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Author(s): Robert M. Timm and Roger D. Price

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**A New Species of *Eutrichophilus* (Phthiraptera: Trichodectidae)
from the Brazilian Black Dwarf Porcupine
(Rodentia: Erethizontidae)**

ROBERT M. TIMM¹ AND ROGER D. PRICE²

ABSTRACT: A new species of chewing louse, *Eutrichophilus koopmani* (Phthiraptera: Trichodectidae), is described and illustrated based on an adult male specimen taken off the Brazilian black dwarf porcupine, *Coendou nycthemera* (Olfers) (Rodentia: Erethizontidae).

Of the larger Neotropical rodents, probably the poorest known and least represented in collections are the prehensile-tailed porcupines of the genus *Coendou*. Within this genus of some 10 species, which occur across the South American continent and range northward to central Mexico, almost certainly the most poorly known species is the black dwarf porcupine, *Coendou nycthemera* (Olfers). This small porcupine was described by Olfers (1818) on the basis of a single poorly preserved specimen, which was taken from an unspecified locality in Brazil. Individual and geographic variation have been difficult to evaluate for the Neotropical porcupines and a plethora of names occurs in the historical literature. The name provided by Olfers (1818) was not associated with the black dwarf porcupine until recently because of these taxonomic problems, the lack of data associated with the holotype (Voss and Angermann, 1997), and the small number of specimens known for the species.

In the Timm and Price (1994) revision of the chewing louse genus *Eutrichophilus*, we recognized 18 species, all of which occur on New World porcupines of the family Erethizontidae. In sorting out a truly confusing array of names in the historical literature for the porcupines and their parasitic lice, we documented that these lice are extremely host specific. Unexpectedly, we also determined that within the caviomorph rodents, which include porcupines, it is not uncommon to find 2, and in a few cases 3, sympatric chewing louse species on a single host individual (Timm and Price, 1994; Price and Timm, 1997).

Although we do not generally believe that a new species of louse should be described on the basis of a single individual, in this case we feel it is warranted. The paucity of information on the host porcupine species, its rarity in collections, and the taxonomic and nomenclatural problems associated with it, coupled with the excellent suite of characters this louse possesses, lead us to conclude that this host-louse association provides valuable information. Because the taxonomy of the porcupine lice of the genus *Eutrichophilus* has been revised recently (Timm and Price, 1994), and thus is fairly well understood, we are confident that this chewing louse merits recognition as a species new to science.

¹ Natural History Museum and Department of Ecology and Evolutionary Biology, University of Kansas, Lawrence, Kansas 66045-2454.

² Department of Entomology, University of Minnesota, St. Paul, Minnesota. Present address: 4202 Stanard Circle, Fort Smith, Arkansas 72903-1906.

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Eutrichophilus koopmani, new species

(Figs. 1, 2)

TYPE HOST: *Coendou nycthemera* (Olfers).

MALE: As in Fig. 1. Head longer than wide, with essentially straight broad anterior margin; prominent dorsal setae; scape much enlarged. Each side of medioposterior margin of pronotum with 4 setae aligned transversely. Metanotum with long outer marginal seta and total of 19 short setae between them; longest seta of metapleuron of similar length to lateral metanotal seta. Tergal setae shorter toward midline with much longer lateral setae on last 2 terga: I, 10; II–III, 32–34; IV–VI, 39–41; VII–VIII, 38–39; IX with about 40 short to very long setae, as shown; terminal segment broadly rounded, with about 70 minute to very long setae. Very long setae on pleura VII–VIII. Small accessory tergal plate on III–VI. Spiracles large. Sternal setae: II, 22; III–IV, 37–39; V, 33; VI–VII, 29–30; VIII, 38; fringe of about 40 long submarginal posterior setae. Genitalia (Fig. 2) with broad straight apically tapered parameres, short broad mesomeres, and bridge at base of parameres and another longer slender arched one posterior to this; with large spinose sac (not shown); sides of basal apodeme relatively straight, parallel. Dimensions (in mm): temple width, 0.69; head length, 0.75; scape length, 0.36–0.37; scape width, 0.15; prothorax width, 0.56; metathorax width, 0.66; abdomen width at IV, 0.87; total length, 2.77; genitalia width at mesomeres, 0.30; genitalia paramere length, 0.28; genitalia basal apodeme length, 0.41.

