



Struthiolipeurus rhea (Mallophaga: Philopterae), an Ectoparasite of the Common Rhea (Rhea americana)

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G. intestinalis. This also differs from the general predominance of the second and third instars of *G. intestinalis* over *G. nasalis* in the stomachs of horses in the central Kentucky region as well as other areas of the United States (Schooley et al., 1971, Vet. Med. Small Anim. Clin. **66**: 592–593). These discrepancies may be due to sampling variation rather than differing indices of preference for de-

velopmental sites by the oral stages of these two species.

S. C. Tolliver, E. T. Lyons, and J. H. Drudge, Department of Veterinary Science, University of Kentucky, Lexington, Ky. 40506. This investigation was made in connection with a project of the Kentucky Agricultural Experiment Station and is published as paper No. 73-4-153 with the approval of the Director of the Station.

***Struthiolipeurus rheae* (Mallophaga: Philopteridae), an Ectoparasite of the Common Rhea (*Rhea americana*)**

Submission of a dead rhea (*Rhea americana*) to this laboratory for diagnosis resulted in the finding of several thousand lice (*Struthiolipeurus rheae* Harrison, 1916) as an incidental observation. Although ectoparasites from rheas have been described in the European and South American literature (Meister, 1958, Entomol. Mitt. Zool. Staatsinst. Zool. Mus. Hamb. **15**: 445–451; Eichler, 1950, Zool. Gart. **17**: 258–261; Rehm and Meister, 1957, Kleintier-prax. **3**: 89–90; Carriker, 1945, Bol. Entomol. Venez. **4**: 165–189), they have not been reported

from bird collections from the United States, nor are keys facilitating their classification easily available. Similarly, photographs illustrating the significant morphological characteristics of these lice have not been previously published. Because of the relatively widespread distribution of rheas in zoo and private ornamental bird collections, the purpose of this report is to characterize and illustrate *S. rheae* and to provide descriptions facilitating the differentiation of mallophagan ectoparasites found on rheas.

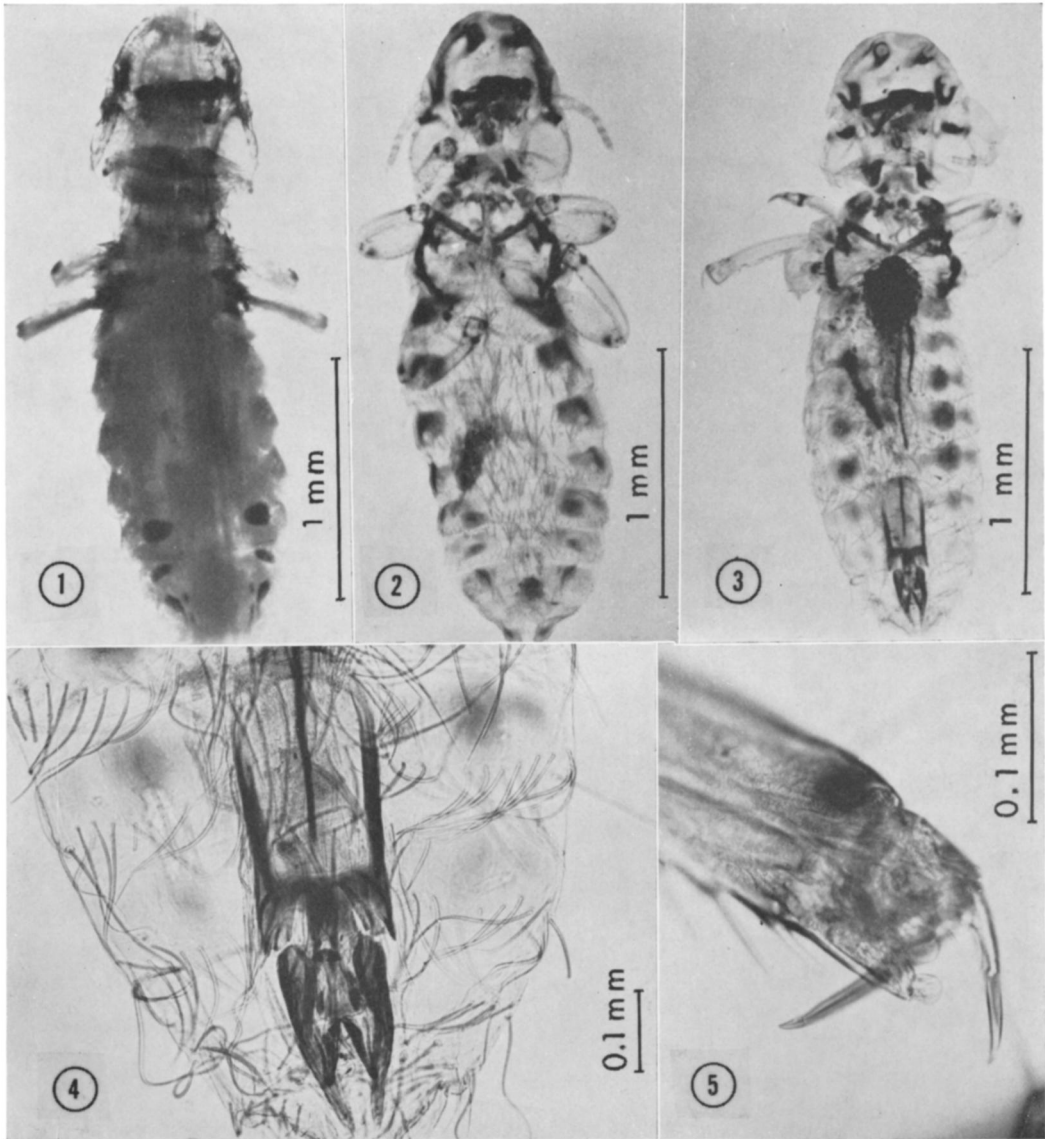
TABLE I. *Measurements and morphologic features useful in the differentiation of Mallophaga from Rhea americana.*

