A NEW MALLOPHAGA FROM A RUFFED GROUSE

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Goniodes bonasus n. sp.
(Figures 1-4)

Female. Head circumfasciate; clypeal margin broadly rounded with prominent angles. Temple angle with lateroventral process bearing a long seta and a short spine. Head wider than long, greatest width at the temples which are expanded.

Prothorax one-half as broad as head, with nearly straight sides that diverge from front to rear. Pterothorax triangular in shape without lateral indications of meso-metathoracic junction. Legs characteristic of genus.

Male. Head with clypeal margin rounded, squarish posterior to antennae. Clavus prominent with a long seta. First antennal segment enlarged and without a process; third produced distally at right angles to the fourth segment.

Prothorax and pterothorax similar to those of the female except in chaetotaxy. Abdomen more rounded than in female. Pleurites each with 3 or 4 long dorsal setae.

Genitalia with a long broad basal plate and short broad parameres; each paramere with an attached short narrow appendage which points inward at a right angle.

Holotype male from **Bonasa umbellus** ssp., collected in Ravalli Co., Montana. Allotype female from the same series. Paratypes from the same collection, and from the same host collected on Newton Ranch, Pagosa Springs, Colorado.

Comparative Notes

This species belongs to Group i, erected by Miss Clay in her revision of the genus. The accompanying figures indicate the characteristics of the species clearly and easily separate it from others found in North America. The following key will help to separate the various species of this genus found on North American game birds.

1. Temples expanded and similar in the two sexes. ..... 2.
   Temples exhibiting sexual dimorphism in shape, being little, or not at all, expanded in the male, and being expanded to a greater extent in the female. ..... 3.
2. The distal post-axial angle of the third antennal segment prolonged at right angles to the fourth segment..... **ortygis**
   The distal post-axial angle of the third antennal segment prolonged parallel to the fourth segment..... **dispar**
3. Spinous process present on the female genital region..... 4.
   No spinous process on the female genital region. ..... 5.
4. Paramere with an inward pointing appendage. ..... **nebraskensis**
   Paramere without an appendage. ..... **cervinicornis**

5. Clypeal band narrow. **colchici**
Clypeal band wide. 6.

6. Temples scarcely expanded in the female, being no wider than the preantennal region. **mamillatus**
Temples expanded in the female, being wider than the preantennal region. 7.

7. Ventral spinous process on genital region extremely small; 5-6 short hairs on the margin of the vulva. **centrocerci**
Ventral spinous process on genital region normal to large in size; 7 or more long hairs on the margin of the vulva. 8.

8. Genitalia normal in appearance. 11.
Narrow appendage on the paramere which points inward. 9.

9. Appendages on parameres touching each other centrally. 10.
Appendages on parameres not touching. **bonasus**

10. Clypeal band same width throughout. **lagopi**
Clypeal band wider on front than lateral margin of the head. **corpulentus**

11. Lateral margin of vulva straight with numerous long hair bunched on distal half of lateral margin. **merriamanus**
Lateral margin of vulva irregular with numerous long hairs along all the lateral margin. **cupido**

HOST LIST

Goniodes bonasus n. sp. **Bonasa umbellus** (probably) **umbelloides** (Douglas), Gray Ruffed Grouse.

Goniodes centrocerci Simon 1938—**Centrocercus urophasianus** (Bonaparte). Sage Hen.

Goniodes cervinicornis Giebel 1874—**Gennaeus nycthemerus,** Silver Pheasant.

Goniodes colchici Denny 1842—**Phasianus colchicus torquatus** Gmelin, Ringnecked Pheasant.

Goniodes corpulentus Kellogg and Mann 1912—**Canachites canadensis osgoodi** Bishop, Alaska Spruce Grouse.

Goniodes cupido Rudow 1870—**Tympanuchus cupido pinnatus** (Brewster), Greater Prairie Chicken.

Goniodes dispar Burmeister 1838—**Perdix perdix perdix** (Linnaeus), European Partridge.

Goniodes lagopi (Linnaeus 1758)—**Lagopus lagopus albus** (Gmelin), Willow Ptarmigan.

