

THE GENUS *DICHOXENUS* HORN
(COLEOPTERA, CURCULIONIDAE)

15. A contribution to the knowledge of the Curculionidae

ELBERT L. SLEEPER

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

During the past few years a number of members of the genus *Dichoxenus* Horn have been sent to the author in material for identification. Several new forms were found and they are herewith published.

Very little work has been done on the genus *Dichoxenus* since the original description of the genus and genotype by Horn in 1876. In 1910 and 1913 Pierce mentioned the genus only briefly in keys to related genera. In 1927 Buchanan placed *Anametis setosus* Blatchley in the genus. Other than the above works no systematic work has been done on the genus.

Dichoxenus was placed in the tribe Ophryastini of the Otorhynchidae by Horn when he described the genus. Pierce in 1910 placed it in the group Strangaliodes, tribe Ophryastini of the Otorhynchinae. In 1913 he placed it in the tribe Tropiphorini of the subfamily Eremninae, family Brachyrhinidae. Schenkling and Marshall (1931) placed *Dichoxenus* in the subfamily Leptopinae, tribe Leptopini of the Curculionidae. After study of foreign material it seems that the genus is properly placed in the Leptopinae as indicated by Schenkling and Marshall.

All members of this genus examined (196 individuals) were female. A spermatheca is present in all species. This would seem to indicate that males are present or were probably existent in the not too distant past.

All measurements of body length were taken from the dorsal view beginning at the anterior margin of the eyes and extending to the apices of the elytra. Measurements of the rostrum were made from the lateral view along the chord of the dorsal side from the basal impression to the apical end of the rostrum with the mandibles in a closed position. Those of the pronotum are along the median line. The term pronotum is applied to the disc of the prothorax.

Dichoxenus Horn

Dichoxenus Horn 1876, p. 39. LeConte and Horn 1883, p. 444. Pierce 1910, p. 348; 1913, p. 380. Buchanan 1927, p. 184.

Rostrum longer and slightly narrower than the head, separated from the head by a deep transverse impression, feebly convex above, subquadrangular, tip emarginate, nasal plate sharply defined by a distinct rim. A deep groove in the basal half above the scrobes. Scrobes lateral, deep, well defined, arcuate and passing rapidly beneath the head at a distance in front of the eyes. Antennal insertion subapical; scape gradually clavate, scaly, scarcely passing the anterior border of the eyes; funicle 7-segmented, segments 1 and 2 subequal, the first stouter, 3-7 obconical the seventh segment not contiguous with the club; club elongate oval. Eyes oval, oblique, coarsely granulate and flattened. Prothorax oval, broader than long, truncate at apex and base, ocular lobes broad and moderately prominent. Scutellum indistinct or scarcely visible. Elytra oval, not wider at base than prothorax. Metasternal side pieces indistinct. Intercoxal process of abdomen broad, slightly arcuate in front. Second segment of abdomen shorter than the two following united, separated from the first by a deep, straight suture. Anterior and middle tibiae feebly mucronate and dentate within. Corbels of hind tibiae open. Tarsi normal and densely pubescent beneath. Claws free, simple and divergent. Body scaly and with short erect setae.

Genotype.—*Dichoxenus setiger* Horn by monotypy.

THE OHIO JOURNAL OF SCIENCE 56(3): 165, May, 1956.

Key to the species of Dichoxenus in America north of Mexico.

1. Pronotum deeply scarred and rugosely tuberculate. 2
- 1'. Pronotum more or less smooth, not deeply scarred (some specimens may have the flanks more or less rugose), the surface densely covered with small granular tubercles. 3
2. Raised setae of elytral intervals recumbent, broadly clavate; form elongate-oval.
 *occidentalis* n. sp.
- 2'. Raised setae of elytral intervals erect and very feebly clavate; form oblong-oval.
 *setiger setiger* Horn
3. Rostrum prominently tricarinate, appearing smooth; pronotum not conspicuously tuberculate due to the close fit of the non-overlapping scales; striae not or feebly impressed; waxy exudation absent from surface; spermatheca as in fig. 7. *tessellatus* n. sp.
- 3'. Rostrum not prominently tricarinate, appearing roughened, pronotum with tubercles more or less conspicuous through the overlapping scales; striae moderately impressed; waxy exudation present with the scales. 4
4. Nasal plate U-shaped not pointed at the uppermost limit; strial punctures small, separated by their own diameter on the disc; setae of elytral intervals narrowly clavate (fig. 6); spermatheca as in fig. 8. *setosus* (Blatchley)
- 4'. Nasal plate more V-shaped, pointed at uppermost limit; strial punctures large, separated by one-half their diameter on disc; setae of elytral intervals setose, very feebly clavate (fig. 5); spermatheca as in fig. 3. *setiger arkansasensis* n. ssp.

