A NEW SPECIES OF *HIPPOMELAS* (COLEOPTERA: BUPRESTIDAE) FROM SOUTHEASTERN CALIFORNIA AND BAJA CALIFORNIA

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ABSTRACT

A new species of Buprestidae, *Hippomelas allenrolfeae,* is described and illustrated from near the Salton Sea in California and the gulf coast of northern Baja California, Mexico. This species breeds in the root crowns and lower branches of Iodine bush, *Allenrolfea occidentalis,* and the adults rest on the foliage of this plant.

INTRODUCTION

In February, 1970, I found a nearly intact dead individual of a distinctive new *Hippomelas* clinging to the base of an Iodine bush at Bahia Santa Maria, on the gulf coast of Baja California. By a curious coincidence, this species was also discovered on the same weekend near the Salton Sea in California by F. T. Hovore and Seymore Ziff as they were cutting into the root crowns of Iodine bush.

Hippomelas allenrolfeae Verity, **new species**
(Figs. 1-2)

HOLOTYPE MALE: Robust, moderately convex, sides nearly parallel, strongly rounded anteriorly and obtusely round apically. Greenish coppery above and beneath, moderately shining.

Head with coarse punctures, sparsely placed on vertex, becoming more dense on front; evenly, moderately densely covered with short, nearly decumbent white hairs. Front with smooth callosities forming an irregular inverted "V". Antennae nearly reaching hind angles of pronotum; segments 2 and 3 subcylindrical, 3 being 1.5× longer than 2, segment 4 equal in length to segment 3, segments 5-11 successively slightly shorter; segments 4-10 flattened, with inner margins straight and outer margins abruptly expanded in basal 1/4, then nearly parallel to inner margins and with a band of fine sensory punctures; segment 11 deeply, rectangularly notched at outer angle.

Pronotum with sides broadest at base, nearly parallel from just in front of basal angles to middle, then abruptly rounded and strongly, linearly convergent to apical angles; basal angles acute but not prominent; front margin broadly, feebly lobed; hind margin broadly lobed, emarginate in front of scutellum. Disk with a fine median line on basal half and with numerous low, irregular, interconnected and impunctate callosities which become smaller, disjunct and more sharply defined laterally; surface between callosities coarsely, densely punctate at middle, becoming deeply cribrate at sides, clothed with short, nearly decumbent white hairs, 1 arising from each puncture.

Elytra at base as wide as pronotum, slightly less than twice as long as wide, sides narrowing slightly from base to nearly apical 1/3, then broadly rounded to obtuse apex; margins feebly serrate on apical 1/4, apices bidentate, sutural and lateral

spines prominent, acute. Each elytron with 4 discal costae plus 1 along suture and an additional short oblique costa which begins at base and joins sutural costa at basal 1/4; first, second and fourth costae reaching nearly to apex, third reaching apical 1/5, first and second costae margined with obscure punctate striae at middle, costae somewhat obscure from behind base to middle. Surface obscurely, transversely rugose on basal 1/3, becoming finely, irregularly punctate between costae on apical 1/3. Pubescence moderately dense, consisting of short nearly decumbent white hairs.

