

THE LEIODIDAE (COLEOPTERA) OF THE CARNEGIE MUSEUM OF NATURAL HISTORY. NEW DATA AND DESCRIPTION OF TWO NEW SPECIES

J. M. SALGADO

Department of Animal Biology, University of León,
24071 León, Spain

Abstract.—The collection of the family Leiodidae at the Carnegie Museum of Natural History (CMNH) was studied. Two new species, *Catops davidsoni*, NEW SPECIES (USA) and *Adelopsis chapadaensis*, NEW SPECIES (Brazil) are described. Also, new biogeographic data on several species from America and Europe are given.

Key Words.—Insecta, Coleoptera, Leiodidae, systematic, *Catops davidsoni* n.sp., *Adelopsis chapadaensis* n.sp., new data.

Resumen.—Se ha examinado la colección de la familia Leiodidae del Carnegie Museum of Natural History (CMNH). A partir de tan interesante material entomológico se han descrito dos especies nuevas, *Catops davidsoni* n. sp. y *Adelopsis chapadaensis* n. sp., y además se proporcionan nuevos datos biogeográficos de varias especies de la familia Leiodidae de América y de Europa.

This paper widens our knowledge of the beetle family Leiodidae by studying 745 specimens belonging to the Carnegie Museum of Natural History (CMNH) collection, Pittsburg, Pennsylvania, U.S.A.

The material examined has enabled me to differentiate 45 American species and 15 European ones. The American species include two new ones, *Catops davidsoni*, NEW SPECIES and *Adelopsis chapadaensis*, NEW SPECIES; of the remaining 43 species, the number of specimens studied and their distribution is reported and attention is brought to those species which are new state records in the U.S.A. An appendix of the 15 European species is included at the end.

MATERIAL STUDIED

I follow the suprageneric classification proposed by Newton & Thayer (1992).

Family Leiodidae Fleming, 1821

Subfamily Coloninae Horn, 1880

Colon (Colon) horni Szymczakowski, 1981

Widespread species, known from Nova Scotia and Massachusetts, west to Ontario and Minnesota (Peck & Stephan 1996).

Records: Pittsburgh (PA), 1m; 1f. This record is new for Pennsylvania.

Colon (Colon) bidentatum Sahlberg, 1834

This species is known from central and northern Europe (Szymczakowski 1969a, von Peez 1971) and from North America, northern transcontinental (Peck & Stephan 1996).

Records: DC, 1m, NY, 1f. PA, 2m; 6f. VA, 1m; 1f. New record for the District of Columbia.

Colon (Colon) tibiale Hatch, 1957

Known from North America, northern transcontinental distribution.
Records: CA, 1f.

Colon (Colon) asperatum Horn, 1880

Very similar distribution to the previous species, northern transcontinental.
Records: DC, 1m. New record for the District of Columbia.

Colon (Euricolon) magnicolle Mannerheim, 1853

Widespread species, northern transcontinental.
Records: LA, 1f. PA, 1m. Both are new records for the states of Louisiana and Pennsylvania.

Colon (Striatocolon) thoracicum Horn, 1880

Widespread in eastern North America (Peck & Stephan 1996).
Records: DC, 1m; 1f. PA, 1m.

Colon (Myloechnus) hubbardi Horn, 1880

Across all of North America. Fairly common.
Records: DC, 1m. IA, 1f. MI, 1m; 1f. PA, 1m. TN, 1m. The records from the states of Pennsylvania and Tennessee are new.

Colon (Myloechnus) megasetosum Peck & Stephan, 1996

Widespread in eastern North America, Ontario and Quebec to Alabama and Georgia (Peck & Stephan 1996).
Records: DC 1f. PA, 4m; 6f.

Colon (Myloechnus) celatum Horn, 1880

This species is known from southern British Columbia and Alberta to California.
Records: NV, 1f.

Colon (Myloechnus) longitorsum Peck & Stephan, 1996

Distribution from North Carolina to Oregon (Peck & Stephan 1996)
Records: CA, 1f.

Colon (Myloechnus) serratum Hatch, 1957

Western North America from southern Alaska to northern California (Peck & Stephan 1996)
Records: CA, 1m.

Colon (Myloechnus) dentatum LeConte, 1853

This species is known in most of eastern North America.
Records: DC, 8m; 13f. IL, 1m; 3f. MD, 1m; 1f. MO., 1m; 2f. PA, 7m; 10f. TN, 1m. VA, 1m. The records for Montana and Tennessee are new.

Subfamily Cholevinae Kirkby, 1837
Tribe Anemadini Hatch, 1928

Nemadus (Laferius) brachycerus (LeConte, 1863)

Eastern half of North America and more abundant in the south.
Records: SD, 6m; 10f.

