great potential to expand and to move into new areas as one of the effects of climate change. In Namibia, sand flies

are known to carry *Leishmania* parasites and a small number of sporadic clinical cases of leishmaniasis have been diagnosed since 1970.

Most mammalian hosts of the parasite are subclinically infected, but in a small fraction clinical signs will develop, in many cases as a result of a weak or suppressed immune system. The disease occurs in three forms: cutaneous (causing ulcers of the skin), mucocutaneous (ulcers in the mouth, nose and throat that can completely destroy mucous membranes) or visceral (skin ulcers progressing to enlarged spleen and liver, fever and anaemia).

Treatment using drugs is often unsuccessful in improving clinical signs and does not eliminate the parasite from the infected host. In the cutaneous form, lesions can be excised, but severe scarring can occur if they are large in size.

As leishmaniasis does not currently occur in South Africa and treatment is not curative, the options for infected animals are to be re-exported to a *Leishmania*-endemic country or euthanased. In this case, the dogs will be



Figure 1: A *Phlebotomus* sand fly ([www.cdc.gov](http://www.cdc.gov))

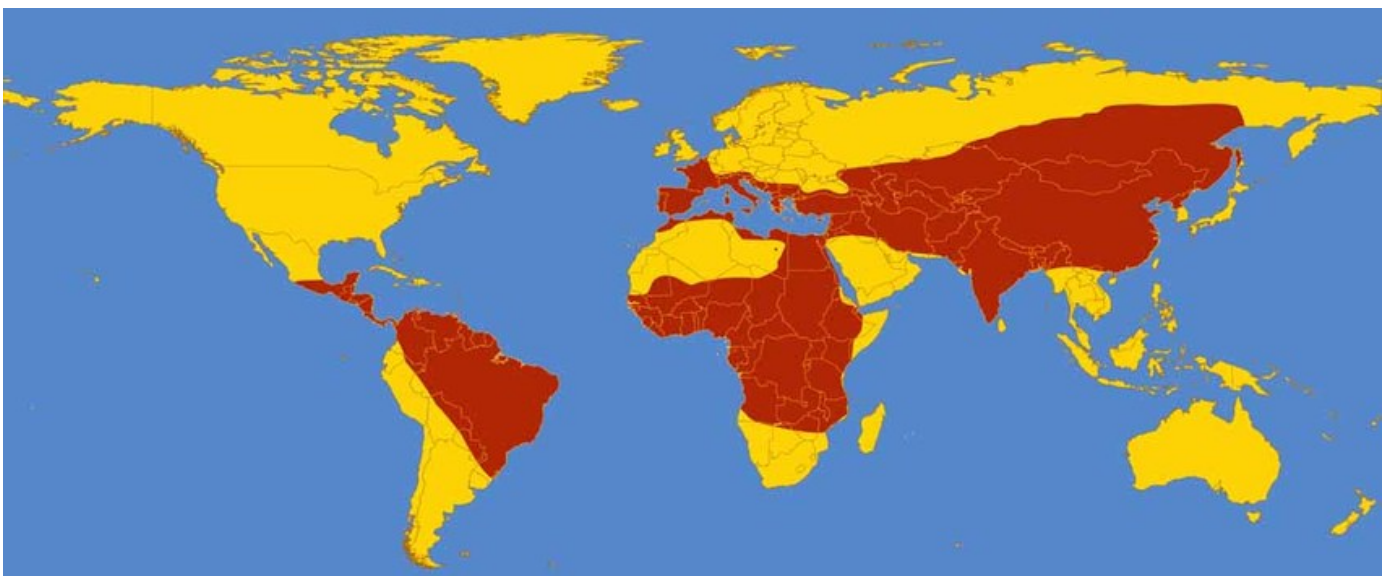


Figure 2: Global distribution of endemic leishmaniasis (Lopes et al., 2010)

exported back to Spain, and are being kept under strict conditions of isolation until then.

Those working in the veterinary and medical professions should be familiar with the presentations of leishmaniasis as early detection of pathogens entering the country is essential to prevent human and animal illness.