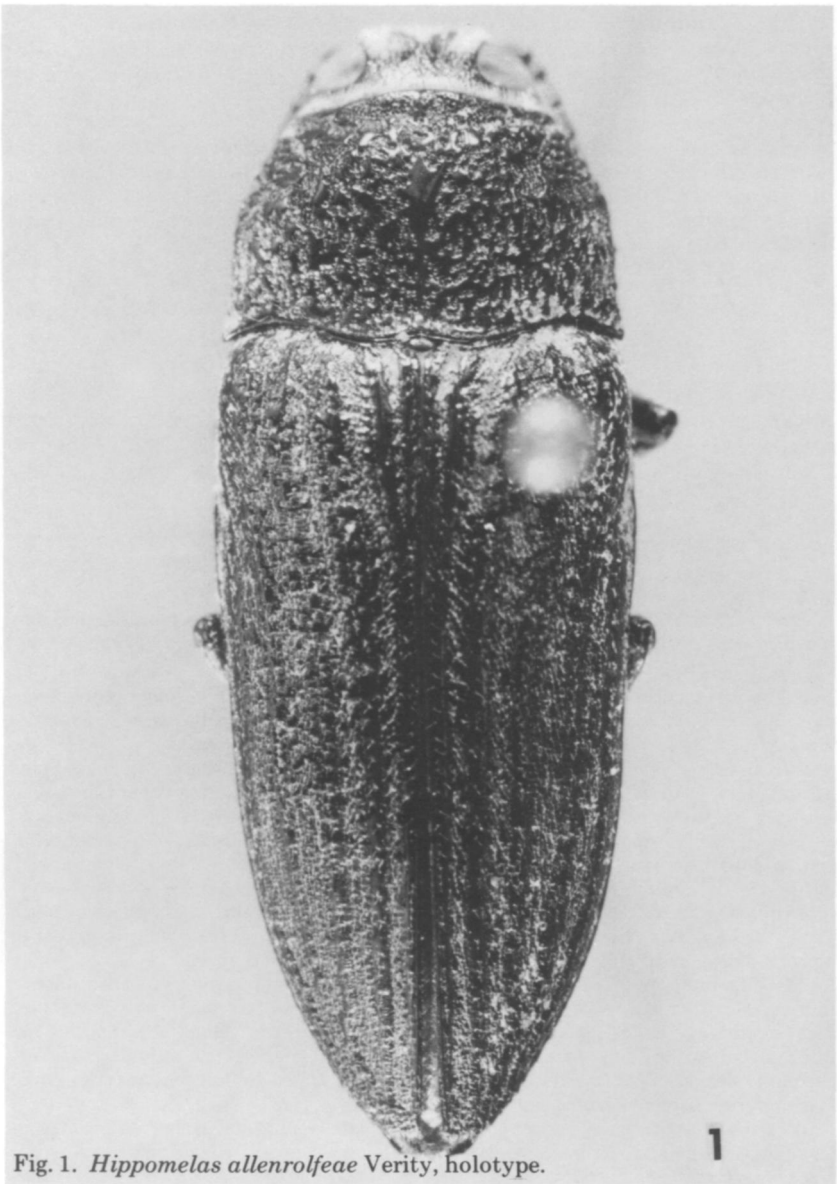

Fig. 1. *Hippomelas allenrolfeae* Verity, holotype.

Ventral surface with short, decumbent white hairs, each arising from a puncture. Prosternum subflattened, slightly concave on apical 1/3, finely punctate at sides and apex, median area of prosternal process polished, punctures sparse, coarse and irregularly distributed. Metasternum and metacoxae highly polished and finely, sparsely punctate on middle, becoming finely, densely punctate laterally and with several small callosities along lateral margin. Metepisternum finely, densely punctate, with several anterior callosities. First abdominal sternite with median area finely, sparsely punctate; sternites 2-5 coarsely punctate and with a few irregular callosities, except anteriorly at sides, which are finely, densely roughened; sternites 2-4 with a well developed, acute sublateral tooth; last visible sternite with lateral margins acutely toothed on apical 1/3 and joining an irregularly toothed subapical ridge; apical margin nearly truncate.

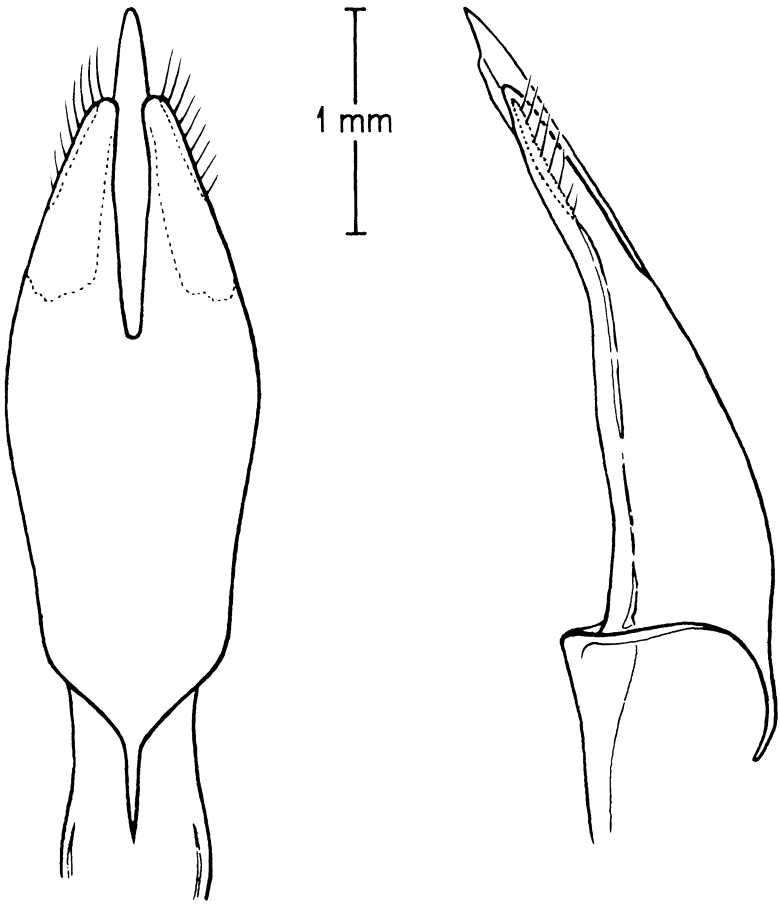

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Fig. 2. *Hippomelas allenrolfeae* Verity, male genitalia.

Legs finely, densely punctate; protrochanter with a very feebly developed tooth on inner margin; profemur with inner margin somewhat swollen; protibia slightly arcuate, inner margin with 7 distinct teeth on apical 1/2; metatarsus with first segment 1 1/2× longer than fifth.