Goniodes mamillatus Rudow 1870—**Lophortyx californica californica** Ridgway, Valley Quail.

Goniodes merriamanus Packard 1873—**Dendragapus obscurus richardsonii** (Douglas), Richardson's Grouse.

Goniodes nebraskensis Carriker 1946—**Pedioecetes phasianellus campestris** Ridgway, Prairie Sharp-tailed Grouse.

Goniodes ortygis Denny 1842—**Colinus virginianus virginianus** (Linnaeus), Eastern Bob-white.

A note on the identity of **Geniodes merriamanus** Packard **1873.**

Packard described this species from a single male from **Dendragapus obscurus richardsonii** (Douglas), Richardson's Grouse. In 1940, Clay

described **Goniodes simoni** from **Dendragapus obscurus obscurus** (Say), Dusky Grouse.

After examining a large series of **Goniodes** from each host, the author can find no difference in the material from the two hosts. In view of Carriker's statement, it is beyond reasonable doubt that **G. simoni** Clay is a synonym of **G. merriamanus** Packard.

As Packard's type is apparently lost, I designate as neotype a female from Richardson's Grouse, **Dendragapus obscurus richardsonii** (Douglas), from Ravalli Co., Montana; and as neallotype a male from the same collection. Many neoparatypes from the same host from this collection and from Missoula Co., Montana, will be distributed to other collections.

Acknowledgment

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Clay, Theresa, **Proc. Zool. Soc. Lond.**, CX, Series B, 1940, p. 1-120.
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Packard, A. S., **Ann. Rept. U. S. Geol. and Geol. Surv.**, 1872, p. 731-732.
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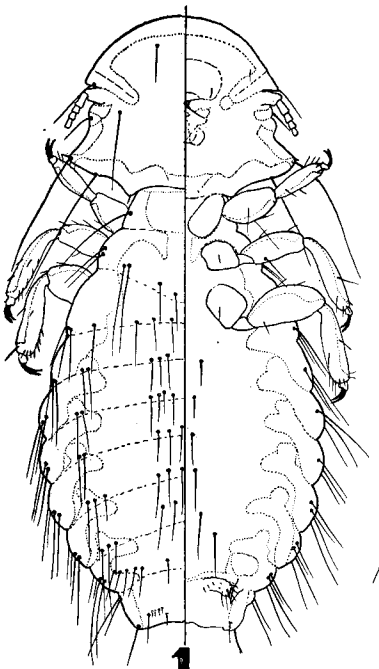
EXPLANATION OF PLATE

All figures refer to **Goniodes bonasus** n. sp.:

1. Dorsal-ventral view of the female.
2. Dorsal-ventral view of the male.
3. Male genitalia.
4. Ventral view of the genital region of the female.



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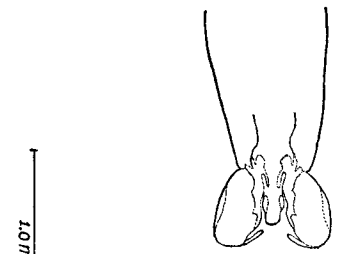

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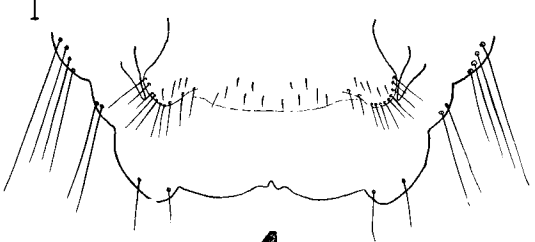

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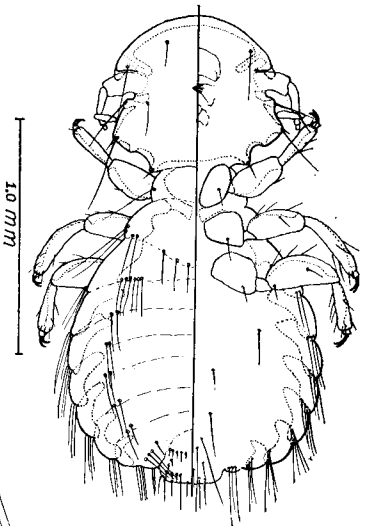

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