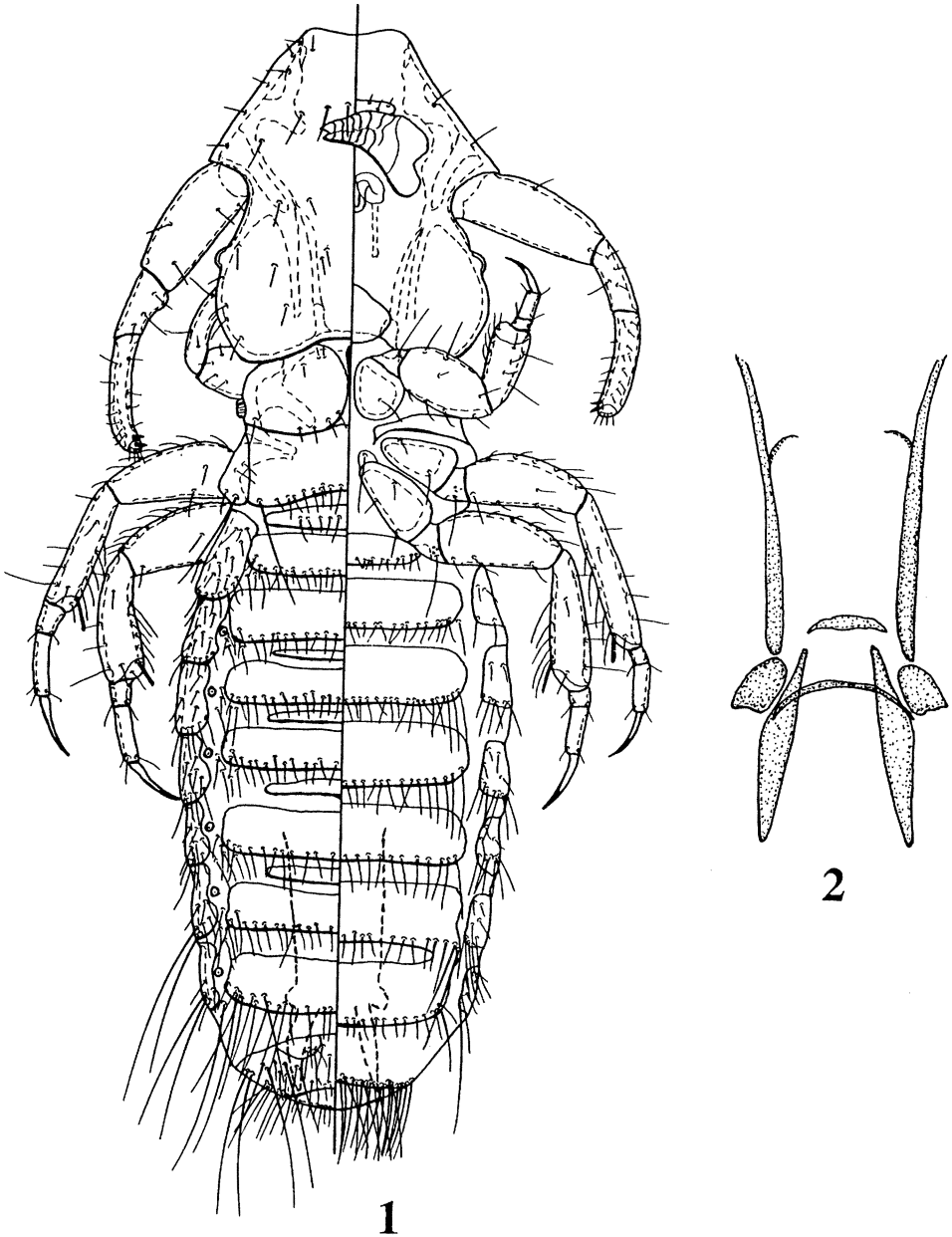
FEMALE: Unknown.

TYPE MATERIAL: Holotype male, ex *Coendou nycthemera* (female, USNM 519691, M4058), Brazil: Pará; Marajó, 31 October 1975; in collection of National Museum of Natural History, Washington, D.C.

ETYMOLOGY: This species is named in honor of the late Dr. Karl F. Koopman, American Museum of Natural History, for his being almost certainly the first modern-day scientist to recognize the distinctiveness of the host porcupine that had been lost in synonymy. His published research efforts, genuine enthusiasm for learning about mammals, and freely sharing that information have greatly contributed to our understanding of the world's mammals.