***Dichoxenus occidentalis* n. sp.**

Figures 1 and 4

Female.—Elongate-oval; dark reddish black with the head and rostrum black; densely clothed with overlapping ashy-gray and brown scales, the scales discolored by a waxy exudation, the gray scales on head and rostrum; and with strongly clavate semierect, scale-like setae.

Rostrum nearly as long as pronotum, narrower than the head, deeply strigose, carinate only at lateral margins over scrobes; nasal plate prominent, U-shaped, not acuminate at upper limit; a deep median pit at base. Head densely covered with small granular tubercles.

Prothorax nearly one and one-third wider than long, truncate apically and basally; sides evenly arcuate, the pronotum coarsely tuberculate and deeply punctured; a median longitudinal groove present. Scutellum not visible.

Elytra elongate-oval; one and one-half times longer than wide, one and one-fourth times wider than the prothorax, sides subparallel at middle, feebly curved basally, more strongly curved apically; humeri nearly obsolete; base truncate; striae impressed, strial punctures large, round and deep, separated by about one-half their diameter; intervals convex, each with one or more rows of nearly recumbent scale-like setae.

Ventral side, and legs clothed as dorsum, the semierect setae more setose and not so strongly clavate on abdominal segments. Anterior and middle tibiae dentate.

Length 5.5 mm., width 2.4 mm.

Male.—Unknown.

Type locality.—Cheyenne, Wyoming.

Distribution.—Known only from the type locality.

Type material.—Holotype (No. 77) and 2 paratypes, Cheyenne, Wyoming, IV-15, in the author's collection. Length of paratypes 5.5–6.0 mm., width 2.3–2.6 mm. The paratypes vary little from the holotype except in size.

This species can be readily distinguished from the others by the prominent clavate suberect setae and the more elongate form. It is the narrowest species in the genus.

***Dichoxenus setiger* Horn**

Figure 2.

Dichoxenus setiger Horn 1876, p. 40. Pierce 1910, p. 348.

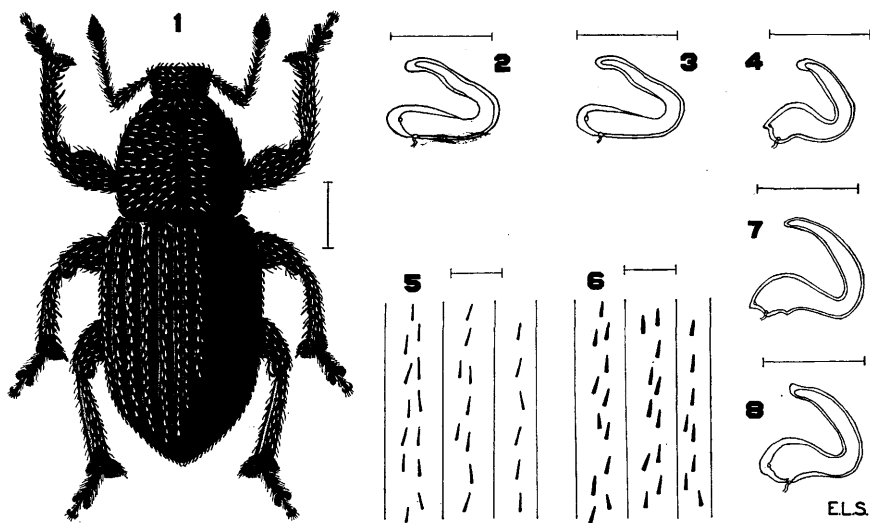
Oblong-oval; reddish black to black, densely clothed with large white, brown and grayish black scales which are frequently discolored by a waxy exudation, the lighter scales more promi-

nent on head, rostrum, median and two lateral lines on the prothorax; and with erect very feebly clavate setae.

Rostrum seven-eighths as long as pronotum; deeply, rugosely punctured, strongly channeled forming several irregular carinae; nasal plate large, prominent, elevated, feebly acute at upper end. Head deeply strigose.

Prothorax one and one-fifth wider than long, sides evenly arcuate; pronotum and flanks deeply scarred and rugosely tuberculate; a median longitudinal groove present. Scutellum scarcely visible.