### References and further reading

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## Avian influenza suspected on Marion Island

Laura Roberts

High pathogenicity avian influenza (HPAI) is suspected to be affecting seabirds on Marion Island (Fig. 3). Clinical signs are currently key to the presumptive diagnosis because it is not yet possible to do any testing, though samples are being stored.

Since mid-September, birds on Marion Island have been observed showing neurological clinical signs similar to those seen in infected seabirds elsewhere, and since early November, the mortality rate in Wandering Albatross (Fig. 4) fledglings has risen above normal. Approximately 6% of fledglings present in November have died so far. Subantarctic/Brown Skuas and Southern Giant Petrels have also been found dead around the island, with a small number observed showing clinical signs consistent with HPAI. In addition, a small number of adult King Penguins (Fig. 5) have been observed to be severely ill, some with neurological signs, but it is not yet clear if the mortality rate is increased. The affected colony contains approximately 40 000 birds

and some mortality is normal. Marine mammals breeding on the island are being closely monitored, given the devastating effects of the virus observed in South America and in South Georgia, but no conclusive clinical signs have been observed.

Other bird species at risk include the critically endangered Crozet Shag, two endangered tern species, Northern Giant Petrel, Southern Rockhopper, Gentoo and Macaroni Penguins, four more albatross species, including the endangered Sooty and Yellow-nosed Albatrosses (on neighbouring Prince Edward Island) and a wide variety of small prions and petrels that nest in burrows.

Clade 2.3.4.4b HPAI (H5N1) viruses moved down through South America during 2022 and to the Falkland Islands and subantarctic islands of South Georgia in late 2023. The first case from the Antarctic Peninsula was confirmed in January 2024 (see the February 2024 Epi Report).



Figure 3: Marion Island, looking towards the research base

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Suspect cases were reported from southern elephant seals at Possession Island in the Crozet Archipelago, east of Marion Island, on 21 October 2024.

### More about Marion Island

The Prince Edward Islands (PEIs) include Marion Island and neighbouring Prince Edward Island and are a Special Nature Reserve, managed and protected by South Africa, through the Department of Forestry, Fisheries and the Environment. According to the Prince Edward Islands Act of 1948, the Prince Edward Islands fall under Ward 115 (Port of Cape Town) of the City of Cape Town Metropolitan Municipality, Western Cape. The islands can be found about 2000km southeast of Cape Town, half the distance to Antarctica, and are reached usually only once a year by the S.A. Agulhas II, South Africa's research vessel. The vessel transports researchers, field assistants and personnel to run the research base on Marion Island, who stay on the island for a year at a time. Field assistants monitor seabirds and marine mammals breeding on the island, among other tasks, and this year have the added responsibility of reporting on the suspected avian influenza outbreak. This is not easy, given that the island is 25km long and the terrain is very challenging. It can take five days to check the sites furthest from the research base and small field huts must be used as accommodation. On top of this are now extra biosecurity measures to prevent spread between colonies and infection of the personnel themselves.

### More about some of Marion Island's birds

Subantarctic skuas are considered endangered in South Africa because the Marion Island population has halved in the last 30 years. They have often been the first species affected by HPAI (H5N1) at other sites in the subantarctic



Figure 4: Wandering Albatross and chick

region and at least three survived infection after showing clinical signs, so they may play a role in spreading the virus. They are scavengers, which could be an important route of infection. Additionally, birds from the PEIs and Crozet Archipelago and some from South Georgia and Kerguelen spend the winter in similar areas, where they could possibly share viruses.

Wandering Albatrosses are huge birds with wingspans up to 3.5m. About 3 600 pairs breed at the PEIs annually. They breed when about ten years old and live at least 42 years. Each chick takes about nine months to raise, so pairs rarely breed more often than every second year. While feeding chicks, parents forage over huge distances, with trips of up to 13 000km recorded. Some travel close to South Africa, especially in winter, but seldom closer than 100km to the coast.

