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## RESEARCH NOTE . . .

### Distribution of *Menacanthus stramineus* in Relation to Chickens' Surface Temperatures

Eichler (1939, *Ztschr. Parasitenk.* **11**: 205-214) found life cycle stages of the mallophagan *Columbicola columbae* on different body areas of the common pigeon (*Columba livia*) and theorized that temperature differences accounted for the localization. Following rearing experiments, Martin (1934, *Can. Ent.* **66**: 6-16) reported that the length of the life cycle of *C. columbae* is dependent on temperature, with nymphs being more sensitive to temperature changes than adults.

Chicken body lice (*Menacanthus stramineus*), collected by the author from debeaked domestic chickens (*Gallus domesticus*), seemed to be concentrated on specific body areas. Eggs were most commonly found attached to the feathers in the chin, gular, and jugular regions. Many nymphs and a very few adults were found on the inner wing surface in areas between the insertion of the primaries and secondaries; many adults and a few nymphs were found on the rest of the body, with the anal region being especially heavily infested.

Skin and anal temperatures of five male and five female, 11 to 12-week-old, hooded chickens were obtained by means of a thermistor. The mean anal region temperature for each chicken was an average of 15 readings made to the right and left of the anus and just below the uropygial gland. The underwing temperature was an average of five readings per wing.

As the chickens became restless when core temperatures were taken, only one reading was made, after at least a 2-min insertion period.

The mean anal region, underwing, and core temperatures and standard errors (SE) from all 10 chickens were 35.75 (0.56) C, 39.53 (0.27) C, and 41.42 (0.20) C, respectively. While studying the auto-selected temperatures of the chicken louse (*Cuclutogaster heterographus*), Bair (1950, *Ecology* **31**: 474-477) found the average skin temperature of the head and neck of domestic chickens to be 41.5 C.

The distribution of temperatures—41.5 C for the head and neck (Bair, 1950), 39.53 C under the wings, and 35.75 for the anal region—may be correlated with the distribution of the various life cycle stages of *M. stramineus* at these locations. Differences in relative humidity at the various sites may also be an important factor. The distribution could also be explained by the protective advantage offered by the different locations, with eggs and nymphs in areas difficult to preen.

This research was supported, in part, by summer grants from the National Science Foundation and Boston University Graduate School. The author would like to thank Dr. S. Duncan for reading the manuscript.

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