Genitalia (Fig. 2) 3× longer than wide, widest near middle.

Length 20.5 mm, width 7.5 mm.

ALLOTYPE FEMALE: Differs from male in having shorter antennae, reaching only to about basal 1/3 of pronotum, segment 4 slightly longer than 3; apical margin of last visible abdominal sternite broadly lobed; protibiae without teeth. Length 20.0 mm, width 7.5 mm. The allotype is slightly more greenish in color, but this difference is not correlated with sex.

HOLOTYPE AND ALLOTYPE (California Academy of Sciences #12978), 5 male and 2 female PARATYPES from *CALIFORNIA*: Imperial County, 1 mi SE Niland Marina, 6-VII-73, G. C. Walters. Additional paratypes as follows: Same locality, 4 males, 1 female, 3-VII-73; 8 males, 3 females, 14-VII-73; 4 males, 21-VII-73, all G. C. Walters; 1 male, 9-VII-72, and 1 male, 3 females, 14-VII-74, all D. S. Verity; 1 male, 9-VII-72, D. E. Rich; 2 males, ca. 10 mi NW Niland, emerged early VIII-70 from root crowns of *Allenrolfea occidentalis,* S. Ziff; 2 males, nr. Niland, 3-VII-73 R. D. Ward & G. C. Walters; 1 female, Riverside County, 3 mi S Mecca, 8-VII-72, cut live from root crown of *Allenrolfea,* and 1 male, 1 female, same locality, 14-VII-74, all D. S. Verity. *BAJA CALIFORNIA*: Bahia Santa Maria, 24 mi S San Felipe: 1 female, 22-II-70, dead at base of *Allenrolfea*; 2 females, 4-VII-70, 1 female, 3-VII-71, cut live from root crown of *Allenrolfea*; 1 male, 1 female, emerged VIII-71 from root crown of *Allenrolfea,* all D. S. Verity; 2 males, 4 females, 9-VII-73, R. L. Westcott & E. M. Fisher; 1 male, 10-VI-74; 5 males, 2 females, (1-2)-VII-75, all R. L. Westcott; 3 males, (1-2)-VII-75, B. K. Dozier; 1 female, 18-VII-74; 3 females, 19-VII-74; 1 female, 21-VII-74, all G. H. Nelson.

Except as noted, all specimens were found on the foliage of *Allenrolfea.*

Paratypes are deposited in the following collections: Field Museum of Natural History, Los Angeles County Museum of Natural History, Universidad Nacional Autónoma de México, United States National Museum of Natural History, W. F. Barr, B. K. Dozier, G. H. Nelson, D. S. Verity, G. C. Walters, S. G. Wellso, R. L. Westcott, and S. Ziff. A preserved larva and pupa are deposited at the Los Angeles County Museum of Natural History.

VARIABILITY

The males range in length from 13.5 to 21.5 mm, and the females from 12.5 to 23.5 mm. The color ranges from greenish coppery to dark green. Variation in development of the elytral costae is correlated with geographic range: Specimens from the northwestern end of the Salton Sea in Riverside County have the costae greatly reduced or even absent, whereas those from Bahia Santa Maria, Baja California, have the costae strongly developed.

CLASSIFICATION

Hippomelas allenrolfeae belongs to the subgenus *Gyascutus* as defined by Barr (1970); however, it does not appear to be closely related to any described species. It cannot be run to any species in Casey's (1909) key to this subgenus, but it is similar in shape to *H. egregius* (Casey), a synonym of *H. planicosta* (Lec.). *H. allenrolfeae* differs in having the callosities on the pronotum numerous and conspicuous and in not having the elytral punctures finer and denser laterally. *H. pacificus* Chamb. is also somewhat similar in shape, but is nearly black in color, more cylindrical in form and has the pronotum widest at the middle. It also has very different male geni-

talia. From all other described species, *H. allenrolfeae* is distinguished by a combination of oblong form, base of pronotum as wide as base of elytra, more feeble tooth on protrochanter, shape of antennal segments, and male genitalia.

Biology and Habitat

All specimens have been collected in association with Iodine bush, *Allenrolfea occidentalis* (Wats.) Kunz. This woody shrub is common on alkali flats, where it frequently grows in pure stands. At the type locality it grows along a series of small washes which flow through very desolate country between State Highway 111 and the Salton Sea. The adult beetles rest on the succulent stemmed branchlets, where they presumably are feeding. Larvae mine the heartwood of the root crowns and lower parts of the branches of live plants. Root crowns have been examined in both the summer and winter, and almost any large shrub which was examined in areas where adults have been collected has been found to be infested. Judging from the great variation in size of the larvae present whenever seen, they take several years to mature. The adults emerge just below the soil surface to about 6 inches above it, and within the root crowns it is usually not difficult to find the remains of dead adults which failed to emerge.

In life and in well preserved specimens, the adults are covered with a grayish pulverulence which on reared specimens develops several days after emergence.

Acknowledgments

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Literature Cited

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