King Penguins are the second largest penguin species after Emperor Penguins and can be nearly a metre tall. About 225 000 pairs breed at the PEIs and both pairs incubate the egg on their feet, like male Emperor Penguins.

### References

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[South African National Antarctic Programme](#)



Figure 5: King Penguins on Marion Island

# Outbreak events

Two cases of **canine leishmaniasis** in **Plettenberg Bay** are described on page 1 of this report.

Suspect **high pathogenicity avian influenza** on **Marion Island** is described on pages 2 and 3 of this report.

**Rabies** was confirmed in six **Cape fur seals** in October in **Cape Town** and **Lambert's Bay**. In November, three more cases were detected in **Cape Town** and **Elands Bay**. The two seals from Cape Town in November both originated from Kommetjie beach within a two-week period and had contact with people and animals:

- ⇒ A girl who was swimming at Kommetjie was pursued by a seal in the water that bit her on her forearm and back. She immediately went to a clinic, where she received rabies post-exposure prophylaxis. The seal was caught by City of Cape Town officials and euthanased.
- ⇒ Three dogs that were walking with their owner on the beach were attacked and bitten by a seal that came out of the water. The owner had noted large bite wounds on the neck of the seal. Later that day, the same seal was found dead on the beach. None of the three dogs had up-to-date rabies vaccinations and all were euthanased after the attack.

Outside of the Western Cape, rabies was confirmed in samples taken from dead seals found at three seal colonies along the coast of the Northern Cape, as well as in an aggressive seal from Port Nolloth.

A farmer near **Swellendam** found an aggressive **bat-eared fox** biting one of his pregnant Dorper ewes on the mouth and hanging onto her lower jaw. The fox later bit the ewe on the hindlegs. The fox was shot and tested positive for **rabies**. The ewe was placed in isolation until she gave birth to her lamb. The ewe was slaughtered thereafter and the lamb is now being hand-reared. This property neighbours a farm on which there were two rabid cows in August 2024, which were shown by sequencing to be associated with bat-eared fox rabies in the area.

New outbreaks of **African swine fever** occurred amongst small-scale pig farmers in Wallacedene, Mfuleni and Kuyasa, all within **Cape Town**. The areas have been placed under quarantine and the affected farmers provided with advice about biosecurity and lime for disinfection. Outbreaks of African swine fever occurred previously in Mfuleni and Wallacedene in 2021.

After abortions were seen in a small herd of **cattle** in the **Stellenbosch** area, bovine **brucellosis** was diagnosed. Twelve of the 22 cattle on the farm were seropositive. The origin of the infection is unclear as there had apparently been no movements onto the property for many years and there are no cattle kept on the neighbouring farms. The farm was placed under quarantine.

A farmer from **Cape Town** bought **sheep** at an auction in the Western Cape in 2022. In October 2024, one ewe started showing signs of diarrhoea. She was killed and organs sent for histopathology, where it was found that the villi stroma of the small intestine was infiltrated by large numbers of macrophages with an eosinophilic, finely granular cytoplasm. Large numbers of acid-fast organisms were present in the cytoplasm of the macrophages in the intestinal mucosa. Infection of the flock with **Johne's disease** was diagnosed and the property was placed under quarantine.

**Salmonella Enteritidis** was cultured from routine boot swabs taken on a **broiler** farm near **Worcester**.

Eleven **ostrich** farms tested **avian influenza** (AI) positive in October. Six were diagnosed with an untyped H7 infection that may be caused by the low pathogenicity H7N7 virus detected in September. One was H7 PCR positive and the others were diagnosed based on serology. The affected farms are situated around **Oudtshoorn** and one in the **Langkloof**. The other five farms appear to have been infected with an undefined low pathogenicity virus: H5, H7 and H6 serological tests were negative, as were H7 and H5 PCR tests on the two farms where Influenza A virus was detected.

Another fourteen ostrich farms tested AI positive in November. Full sets of laboratory results have not yet been received but a low pathogenicity H5 virus was detected by PCR on one farm in the Langkloof and three more have tested H7 seropositive on their first round of positive tests.

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