

ART. XXX.—*Description of a New Species or Sub-species of Hercules Beetles from Dominica Island, B. W. I., with notes on the habits and larvæ of the common species and other beetles. Brief Contributions to Zoology from the Museum of Yale University, No. LXVII; by A. HYATT VERRILL.*

WHILE collecting a very large series of *Dynastes Hercules*, consisting of several hundred specimens, during the past two years in Dominica, my attention has been frequently attracted by the wide variation in coloration and markings exhibited by this species. As a general rule, however, the shade of ground-color, as well as the extent, shape and number of markings, vary so interminably and so grade into one another that it is impossible to separate any distinct color varieties which are constant. Moreover, the ground-color of the elytra is almost always of the same general color—a sort of straw or yellowish olive—only variable in depth of color, or at the most, varying from olive-ochre to greenish olive.

A few specimens have been obtained, however, which are so very distinct from all others and so remarkable in their variation from the normal color of *Hercules* that I have deemed it advisable to describe them as a new and distinct species or subspecies. In fact, if coloration alone constitutes a specific character among the coleoptera, then this *Dynastes* should be considered as a new species peculiar to Dominica.

DYNASTES ARGENTATA, nov. *Silvery Hercules Beetle.* Male. Size, general shape, processes of thorax and head, etc., indistinguishable from *Dynastes hercules*. Head, thorax, lower parts, legs, etc., deep jet-black, instead of dark brown or purplish as in *Hercules*. Elytra pale plumbous, silver gray or grayish white, with a silvery metallic sheen. Edges of elytra all around, as well as a few large, circular scattered spots, intense jet-black. Hair on the posterior extremity of the abdomen, tibiæ, along edges of ventral segments and dorsal segments of thorax, pale silvery gray or whitish. Velvet hairs on lower surface of thoracic process deep orange brown or ferruginous when viewed from below, but silvery white or pale creamy white when seen from above or viewed in profile. Hair on ventral surface of head and thorax deep ferruginous or vandyke brown.

Length (type), including thoracic process, 6 inches. Length of thoracic process, 3 inches.

Habitat, interior mountain ranges of Dominica Island, Antilles.

The species formerly described by me* as *Dynastes tricornis* (fig. 1) should be referred to the allied genus *Strategus*, of which it is probably the largest known species. Its habits are similar to those of *Dynastes*.

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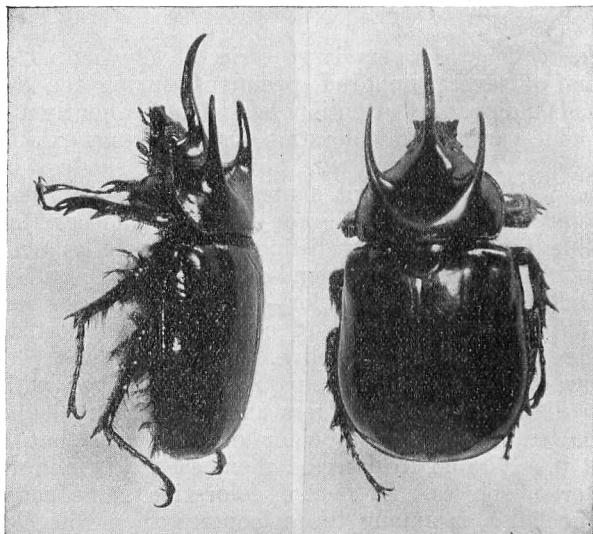


FIG. 1. *Strategus tricornis*, about nat. size. Phot. A. H. Ver.

Note on the habits and larvæ of the common Hercules beetle (Dynastes Hercules), and other beetles.

The Hercules beetle is common in the forests of inland mountains, where it is found in bunches of a dozen or more, clinging to the branches and trunks of the "La Glui" tree, on the sap or gum of which it feeds. As they usually congregate on the branches at a considerable elevation, they are seldom seen by the casual observers. In order to secure specimens it is usually necessary to shoot them, thus spoiling a large proportion for scientific purposes. Occasionally it is possible to secure a regular supply of beetles by cutting down a tree and scoring the trunks so that the sap runs freely. If any beetles are in the vicinity they are soon attracted to the felled tree and can be picked off by hand. Lights seem to have no attraction for the Hercules beetles of Dominica. The larva (fig. 2) is a huge grub, in general appearance resembling

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a gigantic New England June-beetle larva. It feeds on dead and rotten wood of the La Glui tree, and requires several years to reach maturity. The pupa case is formed from rotten wood and the tough fibers of the bark. The imago when first emerged has the thoracic and occipital appendages but partly developed. They rapidly increase in size, however, and by the time the elytra and other horny parts are hard, the appendages have attained their full size.

