

# **Article XIV.—SYNOPSIS OF THE SPECIES OF TRECHUS, WITH THE DESCRIPTION OF A NEW SPECIES.**

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PLATE XXVIII.

The account of the characters of the species of *Trechus* given by Dr. Horn in the 'Transactions' of the American Entomological Society, Vol. V, p. 131, and in his synopsis in the 'Bulletin' of the Brooklyn Entomological Society, Vol. V, p. 48, having become antiquated by the species added since, the opportunity is here taken to present a new synoptic table, with a few notes and the description of a new species collected by Mr. Beutenmüller on Mount Mitchell in western North Carolina, July, 1900.

I am under obligations to Mr. Beutenmüller for the assistance given me in the preparation of this paper, to Dr. Van Dyke and Mr. Chas. Fuchs for the loan and gift of specimens, and to Dr. Henry Skinner and Mr. S. Henshaw for aiding me in the bibliography of *Trechus chalybeus*.

## *Synoptic Table of the Species of Trechus.*

- Elytra without any trace of striæ, frontal impressions broad, very shallow.
  - Sides of thorax very feebly arcuate in front, sinuate posteriorly, base oblique each side, lateral margin very narrow, not wider at base, elytra elongate.....*barbara*.
- Elytra striate, striæ distinctly punctured, frontal impressions deep; form elongate or oblong oval.
  - Side margin of thorax not sinuate before the hind angles, which are slightly obtuse; elytra twice as long as wide, with six deeply impressed and very distinctly punctured striæ.....*rubens*.
  - Side margin of thorax feebly sinuate before the hind angles, which are slightly prominent; elytra oblong oval, with usually five distinct, but more feebly punctured striæ.....*chalybeus*.
- Elytra striate, striæ almost impunctured, frontal impressions deep. Elytra broadly oval.
  - Larger, base of thorax feebly oblique each side; elytral striæ usually obsolete; hind tarsi as long as the tibiæ.....*ovipennis*.
  - Smaller, base of thorax truncate, hind angles distinct, elytra more convex, with usually the first two or three striæ deeply impressed; hind tarsi distinctly shorter than the tibiæ.....*hydropicus*.

Elytra ovate, with seven striæ, the outer ones more faintly impressed; side margin of thorax sinuate before the hind angles, which are prominent and rectangular; eyes smaller than in the other species, antennal joints more slender.....*carolinæ*.

### ***Trechus barbaræ* Horn.**

*Trechus barbaræ* HORN, Trans. Am. Ent. Soc. Vol. XIX, 1892, p. 41.

As remarked by Dr. Horn, this species differs from all others by the entire absence of striæ on the elytra, the different form of thorax with the side margin narrow, not wider at base, and the very shallow frontal grooves. The five or six dorsal punctures on each elytron of the specimen before me are very likely abnormal, as Dr. Horn stated them to be "as usual."

Length, 4.5-5 mm.

Sta. Barbara, California.

Through the kind intercession of Dr. Van Dyke, I am indebted to Mr. Chas. Fuchs for the loan of a specimen of this interesting species.

### ***Trechus rubens* (Fabr.).**

*Carabus rubens* FABRICIUS, Ent. Syst. Vol. I, 1792, p. 140; HORN, Trans. Am. Ent. Soc. Vol. V, 1875, p. 131 (characters); Bull. Brooklyn Ent. Soc. Vol. V, 1882, p. 48 (synoptic table).

Closely related to *T. chalybeus* Dej., from which it may be distinguished by the more elongate elytra, with seven more deeply impressed and very distinctly punctured striæ, and the obtuse and not prominent hind angles of the prothorax. By a slip of the pen Dr. Horn stated the elytra to be "twice as wide as long," which of course should read: elytra twice as long as wide.

Length, 4 mm.

Nova Scotia, Vermont; also Europe.

### ***Trechus chalybeus* Dejean.**

*Trechus chalybeus* DEJEAN, Spec. Gen. Coleopt. Vol. V, 1831, p. 17; MAN-  
NERHEIM, Bull. Soc. Imp. Soc. Nat. Moscow, Vol. XVI, 1843, p. 215;  
HORN, Trans. Am. Ent. Soc. Vol. V, 1875, p. 131; Bull. Brooklyn  
Ent. Soc. Vol. V, 1882, p. 48.

*Trechus californicus* MOTSCHULSKY, Bull. Imp. Soc. Nat. Moscow, Vol.  
XVIII, pt. 4, 1845, p. 347.