Taxonomic feature	<i>S. rheae</i> ¹	<i>S. rheae</i> ²	<i>S. renschi</i> ²	<i>S. nandu</i> ²	<i>M. latus</i> ²
Body length (male)	2.525 (2.263–2.754)	2.721 (2.480–2.940)	* (*)	* (4.183–4.301)	* (3.2–3.29)
Body width (male)	0.627 (0.588–0.705)	0.689 (0.589–0.752)	* (*)	* (0.988–1.034)	* (1.17–1.175)
Head length (male)	0.705 (0.666–0.745)	0.715 (0.660–0.842)	* (*)	* (1.220–1.222)	* (0.941–0.979)
Head width (male)	0.666 (0.627–0.705)	0.695 (0.691–0.750)	* (*)	* (0.985–0.987)	* (1.125–1.13)
Genital length (male)	0.648 (0.610–0.686)	0.620 (*)	* (*)	1.155 (*)	0.913 (*)
Body length (female)	2.541 (2.444–2.610)	2.870 (2.550–3.080)	4.520 (*)	* (4.13–4.29)	4.346 (3.85–4.7)
Body width (female)	0.666 (0.510–0.826)	0.782 (0.550–0.992)	1.460 (*)	* (0.841–1.08)	1.516 (0.981–1.79)
Head length (female)	0.784 (0.752–0.816)	0.792 (0.730–0.870)	1.320 (*)	* (1.31–1.37)	1.080 (1.035–1.175)
Head width (female)	0.705 (0.680–0.730)	0.728 (0.670–0.800)	0.987 (*)	* (0.89–0.91)	1.255 (1.155–1.340)
Length of the 2 tarsal claws	Approx. equal		Approx. equal	Approx. equal	One half as long as the other
Head shape	Longer than wide		Longer than wide	Longer than wide	Wider than long
Darkened abdominal sternal sclerites (female)	3 bilateral pairs		5 bilateral pairs, 2 most cephalad pairs divided	5 bilateral pairs	0

¹ Mean measurements (with ranges in parentheses) from 20 specimens each sex, of *S. rheae*, of this report.

² Similar measurements by Meister (1958, loc. cit.).

* Information not available.



FIGURES 1-5. *Struthiolipeurus rhea*. 1. Uncleared female to show 3 pairs of darkly pigmented ventral abdominal sclerites. 2. Cleared female. 3. Cleared male. 4. Close-up of male genitalia. 5. Distal tarsus to show 2 claws of equivalent length.

