

POINTS OF VIEW—PUNTOS DE VISTA—PONTOS DE VISTA

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ANOTHER VALUE OF SPECIMENS IN MUSEUM COLLECTIONS

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Key words: Lice, parasites, collections, museums, birds.

Have you ever heard of the expression “to shake a bird”? This is what parasitologists do when they want to obtain ectoparasites such as mites or lice off bird feathers. So, this (or “ruffling a bird”) is what I have been doing in my recent research. I visited three museums in a period of three months to study hummingbirds, besides noting label data. I examined each specimen for presence or absence of lice and their eggs, as did Foster (1969a, 1969b) some years ago for the Orange-crowned Warbler (*Vermivora celata*) she studied, and showed that the well-cemented lice (*Phthiraptera*) eggs on the feathers can tell the specialist, at least, what genus of lice was present in that individual bird.

The sources of this material are the bird specimens preserved in museums over centuries of cumulative work by hundreds of students, professional taxidermists and ornithologists. This material, priceless as it is, become more valuable now that many species are endangered by the rapid deforestation all over the world. As pointed out by Noss (1996) the naturalists of the past are dying off,

leaving few or no followers. Many collections have stopped growing some 10–15 years ago, because of complicated permit procedures required everywhere, especially in some South American countries.

The question arises on the fate of ectoparasites, many of which are still unnamed and thus unknown to science, and lie in state within the shelves of museums, hidden between the feathers of birds. Those specimens (some of them over 200 years old) offer innumerable scientific projects that would take a handful of scientists all their lives to finish. As pointed out by Windsor (1995), it is unfortunate that many people will not be disappointed with the extinction of parasites when their hosts go extinct. Among ectoparasites, one could study ticks, bird lice, mites of various types (flower mites, feather mites of several kinds). Pollen can be collected off the birds' feathers as well as other minute insects that can be found just by shaking the bird, when they come down as dust. One can gather data on bird molt (wing, tail, body) and lately one can scrape a bit of their skins or tis-

sues from the plantar area and work their DNA sequences. Thus, even if one does not go to the field also, as I did, one can gently remove ectoparasites from the birds in museum specimens. One needs to determine whether “contamination” has occurred, i. e., if the parasites have migrated from another host to the present, while being taxidermized or when left drying next to other specimens after taxidermy.

The uses for museum birds are numerous, even today when many researchers would prefer to produce extravagant simulation modeling in their computers in an air-conditioned room even to contradict some theories produced by workers that sweated and labored in the forest all their lives. Even if I seldom collect birds myself, I have visited the American Museum two times in the past and brought down all trays from the cabinets on the five floors to search and study the São Paulo and Mato Grosso birds respectively, and now have examined all the 22,400 hummingbird specimens to study their lice, and I certainly appreciate the efforts of past collectors. Some scientists are disapproving collecting in recent years (Donegan, 2000) arguing that enough has been collected while others (Vuilleumier 1988, 2000) believe that responsible collecting is still necessary. Looking over the present status of a species, to see if it is not endangered or the population is low, it is still possible to devise projects in which specimen taking is valuable.

In the past, it was not customary for some collectors to write down even basic data about the bird they were collecting, such as the date, exact locality, and collector's name. Learning from past mistakes, specimens are nowadays taken more judiciously, with several kinds of data obtained at the time of collecting, such as body mass, body temperatures,

morphometrical measurements, ecto- and endoparasites, samples of muscles, blood, and several organ tissues. All this can be distributed to specialists for studies.

ACKNOWLEDGMENTS

I appreciate grants from the Museum of Comparative Zoology (MCZ, Boston), American Museum of Natural History (AMNH, New York), and the help from respective curators and collections managers. In special, I thank Alison Pirie (MCZ) and Mary LeCroy (AMNH), and Doug Wechsler and Leo Joseph at the Philadelphia Academy of Natural Science museum, for helping with logistics and making the visits more enjoyable. Publication no. 29 of the Institute for Studies of Nature.

REFERENCES

- Donegan, T. M. 2000. Is specimen-taking of birds in the neotropics really “essential”? Ethical and practical objections to further collection. *Ornitol. Neotrop.* 11: 263–267.
- Foster, M. 1969a. The eggs of three species of Mallophaga and their significance in ecological studies. *J. Parasitol.* 55: 435–456.
- Foster, M. 1969b. Synchronized life cycles in the Orange-crowned Warbler and its Mallophagan parasites. *Ecology* 50: 315–323.
- Noss, R. F. 1996. The naturalists are dying off. *Conserv. Biol.* 10: 1–3.
- Vuilleumier, F. 1988. The need to collect birds in the Neotropics. *Ornitol. Neotrop.* 9: 201–203.
- Vuilleumier, F. 2000. Response: Further collecting of birds in the neotropics is still needed. *Ornitol. Neotrop.* 11: 269–274.
- Windsor, D. A. 1995. Equal rights for parasites. *Conserv. Biol.* 9: 1–2.

Accepted 6 November 2001.