

TWO UNDESCRIBED FOSSIL DERMAPTERA FROM FLORISSANT, COLORADO¹

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ABSTRACT: Names are proposed for two undescribed Oligocene Dermaptera from the shales of Florissant, Colorado: *Labiduromma scudderi*, n.sp., and *L. gurneyi*, n.sp.

While preparing a revision and catalogue of fossil Dermaptera for the "Natural History Inventory of Colorado," we set aside several specimens that clearly were not any of the species Scudder had described. Since no one else has described fossil Dermaptera from the Oligocene in North America, these specimens represent currently unnamed species. The specimens represent two distinct species. Both appear to be best placed at this time in Scudder's genus *Labiduromma* (Labiduridae). One of the species falls into the *avia* group and the other into the *commixtum* group of that genus.



Fig. 1. Left: holotype *Labiduromma gurneyi*, n.sp.; center: holotype *L. scudderi*, n.sp.; right: paratype *L. scudderi* n.sp.

Labiduromma scudderi, n.sp.

This new species resembles most closely *labens* Scudder of the *avia*-group. It is considerably larger than *labens*, and the cerci are quite different from the threadlike ones of that species. The resemblance lies largely in the shape of the abdomen.

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Holotype: A female, with counterpart, UCM numbers 29907 & 29908. Collected by Wilmatte Porter Cockerell from UCM (Cockerell) pit 13B, probably in 1908. Total length 21.3 mm, from tip of mouth parts to tip of cerci.

Head: stout pear-shaped (well rounded subtriangular), 2.3 mm long and 2.3 mm wide at eyes.

Antennae: visible length 2.3 mm with only 4 countable segments in view, quite incomplete.

Basal segment very stout, 0.9 x 0.5 mm.

Pronotum: trapezoidal; posterior margin narrower than head, anterior margin much more so. Length 1.0 mm, anterior width 1.3 mm, posterior width 1.5 mm.

Tegmina: partly opened, each tegmen probably 1.65 mm wide; when closed probably nearly "square" in appearance; distal margin rounded. Length 3.4 mm.

Legs: poorly preserved. Leg 1: femur 2.2 x 0.5 mm, possibly includes some of tibia, tarsus 3.3 x 0.2 mm; Leg 2: femur 1.8 x 0.7 mm; Leg 3: femur 2.2 x 0.8 mm, tibia 2.1 x 0.4 mm, tarsus 1.8 mm - incomplete, possibly as much as 4.5 x 0.2 mm.

Abdomen: six well defined segments; parallel sided to segment 4. Dorsal outline presents a semi-circular curve to terminate abdomen. Width 3.6 mm.

Note: The abdomen is not part extended as in most fossils but so compressed longitudinally that the heavy chitinous tergites are in contact throughout showing none of the delicate anterior and posterior margins of the segments. This has had a notable effect on the total length.

Pygidium: prominent; a bluntly rounded triangular structure.

Forceps: basal half straight, distal half increasingly curved to tips. Length 5.7 mm, basal width 0.8 mm, midway width 0.5 mm, width near tip 0.3 mm. Forceps are 33.3% of total body length, or, to use Scudder's method, 50% of body length, omitting the forceps.

Named for Samuel Hubbard Scudder, the father of American studies of fossil insects and especially those of the Eocene and Oligocene of Colorado. His "Tertiary Insects of North America" (1890) is the basic work on the topic.

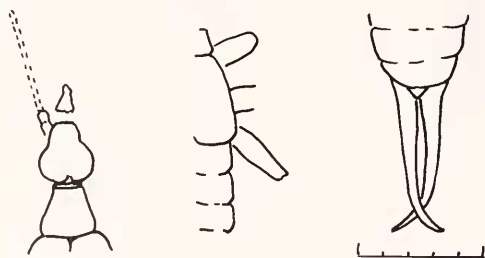


Fig. 2. *Labiduromma scudderi*, n.sp. Left: head and pronotum; center: positions of legs; right: forceps and pygidium. Bar scale is in millimeters.