Nemadus (Nemadus) hornii Hatch, 1933

Similar distribution to that of previous species (Hatch 1933, 1957).
Records: IL, 1m; 2f. MI, 1m; 1f. PA, 7m; 9f. OH, 2m; 1f. SD, 5m; 7f. The records for Illinois and South Dakota are new.

Nemadus (Nemadus) tenuitarsis Jeannel, 1936

Known only from Ohio and Pennsylvania (Jeannel 1936).
Records: PA, 1f.

Nemadus (Nemadus) parasitus (LeConte, 1853)

Widespread in northern, central and western states of North America (Hatch 1933).

Records: DC, 10m; 13f. IL, 1m. NJ, 1m. NY, 1m; 1f. PA, 12m; 17f. VA, 1f. New locations for the states of Illinois and Virginia.

Nemadus (Nemadus) pusio (LeConte, 1853)

Known from eastern North America from British Columbia to California.
Records: CA, 1m.

Dissochaetus hetschkoi Reitter, 1884

This species is known from Brazil (Jeannel 1936, Szymczakowski 1963, Gnaspini 1991, Salgado 1991), Venezuela (Szymczakowski 1969b) and Mexico (Peck 1977a).

Records: This species was located for the first time in Rio de Janeiro, 1f; Santarem, 1f; Minas Gerais, 1m, and Chapada dos Guimaraes (Mato Grosso), 1m; 2f.

Dissochaetus murrayi murrayi Reitter, 1884

Widespread from Argentina—state of Corrientes—(Salgado 1991) to the entire central and eastern area of Brazil (Jeannel 1936, Gnaspini 1991).

Records: Aguas Vermelhas (Minas Gerais), 1m; 1f. and Alagoas (Serra Branca), 1f. The Alagoas location is new for the state of Serra Branca.

Dissochaetus oblitus (LeConte, 1853)

Present in all central and eastern states in the U.S.A.
Records: DC; 3m; 3f. PA, 3m; 3f.

Dissochaetus mexicanus Jeannel, 1936

Known from the state of Mexico (Jeannel 1936, Szymczakowski 1968, Peck 1977a).

Records: Guadalajara (Mexico), 1f.

Prionochaeta opaca (Say, 1825)

Widespread in the centre and east of North America (Peck 1977b).

Records: DC, 2m; 1f. MD, 1m; 1f. PA, 26m; 25f. WV, 2m; 3f.

Tribe Cholevini Kirby, 1837

Catops davidsoni Salgado, NEW SPECIES

Figs. 1–6

Type series.—PENNSYLVANIA. *Allegheny*: Holotype male deposited in CMNH. Paratypes: PENNSYLVANIA. *Allegheny*. 1m, *Pittsburg*. 1m, *St. Vincent*. 1f. *District of Columbia*, 3m, 1f. Deposited: CMNH (6) and Col. Salgado (University of León, Spain) (1).

Description.—Large size; length 3.10 to 3.70 mm; width 1.50 to 1.80 mm. (Fig. 1).

Elongate elyptical body. Head and pronotum dark brown, elytra more light brown. Head coarsely punctured. Antenna robust, 1.6 times as long as pronotum, passing base of pronotum when laid back; proportions of length of each segment and that of the 9th from 1st to 11th (Fig. 2): 1.42, 1.03, 1.00, 0.50, 0.50, 0.45, 1.00, 0.20, 1.00, 0.96, 1.45, the equal length of 3rd, 7th and 9th segments stands out; proportions of length and width of each segment from 1st to 11th, 2.43, 1.77, 1.50, 0.75, 0.63, 0.53, 0.75, 0.19, 0.75, 0.72, 1.23, the strongly transverse sixth antennal segment stands out, almost twice as wide as long in frontal view. Pronotum densely haired and finely granulate with setal bases; base narrower than the elytra; sides very curved in both sexes; widest at middle; 1.7 times as wide as long; hind angles almost rounded. Elytra together 1.2 times as long as wide; widest at basal third; densely granulate from setal bases. Sutural striae well marked and sutural angle feebly pointed. Flight wings fully formed. First segment of male protarsus 0.9 times as wide as the maximum width of tibia. Male profemur with broad raised area on inner margin. Male metatrochanter (Fig. 3) with very pointed curved tip, a form unique in American species of the genus *Catops*. Female metatrochanter pointed, not curved. Aedeagus in lateral view (Fig. 4) in regular curve with widened apex area; in ventral view (Fig. 5) sides parallel in centre of median lobe, becoming wider and ending in a rounded tip. Internal sac armed with very characteristic structures, such as a strongly sclerotized mid basal plaque, formed by 6 symmetrically placed robust teeth and two symmetrical rows of thick bristles along the middle. Genital segment complete, longer than broad, wide and indented lobes with some pointed setae, numerous setae on sternal face (Fig. 6).

