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DESCRIPTION OF A NEW TENEBRIONID (COLEOPTERA)
FROM GLEN CANYON, UTAH

Edward B. Sorenson and Robert C. Stones¹

In 1935 Frank E. Blaisdell Sr. described a new genus and species of Triorophid (*Eschatomoxys wagneri*)² from a single male specimen collected in Death Valley, California in 1922. The female was not discovered. Since then no other known specimens of this genus have been found.

In a recent expedition to Glen Canyon, Kane County, Utah, fifteen specimens of this genus were collected. After a careful study of Dr. Blaisdell's excellent drawings and description and a report from Mr. Hugh Leach of the California Academy of Sciences who compared one of our specimens with the type of *wagneri* we are of the opinion that the specimens from Glen Canyon area represent a new species, which we venture to describe.

Eschatomoxys tanneri,³ n. sp.

Figs. 1 and 2

Male.—Body length 9.0 mm; body width 3.6 mm; form oblong ovate two and one-half times longer than wide; surface feebly alutacious; color castaneous, antennal segments becoming progressively lighter distally; labrum, maxillary palps and posterior ventral abdominal segments testaceous; luster dull, body covered with a light blue bloom in nature; head slightly longer than wide ($1/23$), one-eighth longer than pronotum; epistome deeply emarginate; antennae with first segment about three times as long as wide at apex; second one-tenth longer than fifth and one-tenth smaller than combined lengths of nine and ten; fourth longer in length than the sixth, seventh or eighth; tenth twice as wide at apex as middle of eighth; eleventh about three times as long as wide at middle, and one-eighth shorter than eighth; pronotum widest in middle, one-fourth wider than long, apex and base same width; elytra slightly over one-third longer than wide, base about one-eighth wider than base of pronotum; abdomen with second segment somewhat more than twice as long as fourth and almost one-third longer than third.

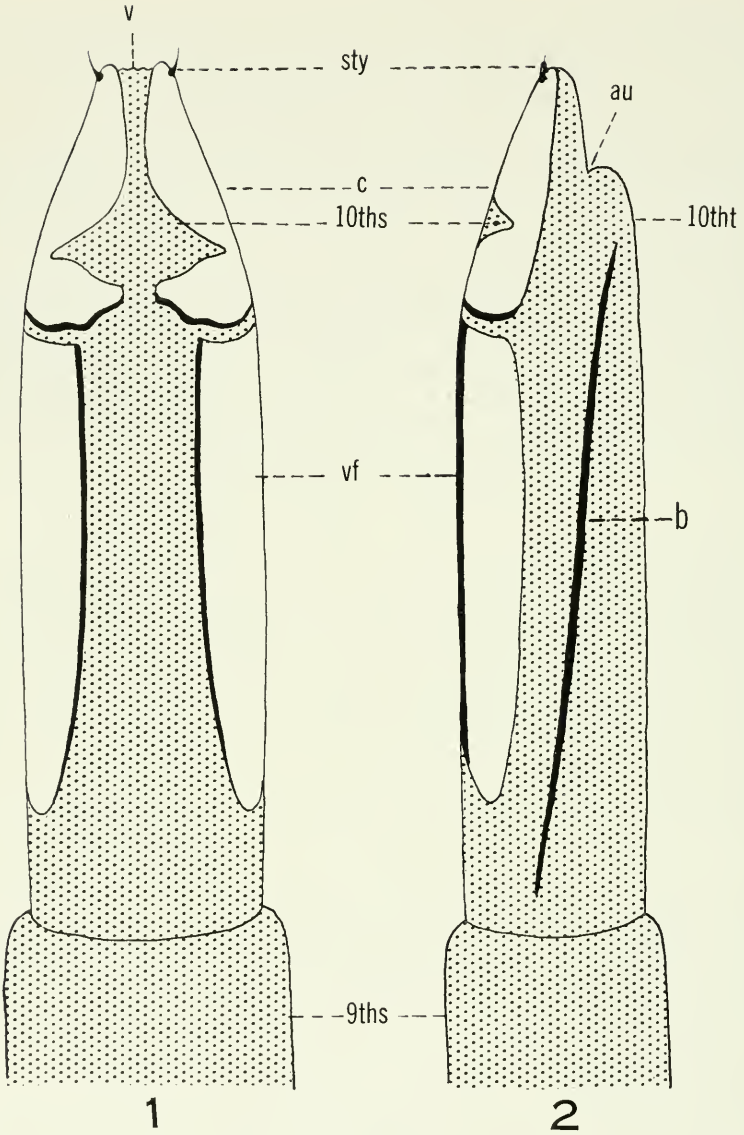
Female.—Body length 9.2 mm.; body width 2.8 mm.; head one tenth longer than wide.

In body length, head and pronotum measurements, the smallest female is equal to the average male: while in body width and elytra measurements, the smallest female is larger than the average male. Abdominal measurements find the average female larger in the first three segments, equal in the fourth to males.

1. Graduate students of Entomology and Ecology, respectively; Zoology and Entomology Department contribution No. 168, Brigham Young University, Provo, Utah.

