

# A SYNOPSIS OF THE GENUS *COPHES* IN THE UNITED STATES AND MEXICO (COLEOPTERA, CURCULIONIDAE)

ELBERT L. SLEEPER

*Department of Zoology and Entomology, The Ohio State University, Columbus 10*

The purpose of this paper is to review the North American species in the genus *Cophes* Champion, and aid other workers in determining these species. The genus was first recorded as occurring in the United States by the late Dr. E. C. Van Dyke in 1930. He recorded *Cophes gibba* Champion as occurring in Arizona. However, he mistook a species of *Gasterocercus* (sens. lat.) for *gibba*. Two forms are here listed as occurring in the United States. One is new to science.

I am indebted to Sir G. A. K. Marshall of the British Museum (Natural History) for his help and information on the members of the genus and for making comparisons with the types. I am also indebted to Mr. Barry D. Valentine of Harvard College and Miss Rose E. Warner of the United States National Museum for their comparisons and help. Mr. H. B. Leech of the California Academy of Sciences kindly sent me the material studied by Dr. Van Dyke.

## KEY TO THE SPECIES OF *Cophes* OCCURRING IN NORTH AMERICA

The \* indicates that the species occurs only in Mexico.

The † indicates that the species occurs in both the United States and Mexico.

1. Anterior femora bidentate; the outer tooth frequently small. . . . . *longiuscula* (Boheman) †
- 1'. Anterior femora unidentate. . . . . 2
2. Eyes widely separated, nearly as wide as rostrum at base. . . . . 3
- 2'. Eyes narrowly separated, about one-third as wide as the rostrum at base. . . . . 4
3. Second segment of funicle longer than first; elytral intervals 3, 5, 7, and 9 elevated; metaepisterna narrow. . . . . *cognata* Champion\*
- 3'. Second segment of funicle subequal to the first; elytral intervals 3 strongly elevated, 5 and 7 moderately elevated; metaepisterna wide. . . . . *texana* n. sp. †
4. Second segment of funicle longer than first; elytral intervals 3, 5, and 7 elevated, the first strongly raised and swollen anteriorly in male; anterior legs of male much longer than those of female. . . . . *gibba* Champion\*
- 4'. Second segment of funicle subequal to first; elytral intervals flat; anterior legs of both sexes equal. . . . . *hieroglyphica* Champion\*

## *Cophes* Champion

*Cophes* Champion 1905, p. 515. Van Dyke 1930, p. 164.

Rostrum curved, cylindrical, moderately stout, reaching to about the middle of the mesocoxae in the ♀; separation of eyes variable, rather prominent. Antennae with funicle 7-segmented, 2 sometimes longer than 1. Club oblong or ovate. Prothorax transverse, bisinuate at the base, the ocular lobes feebly developed. Scutellum rounded or oval. Elytra as wide or wider than the prothorax; tenth striae abbreviated. Metasternum moderately long; ventral abdominal segment 2 a little longer than 3. Anterior legs more or less elongated in the ♂; femora moderately or feebly clavate; posterior pair not extending beyond apex of the elytra; anterior tarsi of the ♂ clothed each side with long projecting setae.

*Genotype: Cryptorhynchus longiusculus* Boheman.

The genus *Cophes* should be placed after *Coelosternus* Schönherr in the Leng Catalogue. It differs from the latter in the relatively longer second ventral abdominal segment and the shorter stouter rostrum. From *Macromerus* it differs in having shorter legs, the anterior pair less elongated in the male, the rostrum is shorter and stouter, reaching to about the middle of the mesocoxae, and the mesosternum is horse shoe-shaped or triangular.

**Cophes longiuscula** (Boheman)

*Cryptorhynchus longiusculus* Boheman 1837, p. 217.

*Cophes longiusculus* (Boheman), Champion 1905, p. 516.

Oblong-ovate; black with the antennae and last tarsal segment reddish brown; densely clothed with pale brown and white scales, the white scales condensed in an elongate, fusiform spot on the pronotum; the side of the prothorax densely clothed with brown scales; the disc of the elytra mottled with brown and white scales.

Rostrum as long as pronotum; slightly curved; finely closely punctured; a smooth median line present throughout length in ♀. Antennae inserted at middle in ♂, just behind middle in ♀. First and second segments of funicle equal. Club elongate-ovate. Head closely, coarsely punctured. The eyes separated by the width of the rostrum at base.

Prothorax wider than long; the sides curved in basal two-thirds, then narrowed to a moderately constricted apex; pronotum coarsely, rugosely punctured; a median carina present in basal two-thirds. Scutellum small, rounded.

Elytra long, wider than prothorax; the sides parallel in basal two-thirds, then rounded to apex; humeri feebly rounded; striae serially punctured; intervals 3, 5, and 7 strongly elevated, intervals 1, 3, and 5 with prominent asperites, each asperite with a clavate recumbent pale brown scale.