Diagnosis.—The species is readily distinguished by the shape of the aedeagus and the curved pointed tip of the male metatrochanter.

Discussion.—It is possible that some specimens of *Catops davidsoni* have been mistaken for *C. americanus*, because the latter shows a wide polymorphism (Hatch 1933), and is also widespread, including the area of the new species with which it lives.

The differences between *C. davidsoni* and *C. americanus* are evident and are observed in the general form of the aedeagus, in the structures of the internal sac, the genital segment and the metatrochanter.

KEY

In order to assess the taxonomic status of *C. davidsoni*, I have followed the key proposed by Hatch (1933, 1957) for the genus *Catops* species.

1. Third antennal segment longer than second; eighth antennal segment more than half as long as ninth and subequal to the sixth in length; male prefemora and metatrochanters and female abdomen unmodified.

Two species under this heading: *Catops alsiosus* and *C. gratiosus*.

- 1'. Third antennal segment equal to, or a little shorter than second; eighth antennal segment less than half as long as ninth, strongly transverse . . . 2
2. Antennae with sixth segment strongly transverse, nearly twice as wide as long in frontal view; pronotum slightly arcuate at sides; female with fifth abdominal sternite emarginate behind.

Three species under this heading: *C. basilaris*, *C. egenus* and *C. mathersi*.

- 2'. Antennae with sixth segment slightly transverse in frontal view; pronotum more strongly arcuate at sides; female with abdominal sternite not emarginate behind 3
3. Male with prefemora tuberculate below, the edentate metatrochanter, female with abdominal sternites third to sixth more or less impressed.

Two species under this heading: *C. luridipennis* and *C. simplex*.

- 3'. Male with prefemora not tuberculate below, flattened, the metatrochanter dentate at about apical fourth; female with abdominal sternites unimpressed or only impressed sternites fifth and sixth 4
4. Male metatrochanter with very pointed curved tip; apical zone of median lobe of aedeagus strongly narrow and elongate, with rounded tip; base of internal sac with six symmetric robust teeth
Catops davidsoni n. sp.
- 4'. Male metatrochanter pointed, not curved; apical zone of median lobe of aedeagus wider or in the shape of a spear head; base of internal sac without robust teeth, only some bristle formations . . . *Catops americanus*

Etymology.—The species is dedicated to Robert L. Davidson, Curator of the Carnegie Museum, who has generously made it possible for me to study the many Leioidids of the Museum collection.

Distribution.—The species is known from Georgetown (District of Columbia) and from Allegheny, Pittsburgh and St. Vincent (Pennsylvania):

Catops alsiosus (Horn, 1885)

Distribution northern transcontinental.

Records: AK, 1m.

Catops mathersi Hatch, 1957

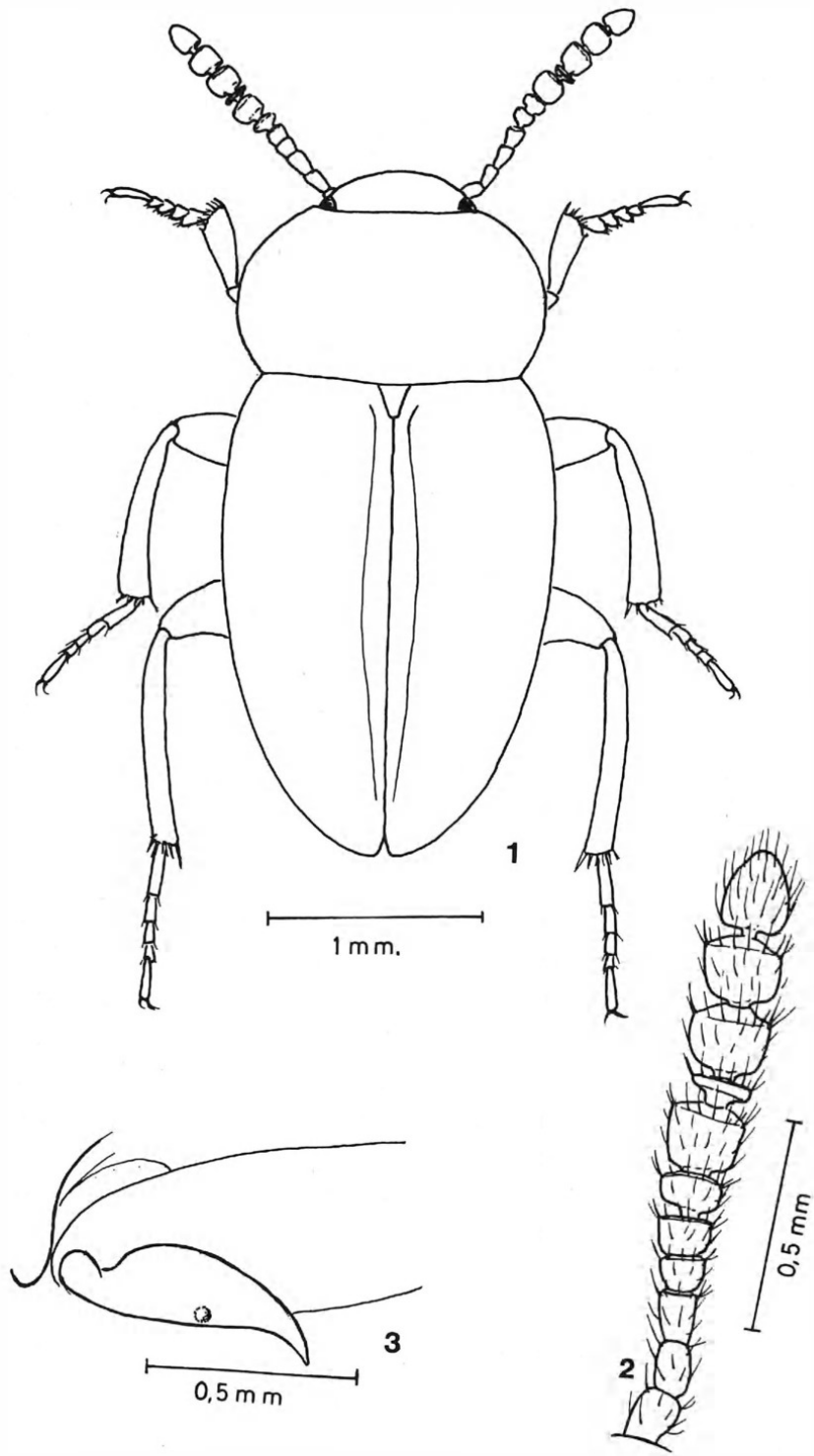
This species is known in the central-northern states of the USA and the central-south of Canada.

