

THE SCARABAEIDAE OF FLORIDA

By W. S. BLATCHLEY

Dunedin, Florida

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Genus XXVII. PHYLLOPHAGA Harris.

Large or medium sized leaf eating Scarabaeidae, varying in color from pale brownish-yellow to piceous and having the body loosely built; antennae 9- or 10-jointed, club 3-jointed; front coxae transverse, not prominent, contained wholly within the coxal cavities; ventral segment six, connate, but with sutures distinct; tarsal claws never serrate, but with a single tooth beneath. They are commonly known as May-beetles or June-bugs and their larvae are the well known thick bodied "white grubs" which do much damage to the roots of corn, grass and other plants. The beetles vary little except in size and sculpture, and the principal characters separating them pertain to the male sex. They were formerly listed under the generic name *Lachnosterna* Hope, but that of Harris has priority by 11 years. About 100 species are known from this country, 29 from Florida. As I have not been in the State later than May 1, the genus is poorly represented in my collection. In the brief diagnosis of each species no mention is made of the genital organs of the male. Persons desiring to use them in their determinations are referred to the papers of Smith and J. J. Davis and to plates I-V of the "Coleoptera of Indiana."

*103. (13479). *P. latifrons* (Lec.)

Length 15-18 mm. Oblong, subcylindrical; purplish-brown to brownish-yellow, usually strongly pruinose, abdomen pale; clypeus entire; antennae 10-jointed in this and the next five species; hind tibiae of male in this and the following species to No. 125 with the inner spur fixed and often short or wanting. Male with abdomen deeply impressed, the last ventral nearly vertical, deeply concave, its apex ending in two small denticles; fixed spur of hind tibiae moderately long.

A common species throughout the State, appearing at Dunedin as early as February 27; more common in May, June and July, when it flies by scores to light. Recorded from numerous stations. Known only from Florida.

*104. (13483). *P. prununculina* (Burm.)

Length 14-18 mm. Robust, subcylindrical; reddish-brown to black, often slightly iridescent; clypeus feebly broadly emarginate; metasternum nearly naked. Male with the last ventral deeply impressed, the ridge at hind border with a cusp each side; inner spur of hind tibiae wanting.

Cedar Keys, Capron and Tampa (Sz.); Crescent City (Fall); Fort Myers (Dav.); St. Petersburg (Schf.). Gainesville, at light, June 6; a swarm of hundreds eating foliage of pine at night, June 8 (Doz.). Lake City, June (J. J. D.). Dunedin and West Palm Beach, May 22-Sept. 20, at light (Bl.).

105. (13484). *P. elongata* (Linell), 1895, 725.

Length 16 mm. Very elongate, subcylindrical, finely and sparsely pubescent; rufo-testaceous, moderately shining; clypeus distinctly emarginate; metasternum sparsely hairy. Male with antennal club slightly longer than stem; last ventral vaguely concave; fixed spur very short.

This and the next species each described from two males taken in "Florida" by Chas. Palm; the types in the U. S. Nat. Mus. Enterprise (Dietz).

106. (13485). *P. parva* (Linell), 1895, 726.

Length 12 mm. Elongate, subcylindrical; dark brown, shining, glabrous above; clypeus feebly emarginate; metasternum densely and finely punctate and with long hairs. Male with club distinctly longer than stem; last ventral deeply concave with a cusp each side within the concavity; fixed spur very short or wanting.

Enterprise (Dietz).

*107. (13486). *P. glabberima* (Blanch.).

Length 13-15 mm. Oblong, slender, subcylindrical; chestnut-brown, strongly shining, glabrous; clypeus broadly feebly emarginate; metasternum nearly naked. Male with last ventral deeply concave, with two tubercles within the concavity; inner spur wanting.

Numerous records from northern half of State, south to Gulfport (Fall); La Belle and Ft. Myers (Dav.); Dunedin, June 15, at porch light (Bl.).

108. (13487). *Pephilida* (Say).

Length 14-19 mm. Less slender, subcylindrical; brownish-yellow, moderately shining, head and thorax darker; clypeus broadly emarginate; metasternum with long, not dense hair. Male with penultimate ventral emarginate behind, granulate in front of the notch; last ventral also emarginate and concave, the concavity granulate, its sides ending in an obtuse tubercle; fixed spur distinct, short.