REMARKS: In the key to the species of *Eutrichophilus* provided by Timm and Price (1994), this male identifies with some difficulty to *E. mexicanus* (Rudow) in couplet 12, a species known from *Coendou mexicanus* (Kerr) from Costa Rica, Guatemala, Mexico, and Nicaragua. It is readily separated from this species by the broad flattened anterior head margin, the numerous long to very long tergal and pleural setae on VII–IX, the ventral fringe of long subterminal setae, the broader genitalic parameres, the longer dorsal head setae, the larger number of tergal and sternal setae on all segments, and the much larger dimensions. Couplet 5 in the key we provided (Timm and Price, 1994:33) contains an error, incorrectly referring to “fig. 1” in the second part, rather than to “fig. 6”.

Of the remaining 16 *Eutrichophilus* species for which males are known, *E. koopmani* has a much larger temple width than 10 and much smaller temple width than 2. The 4 species approaching *E. koopmani* in body dimensions—*E. cercolabes* Mjöberg, *E. andersoni* Timm and Price, *E. paraguayensis* Timm and Price, and *E. guyanensis* Werneck—all demonstrate gross differences for numerous other features, including the genitalia (see Timm and Price, 1994).



Figs. 1, 2. *Eutrichophilus koopmani*, n. sp. 1. Male. 2. Male genitalia.

Coendou nycthemera is known from the Brazilian Amazonian lowlands south of the Rio Amazonas and east of the Rio Madeira. We suspect that *Eutrichophilus koopmani* is a host-specific parasite of the black dwarf porcupine and, as such, will be found parasitizing it throughout its geographic range. This host porcupine has had a complicated taxonomic history. Olfers (1818) based the description of *Hystrix nycthemera* upon a single specimen from an unknown locality in Brazil. Pine (1973)

was apparently the first modern author to report that a dark, miniature porcupine occurred sympatrically with the larger *Coendou prehensilis* (Linnaeus) in Brazil's Amazon Basin. Emmons (1990, 1997) illustrated and briefly discussed this species in her field guides to Neotropical mammals, calling it the black dwarf porcupine. Handley and Pine (1992), unaware that Olfers' name *Hystrix nycthemera* referred to this species, described it as the new species *Coendou koopmani*. Voss and Angermann (1997) provided a well-documented review of the nomenclatural history of this porcupine. Handley and Pine (1992) considered the dwarf porcupine to be closely related to *Coendou spinosus*.

Judging from our studies on both the chewing lice and their host porcupines, additional taxa of porcupine species await recognition, and almost surely additional species of *Eutrichophilus* will be discovered.

Acknowledgments

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Literature Cited

- Emmons, L. H. 1990. Neotropical rainforest mammals: A field guide. Univ. Chicago Press, Chicago, IL. 281 pp.
- Emmons, L. H. 1997. Neotropical rainforest mammals: A field guide. 2nd ed. Univ. Chicago Press, Chicago, IL. 307 pp.
- Handley, C. O., Jr., and R. H. Pine. 1992. A new species of prehensile-tailed porcupine, genus *Coendou* Lacépède, from Brazil. *Mammalia* 56:237–244.
- Olfers, I. [F. J. M.] von. 1818. Bemerkungen zu Illiger's Ueberblick der Säugthiere nach ihrer Vertheilung über die Welttheile, rücksichtlich der Südamericanischen Arten. In W. L. von Eschwege, *Journal von Brasilien, oder Vermischte nachrichten aus Brasilien, auf wissenschaftlichen Reisen gesammelt*, Abhandlung 10:192–237. Verlage des Gr. H. S. priv. Landes-Industries-Comptoirs, Weimar, Germany. [Eschwege's book is sometimes cited as volume 15 (Heft 2) of the "Neue Bibliothek der wichtigsten Reisebeschreibungen zur Erweiterung der Erd- und Völkerkunde" edited by F. J. Bertuch.] [Original not seen, cited in Voss and Angermann, 1997.]
- Pine, R. H. 1973. Mammals (exclusive of bats) of Belém, Pará, Brazil. *Acta Amazonica* 3:47–79.
- Price, R. D., and R. M. Timm. 1997. A new subgenus and four new species of *Gliricola* (Phthiraptera: Gyropidae) from the Caribbean hutias (Rodentia: Capromyidae). *Proc. Biol. Soc. Washington* 110:285–300.
- Timm, R. M., and R. D. Price. 1994. Revision of the chewing louse genus *Eutrichophilus* (Phthiraptera: Trichodectidae) from the New World porcupines (Rodentia: Erethizontidae). *Fieldiana: Zool. (New Series)* 76:1–35.
- Voss, R. S., and R. Angermann. 1997. Revisionary notes on Neotropical porcupines (Rodentia: Erethizontidae). 1. Type material described by Olfers (1818) and Kuhl (1820) in the Berlin Zoological Museum. *Amer. Mus. Novit.* 3214:1–44.