Records: AB, 1m.

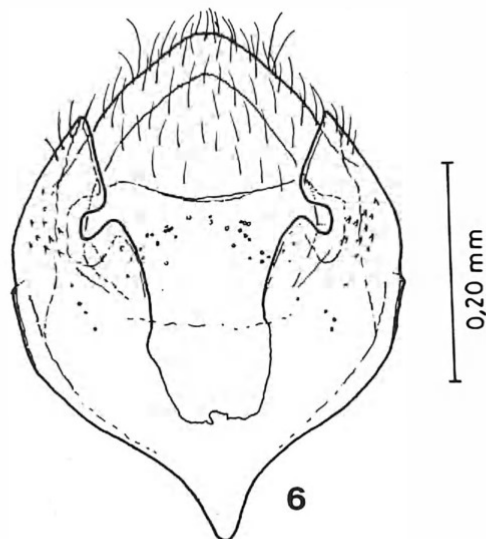
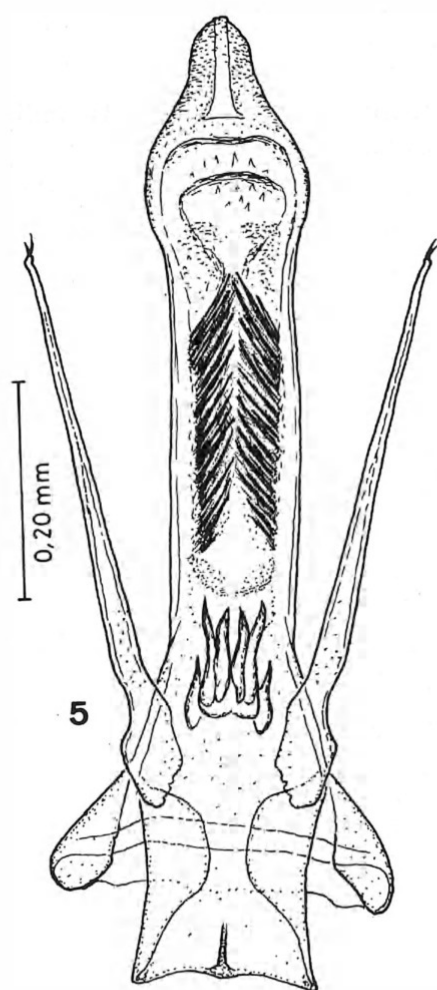
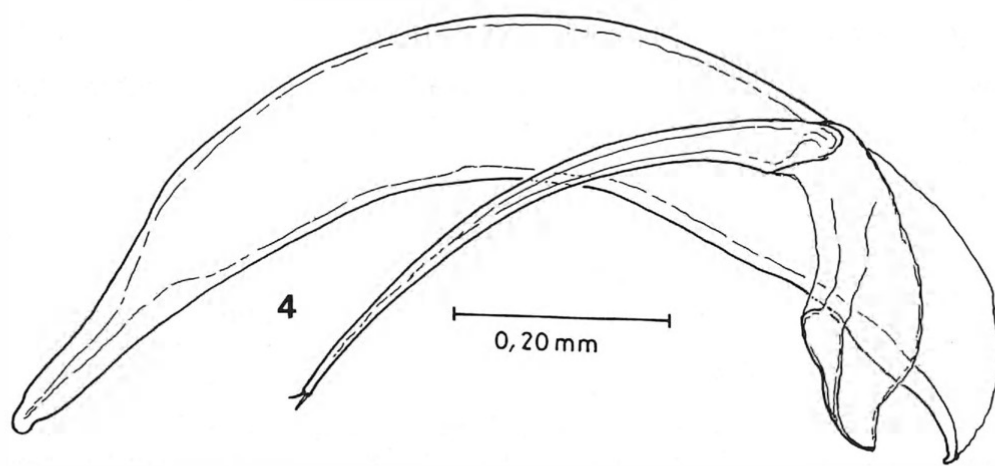
Catops gratiosus (Blanchard, 1915)