Elytra oval, nearly one and one-half times longer than wide; sides evenly arcuate; base feebly emarginate; humeri nearly obsolete; striae deeply impressed, stria punctures large, deep,



1. *Dichoxenus occidentalis* n. sp., ♀, (holotype).
2. Spermatheca of *D. setiger* Horn.
3. Same of *D. setiger arkansasensis* n. ssp., (holotype).
4. Same of *D. occidentalis* n. sp., (holotype).
5. Diagram of arrangement and structure of elytral setae of *D. setiger arkansasensis* n. ssp., (holotype).
6. Same of *D. setosus* (Blatchley).
7. Spermatheca of *D. tessellatus* n. sp., (holotype).
8. Same of *D. setosus* (Blatchley).

FIGURE 1. Line = 1 mm.

FIGURE 2-8. Line = $\frac{1}{4}$ mm.

and separated by nearly their own diameter; intervals moderately convex, each with a single row of erect feebly clavate setae.

Ventral side and legs clothed as dorsum, the setae more recumbent.

Length 5.3-7.0 mm., width 2.5-3.4 mm.

Type locality.—"Texas".

Distribution.—Texas, Arkansas, Oklahoma and Missouri.

Material examined.—Texas: Tyler, VI-9-04; "Columbus"; Harrison Co., Anderson Co., and Clay Co. Arkansas: Gregory, G. G. Becker; Drew Co., Union Co., and Lafayette Co. Missouri: "Mo.". Oklahoma: Waurika.

Hosts. —Many of the examples from Texas were swept from cotton. Those from Clay Co., Texas and Waurika, Okla. were in river bank trash.

Dichoxenus setiger arkansasensis n. ssp.

Figures 3 and 5

Female.—Oblong-oval; dark reddish black with the head and rostrum black; densely clothed with gray and brown scales which are frequently discolored by a waxy exudation, the lighter scales more prominent on head, rostrum, median and two lateral lines on the prothorax; and with erect, very feebly clavate setae.

Rostrum four-fifths as long as pronotum, narrower than head, finely closely and deeply punctured, the raised areas are small granular tubercles which are often united forming faint strigae; nasal plate large prominent, V-shaped. Head densely covered with small granular tubercles, each with an erect seta.

Prothorax one and one-third wider than long, sides evenly arcuate; pronotum and flanks densely covered with small granular tubercles, each with an erect setae, the punctures between tubercles shallow; the median longitudinal groove obsolete. Scutellum not visible.

Elytra oblong-oval, nearly one and one-half times longer than wide; one and one-fourth times wider than prothorax, sides arcuate; base feebly emarginate; humeri feeble; striae moderately impressed, strial punctures large, round and deep, separated by about one-half their diameters; intervals feebly convex, each with a single or double row of erect setae.

Ventral side and legs clothed as dorsum, the erect setae more recumbent. Anterior and middle tibiae dentate within.

Length 6.75 mm., width 3.2 mm.

Male.—Unknown.

Type locality.—Ozark, (Franklin Co.), Arkansas.

Distribution.—Known only from the type locality.

Type material.—Holotype (No. 79) and 3 paratypes all from the same locality in the author's collection. Length of paratypes 5.7–7.5 mm., width 2.7–3.2 mm. The paratypes differ little from the holotype. The dorsum of the rostrum is not so rugose and the median groove of the pronotum is more prominent because of the white scales thereon in each of the paratypes.

The differences pointed out in the key would seem to indicate that *setiger* and *arkansasensis* represent two different species. However the spermatheca of the two forms are nearly identical (figs. 2 and 3). The most easily distinguished difference is the structure of the pronotum in each form, in *setiger* it is rugosely tuberculate, while in *arkansasensis* it is densely covered with small granular tubercles.

Dichoxenus tessellatus n. sp.

Figure 7

Female.—Oblong-oval; reddish brown with the eyes and claws black and the antennae dark reddish brown; densely clothed with brown, tan and white scales, the lighter scales more prominent on head, rostrum, median line and two lateral lines on the prothorax, and in patches on the elytra; and with erect, very feebly clavate setae.

Rostrum nearly as long as the pronotum, narrower than the head, finely closely punctured, tricarinate, the median carina more prominent; nasal plate moderate, V-shaped, feebly acute at upper end. Head densely covered with small granular tubercles, each with an erect seta.

Prothorax nearly one and one-fourth wider than long, sides strongly arcuate; pronotum densely covered with small granular tubercles, each with an erect seta, the flanks a little more rugose; the median longitudinal groove represented only by two shallow foveae. Scutellum very minute, trinagular and densely scaly.