"Occurs from Canada to Florida and Texas." (Horn, 1887a, 226). Sevenoaks (Wick.).

109. (13493). *P. clemens* (Horn), 1887a, 227.

Length 10-11 mm. Oblong, slightly broader behind; rufo-testaceous, shining, head piceous; antennae 9-jointed; clypeus entire. Abdomen of male with a longitudinal impression, the last ventral with a slight concavity; fixed spur one-half the length of outer one.

"Occurs in Florida and Texas." (Horn, loc. cit.). The only record.

*110. (13494). *P. dispar* (Burm.).

Length 9.5-12 mm. Elongate, subcylindrical; color variable, pale rufo-testaceous to dark brown or piceous, shining, glabrous; clypeus entire, deeply concave; antennae 9-jointed; metasternum almost naked. Male with middle of abdomen vaguely impressed, last ventral concave, a small bifid process projecting back from front margin of the concavity; inner spur of hind tibiae nearly as long as outer.

This species, including *boops* Horn, now considered a synonym, has been recorded from numerous stations as far south as Tampa and Gulfport. Common at Dunedin, June-September, at light.

111. (13495). *P. debilis* (Lec.).

Length 10.8 mm. Elongate-oblong; pale brownish-yellow, shining, head darker; clypeus rounded, deeply concave; antennae 9-jointed, last joint of maxillary palpi oval, impressed on outer side. Male with thorax less coarsely and deeply punctate than in female; inner spur of hind tibiae slightly oblique, thus forming an inferior emargination; last ventral feebly broadly foveate.

"Occurs in Florida" (Horn, 1887a, 229). "Fla." without definite station (Fall Coll.).

112. (13496). *P. gracilis* (Burm.).

Length 10.5-13 mm. elongate, subcylindrical. Pale reddish-yellow, head and thorax darker; clypeus short, broadly, shallowly emarginate; antennae 10-jointed, club in male as long as stem; tooth of tarsal claws very small, median. Male with middle of penultimate ventral abruptly declivous, last ventral feebly concave; inner spur of hind tibiae long, obtuse, curved and slightly twisted.

Tallahassee, March 3; collected by R. N. Wilson (J. J. D.).

113. (13497). *P. futilis* (Lec.).

Length 12-17 mm. Oblong, convex; pale chestnut or dark reddish-brown or brownish-yellow, moderately shining; clypeus feebly emarginate, sparsely and coarsely punctate; metasternum densely pubescent. Abdomen of male broadly feebly impressed; last ventral deeply concave; inner spur of hind tibiae contorted, S-shaped.

Gainesville and Lake City (Ag. Coll.); determined by J. J. Davis. Not before recorded from south of Virginia. The *P. gibbosa* Burm. is a synonym.

114. (13500). *P. postrema* (Horn), 1887a, 233.

Length 19 mm. Oblong, moderately robust; chestnut-brown, shining; antennae in this and the species up to *quercus* 10-jointed; clypeus more or less emarginate, feebly concave; punctures of thorax not coarser than those of elytra. Male with abdomen slightly flattened, penultimate ventral with a transverse ridge, which is excavated behind parallel with the margin; inner spur of hind tibiae long and slender.

"One male, Florida" (Horn). Lake City, June 1-2, collected by C. W. Mason (J. J. D.).

115. (13504). *P. subpruinosa* (Csy.).

Length 15 mm. Oblong-oval; chestnut-brown, feebly pruinose; body glabrous in this and species up to *hirticula*; clypeus in this and the next species feebly emarginate, not densely punctate; side margins of thorax in this and the next two species not serrate. Last ventral of male with a smooth cup-shaped depression; inner spur of hind tibiae two-thirds the length of outer.

"Eight specimens were taken near Jacksonville by the late Edward Tatnall" (Horn, 1887a, 240). Enterprise (Dietz); Ft. Reed, March 25 (J. J. D.).

*116. (13508). *P. micans* (Knoch).

Length 15-17 mm. Oblong, slightly broader behind; brownish-black with a conspicuous pruinose coating. Male with last ventral without a well defined concavity; penultimate ventral with a feebly elevated arcuate ridge at middle; inner spur of hind tibiae half the length of outer, slightly curved outward.