Widespread in northern and eastern North America (Hatch 1933, 1957).

Records: DC, 1m. KY, 2m; 1f. PA, 1m. VA, 1f. It is a new record for the District of Columbia.



Figures 1–3. *Catops davidsoni*. 1: habitus; 2: antenna, lateral view; 3: male metatrochanter; lateral view.



Figures 4–6. *Catops davidsoni*. 4: aedeagus, lateral view; 5: aedeagus, ventral view; 6: genital segment.

Catops luridipennis luripennis Mannerheim, 1853

Known in Alaska, almost all states in Canada and in central western states of the USA.

Records: AB, 1m. AZ, 1m; 1f.

Catops simplex Say, 1825

Widespread in all North America.

Records: AL, 1m; 1f. DC, 5m; 7f. IL, 1m; 1f. PA, 7m; 9f.

Catops egenus (Horn, 1880)

Very frequent in the states of western North America.

Records: AK, 5m; 6f. AR, 1m. CA, 1m; 1f. OR, 1m. The record is new for the state of Arkansas.

Catops basilaris (Say, 1823)

Distributed throughout most states of North America. Already indicated by Hatch (1933, 1957) in 23 states in North America.

Records: AL, 2m; 1f. CA, 1m; 1f. DC, 1f. IL, 1m; 1f. LA, 1f. MD, 1f. NC, 13m; 15f. NH, 1f. PA, 1m; 2f. The records are new for the states of Illinois and Louisiana.

Catops americanus (Hatch, 1928)

Found in most states of North America (Hatch 1933, 1957). This species is markedly variable in the form of the middle lobe of the aedeagus, which may cause a certain degree of confusion. Hence the diagrams of the two species, one of NC (Figs. 7–9) and another of DC (Figs. 10–11).

Records: DC, 4m; 1f. NC, 1m. PA, 1m.

Catoptrichus frankenhauseri Mannerheim, 1853

Known only from British Columbia, Alaska, Idaho, Oregon and Washington.

Records: I have seen 33 specimens from AK, ID, and OR.

Sciodrepoides fumatus terminans (LeConte, 1850)

Very frequent in most states of North America.

Records: I have seen 52 specimens from DC, IA, IL, NB, NY, OH, and PA. The record for the state of Illinois is new.

Sciodrepoides watsoni hernianus (Blanchard, 1915)

It lives with the above-mentioned species in several states and is likewise fairly common.

