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## THE WEST INDIAN SPECIES OF *MYDAS* AND *PROCTACANTHUS* (DIPTERA: MYDAIDAE AND ASILIDAE)

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As the result of the discovery of undescribed species of *Mydas* and *Proctacanthus* collected on Bimini and South Bimini Islands, in the Bahamas, it has been necessary to review the West Indian species of these genera. The results have been interesting, since it was discovered that the same name has been applied to several species of *Proctacanthus*.

The collection made by Cazier and Rindge during 1950 include the largest collection of Diptera collected on the Bahama Islands, and new species are to be found in other families and in other genera of the Asilidae. The expedition was based at the Lerner Marine Laboratory of the American Museum of Natural History.

I am indebted to the United States National Museum and the Museum of Comparative Zoölogy for the loan of material. Unless otherwise stated, the types are in the American Museum of Natural History.

### MYDAS FABRICIUS

Up to the present time only two species of *Mydas* have been recorded from the West Indies, both from Cuba. The first species, *M. tricolor*, was described by Wiedemann in 1829, and the second was recorded by H. Loew under the name of *M. gracilis* Macquart. The latter species was originally described from South America and while the Cuban species fits the description, it is undoubtedly distinct. Another species from the Bahamas also fits the description given by Macquart. Unfor-

tunately no South American specimens of *gracilis* are available, so it is not possible to determine in what ways it differs from the two species before me. The West Indian species of *Mydas* can be separated as follows:

TABLE OF SPECIES

1. Hind legs black, the femora swollen and reddish yellow on the basal three-fourths; mesonotum reddish, broadly black behind (Cuba).....  
     ..... *tricolor* Wiedemann  
     Hind legs castaneous or dark reddish; mesonotum black, or reddish with broad black median vitta.....2
2. Hair of the thorax all black (Cuba)..... *cubensis*, new species  
     Hair of the thorax yellow or golden (Bahamas)..... *brederi*, new species

***Mydas brederi*, new species**

Blackish, the thorax partly or mostly reddish; legs castaneous or reddish, the tarsi darker; wings light smoky brown; abdomen steel blue, with narrow, pale, segmental apices. Length, 23 to 25 mm.

MALE: Head black, cinereous yellow pollinose, the middle of the face and front, and the cheeks shining; pollen cinereous yellow; pile pale brassy yellow. Antennae blackish, the base of the second segment, under side of the first, and the apex of the fourth reddish.

Thorax black, the broad sides of the mesonotum and most of the upper half of the pleura reddish in ground color. Mesonotum with a pair of narrow dorsocentral, cinereous yellow pollinose vittae that broaden slightly in front and are united behind by a narrow prescutellar band; laterally with a broader pollinose band extending from the humeri to the posterior calli. Hair brassy yellow, golden on the middle of the mesonotum and on the scutellum. Pleura with cinereous yellow pollen.

Wings light smoky brown, the veins brownish except in front towards the base. Squamae yellow with brown fringe. Halteres brownish.

Legs light castaneous, the tarsi darker; hair black, the coxae with pale hair and pale pollen on the outer half. Hind femora moderately swollen, with two rows of setigerous tubercles below.

Abdomen steel blue, the incisures narrowly ivory colored. Hair black, the first segment with fine, fairly long, pale brassy yellow pile, the second to fifth segments each with a subtriangu-

lar spot of appressed brassy hair on each side, reaching from the base to the apex; venter with yellowish hair on the basal segments. Genitalia reddish, black above, the hair mostly golden yellow.

**FEMALE:** Pleura and sternum reddish in ground color; hair of mesonotum brassy; venter rusty reddish; wing veins brown, becoming reddish basally.

**TYPES:** Holotype, male, and allotype, female, *in copula*, South Bimini Island, Bahamas, June 16, 1950 (Cazier and Rindge).

This species is named in honor of Dr. Charles M. Breder, Jr., Director of the Lerner Marine Laboratory.

### ***Mydas cubana*, new species**

*Mydas gracilis* LÖEW (not Macquart), 1878, *in* Osten Sacken, Catalogue of described Diptera of North America, p. 84.

Blackish, the thorax partly brownish red; hair black; abdomen with strong metallic blue reflections and narrow, pale, segmental apices. Length, about 24 mm.

**FEMALE:** Head black, with cinereous yellow pollen and pale yellow pile; most of the front and the middle of the face shining; cheeks brownish, obscurely pale pollinose. Two basal antennal segments blackish, the others missing.