Elytra oval, one and one-half longer than wide, nearly one and one-half wider than prothorax; sides arcuate; base strongly emarginate; humeri nearly obsolete; striae very feeble, strial punctures small, shallow and round, separated by nearly their own diameter; intervals nearly flat, the third, fifth and seventh slightly more convex in basal fourth; each interval with a single row of blunt erect setae.

Ventral side and legs clothed as dorsum, the erect setae sparser and more recumbent. Anterior and middle tibiae dentate within.

Length 7.2 mm., width 3.25 mm.

Male.—Unknown.

Type locality.—Big Spring, (Howard Co.), Texas.

Distribution.—Known only from the type locality.

Type material.—Holotype (No. 78) and 1 paratype, Big Spring, Texas, IX-5-44, in the author's collection.

Hosts.—Both examples were swept from cotton.

This species can be readily separated from all the others by the characters mentioned in the key. The relatively smooth tricarinate rostrum and the complete absence of the waxy exudation covering the scales, which are flat and not overlapping, are distinct. The erect setae are finer, more setose than those of any of the other species.

***Dichoxenus setosus* (Blatchley)**

Figures 6 and 8

Anametus setosus Blatchley 1916, p. 103.

Dichoxenus setosus (Blatchley), Buchanan 1927, p. 184.

Oblong-oval; dark reddish black to black, densely clothed with dark brown, gray and tan scales; lighter scales more prominent on head, rostrum, median line and two lateral lines on the prothorax; and with erect, feebly clavate setae.

Rostrum nearly seven-eighths as long as pronotum, slightly narrower than the head; densely and rugosely punctured but neither carinate nor channeled except for the deep channel above the scrobes; nasal plate large U-shaped. Head densely and deeply punctured.

Prothorax one and one-fifth wider than long, the sides evenly arcuate; pronotum and flanks densely covered with small granular tubercles, each with a suberect seta. Scutellum scarcely visible.

Elytra oval, one and one-third longer than wide, about one and one-fourth wider than prothorax; sides subparallel at middle, arcuate basally and apically; humeri almost obsolete, base emarginate; striae impressed, striae punctures small, deep and rounded, separated by about one-half their diameter; intervals feebly convex, intervals with one or more rows of erect setae.

Ventral side and legs clothed as dorsum, the erect setae a little more recumbent. Anterior and middle tibiae very feebly dentate within.

Length 6.0–6.5 mm., width 2.7–3.0 mm.

Type locality.—Vigo County, Indiana.

Distribution.—Illinois, Indiana, Missouri and Ohio.

Material examined.—*Illinois*: Pulaski and Massac Counties, "S. Ill.". *Indiana*: Lake, Vigo, and Posey Counties. *Ohio*: Lucas County. *Missouri*: St. Louis.

Hosts.—Swept from *Vernonia fasciculata* Michx. in Indiana. The example from Lucas Co., Ohio was swept from miscellaneous weeds in a clearing in an oak woods.

This species is close to *D. setiger setiger* Horn but that species has the prothorax more rugose, the rostrum more rugosely punctured, and the setae thinner and considerably longer. The spermatheca differ as illustrated in figures 2 and 8.

LITERATURE CITED

- Blatchley, W. S., and C. W. Leng.** 1916. Rhynchophora or weevils of N. E. America. The Nature Publishing Company, Indianapolis. 682 p.
- Buchanan, L. L.** 1927. Synonymical notes on several Otorhynchid weevils (Coleoptera). Can. Ent. 59: 183–184.
- Horn, G. H.** See LeConte, J. L.
- LeConte, J. L.** (assis. G. H. Horn.) 1876. The Rhynchophora of America north of Mexico. Proc. Amer. Phil. Soc. 15: 1–455.
- , and **G. H. Horn.** 1883. Classification of the Coleoptera of North America. Smithsonian Misc. Coll. 26(507): 1–567.
- Pierce, W. D.** 1910. Studies of North American weevils. Proc. U. S. National Mus. 37: 325–364.
- . 1913. Miscellaneous contributions to the knowledge of the weevils of the families Attelabidae and Brachyrhinidae. Proc. U. S. National Mus. 45: 365–426.
- Schenkling, S., and G. A. K. Marshall.** 1931. Curculionidae, Leptopinae. Coleopterorum Catalogus 28, par 114: 1–83. Berlin. W. Junk Publishers.