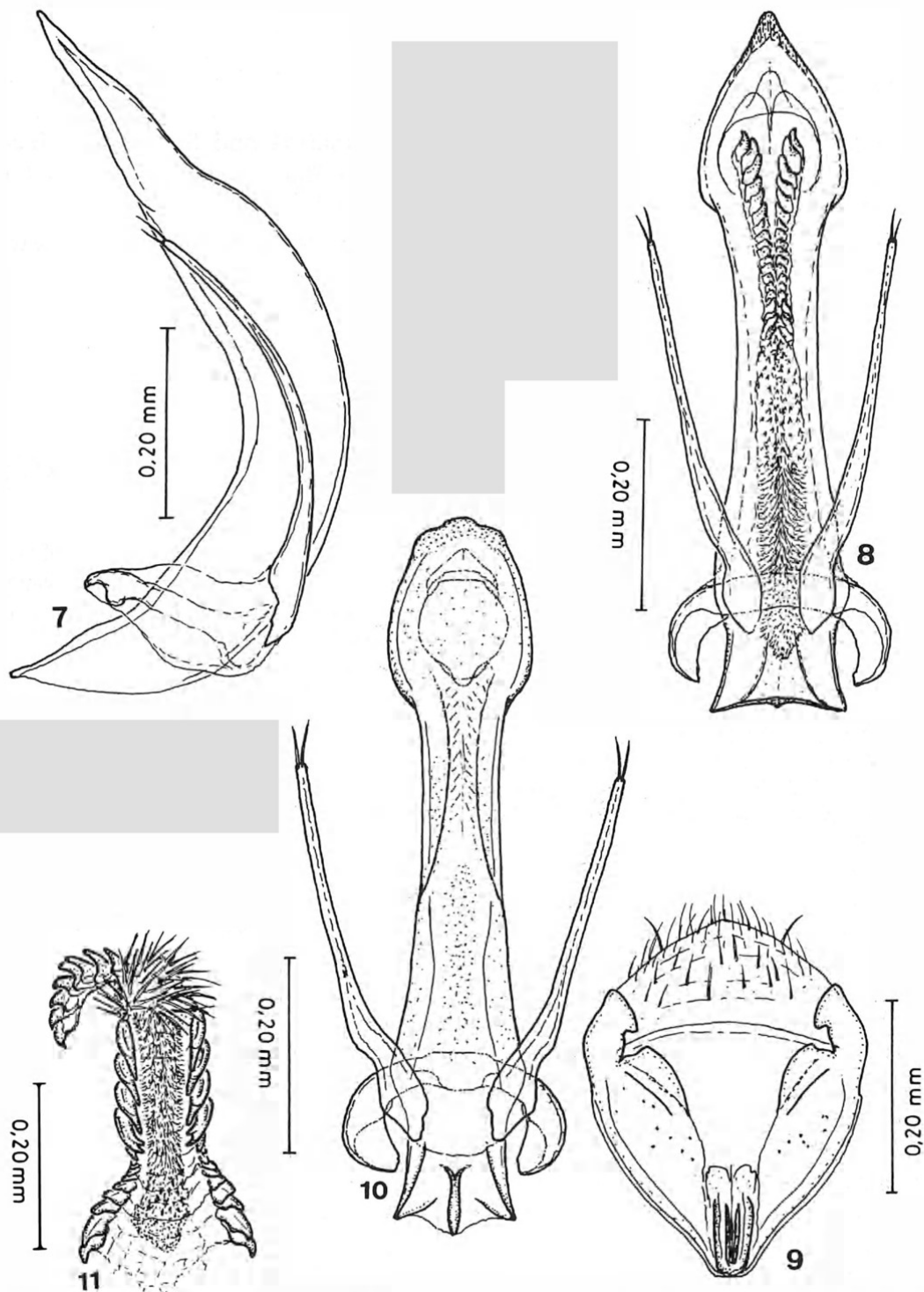
Records: I have seen 47 specimens from DC, KS, MD, PA and VT. The record for Vermont is new.

Tribe Leptodirini Lacordaire, 1854

Platycholeus leptinoides (Crotch, 1874)

Species known from the states of California, Nevada and Oregon.

Records: CA, 1f. NV, 1m, 1f.



Figures 7–11. *Catops americanus*. 7: aedeagus, lateral view; 8: aedeagus, ventral view (specimen from North Carolina); 9: genital segment; 10: aedeagus, ventral view (specimen from D.C.); 11: internal sac armature (specimen from D.C.).

Platycholeus opacellus Fall, 1909

This species, not so widespread as the previous species, only known from California.

Records: CA, 1m.

Tribe Eucatopini Jeannel, 1921

Eucatops glabricollis (Reitter, 1884)

This species is known from Brazil, Santa Catharina and Sao Paulo (Jeannel 1936) and from Blumenau (Szymczakowski 1963). Recently mentioned by Gnaspini (1994).

Records: Alagoas (Serra Branca), 1m and Para, 1f. Both records are new for Serra Branca and Pará.