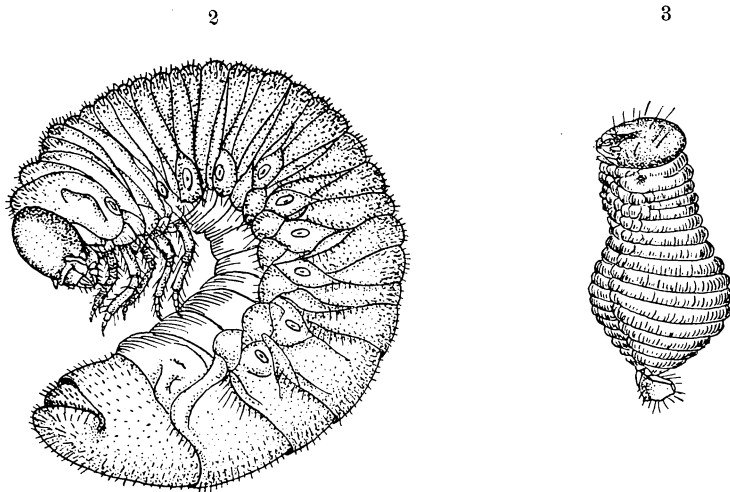


FIG. 2. Larva of *Dynastes Hercules*. Nat. size.

FIG. 3. Gru-gru Worm, the larva of Palm Weevil. $\frac{1}{2}$ nat. size.

Of the two other new species, *Dynastes vulcan* and *D. Lagaii* (loc. cit., fig. 2), the latter is by far the rarest, only four specimens having been obtained by the writer during three years residence on the island.

D. vulcan (fig. 1, *b*) is rarer than *D. Hercules* (fig. 1, *a*), but far more common than *D. Lagaii*, while of *D. argentata* only one specimen is known.

Another noteworthy beetle of the island is the great Palm-Weevil (*Rhynchophorus palmarum*). It is of interest mainly because the larvæ are eaten by the natives. These larvæ (fig. 3), which are locally called "Gru-gru worms," feed on the decaying wood of the mountain Cabbage Palm and Gru-gru Palm. They attain a length of 2.15 to 3 inches when fully grown. They are fat, firm, legless grubs, and are considered a great delicacy by the natives, as well as by many foreigners who, having sufficiently overcome their natural repugnance,

have ventured to taste them. The larvæ, after having been spitted on the slender midribs of palm leaves, are roasted over hot coals. Treated in this manner they pop open like roasted chestnuts, and taste much the same. From personal experience the writer can testify to the fact that they are excellent eating.

Of the other large coleoptera, *Philemus didymus*, a large black Rhinoceros-beetle, and *Neleus unicornis* are the most likely to be observed. The larvæ of *Philemus* live in decaying wood and other vegetable matter. The adult beetles have the peculiar habit of rolling balls of rotten wood and leaves, in which the eggs are deposited, much in the manner of the northern "Tumble-dung Beetles."

The *Neleus* larvæ live in rotten wood exclusively, and the beetles at certain seasons become exceedingly abundant. This beetle is remarkable for the peculiar loose-appearing manner in which the head and thorax are joined to the body. Even when living, the thorax wobbles about as if broken and entirely beyond the control of the insect.

A large undescribed species of Stag-beetles was also obtained by the writer.

Most of the remaining beetles are small or so scarce as to be but seldom met with, but special mention should be made of the huge "Fireflies" of the Elater group. These are abundant in the forests of the interior, and to one who has never seen them, the stories of their brilliancy seem incredible. One of these insects flying about an ordinary room renders most objects clearly visible at night, and fine print can be easily read by holding one near the page. The light emanating from these Firebeetles is continuous and issues from various portions of the body, especially from between the abdominal segments and from underneath the elytra.