Thorax brownish red, rather dull, a broad median vitta on the mesonotum darker, bordered by narrow vittae of cinereous yellow pollen, the sides with a narrower lateral vitta than in *brederi*. Pleura with a pale pollinose spot on the mesosternum and on the metapleura. Hair black. Scutellum brown, with the apex broadly reddish.

Wings pale yellowish brown, the veins mostly reddish. Squamae yellow, with brown fringe. Halteres brownish.

Legs light castaneous or reddish, the hair black, yellow on the outer side of the posterior coxae. Posterior femora with a single row of about eight setigerous tubercles.

Abdomen colored as in *brederi* but more metallic bluish. Hair black except on the first abdominal segment.

**TYPE:** Holotype, female, vicinity of Havana, Cuba, 1905 (Mel. T. Cook).

This species can be easily separated from *brederi* by the (mostly none) pale pollinose pleura and the extent of the black

hair. The abdomen of the type has been slightly eaten by pests, but it appears to be more robust than in *brederi*. The wings are conspicuously paler in color, but not bicolored as in *tricolor* Wiedemann.

### **Mydas tricolor** Wiedemann

*Mydas tricolor* WIEDEMANN, 1829, Nova Acta Acad. Caes. Leopoldino-Carolinae Nat. Cur., vol. 15, p. 42.

The original description is of a general nature but is sufficiently clear so that there should be no difficulty in recognizing the species. The wings are bicolored, but not strikingly so, since the yellowish basal portion merges into the brownish apical and posterior portion. The hind femora are apparently more swollen than in *cubana* and are strikingly bicolored. There is no mention of white tips to the abdominal segments. There is apparently no record of the species since originally described.

### **PROCTACANTHUS MACQUART**

The West Indian species of *Proctacanthus* belong to the group having the abdomen reddish, with a narrow black base. The median segments are sometimes reddish yellow. In the past all of the species have been placed under the names *vittatus* Olivier or *rufiventris* Macquart. The descriptions of these indicate that both names apply to the same species. The specimens described by these two authors were apparently from the same region, so there is little doubt about the synonymy. Actually, the species cannot be identified from either description, so the identity must be determined, in large part, by locality.

An examination of specimens from the larger islands and groups of islands of the Greater Antilles has yielded six and possibly seven species of *Proctacanthus*, and it seems likely that an additional species or two remain to be discovered. The chief differences are to be found in the shape of the third antennal segment, color of pile on the cheeks, and the arrangement of hairs on the two terminal sternites.

The following key will separate the West Indian forms:

#### TABLE OF SPECIES

- |  |   |
|--|---|
| 1. Cheeks with black hair and bristles.....                                | 2 |
| Cheeks with yellowish hair and bristles.....                               | 4 |
| 2. Hair of the front largely yellowish anteriorly; tarsi dark reddish..... | 3 |

- Hair of the front wholly black; tarsi black (Dominican Republic).....  
 ..... *dominicana*, new species
3. Sides of first abdominal segment with large, reddish yellow spot (Puerto Rico).....  
 ..... *danforthi*, new species
- First segment wholly black in ground color (Haiti, Santo Domingo).....  
 ..... *vittatus* Olivier
4. Femora and tibiae brownish red or castaneous.....5  
 Femora black, the tibiae reddish (Dominican Republic).....  
 ..... *darlingtoni*, new species
5. Third antennal segment three times as long as wide (Cuba).....  
 ..... *nigrimanus*, new species
- Third antennal segment less than twice as long as wide (Bahamas).....  
 ..... *lernerii*, new species

### **Proctacanthus lernerii**, new species

Black, the abdomen reddish beyond the second segment; mesonotum of female usually with narrow, obscure, reddish, dorsocentral vittae; hair of the head wholly pale. Length, 25 to 32 mm.

**MALE:** Head black in ground color, the face reddish except on the narrow margins, the head yellowish cinereous pollinose, less densely so between the antennae and ocelli; pile wholly pale yellowish, a few black bristles on the front. Antennae brownish or brownish red; arista twice as long as the third antennal segment.

Thorax black, the broad sides of the mesonotum and more or less of the upper part of the pleura reddish; a broad band may extend across the upper half of the pleura for almost the whole length, or there may be a single large reddish spot on the mesopleura. Pollen cinereous, brownish on the dorsum except laterally; sometimes with narrow, paler, dorsocentral vittae. Hair black, pale yellow on the pleura. Scutellum brown or reddish, with cinereous pollen and rather bright yellow hair.

