

What is Duck Itch (swimmer's itch)?

Duck Itch, or schistosome cercarial dermatitis is a reaction that some people get when parasitic flatworms penetrate the skin.

The primary definitive host in New Zealand is the New Zealand Scaup, *Aythya novaeseelandiae*.

Where these waterfowl are found, there will be Duck Itch. Other waterfowl are infected as well.

The secondary intermediate host is the lymnaeid snail, *Austropeplea tomentosa* known previously as *Lymnaea tomentosa*.

Furcocercariae (microscopic cercariae with forked tails) are shed by the snail in great numbers to swim to the water surface in search of their host to complete the life cycle.

They are also attracted to humans and other mammals.

In humans and other mammals, the parasite is killed by the immune system, and may cause dermatitis in individuals who have been previously sensitized.

Will swimmer's itch spread?

No, a papule forms only where a cercaria has entered the skin of a person. If the person is exposed to more cercariae, additional papules will form.

What are the symptoms of swimmer's itch?

People who have never had Duck itch may not react on the first exposure. Sensitized people develop duck itch when the parasite enters their skin. The immune system kills it there and, in the process, histamines are produced which attract white blood cells to consume the residue. This is what causes the papule and itch. Usually within 30 minutes, a small red spot appears at the site where the parasite penetrated. This red spot will continue to increase in size for the next 24-30 hours. The raised, reddened spot is then called a papule. It will continue to itch for a week or so. Papules are limited to areas of the body that are exposed to water because cercariae can not live out of the water. Towelling will not do any good because the cercariae penetrate the skin while the person is in the water.

Why do children often develop the most severe cases of swimmer's itch?

They spend more time in the water, their skin may be more sensitive, and young children have a tendency to stay near the water's edge where cercariae may concentrate.

When does the first outbreak of swimmer's itch occur? How long can it last?

Often during the first warm period in the spring, usually in late November or early December. Duck itch has been reported at Lake Alexandrina as late as March.

If Duck itch occurs on a lake, does that mean that the lake is polluted?

No. Natural lake conditions promote the diversity of species, including the birds and snails that are potential hosts for Duck itch.

Why may Duck itch be a problem one year but not the next?

These factors that may determine whether the itch may be a problem on a specific lake at a given time:

distribution and number of snails that can serve as hosts;

distribution and number of birds that can serve as hosts;

wind direction;

water currents;

time spent in the water;

time of day;

sensitivity of the individual.

How common is Duck itch in New Zealand?

It is widely scattered throughout New Zealand, and is spreading with the NZ Scaup as it extends its range.

Is Duck itch found only in New Zealand?

No, cases have been reported from nearly every country in the world, except Antarctica.

Can cercariae be seen in the water?

No, it is impossible to observe microscopic larvae in the water while swimming. They are approximately 1/10 of a millimeter long and transparent.

How many species of avian schistosomes can cause Duck itch in New Zealand?

Three species have been identified so far and there may be more. There are a large number of birds that

can serve as hosts for the adult worm. The adult worms are so small and so difficult to remove from the blood vessels that few people have attempted to work out the classification scheme. The life cycles are not known and the hosts for a specific species of schistosome have not been identified.

Do all of these species of schistosomes use the same species of snails and birds as their hosts?

No, they are quite host-specific. Most snail intermediate hosts for avian schistosomes belong to one of two families: Lymnaeidae and Physidae. Some members of a small snail (Planorbidae) can also serve as intermediate hosts. All of these snails are in New Zealand.

What is the relationship of snails to Duck itch?

The parasites must cycle through snails. Larval stages develop and reproduce in the internal organs of the snail. Thousands of these free-swimming cercariae emerge from the snail but do not feed and therefore will not live for more than 24 hours in the water.

Do all snails carry the organisms that cause swimmer's itch?

No, but there are at least nine species reported elsewhere that can serve as hosts for the parasites.

Are birds important to the organisms that cause swimmer's itch?

Yes, many species of birds and some rodent species can host the adult parasites. In New Zealand, Some common hosts may include NZ Scaup, mallards, grey ducks, Canada geese, swans, NZ shovellers, Great Crested Grebes and Australian Coots. Mice may also be infected.

What is the role of these birds and mammals in the life cycle of the parasites?

Perpetuation of the parasite life cycle.

Why should ducks, geese, and swans not be fed?

Three good reasons include:

it may propagate swimmer's itch in the area where the birds are being fed

it may make the birds dependent on humans for survival

it may stimulate fecal deposits at the feeding site.