Tampa, common in April (Sz.); Crescent City (Sz. Ms.). Gainesville, on pine, and Lake Wales (Ag. and P. B. Colls.). Enterprise (Dietz); Plant City, March 20 (J. J. D.); Dunedin, March 6 (Bl.).

117. (13509). *P. diffinis* (Blanch.).

Length 15 mm. Oblong, subdepressed; reddish-brown, shining, not pruinose; thorax and elytra very coarsely punctate. Penultimate ventral of male with a straight transverse ridge near hind margin, along which the segment is impressed; inner fixed spur acute, half the length of outer one. The *L. comans* Burm. is a synonym.

"Duval Co., Florida" (Horn, 1887a, 244). Tallahassee, Apr. 19 (J. J. D.).

118. (13512). *P. ulkei* (Smith), 1889, 94.

Length 21-22 mm. Ovate, robust; rufo-castaneous, shining; clypeus slightly emarginate, rather closely punctate; side margins of thorax feebly crenulate; metasternum with long dense hair. Penultimate ventral of male with a straight transverse ridge, behind this a deep abrupt concavity; last ventral concave; inner spur of hind tibiae stouter than and two-thirds the length of outer one.

Types in part collected by Ashmead in eastern Florida. No other State records.

119. (13513). *P. quadrata* (Smith) 1889, 94.

Length 22 mm. Oblong. sides parallel; deep brown, shining; clypeus nearly square, feebly emarginate, coarsely and sparsely punctate. Male unknown.

The single female type was taken by Schwarz at Enterprise in May. (Smith). No other record.

120. (13522). *P. fraterna* Harris.

Length 15-18 mm. Oblong, scarcely broader behind; reddish-brown, fuscous or piceous, shining; clypeus rather deeply emarginate, densely punctured; sides of thorax not angulate, the margins slightly crenate. Male with penultimate ventral impressed at middle, slightly granulate, last ventral deeply concave and smooth; inner spur of hind tibiae stouter and one-third shorter than the outer one.

Enterprise, very rare in May (Sz.); in Leconte collection.

121. (13523). *P. forsteri* (Burm.).

Length 17-18 mm. Oblong, nearly parallel; wholly rufo-castaneous, strongly shining, or with head and thorax nearly piceous, elytra reddish-brown; thorax coarsely punctate, and disk with large smooth areas: Otherwise as in *fraterna*, of which Horn considered it a variety.

"Florida" (J. J. Davis, 1920, 333); Gainesville, July 24 (P. B. Coll.).

122. (13524). *P. infidelis* (Horn), 1887a, 253.

Length 19-21 mm. Oblong, broader behind; chestnut-brown, head and thorax darker, shining. In this and the next species the clypeus is flat, emarginate, densely punctate and the sides of thorax obtusely angulate, their margin serrate or crenate. Male with penultimate ventral only slightly depressed at middle of hind border; last ventral slightly concave; inner spur of hind tibiae very short.

"Occurs in Georgia and Florida" (Horn). No other record.

123. (13525). *P. luctuosa* (Horn), 1887a, 254.

Length 20-22 mm. Dark brown or piceous, moderately shining; clypeus slightly emarginate, densely punctate. Penultimate ventral of male with a rugose transverse ridge just in front of hind border; last ventral depressed and granulate; spurs of hind tibiae equal in length, long, slender, acute.

"Occurs in South Carolina, Georgia, Florida, Alabama and Louisiana" (Horn). Tallahassee, Apr. 19 (J. J. D.). No other records.

124. (13538). *P. hirticula* (Knoch).

Length 16.5-19 mm. Oblong, slightly wider behind; reddish-brown to dark chestnut-brown, head and thorax with erect hair, elytra with lines of erect hairs along the usual costa; thorax densely, cribrately punctured, with basal margin channeled from hind angles nearly to middle, the sides not subangulate. Male with penultimate ventral depressed on posterior half, its sides plicate; last ventral slightly concave; inner fixed spur moderately long, acute.

Tallahassee, March 23 (P. B. Coll.); March 3 and April 19 (J. J. D.). No definite printed record from the State.

(To be continued)