Legs dark reddish; coxae and trochanters black, the former cinereous pollinose and with whitish pile, the trochanters with black hair. Hair and bristles black, the posterior tibiae with tawny pile on the posterior surface. Claws black, the pulvilli yellow.

Wings conspicuously tinged with smoky brown, the subcostal cell darker. Halteres reddish yellow.

Abdomen dull orange to reddish, the apical segments somewhat darkened above; first segment and basal half or more of the second black, the sides of the third and fourth tergites nar-

rowly black and with cinereous pollen. Hair yellowish, that on the genitalia more golden, that on the ninth sternite golden, coarser, and dense, broadly parted in the middle.

**FEMALE:** The dorsocentral pale vittae are usually more conspicuous and frequently reddish in ground color; they curve outward in front to meet the reddish humeri and are expanded behind to form a prescutellar spot. The sides of the abdomen are narrowly brownish and the tips of the segments castaneous. Genitalia castaneous, the spines black.

**TYPES:** Holotype, male, and allotype, female, South Bimini Island, June 16, 1950 (Cazier and Rindge). Paratypes, three males and 11 females, same locality, June 4 to 17, 1950; one female, Bimini Island, September 20, 1947 (James A. Oliver); two males and six females, Nassau, Bahamas, November, 1937 (U.S.N.M.); one male, South Inagua Island, Bahamas, August 14, 1905 (C. W. Johnson); one male and one female, Nassau, Bahamas, June 30, 1897 (C. J. Maynard); one male, same locality, May 4, 1897 (C. J. Maynard); one female, same locality, July 2, 1935 (W. J. Clench); two males, Arthurs Town, Cat Island, Bahamas, July and August, 1935 (W. J. Clench) (M.C.Z.).

This species is named in honor of Mr. Michael Lerner, the founder of the Lerner Marine Laboratory of the American Museum of Natural History.

### ***Proctacanthus darlingtoni*, new species**

Hair of head very pale yellow, whitish on the cheeks; femora black. Length, 25 mm.

**MALE:** This species is, in general, so similar to *lernerii* that only a comparison with that species is necessary. The thorax and scutellum are blackish in ground color, cinereous yellow pollinose, the mesonotum brown. Legs black, the tibiae reddish except at the apex; hair black, the coxae ashy pollinose and with white hair; wings less tinged with brown; abdominal pile pale yellowish except on the upper surface of the genitalia. The long, fine, dense hair on the ninth sternite is broadly divided in the middle, the fringe on the eighth sternite inconspicuous. The artista has a broad yellow tip.

**TYPE:** Holotype, male, Barahona, Dominican Republic,

September, 1938 (P. Darlington), in the Museum of Comparative Zoölogy.

### **Proctacanthus nigrimanus**, new species

Similar to *lernerii*, from which it differs in having a much longer third antennal segment, paler mystax, and the tarsi black, the first segment of the hind pair mostly reddish. The hair on the ninth sternite is slightly shorter, and the sternite is slightly less widely bare in the middle.

TYPE: Holotype, male, Maisi, Oriente, Cuba, July 17, 1936 (P. Darlington), in the Museum of Comparative Zoölogy.

### **Proctacanthus** species

A male and female from Cuba, collected by Poey, are very similar to *lernerii*, differing only in having much paler hair on the head and slightly different arrangement of hair on the apical sternites. I hesitate to place them with that species. Additional fresh specimens may show that this is a distinct species. These specimens were given a manuscript name by H. Loew and are in the Museum of Comparative Zoölogy.

### **Proctacanthus vittatus** Olivier

*Asilus vittatus* OLIVIER, 1789, Encyclopédie méthodique, vol. 4, p. 263.

*Proctacanthus rufiventris* MACQUART, 1838, Diptères exotiques, vol. 1, pt. 2, p. 123.

The color of the thorax of *vittatus* is quite variable. In some specimens the mesonotal vittae are conspicuous; in others they are quite absent, the whole mesonotum being rusty reddish. The tarsi are dark reddish, more castaneous apically, but apparently never so dark as in *dominicana*, new species.

*Proctacanthus vittatus* agrees in most respects with *dominicana*, the chief difference being in the vestiture of the apical sternites. The black, dense hair on the ninth sternite is not divided in the middle, and the apical fringe on the eighth sternite is shorter, finer, and doubled. It may be yellow or black. The hair on the reddish scutellum is usually all yellow, but it may be mixed yellow and black.