Tribe Ptomaphagini Jeannel, 1911

Adelopsis chapadaensis Salgado, NEW SPECIES

Figs. 12–15

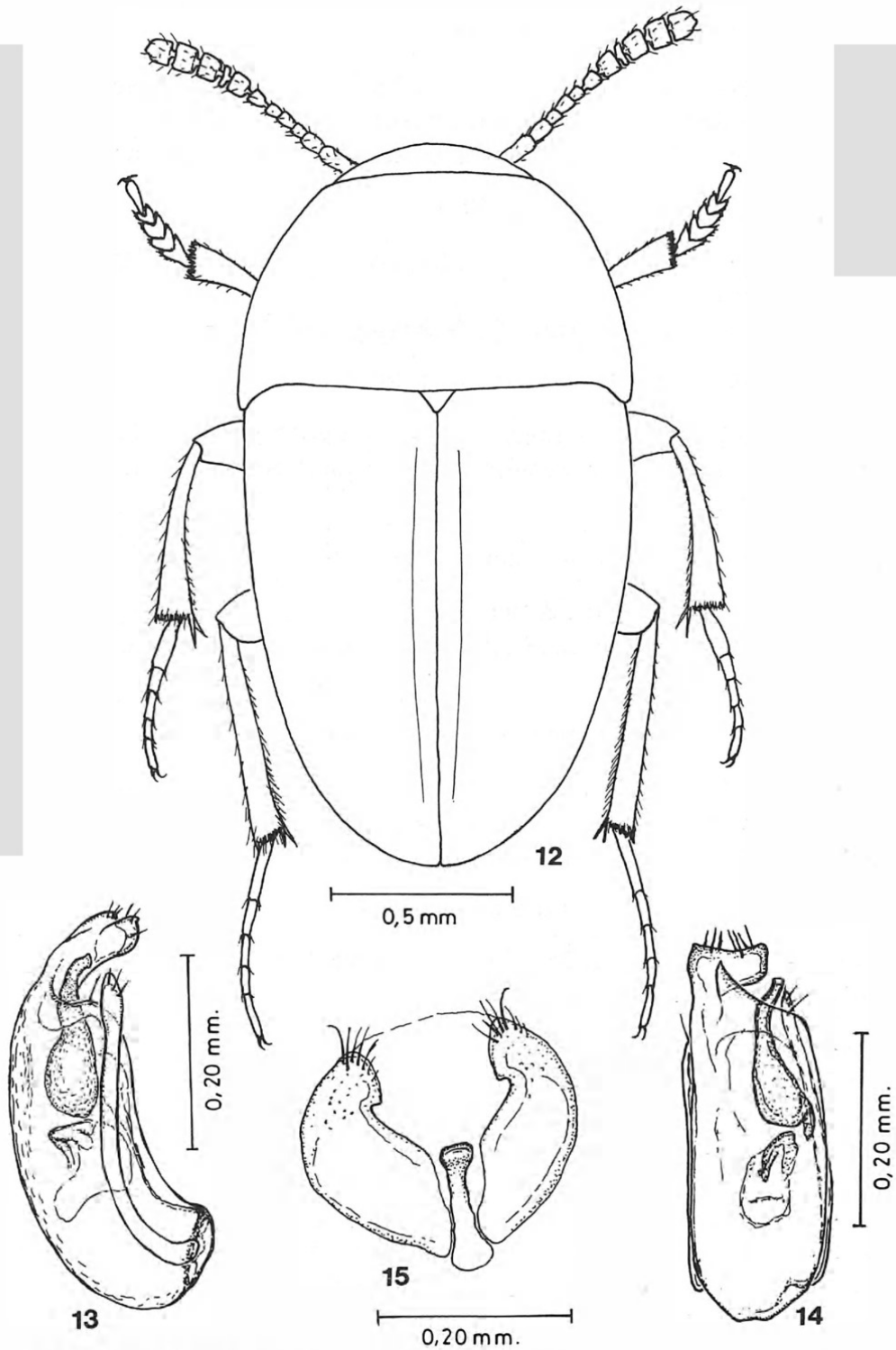
Type series.—BRAZIL. *Mato Grosso*. Chapada dos Guimaraes. Holotype male and paratype female deposited in CMNH.

Diagnosis and description.—Length: 1.85–1.95 mm; width: 0.90–0.97 mm (Fig. 12). Pubescence golden, with many short recumbent setae, setal sockets forming strigae on the head, pronotum and elytra. Color light brown. All antenna color lightening, fairly robust with flattened club, 1.22 times as long as pronotum; proportions of length of each segment and that of the 9th from 1st to 11th: 2.00, 1.85, 0.95, 0.90, 0.80, 0.65, 1.10, 0.45, 1.00, 1.00, 1.75; proportions of length and width of each segment of the club, from 7th to 11th: 0.9, 0.38, 0.79, 0.74, 1.12. Pronotum 1.54 times as wide as long, as wide as the elytra, maximum width in hind angles. Hind angles weakly pointed but slightly protruding backwards. Elongated elytra, not very convex, not pointed at back and weakly arched over the sides; together 1.40 times as long as wide; with dense oblique strigae. Sutural striae entire and deep. Mesosternal carina high and cutting, smooth rounded profile view. Summits of tibia the typical of Ptomaphagini, armed with a comb of many short and equal spines; with the first segment of male protarsus 0.75 times as broad as the maximum width of tibia. Aedeagus (Figs. 13–14) with apical plaque transversally produced, bearing a medial cavity, margins slightly protruding and 7 small setae inserted in groups of 3 and 4 setae. Genital segment (Fig. 15) slightly broader than long, lateral lobes bearing several long and short setae. Spiculum gastrale short and straight, also somewhat wider at base.

