

**A New Species of *Geomydoecus* (Mallophaga: Trichodectidae)
from the Texas Pocket Gopher, *Geomys personatus*
(Rodentia: Geomyidae)**

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ABSTRACT: *Geomydoecus dalgleishi* n. sp. is described and illustrated for material off *Geomys personatus fuscus* from southern Texas.

Two species of *Geomydoecus* Ewing are currently recognized from the Texas pocket gopher, *Geomys personatus* True. Ewing (1936) described *Geomydoecus texanus* from *Geomys personatus fallax* Merriam collected at Flour Bluff, Corpus Christi Bay, [Nueces County], Texas. Davis (1940) subsequently described the pocket gophers from Flour Bluff and all of coastal Nueces and Kleberg counties as a new subspecies, *Geomys personatus maritimus*; hence, the type-host of *Geomydoecus texanus* should be *Geomys personatus maritimus* rather than *G. p. fallax*. Price and Hellenthal (1975) separated *G. texanus* into two subspecies, *G. t. texanus* and *G. t. tropicalis*. They reported the nominate subspecies from three subspecies of pocket gophers, *G. p. personatus*, *G. p. fallax*, and *G. p. megapotamus* Davis, and found *G. tropicalis* only on the tropical pocket gopher, *Geomys tropicalis* Goldman, which previously had been recognized as a subspecies of *G. personatus*. The second species of *Geomydoecus* reported from the Texas pocket gopher is *Geomydoecus truncatus* (Werneck). Price and Emerson (1971) recorded *G. truncatus* only from *Geomys personatus streckeri* Davis, a subspecies isolated from all other populations of *Geomys*.

We recently obtained a series of Mallophaga from *Geomys personatus fuscus* Davis, the only subspecies of the Texas pocket gopher from which we previously had not seen lice. These lice were found to represent an undescribed species of *Geomydoecus* and it is our intent here to describe and illustrate this new species.

In the following species description, the minimum and maximum values observed are given for measured or counted characters; the number of specimens, mean, and standard deviation are enclosed within parentheses. All measurements are in millimeters. Character definitions may be found in Price and Hellenthal (1975).

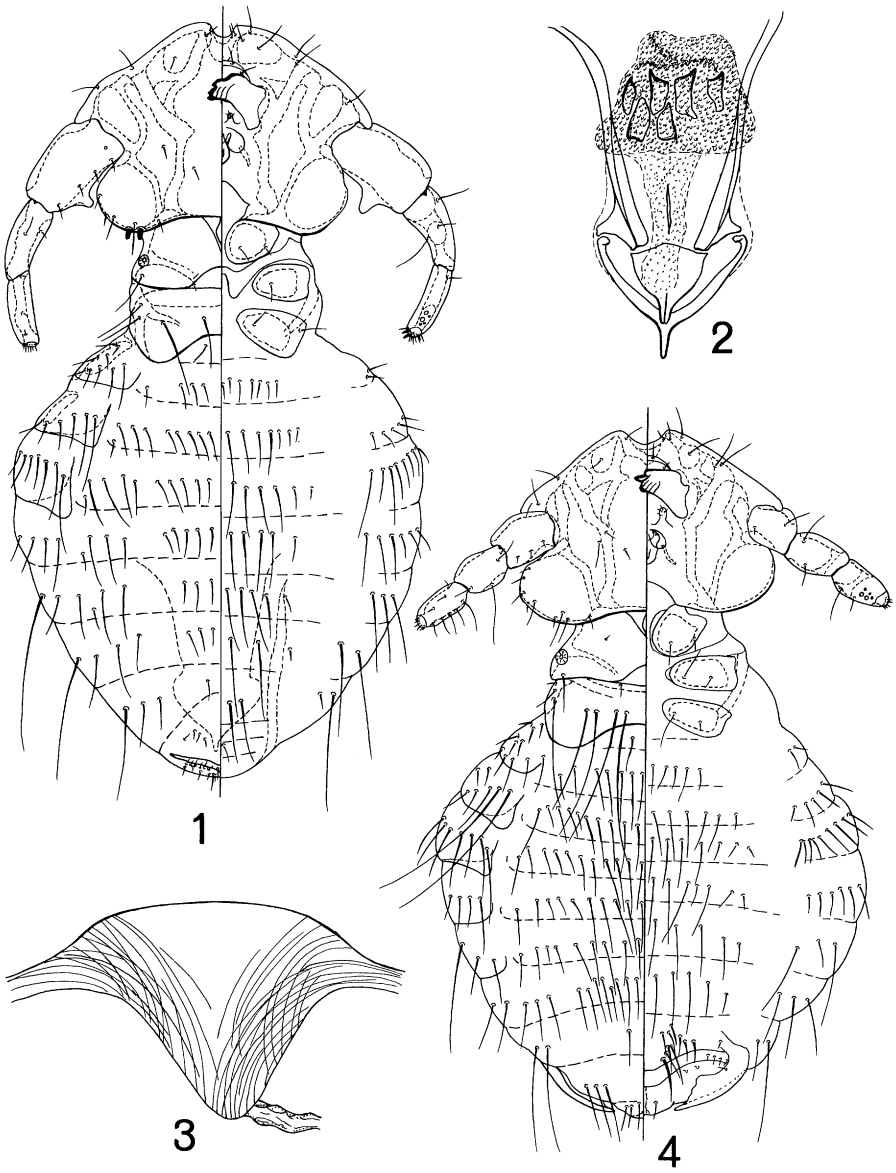
Geomydoecus dalgleishi n. sp.
(Figs. 1–4)

