

reddish which is apparent beneath a dull, opaque pale ground color.

♀. Length 2.6 mm., width 1.1 mm. Head: width .65 mm., vertex .38 mm. Antennae: segment I, length .20 mm.; II, .77 mm., pale to reddish; III, .60 mm.; IV, .33 mm. Pronotum: length .62 mm., width at base 1.09 mm. Pubescence and form of body very similar to the male, but head, pronotum and legs much paler; the raised lines on pronotal disk not darkened.

Holotype: ♂, September 13, 1925, Oracle, Arizona, alt. 4,500 feet (A. A. Nichol); author's collection. *Allotype*: same date as the type. *Paratypes*: ♂, taken with the types. ♂ ♀, June 15, 1900, Pueblo, Colorado (E. D. Ball). ♂, August, Los Angeles County, California (Coquillett); U. S. N. M. collection.

Mr. Nichol collected this species on an undetermined *Euphorbia*.

NOTES ON THE BIOLOGY OF DINEUTUS (GYRINIDAE).

BY MELVILLE H. HATCH,¹ Minneapolis, Minn.

Mr. C. A. Frost writes me that for about twenty years he has taken *Dineutus* (*s. str.*) *ciliatus* (Forsberg) (= *vittatus* Germ., Ochs, Ent. Blatt., 1925, 21: 174) in a small stream near his home in Framingham, Mass. The stream has a sandy bottom, is about five feet wide, from six to ten inches deep, and the current at the middle is one foot a second or less. The beetles are more inclined to stay near the bank, but frequently move out towards the middle, where their behavior is similar to that described by me for *Dineutus* (*Cyclous*) *discolor* Aubé in a previous number of this journal (1925, 20: 105-106), which were living in a current of about eight inches a second. Further observations on the habitat of *Dineutus* (especially exotic species), *Andogyrus*, *Macrogyrus*, and *Enhydrus* are desirable.

I am able to announce the following key to the first instar larvae of the local species of *Dineutus*, subgenus *Cyclous*.

¹ A contribution from the Zoological Laboratory of the University of Michigan.

- A¹ Tergites of segments behind head uniformly pale.
- B¹ Mandibles entirely pale; head pale except a light gray oval area between eyes that does not attain anterior margin; legs and appendages of head pale *hornii* Rbts.
- B² Mandibles in part dark brown or blackish.
- C¹ Mandibles, a triangular spot between the bases of the antennae and the eyes, the neck on both the dorsal and ventral surfaces, the posterior margin of the dorsal plates on the first thorax segment, and a small spot on the dorsal surface of the base of each leg in the shape of an inverted "v" dark brown (Wilson, 1923, Bull. Bur. Fish. 39 [Document 953]: 304) *americanus* L.
- C² Distal portion of mandibles and narrow area mesad to margin of eyes pale; head behind posterior margin of eyes light gray; head in front of hind margin of eyes up to and including proximal portion of mandibles blackish; occiput blackish; segments of antennae, maxillary palpi, labial palpi, and legs distinctly suffused with black or gray. *nigrior* Rbts.
- A² Tergites of segments behind head mottled each with six brownish irregular longitudinal stripes which are somewhat broken up and reduced on the one or two posterior and anterior segments; head with light gray oval area between eyes not attaining anterior margin of head; occiput blackish with a fine median white line; posterior margin of pronotum very narrowly blackish *discolor* Aubé.

Unfortunately the mottled markings of *discolor* fade out in material preserved in alcohol. Wilson's observation that the first instar larvae of *americanus* are identical in color with the subsequent stages makes it possible that this key may hold good for the later instars.



Hatch, Melville H. 1927. "Notes on the biology of Dineutus (Gyrinidae)." *Bulletin of the Brooklyn Entomological Society* 22, 27–28.

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