Etymology.—The name is derived from the area in Brazil where it was captured, “Chapada” (type locality).

Discussion.—Using the characteristics of the aedeagus as a basis of differentiation, *A. chapadaensis* is clearly unlike *A. bellatrix* Szymczakowski, 1968; *A. peruviansis* Blas, 1980 and *A. confluens* Gnaspini & Peck, 1996 in that it does not present a small right lobe (lateral view), usually with setae surrounding the apical orifice of the aedeagus.

Moreover, *A. chapadaensis* could form a group of species with *A. brunnea* Jeannel, 1936 and their different shapes (Szymczakowski 1975), *A. coronaria* Gnaspini & Peck 1996 and *A. galea* Gnaspini & Peck 1996, having the same model of aedeagus and gastral spiculum in the genital segment. However, differences amongst these three species can be observed in the size, form of antennae and the protarsus of the male, but particularly in the shape of the aedeagus and number of setae on the apical plaque, and also in the shape, insertion and number of setae of the parameres. Finally, it should be pointed out that Gnaspini (1996) modified the generic concepts in Ptomaphagini and consequently the subgenera of *Adelopsis* have been dropped.



Figures 12–15. *Adelopsis chapadaensis*. 12: habitus; 13: aedeagus, lateral view; 14: aedeagus, dorsal view; 15: genital segment.

Paulipalpina claudicans (Szymczakowski, 1980)

The genus *Paulipalpina* was established by Gnaspini & Peck (1996) using *Adelopsis claudicans* described from Nova Teutonia, Santa Catharina (Brazil) by Szymczakowski (1980) as type species.

Records: Rio de Janeiro (Brazil), 1f. It is new record from Rio de Janeiro.

Ptomaphagus (Adelops) ulkei Horn, 1885

According to Peck (1973), this species is known from central New York, westward to central Indiana and southward to northwestern Georgia.

Records: DC, 1m. The record for the District of Columbia is new.

Ptomaphagus (Adelops) fisus Horn, 1885

Known in several states in western USA (AZ, CA, CO, ID, NV, TX) and one record from north of Mexico.

Records: CA, 2m; 1f. NB, 1m. The Nebraska record is new.

Ptomaphagus (Adelops) nevadicus Horn, 1880

This species has the widest range of any known *Adelops*. It is distributed in southern Canada, most of the western states of the USA and Durango (Mexico).

Records: CA, 6m; 8f.

Ptomaphagus (Adelops) brevior Jeannel, 1949

Widespread in eastern North America.

Records: DC, 3m; 5f. IL, 1m. NC, 1f. PA, 1m; 1f. TN, 1m. The record for the state of Tennessee is new.

Ptomaphagus (Adelops) consobrinus (LeConte, 1853)

This species is distributed in the south from Texas to Florida, and towards the north of Colorado to New Jersey (Peck 1973).

Records: PA, 4m; 2f. SC, 1m. TX, 1m. The record for Pennsylvania is new.

Ptomaphagus (Adelops) hirtus (Tellkamp, 1844)

This species only is known from the Mammoth Cave area of Kentucky.

Records: I have seen 18 specimens, Mammoth Cave (KY).

European species checklist.—*Colon (Euricolon) latum* Kraatz, 1850. 4 specimens, Sweden. *Bathysciola schiodtei schiodtei* (Kiesenwetter, 1850). 5 specimens, France. *Nargus (Nargus) anisotomoides* (Spence, 1815). 2 specimens, France. *Nargus (Demochrus) wilkini* (Spence, 1815). 3 specimens, Austria. *Choleva (Choleva) oblonga oblonga* Latreille, 1807. 3 specimens, Austria. *Choleva (Choleva) sturmi* Brisout, 1863. 1 specimen, Austria. *Choleva (Choleva) cisteloides* (Frölich, 1799). 2 specimens, Hungary. *Catops morio* (Fabricius, 1792). 2 specimens, Austria; 5 specimens, Sweden. *Catops borealis* Krogerus, 1931. 11 specimens, Sweden. *Catops fuscus fuscus* (Panzer, 1794). 12 specimens, Sweden. *Catops tristis* (Panzer, 1794). 6 specimens, Austria. *Catops subfuscus subfuscus* Kellner, 1846. 3 specimens, Austria; 3 specimens, Switzerland. *Apocatops nigrata* (Erichson, 1837). 2 specimens, Francia; 3 specimens, Sweden. *Sciodrepoides watsoni watsoni* (Spence, 1815). 5 specimens, Austria; 8 specimens, Sweden. *Ptomaphagus sericatus septentrionalis* Jeannel, 1934. 9 specimens, Sweden.

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