FEMALE: As in Fig. 4. Head length 0.290–0.315 (3: 0.305 ± 0.0094); temple width 0.430–0.440 (3: 0.434 ± 0.0045); submarginal temple seta length 0.045–0.050 (2: 0.048 ± 0.0029); marginal temple seta length 0.045–0.050 (3: 0.049 ± 0.0026). Total length 1.135–1.210 (3: 1.182 ± 0.0359). Number of tergal setae: II, 13–15 (3: 14.0 ± 0.89); III, 19–23 (3: 21.3 ± 1.86); IV, 21–24 (3: 22.7 ± 1.37); V, 19–21 (3: 19.7 ± 1.03); VI, 18 (3); tergal and pleural setae on VII, 30–33 (3: 31.0 ± 1.55). Longest seta of medial 10 on tergite VI, 0.085–0.090 (3: 0.089 ± 0.0026) long; on tergite VII, 0.100 (3); of median pair on tergite VIII, 0.050–0.070 (3: 0.062 ± 0.0094). Last tergite with 3 lateral setae close together on each side; outer seta shortest, 0.080 (1) long; middle seta, 0.090–0.095 (2: 0.093 ± 0.0029); inner seta, 0.095 (2). Number of sternal setae: II, 10–13 (3: 11.3 ± 1.37); III, 12–14 (3: 13.0 ± 0.89); IV, 12–14 (3: 13.0 ± 0.89); V, 11–13 (3: 11.7 ± 1.03); VI, 8–11 (3: 9.3 ± 1.37); VII, 8–10 (3: 9.0 ± 0.89). Subgenital plate with 19–22 (3: 20.3 ± 1.37) setae. Genital sac as in Fig. 3; length 0.165–0.195 (3: 0.180 ± 0.0138), width 0.200–0.215 (3: 0.210 ± 0.0062); with no complete loops or evidence of lines in medioanterior portion.