The following specimens, all from Haiti, are before me: male, Fond Parisien, February 11 to 18, 1922; two males and one female (P. R. Uhler); female, Darien, November 14, 1934

(P. Darlington); female, Port-au-Prince, September 2, 1934 (M. Bates).

***Proctacanthus danforthi*, new species**

Head with yellow hair, that on the posterior half of the front usually black; scutellum dull reddish to brown, the hair and bristles black, yellow, or mixed; ninth sternite with long fringe of hair. Length, 25 to 32 mm.

**MALE:** Head reddish, the occiput and cheeks black; pollen very pale brassy yellow; hair and bristles pale yellow, the cheeks and usually the posterior half of the front with black hair. Antennae blackish, the arista reddish, the third segment slightly more than twice as long as wide. Palpi and proboscis black, the former with black hair, that on the ventral basal half yellow.

Thorax reddish, the pronotum and sternum blackish. Mesonotum with a broad, usually geminate median vitta and broad, interrupted, sublateral vittae. Hair of the mesonotum black, usually with some pale hairs posteriorly. Pleura with black hair anteriorly and yellow hair on the sternum and posterior third or more. Scutellum usually reddish, sometimes brown, the hair and bristles usually all yellowish, rarely all black, often mixed yellow and black.

Legs reddish, the tarsi darker, sometimes becoming brown apically; coxae reddish, black in front, the hair pale yellow, the bristles black; hair on legs otherwise black.

Wings light brownish. Squamae reddish, the fringe all yellow, or black above. Halteres reddish.

Abdomen reddish, with the intermediate segments more yellowish. First segment and basal third of the second black, the former with a large reddish spot on each side; sides of the second and following tergites usually brownish. Hair pale brassy yellow. Ninth sternite with narrow band of long bristly hair which is usually reddish yellow, but it may be mostly black. Hair of genitalia brassy yellow below, black above.

**FEMALE:** Sides of the tergites and tips of the segments narrowly shining black or brown; ovipositor shining, the hair on the apical half golden yellow.

**TYPES:** Holotype, male, Arecibo, July 30 to August 1, 1914; allotype, female, San Juan, July 9 to 12, 1914. Paratypes, male, Coamo Springs, July 17 to 19, 1914; female, Manati, June 27 to

29, 1915; male and two females, San Juan, July 9 to 12, 1914, and February 11 to 14, 1914 (F. E. Lutz and F. E. Watson); female, Arroyo, February, 1899 (August Busck); female, Doradio, July 27, 1913 (T. H. Jones); female, Arecibo, November 27, 1921 (Kisliuk and Mills); male and female, Manati, August 22, 1933 (Faxon and Mills); male, Barceloneta, November 15, 1932 (Faxon and Mills). All localities are in Puerto Rico. The last six recorded specimens are in the United States National Museum.

***Proctacanthus dominicana*, new species**

Front with black hairs; thorax mostly reddish in ground color; tarsi black; abdomen black basally, yellow in the middle, reddish apically. Length, 17 mm.

MALE: Head black in ground color, the middle of the face broadly reddish. Front with mostly brown pollen and wholly black hair. Occiput with pale brassy yellow pollen and pile, the pile becoming almost white below. Cheeks with pale brownish yellow pollen and black hair. Face pale brassy yellow pollinose, the mystax pale yellow. Antennae with the two basal segments blackish, the third missing.

Mesonotum dark reddish, with rather cinnamon brown pollen, the hair black; a geminate, median, black vitta and outside the dorsocentrals a short, narrow black stripe. Pleura black, with a broad, median, reddish stripe that is narrowly interrupted at the sutures. Hair pale brassy yellow, coarse and black on the mesopleura; scutellum blackish, with very pale brownish pollen and coarse, brassy yellow hair.

Legs dark reddish, the tarsi blackish beyond the first segment, the coxae with pale yellowish pollen. Hair black, pale yellow on the coxae.

Wings pale brownish, the veins dark brown. Squamae yellow, with brownish border and yellow pile. Halteres pale reddish.

Abdomen with the first and basal half of the second segment black; apical half of second segment and the following three segments yellow, the apical segments reddish. Hair yellowish, black on the sides of the fifth segment and on the reddish segments. Ninth sternite with rather thin, moderately long hair.

TYPE: Holotype, male, Sanchez, Dominican Republic, May 11 to 16, 1915.

