

A study of feather mites on Purple Sandpipers

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Through geographical isolation populations evolve in response to the local conditions (adaptation) and eventually become full species. Down this road of evolution populations start to diverge in characteristics and eventually a taxonomist may describe these differences and allot the population to sub-species status. This is happening with the Purple Sandpiper and the Icelandic population is sometimes regarded as the sub-species islandica since the birds are bigger than other populations. However, for most of the populations of Purple Sandpipers their measurements are still insufficiently distinct to identify all individuals to a geographical breeding area.

The morphology of birds is not the only way of examining population differences. Like all birds. Purple Sandpipers have a fair suite of parasites and it is likely that those that are most tied to the host will also evolve and diverge from the appearance of the parent stock. I therefore set out to find if Purple Sandpipers from different localities have different populations of feather mites, as a means of distinguishing the different populations of sandpipers.

On 22 December 1991 the Highland Ringing Group made a catch of Purple Sandpipers at Buckle and I removed (under licence) the 8th primary from one wing and 2-3 breast feathers from Purple Sandpipers with bill lengths less than 27mm (short billed, Norwegian males) and over 32mm (long billed, possibly Canadian females). The samples were stored in 70% alcohol and sent to Jacek Dabert of the Department of Animal Morphology at Mickiewicz University, Poland.

He reported that there were four species of mites; Alloptes crassipes on the vane surface of flight feathers, Phyllochaeta maritimae on the quills of flight feathers, and ingrassia calidris and Tectingrasia sp. nov. (perhaps a new species!) on the threads of down feathers.

The populations of Alloptes and Phyllochaeta were numerous (some hundreds of specimens) but the both down inhabiting species were rare (not more than 20 specimens).

There was no qualitative difference between the mites of "short-billed" and "long-billed" populations of the Purple Sandpiper. However, the quantitative data suggested some differences. Namely, in the "short billed" population there were fewer Ingrassia than Tectingrasia? while in the "long billed" population the reverse was the case. Unfortunately, these, two mite species were not numerous in the samples so the differences were not statistically significant. It seems therefore that a larger sample of down feathers may prove interesting. The study continues.