*Trechus micans* LECONTE, Ann. Lyc. Nat. Hist. N. Y. Vol. IV, 1848, p. 414.

*Trechus fulvus* LECONTE, Ann. Lyc. Nat. Hist. N. Y. 1848, p. 415.

The more prominent eyes, the broader, less elongate elytra with usually five less deeply punctured and impressed striæ will readily separate this species from *T. rubens* Fabr. The penultimate joint of the maxillary palpi is equal to the last in this species, while *T. rubens* Fabr. has the penultimate joint distinctly shorter than the last. The sinuation of the side margin of thorax before the hind angles is in some specimens more distinct than in others.

Alaska, Br. Col., Cal., Oreg., Col., Lake Sup., N. H., N. J.

This species is credited in our lists to Mannerheim, but as his description is twelve years later than Dejean's, the latter must be given credit for this species, as is done in the *Catalogus Coleopterorum* by Gemminger & Harold.

### ***Trechus ovipennis* Motsch.**

*Trechus ovipennis* MOTSCHULSKY, Bull. Soc. Imp. Nat. Moscow, Vol. XVIII, pt. 4, 1845, p. 348; HORN, Trans. Am. Ent. Soc. Vol. V, 1875, p. 131 (characters); HORN, Bull. Brooklyn, Ent. Soc. Vol. V, 1882, p. 48 (synoptic table).

*Trechus levigatus* LECONTE, Smiths. Misc. Coll. Vol. VI, 1863-66, p. 14.

Larger than *hydropicus* with the first two or three striæ of the elytra never as deeply impressed as in that species and with the tarsi of the posterior legs as long as the tibiæ. The elytra are more regularly oval, although in one specimen kindly sent me by Dr. Van Dyke, supposed to be new, the elytra are broader at base with the sides not as broadly rounded as usual, which gives the insect a different appearance, but as I am unable to find a more tangible character to support this view, and as similar variations are seen in a large series of *hydropicus*, I consider this an individual variation.

Length, 4 mm.

California.

### ***Trechus hydropicus* Horn.**

*Trechus hydropicus* HORN, Trans. Am. Ent. Soc. Vol. X, 1883, p. 273.

Usually much smaller than any other species of the genus; only a very few specimens of a large number before me, all collected by Mr. Beutenmüller in North Carolina, are nearly as

large as *ovipennis*. The first two or three striæ of the elytra are always distinctly impressed and the outer ones very obsolete, though specimens occasionally occur with four or even five distinct striæ, and in one the striæ are nearly as obsolete as in *T. ovipennis* Motsch., but these are rare exceptions, judging from the series of about one hundred specimens before me. A very few specimens, usually the larger ones, have the side margin of thorax slightly sinuate before the hind angles, which become thus somewhat prominent, as seen in Plate XXVIII, Fig. 4. The tarsi of the posterior legs are distinctly shorter than the tibiæ. The antennæ are described as pale; while this is the case in a few specimens, the majority have the outer joints darker than the first two or three.

Length, 2.75-3.75 mm.

Virginia, Western North Carolina.

### *Trechus carolinæ* sp. nov.

Ferruginous, shining, antennæ and legs paler. Frontal impressions deep, eyes small. Thorax wider than long, apex and base equal, sides arcuate anteriorly, sinuate posteriorly, hind angles prominent, rectangular, lateral margin wider posteriorly, median line distinct. Elytra ovate, convex, about one third longer than wide, surface smooth, with seven striæ, the outer ones more faintly impressed. Body beneath smooth and shining.

Length, 4.25 mm.

This species differs from all our others by the ovate and more convex elytra, with seven almost impunctate striæ, only the sutural striæ is very obsoletely punctate, visible only with a strong lens, the different form of thorax with base and apex equal in width, the smaller eyes and the comparatively more slender and longer joints of the antennæ.

For this interesting addition to our fauna we are indebted to Mr. Beutenmüller, who obtained our specimen by sifting moss on Mt. Mitchell in North Carolina, in July, 1900.

### EXPLANATION OF PLATE.

Fig. 1. *Trechus rubens* FABR., and prothorax, very much enlarged.

" 2.	"	<i>chalybeus</i> DEJ.	"	"	"	"	"
" 3.	"	<i>ovipennis</i> MOTSCH., and	"	"	"	"	"
" 4.	"	<i>hydropicus</i> HORN, and	"	"	"	"	"
" 5.	"	<i>carolinæ</i> , sp. n.	"	"	"	"	"
" 6.	"	<i>barbaræ</i> HORN	"	"	"	"	"