

## Notes on the Buchanan White Types of Hawaiian Heteroptera

By ELWOOD C. ZIMMERMAN

EXPERIMENT STATION, H.S.P.A.

Before the publication of Kirkaldy's major report on the Hawaiian Heteroptera appeared in "FAUNA HAWAIIENSIS" in 1902, the knowledge of the heteropterous fauna of our islands rested largely on the results of F. Buchanan White's studies (1877, 1878, 1881) of the collections of the Rev. Thomas Blackburn. Only a few species had been reported previously by Burmeister (1834), Dallas (1851) and Stål (1854, 1859, 1870).

White's types have been in Perth, Scotland, for many years. Some of them were examined by Kirkaldy near the beginning of this century, but no specialist of the Hawaiian fauna now living had an opportunity to study the types until I went to England in 1949. Through the kind cooperation of the City of Perth Art Gallery and Museum and of Sir N. B. Kinnear, late Director of the British Museum (Natural History), arrangements were made to have the types sent from Perth to London for study. I have checked the types with Volume 3 of my "INSECTS OF HAWAII" (University of Hawaii Press, 1948), in accordance with which the species listed below are arranged, and I have the following comments to offer:

***Coleotichus blackburniae* White**

I did not examine the type of this species because there is no question of its correct identity.

***Oceanides arboricola* (White)***Nysius arboricola* White*Oceanides parvulus* Usinger, Bishop Museum Bull. 173:30, pl. 3C, 1942. **New synonymy.**

The type of *arboricola* is not what Usinger thought it was, and his "*arboricola*" is a new species, whereas his *parvulus* must fall as a synonym of White's *arboricola*. The type of *arboricola* is a female, not a male as noted in Usinger's monograph (1942:41). Dr. W. E. China has also studied the material and agrees with these conclusions.

***Oceanides pteridicola* (White)**

The type agrees with my text and figure.

***Oceanides usingeri* Zimmerman, new name.**

*Oceanides arboricola* of Usinger, Bishop Museum Bull. 173:41, pl. 2C, 1942; not White, Ann. Mag. Nat. Hist. (V) 1:368, 1878.

As noted above, a new name is required for the species confused with White's species.

Holotype male and allotype female from Mt. Tantalus, Honolulu, Oahu, collected by R. C. L. Perkins (the data labels read simply "Tantalus R.C.L.P."), to be deposited in the type collection of Bishop Museum, Honolulu. They were determined as *arboricola* by Usinger and formed part of the series from which he drew up his description on page 41 of his monograph. That description will now apply to *usingeri*.

It is a pleasure to name this species after Dr. R. L. Usinger whose outstanding monograph of the Hawaiian Orsillini is a sound foundation for all future work on the group in Hawaii.

**Oceanides vulcan** (White)

The type agrees with my text and figure.

**Neseis (Trachynysius) nitidus nitidus** (White)

The type agrees with my text and figure.

**Nysius blackburni** White

The type agrees with my text and figure.

**Nysius dallasi** White

The type, which was collected at the Nuuanu Pali, Honolulu, agrees with my text and figure.

**Nysius delectus** White

The type from Honolulu agrees with my text and figure.

**Nysius nemorivagus** White

The type from Hawaii and two other examples agree with my text and figure.

**Nysius rubescens** White

The type agrees with my text and figure.

**Metrarga nuda nuda** White

The type from Honolulu agrees with my text and figure.

**Nesocryptias villosa** (White)

The male type is from "Honolulu." It does not agree with my Figure 39 which evidently represents a new species. A second male example, similar to the type, is in the White collection. Further notes on this problem will be incorporated in a paper on the Metrargini now being prepared by Usinger.

**Nesocymus calvus** (White)

The type agrees with my text and figure, but the right antenna is abnormal. Although the antenna appears normal, the third segment is wanting and the fourth appears to arise from the second. If the left antenna had been damaged or lost, a new genus might have been erected for the abnormal type example.

**Sephora criniger** (White)

The type agrees with my text and figure, except that it has a distinct transverse black band across the pronotum at the level of the submedian lobes. The dark color does not extend to the front margin.

**Reclada moesta** White

The type from Oahu agrees with my text and figure.

**Luteva insolida** White

The type from Oahu agrees with my text and figure. It has been damaged slightly by insect pests.

**Empicoris whitei** (Blackburn)

This Blackburn type is also in the Perth collection. It agrees with my text and figure, but the markings are not so bold as on the specimen figured in my work.

**Nabis blackburni** White

The female type from Oahu (no specific locality mentioned) agrees with my text and figure.

**Nabis lusciosus** White

The type is a male with the apical half of the left hemelytron broken away. It agrees with my text and figures.

**Nabis subrufus** White

The right hemelytron and wing on the male type are missing. It agrees with my text and figures.

**Lilia dilecta** White, **Lasiochilus decolor** (White), **Lasiochilus denigratus** (White) and **Orius persequens** White

None of these species was in the collection sent from Perth. Kirkaldy stated in 1904 that the types had been lost.

**Physopleurella mundula** (White)

The type is from Oahu and agrees with my text and figure.

**Poronotellus sodalis** (White)

The type from Oahu agrees with my text and figure. The rostrum is missing.

**Saldula exulans** (White)

The male type has the left hemelytron missing; the right one, which is detached and broken off anterior to the membrane, is glued to the card, and the abdomen is separated from the thorax. It is closely similar in general appearance to the specimen I have described and figured in my text.

My key to the Hawaiian *Saldula* is worthless because the material I had to work with in Honolulu was partly misidentified, as was part of the material used for my illustrations. Herewith is a new key.

Key to the Hawaiian *Saldula*

1. Second and fourth antennal segments subequal in length (II = 17, IV = 16 on type); hemelytra very narrowly overlapping and apices conspicuously divergent to form a conjoint emargination from  $\frac{2}{3}$  distance from end of clavi to apex (on type), as in my Fig. 100.....**nubigena** (Kirkaldy)  
 Second antennal segment distinctly longer than fourth; hemelytra more strongly overlapping and at most only slightly conjointly emarginate at apex.... 2
- 2(1). A line drawn through middles of ocelli passes through middles of posterior pale frontal spots; lateral carinate edges of pronotum usually pale as seen from above, but frequently the pale color is obscure from above but is distinct on sides beneath the edge, or at least at posterior part of edge.....**exulans** (White)  
 A line drawn through middles of ocelli passes along anterior margins of posterior pale frontal spots, or in front of the spots..... 3
- 3(2). Femora each with a wide, dark median band.....**humifera** (Kirkaldy)  
 Femora without such a dark band..... 4
- 4(3). Corium with a dark band along clavus from humerus to apex of clavus where it gives way to a pale spot on inner (sutural) margin of corium.....**procellaris** (Kirkaldy)  
 Corium broadly pale along clavus from humerus to inner (sutural) margin of corium, without any dark mark reaching clavus from corium except at extreme base, although the black of clavus may extend narrowly across claval suture onto corium.....**oahuensis** (Blackburn)

*Saldula humifera* (Kirkaldy) is not a synonym of *oahuensis* (Blackburn) as stated on page 223 of my text. My figure labeled *oahuensis* is *humifera*, and my figure labeled *procellaris* is *oahuensis*.

I did not examine the types of *Merragata hebroides* White, *Mesovelvia mulsanti* White or *Microvelia vagans* White, because there are no questions regarding the identity of these species.