2. *The Pan-Pacific Entomologist*, Vol. 11 pp. 125-29, San Francisco, California, 1935

3. In honor of Professor Vasco M. Tanner, Brigham Young University Entomologist



Figures 1 and 2. *Eschatomoxys tanneri*, new species. Ventral and lateral aspects of the female genitalia.

ABBREVIATIONS

- | | | | |
|-----------|----------|-------------|----------------|
| sty | stylus | 9ths | ninth sternite |
| c | coxite | 10tht | tenth tergite |
| vf | valvifer | 10ths | tenth sternite |
| au | anus | b | baculum |
| v | vulva | | |

Since this is the first time that a female of this genus has been studied, we are including drawings of the genitalia, Figures 1 and 2. The general characters of this species agrees with other genera of the tenebrionids. The stylus is very small as in other members of this family.^{4,5}

Type Material: Male holotype, female allotype and 13 paratypes (ten males, three females). The holotype, allotype and 8 paratypes in Collection at Brigham Young University. 3 paratypes in the Entomological Collection of the California Academy of Sciences and 3 paratypes in the Entomological Collections of the United States National Museum, Washington, D. C.

Type Locality: Head of Padre Creek Canyon, approximately two miles above the "Crossing of the Fathers" on the Colorado River. The head of this canyon is very shallow, approximately twenty-five feet deep. The jeep road into the "Crossing of the Fathers" and Kane Creek area, branching from the main highway at Wahweap, makes a horseshoe bend around the head of this canyon. A majority of the new tenebrionids were collected within fifty yards of this road in a sandstone detrital deposit. Weather was very dry and hot; temperatures exceeding the 100 degree mark. Collecting was done from 8:00 a.m. until noon. Even this late in the day, the area of collecting was still in the shade of the overhanging canyon wall.

Paratype variations: The description of *E. tanneri* was made with the awareness that variations of certain structures in this group exist. Specimen measurements were taken in millimeters as follows:

9 males: total length 8.1-9.6, average 8.6; width 3.3-3.8, average 3.6; head length 1.6-2.0, average 1.7; head width 1.5-1.8, average 1.6; pronotum length 1.3-1.6, average 1.4; pronotum width 1.7-2.0, average 1.8; elytra length 5.0-5.8, average 5.3; elytra width 3.3-3.8, average 3.5; abdomen average first segment 1.2, second segment .9, third segment .7, fourth segment .4.

3 females: color castaneous to testaceous; total length 8.6-11.0, average 9.7; width 3.6-4.3, average 3.8; head length 1.7-2.2, average 1.9; head width 1.6-1.9, average 1.8; pronotum length 1.4-1.8, average 1.6; pronotum width 1.8-2.3, average 2.0; elytra length 5.5-6.7, average 6.1; elytra width 3.6-4.3, average 3.8; abdomen average first segment 1.3, second segment 1.1, third segment .8, fourth segment .4. The tibial and femoral variations are so great that they are not listed herein.

Comparisons between E. tanneri and E. wagneri: *tanneri*, body two and one-half times longer than wide, *wagneri*, twice as long as wide; *tanneri*, head slightly longer than wide, *wagneri*, one-sixth wider than long; *tanneri*, first antennal segment three times as long as width at apex, second six times as long as wide at middle, fourth longer than sixth, seventh or eighth, tenth twice as wide

4. Tanner, V. M. A Preliminary Study of the Genitalia of Female Coleoptera. Trans. Am. Ento. Soc., LIII pp. 5-50. Plates II-XV. 1927.

5. Blaisdell, F. E. Studies in the Tenebrionid Tribe Scaurini. A Monographic Revision of the *Eulabes*. (Coleoptera). Trans. Am. Ento. Soc., LVIII, pp. 35-101. Plates I-VI. 1932.

at apex as middle of eighth, eleventh one-eighth shorter than eighth, three times as long as wide at middle; *wagneri*, first segment five times as long as wide at apex, second six times as long as wide at middle, equal in length to fifth as well as combined length of ninth and tenth, fourth is equal in length to sixth, seventh or eighth, and seven times as long as wide at middle, tenth three times as wide at apex as middle of eighth, eleventh four times as long as width at middle, as long as eighth; *tanneri*, epistome deeply emarginate from above, *wagneri*, epistome very slightly emarginate; *tanneri*, pronotum widest in middle, one-fourth wider than long, base and apex same width, *wagneri*, widest slightly before middle, one-third wider than long, apex a little wider than base; *tanneri*, elytra base one-eighth wider than that of pronotum, *wagneri*, base equal to that of pronotum.

Habitat: All specimens, with the exception of two, were taken from a one-fourth inch fissure that separated a detrital deposit (length twenty feet) from the canyon wall. The deposit was perforated with numerous vacated rodent tunnels; habitat cool, dry and subterranean. Thirteen specimens were taken from this site and two additional specimens taken one-eighth mile down the canyon in a deserted cliff-swallow's nest. Due to the habitat, nutritional materials might well include fungi or dried fecal waste. A northwest facing with an overhanging canyon wall provided protection from the sun and rainfall, thus creating a cool, dark habitat ideal for these subterranean insects. This area is a vast, arid region of the Colorado River Drainage in extreme Southeastern Utah. Elevation 3200-3400 feet above sea level. Rugged gorges cut deep into sandstone by seasonal runoffs characterize the area.