Ventral side sparsely clothed with pale brown and white scales; the abdominal segments finely sparsely punctured, the fifth with a few scattered coarse punctures also. Legs elongate, those of ♂ longer than in ♀. Femora clavate, the anterior pair bidentate, the middle and posterior pair unidentate. Anterior tarsi of male broadly dilated.

Length 5.5-9.5 mm., width 2.8-3.1 mm.

*Distribution*.—The types were from Vera Cruz, Mexico, Chevrolat Collector. Examples are also known from Playa Vicente, Mexico, Salle Collr.; Chontales, Nicaragua, Janson Collr.; Cuernavaca, Morelos, Mexico, VI-45, N.L.H. Krauss; Santa Rosa, Costa Rica, Schlitz Collr.; and Brownsville, Texas. There are examples from the latter locality in the United States National Museum, the Canadian National Collection, Ottawa, and the author's collection.

This species is readily separated from all other species in the genus from the area under consideration, by the very elongate form and the bidentate anterior femora.

**Cophes cognata** Champion

*Cophes cognatus* Champion 1905, p. 518.

Elongate-ovate; black with the antennae reddish brown; densely clothed above with brown scales, the pronotum and disc of elytra more or less mottled with black and dark scales condensed in two triangular spots at the base of the pronotum and condensed in irregular spots behind the scutellum, the latter brownish yellow; the dorsum with short scattered, setiform scales.

Rostrum a little longer than pronotum, strongly curved, rugosely punctured and carinate at base, the remainder sparsely punctured, smoother in the ♀. The antennae inserted towards the base in ♀, and near middle in ♂. First and third segments of funicle equal in length, second more elongate. Club ovate. Head rugosely punctured, the eyes separated by nearly the width of the rostrum at base.

Prothorax transverse, rounded at the sides, narrowed and constricted apically, also narrowed basally; pronotum densely, finely punctured and carinate. Scutellum rounded, large.

Elytra moderately long, wider than the prothorax, the sides subparallel in the basal third and considerably produced at the apex; the humeri rounded; striae serially-punctured; intervals rugose and granulate, 3, 5, 7, and 9 raised, the suture elevated except near the base.

Ventral side densely punctured; densely clothed with brownish scales. Legs moderately long. Femora unidentate. Anterior tarsi of the ♂ with a few long, laterally projecting setae.

Length 7.0-8.5 mm., width 3.0-3.5 mm.

*Distribution*.—Three cotypes from Cerro Zunil, Guatemala, Champion Collr. and one Tuxpam, Mexico, Salle Collr. These are the only examples known to the author.

**Cophes texana** n. sp.

*Male*.—Oblong-ovate, robust; black with the antennae reddish brown; densely clothed above with pale brown and white broad oval scales and narrow clavate pale brown scales; the white scales condensed in a narrow line on the pronotum and extends onto the head, and scattered over the disc of the elytra, the brown scales scattered over the whole of the head, prothorax and elytra; elytral intervals 2, 4, and 6 with narrow clavate scales in the punctures.

Rostrum three-fourths as long as pronotum, nearly straight; coarsely rugosely punctured and sulcate in basal third; punctures finer apically; a narrow smooth impunctate median line present in apical two-thirds. Antennae inserted just behind middle of rostrum. First and second segments of funicle equal, 3-7 transverse. Club obovate, basal segment composing three-fourths length. Head closely, coarsely, deeply punctured. Eyes separated by the width of the rostrum at base.

Prothorax wider than long, the sides evenly rounded in basal two-thirds then rapidly narrowed to apical constriction; pronotum coarsely, closely, deeply punctured; a small short median carina at middle. Scutellum very small, rounded.

Elytra short, only a little more than one and one-half times as long as wide; the sides parallel in basal half then rounded to apex; humeri rectangular; striae serially punctured, widely separated; intervals 3 strongly elevated, 5 and 7 moderately elevated, elevated intervals asperate, each asperite with a recumbent clavate scale.

Ventral side sparsely clothed with pale brown and white scales; coarsely, deeply punctured; the abdominal segments finely, sparsely punctured. Legs slender but not elongate. Anterior femora unidentate. Anterior tarsi narrow, not dilated.

Length 5.0 mm., width 2.3 mm.

*Female*.—Rostrum as long as pronotum, much more finely sparsely punctured than male, not as rugose basally, otherwise as in male. Length 5.5 mm. width 2.5 mm.