Labiduromma guerneyi, n.sp.

The structures of cerci and pygidium of this species resemble those of *commixtum* Scudder, thus placing the insect in the *commixtum* - group and differing from all other Oligocene fossil earwings of North America. The new species is much larger than *commixtum* with proportionally larger forceps.

Holotype: a male, UCM number 29902, collected by Wilmatte Porter Cockerell in UCM (Cockerell) pit 13B, probably in 1908. Total length from tip of mouth parts to tip of forceps, 27.3 mm.

Head: broadly triangular with apices. Eyes large but probably not holoptic. Palpi and mandibles well defined. Length 2.5 mm, width 2.3 mm.

Antennae: only 4 mm of length visible. Basal joint swollen, 0.4 x 0.4 mm, second joint 0.55 x 0.25 mm, other too vague to count or measure.

Pronotum: quadrilateral, 1.8 mm long, 1.9 mm wide, corners rounded.

Tegmina: not well defined, partly open, posterior margin almost straight. Length 3.0 mm, anterior width 2.7 mm, posterior 3.9 mm.

Legs: Leg 1: femur 1.7 x 0.8 mm, tibia incomplete 1.0+ x 0.3 mm; Leg 2: femur 2.3 x 0.7 mm, tibia 2.0 x 0.4 mm and slightly curved, tarsus incomplete with basitarsus subchordate; Leg 3: femur 2.8 x 0.75 mm, tibia incomplete 0.4 mm wide, Leg 2 closer to leg 1 than to leg 3.

Abdomen: long and slender which may be an artifact of fossilization: parallel sided, last segment appears much longer than any other and slightly tapered to very shallowly convex posterior margin. This is a ventral aspect so segments II through X can be seen.

Pygidium: broad and bluntly rounded. Base 44% the width of visible hind margin of last abdominal segment.

Forceps: long, moderately stout, gently curved throughout giving a "bow-legged" appearance. Near the base on inner side is a large, strong tooth that embraces the pygidium. This tooth on both cerci almost encircles that structure. Length 6.9 mm, width at base 0.8 mm (across bases of the two cerci 2.6 mm); tooth width 1.1 mm, midway width 0.8 mm. Forceps constitute 25.3% of total length. Using Scudder's method, forceps are 34% of the body length, omitting the forceps.

Paratypes: AMNH: no. 18912, a male, collected by S.A. Rohwer in UCM (Cockerell) pit 14 in 1907.

UCM: nos. 29900 & 29901, counterparts, a female with no specific pit number or collector's initial; no. 29935, a male in ventral aspect, collected by Wilmatte P. Cockerell in pit number 13B in 1908; no. 29936, forceps only, counterparts, probably female, collected by Harry McGinite at University of California pit 3736 in 1937; no. 29957, probably female, with no indication of pit number or collector's initial.

The species is named for Dr. Ashley B. Gurney, United States National Museum, the leading American student of the order Dermaptera.

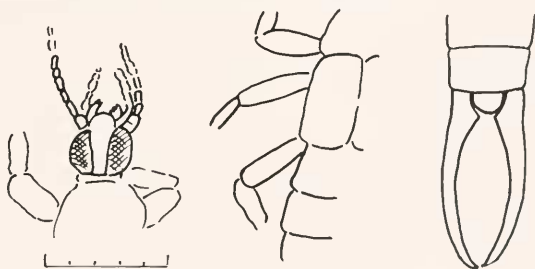


Fig. 3. *Labiduomma gurneyi*, n.sp. Left: head and pronotum; center: positions of legs; right: forceps and pygidium. Bar scale is in millimeters.

LITERATURE CITED

Scudder, Samuel H. 1890. The Tertiary Insects of North America. Report of the United States Geological Survey of the Territories. F.V. Hayden. Vol. XIII. Washington, D.C.