MALE: As in Fig. 1. Head length 0.315–0.325 (5: 0.316 ± 0.0043); temple width 0.400–0.415 (5: 0.406 ± 0.0054); submarginal temple seta length 0.050–0.055 (3: 0.054 ± 0.0026); marginal temple seta length 0.020–0.025 (5: 0.023 ± 0.0026). Total length 1.185–1.270 (5: 1.237 ± 0.0301). Antennal scape length 0.165–0.170 (5: 0.169 ± 0.0026); scape medial width 0.105–0.120 (5: 0.112 ± 0.0062); distal width at process 0.135–0.145 (5: 0.139 ± 0.0043). Number of tergal setae: II, 9–12 (5: 11.0 ± 1.33); III, 18–21 (5: 19.0 ± 1.15); IV, 17–24 (5: 21.0 ± 2.40); V, 18–21 (5: 19.8 ± 1.55); VI, 11–15 (5: 13.0 ± 1.49); tergal and pleural setae on VII, 16–22 (5: 17.8 ± 2.35). Number of sternal setae: II, 12–14 (5: 12.6 ± 0.84); III, 14–15 (5: 14.6 ± 0.52); IV, 14–15 (5: 14.2 ± 0.42); V, 10–13 (5: 11.2 ± 1.23); VI, 9–10 (5: 9.4 ± 0.52); VII, 6–8 (5: 7.0 ± 0.67); VIII, 4–6 (5: 5.2 ± 0.79). Genitalia as in Fig. 2, with sac having 6 large spines; parameral arch width 0.140–0.145 (5: 0.143 ± 0.0026); endomerale plate width 0.070–0.075 (5: 0.073 ± 0.0026), length 0.070–0.075 (5: 0.074 ± 0.0026), triangular, apically tapered with distinct cleft 0.020–0.030 (5: 0.025 ± 0.0034) deep.

Holotype female from *Geomys personatus fuscus* (AMNH-12691/10985), Fort Clark [Brackettville], Kinney Co., Texas, 6 February 1893, E. A. Mearns, and deposited in the American Museum of Natural History. One female and five male paratypes, same data as holotype; one female, same except AMNH-12690/10984, 13 January 1893.

The most distinguishing feature of the female of *G. dalgleishi* is the unique genital sac; in none of the closely-related species of *Geomydoecus* are the lines of this sac so weakly developed. Because of this distinctive genital sac



Figs. 1-4. *Geomydoecus dalgleishi* n. sp.: 1, adult male; 2, male genitalia; 3, female genital sac; 4, adult female.

configuration, the female of *G. dalgleishi* is not identifiable to any species in the key to the *Geomydoecus* presented by Price and Emerson (1971). It will come out, with difficulty, to couplet 34 which includes *G. illinoensis* Price and Emerson and *G. tolucae* Price and Emerson. However, *G. dalgleishi* is grossly different from these two species in both the detail of the female genital sac and in several aspects of the male morphology.

The distinguishing features of the male of *G. dalgleishi* are the well-developed process on the antennal scape, the six large spines on the genital sac, and the short submarginal temple seta found in conjunction with the stout marginal seta. The male of *G. dalgleishi* will come out in the key of Price and Emerson (1971) to couplet four which includes *G. californicus* (Chapman), *G. oklahomensis* Price and Emerson, and *G. umbrini* Price and Emerson. Work that we currently are engaged in has shown that each of these last three is a species complex, resulting in our being unable at this time to make meaningful comparisons between them and *G. dalgleishi*. However, the genital sac of the female *G. dalgleishi* is itself sufficient to distinguish it from all other known *Geomydoecus*; this is especially true for those species with the male antennal scape having the developed process.

Two other species of lice, aside from those mentioned above, have the large process on the male antennal scape, these being *G. quadridentatus* Price and Emerson and *G. subcalifornicus* Price and Emerson. However, male *G. dalgleishi* may be separated from both of these by its having six large spines on the genital sac rather than four.

Geomydoecus dalgleishi is distinguishable from the two other species of trichodectids found on the more eastern populations of *Geomys personatus* in that neither *G. texanus* nor *G. truncatus* has the process on the male antennal scape. *Geomydoecus texanus* is also a considerably larger louse with the male having four large spines on the genital sac and the female having numerous well-developed lines throughout the entire genital sac. The male of *G. truncatus* has genitalia with the endomeral plate broad and bifurcate and the parameral arch terminally truncate rather than with a narrow pointed tip as in *G. dalgleishi*; the female *G. truncatus* has a short genital sac with numerous lines that merge posteriorly.

Geomydoecus dalgleishi is known to occur on only one subspecies of the Texas pocket gopher, *Geomys personatus fuscus*. This subspecies is restricted in its distribution to the north bank of the Rio Grande River and its tributaries in Kinney and Val Verde counties, Texas, and is well isolated from all other populations of *Geomys*.

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