*Distribution*. Holotype, ♂, and allotype, ♀, Pharr, Texas, IV-7-45, C.C. Wilson, in the author's collection. Twenty paratypes deposited as follows: in the author's collection, 1 ♂, 3 ♀, same data as holotype, 1 ♂, 2 ♀, La Paloma, Texas, IV-14-42, W.C. Nelson, 1 ♂, Brownsville, Tex., IV-30-04, H.S. Barber; in the British Museum (Natural History), 1 ♂, 1 ♀, La Paloma, Texas, IV-14-42, W.C. Nelson; in the United States National Museum, 1 ♀, La Paloma, Texas, IV-14-42, W.C. Nelson, 2 ♀, Brownsville, Tex., VII-28-32, 3 ♀, Brownsville, Tex., VI-5-32, E. G. Linsley, 1 ♀, Brownsville, Tex., VI, Wickham, 1 ♀, Brownsville, Tex., VIII-21-44, 1 ♂, Brownsville, Tex., IV-30-04, H. S. Barber, 1 ♂, Esprz. Ranch, Brownsville, Tex., VI, Schaeffer. Length of paratypes 5.2-7.0 mm., width 2.3-3.1 mm. There is a single example in the author's collection from Guerrero, Mexico which is not included as a part of the type series.

This species is nearest *quadricostata* Champion from Panama, differing in the second segment of the funicle equal to the first, the intervals 3, 5, and 7 are more strongly elevated, there are no black scales present nor any condensed spots of dark scales on the elytra, and the anterior femora are unidentate not bidentate.

**Cophes gibba** Champion

*Cophes gibbus* Champion 1905, p. 517.

*Coelosternus gibbus* Chevrolat in litt.

Oblong-ovate; black; mottled above with a dense clothing of intermixed white, brownish yellow, and black scales, the black scales sometimes condensed into a small oblong patch behind the scutellum and the whitish ones into a faint sub-apical fascia.

Rostrum as long as the pronotum, moderately stout, in ♂ rugose, subcarinate at base, thickly punctured from there to the apex, in ♀ almost smooth from base to apex. The antennae inserted at about the middle, segment 2 of funicle shorter than first, 3-7 transverse. Club stout, ovate, with oblique sutures. Head rugosely punctured. Eyes extremely large, finely faceted, and separated by about one-third the width of the rostrum.

Prothorax broader than long, much narrowed to apical constriction; sides rounded basally; pronotum sparsely, finely, irregularly granulate and minutely punctured.

Elytra oblong, not or very little wider than prothorax, the sides more parallel in the ♀ than

in the ♂; striae coarsely, serially punctured and more or less granulate or asperate; intervals 3, 5, and 7 elevated, the first interval swollen and arcuate anteriorly in the male.

Ventral side and legs clothed with white scales; the femora slightly annulate with brownish yellow or brown. The abdominal segments finely and shallowly punctured. Legs long, the anterior pair moderately elongate in the ♂. Femora clavate, unidentate. Anterior tibiae bowed at the apex and mucronate at the inner apical angle. The two basal segments of the anterior tarsi of ♂ clothed with long projecting setae.

Length 4.5–8.0 mm., width 1.8–3.0 mm.

*Distribution*.—Cotypes, Jalapa, Mexico, Hoge Collr., Toxpam, Mexico, Salle Collr.; Cubilguitz, Chacoj, Senahu, Cerro Zunil, Las Mercedes, San Isidro, and Volcan de Atitlan, Guatemala, Champion Collr.; Volcan de Chiriqui, Panama, Champion Collr.

The elytra of the male, viewed in profile, are gibbous towards the base. A condition which also exists in some species of *Gasterocercus*, thus leading to some confusion of names in the literature.

### ***Cophes hieroglyphica* Champion**

*Cophes hieroglyphicus* Champion 1905, p. 519.

Oblong-ovate; shining, black with the antennae and the tips of the tarsi reddish brown; variegated above with dense reddish brown, black and white scales, the black scales on the pronotum more or less condensed into two oblong spots basally, those on the elytra condensed into a curved, oblong, sharply defined streak on the disc basally, a short sutural streak behind scutellum, and various small irregular spots on the disc and near the apex, the white scales condensed into a curved line on the anterior part of the prothorax, an oblique fascia on the disc behind base, and a common, faint, interrupted, transverse, subapical fascia; the dorsum with very short, coarse, scattered setae.

Rostrum about as long as head and pronotum, moderately stout, curved, depressed basally, rugosely punctured, carinate dorsally at middle. The antennae inserted at middle. First and second segments of funicle equal in length, 3–7 transverse. Club elongate-ovate, as long as the preceding six segments united. Head densely punctured. The eyes very large, separated by about one-third width of rostrum.

Prothorax transverse, the sides strongly rounded in basal half then rapidly narrowing to the apex; feebly constricted behind apex; pronotum densely punctured. Scutellum small.

Elytra slightly wider than the prothorax, convex the sides parallel in basal third; striae serially punctured; intervals punctured and almost flat.

Ventral side sparsely clothed with brownish yellow and intermixed white scales; closely punctured. The mesosternum horse shoe-shaped. Femora feebly clavate, unidentate. Anterior tarsi of the male with a few very fine, long, projecting setae.

Length 5.1–5.7 mm., width 2.5–2.6 mm.

*Distribution*.—Cotypes, 4, Volcan de Chiriqui, Panama, Champion Collr.; 1, Toxpam, Mexico, Salle Collr., 1, Jalapa, Mexico, Hoge Collr.

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