

Inlet supported at least 1% of all pied oystercatcher, variable oystercatcher, wrybill (*Anarhynchus frontalis*), and bar-tailed godwit. Bells Island and Grossis Point were the most important sites in the Waimea Inlet, near Nelson. The number of red knot at Farewell Spit declined during the 40-year study. Pied oystercatchers declined at all sites except for Farewell Spit.

Shorebird migration in East Asia – a conservation perspective

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Every year some 5 million shorebirds migrate through East Asia, including some 170,000 birds which breed in the Arctic and spend the non-breeding season in New Zealand. Conservation efforts in New Zealand are of vital importance to the survival of these birds but will be for naught if staging areas in East Asia are lost. This presentation will highlight some of the threats shorebirds face in East Asia, where the birds have to share limited resources with a large and ever growing human population. East Asia represents 14% of the Earth's land area but supports over 56% of its human population. New Zealand has a role to play in supporting conservation efforts elsewhere in the flyway, as well as at home.

Poster

Penguins, parasites and phylogenies: an analysis of penguin and louse coevolution

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The penguins (order Sphenisciformes) are parasitised by 14 species of chewing lice (Ischnocera: Phthiraptera). Little is known about these lice. Chewing lice of penguins are obligate ectoparasites and feed on feathers: they are usually benign parasites

although heavy infestations may cause problems. Because chewing lice survive only briefly away from their host they rely primarily on physical encounters, such as host copulation, to transfer between hosts. Lack of opportunities for lice to transfer to novel host species has been proposed as having led to "speciation by isolation". If this has occurred, host speciation events should lead to parasite speciation. Penguins represent habitats with ideal conditions for isolation of louse populations and subsequent coevolution. However, alternative events, such as colonisation of new host species (host switching) or intra-host speciation by lice, will also lead to the formation of new louse species.

We constructed a phylogeny for the chewing lice using morphological and molecular characters (mitochondrial 12s and cytochrome oxidase 1 regions) and used the phylogeny in conjunction with a penguin phylogeny in a reconciliation analysis to examine mechanisms of speciation in the penguin chewing louse group.