The parents of the dead rhea were trapped in east central Argentina and imported to the United States with a group of 14 rheas in the 4- to 6-month age group in early 1971. Five of this group were obtained by a private collector in Suffolk County, Long Island, N. Y. During the following year the female of the group layed eggs and the submitted bird was hatched in May 1972 making it about 18 months old at the time of death. It had been reared in

a pen with the imported parental group during this entire time and it is assumed (since retrospective examination also showed the parents to harbor *S. rhea*) that transmission occurred by direct contact.

Lice were collected from the carcass of the rhea and appeared to be evenly distributed over the feathers of the wings, breast, neck, and back. They were preserved in 70% ethanol. Cleared specimens were prepared by

stepwise rehydration in ethanol to water, 5-min treatment with boiling 10% KOH, dehydration successively in ethanol to 100%, and finally, permanent slide preparations were mounted in euparal.

The four species of lice to be found on the common rhea are typical of the suborder Ischnocera and within two genera of the family Philopteridae (Hopkins and Clay, 1952, Checklist of the Genera and Species of Mallophaga, Lond., Brit. Mus. (Nat. Hist.). *Meinertzhageniella latus* (Piaget, 1880), *Struthiolipeurus rhaeae*, *S. renschi* (Eichler, 1940), and *S. nandu* (Eichler, 1950) compose the group.

The lice collected from the rhea of this report were identified as *S. rhaeae* on the basis of criteria outlined by Meister (1958, loc. cit.). Specimens of both male and female lice were examined and measured (Figs. 1-5) and found to be approximately 5% smaller than those of the same species described by Meister. These differences may be attributable to mea-

surement under different conditions of fixation or to the techniques of measurement themselves, but were, in any case, insignificant.

By examination of the lice in this report and those described by Meister (loc. cit.), it was found that they may be clinically differentiated by five morphologic components: the body length, male genital length (Fig. 4), comparative length of tarsal claws (Fig. 5), head shape, and number and shape of bilateral pairs of darkened abdominal sternal sclerites in the female (Figs. 1, 2). These measurements and differential features have been summarized in Table I.

The dead rhea was identified by Donald F. Bruning, Asst. Curator of Birds, N. Y. Zool. Soc., Bronx Park, Bronx, N. Y.

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PRESENTATION OF THE HENRY BALDWIN WARD MEDAL*

By **WILBUR L. BULLOCK**

It is an honor and privilege to present, on behalf of the Awards Committee, the 14th Henry Baldwin Ward medal. Your committee this year consisted of Calvin Beames, Richard Bradley, Louis Diamond, Eder Hansen, and myself. At this time I publicly thank the other members of the committee for the time spent in the study of files on nominees, for their prompt and efficient attention to the business of the committee, and for their helpful suggestions.

As most of you know, the medal was conceived as a memorial to the founder of the *Journal of Parasitology* and the first president of our society. The recipient of the medal is to be a member of the society who has achieved a position of leadership in some phase of parasitological research.

Professor Ward's achievements in parasitology have been summarized in the *Journal* in 1932 and again in 1945. They can be seen at a glance in the Index Catalog of Medical and Veterinary Zoology, Part 17. Henry Ward's impressive contributions were mostly in those areas now recognized as "classical" parasitology, i.e., surveys, species descriptions, and life histories. Furthermore, most of this work was performed without benefit of the substantial federal grant support

that has assisted so many of us here this evening. Finally, Professor Ward was not only a competent and prolific research worker, but he rounded out his position of leadership by his excellence as a teacher.

This year's recipient of the Henry Baldwin Ward Medal is uniquely in the "Ward tradition." As a parasite systematist, particularly with the Acanthocephala, he has contributed significantly to our knowledge of these and other helminths. These contributions have come at a time when, due to advances and problems in areas such as ecology and immunology, it has become absolutely imperative that we once again direct our attention to the basic biological problems associated with the nature of the species and the processes of speciation. This year's medalist has not only been prolific, but his taxonomic contributions have developed into models of careful, detailed, significant achievements.

Moreover, in the Ward tradition his publications, now numbering over 70, have been achieved, for the most part, without the benefit of large federal grants. He has thereby proven himself to be a tireless and dedicated systematist. Finally, he has distinguished himself as a teacher and was named the Teacher of the Year for 1968 at the University of Northern Colorado. It is a real personal pleasure to present the 1973 Henry Baldwin Ward Medal to Dr. Gerald D. Schmidt.

* Presented at Society Banquet, Great Hall, Hart House, University of Toronto, 28 June 1973.