

Newly uncovered helminth parasites of the New Zealand Australasian harrier, their pathogenicity and conservation implications.



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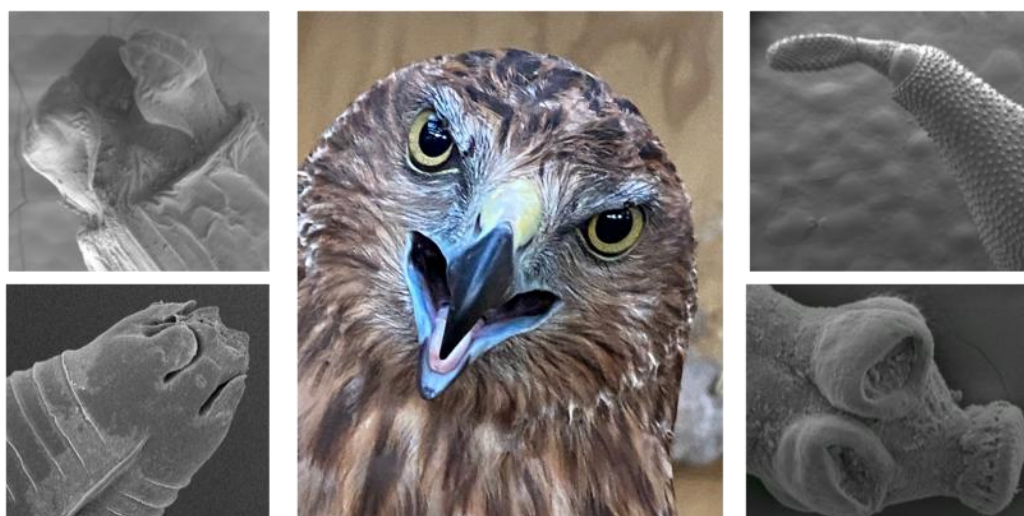
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Birds NZ Research Fund **summary article**

The Australasian harrier *Circus approximans*, a native of Australia, New Zealand and the South Pacific, is an opportunistic hunter of small prey, although a large part of its diet consists of carrion, mainly from roadkill. There is only a single, unnamed species of capillariid nematode recorded from this raptor species in the literature for New Zealand. The aim of our project was to recover all parasitic helminths from the gastrointestinal tract, visceral cavity, internal organs, eyes and nasal passages of a number of harriers. We received sixty-five deceased harriers, from southern South Island, from the Dunedin Wildlife Hospital and The Raptor Trust, out of which we recovered six parasite species; 3 nematodes, an acanthocephalan, a cestode and a trematode. One nematode (a species of *Procyrnea*), the cestode (a species of *Cladotaenia*) and acanthocephalan (a species of *Polymorphus*) are new species and have been formally described and named. Another nematode (*Porrocaecum circinum*) was poorly known previously and has been redescribed, and the trematode (*Strigea falconis*) is the first record for the genus in New Zealand. A fragment of a capillariid nematode suggested the presence of these worms which, judging by the literature, may be more prevalent in North Island.

The origins of the helminths and their arrival in New Zealand is of particular interest as we have records in the literature covering the date of introduction of almost all alien species. The Australasian harrier is thought to have naturally colonised New Zealand from Australia subsequent to human arrival, and probably became established following the habitat disturbances associated with man in the last 800 years. As most of the helminth parasites use small mammals or frogs as intermediate hosts, all of which arrived in New Zealand several hundred years after the harrier, we infer that the immigrating harriers arrived with no viable parasites, and acquired infections from introduced species of intermediate hosts at a later date.

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SEM photomicrographs: top left, *Porrocaecum circinum* (nematode); bottom left, a new species of *Procyrnea* (nematode); top right, a new species of *Polymorphus* (acanthocephalan); bottom right, a new species of *Cladotaenia*. Centre, Australasian harrier *Circus approximans*. Photo of harrier courtesy of Jenni Fraser, NZ Raptor Trust. Photos of parasites by B. Presswell.