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A NEW *CAUTETHIA* FROM THE BAHAMAS (LEPIDOPTERA: SPHINGIDAE)

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Abstract.—*Cautethia* ***exuma*** n.sp. is described and illustrated. It is closely related to *C. grotei* Henry Edwards. The caterpillar is described and illustrated. The known host plant is *Erithalis fruticosa* (Linnaeus) (Rubiaceae).

When Grote (1867) proposed *Cautethia* as a replacement name for *Oenasanda* Walker (1856b) (preoccupied by *Oenasanda* Walker, 1856a) he included only one species from Cuba, which he identified as *C. noctuiformis* Walker (1856b). Henry Edwards (1882) pointed out that the *Cautethia* species that Grote had from Cuba was actually *C. grotei* Henry Edwards. Jordan (1940) also made note of the misidentified Cuban species when he described two new races of *C. grotei* from the Cayman Islands.

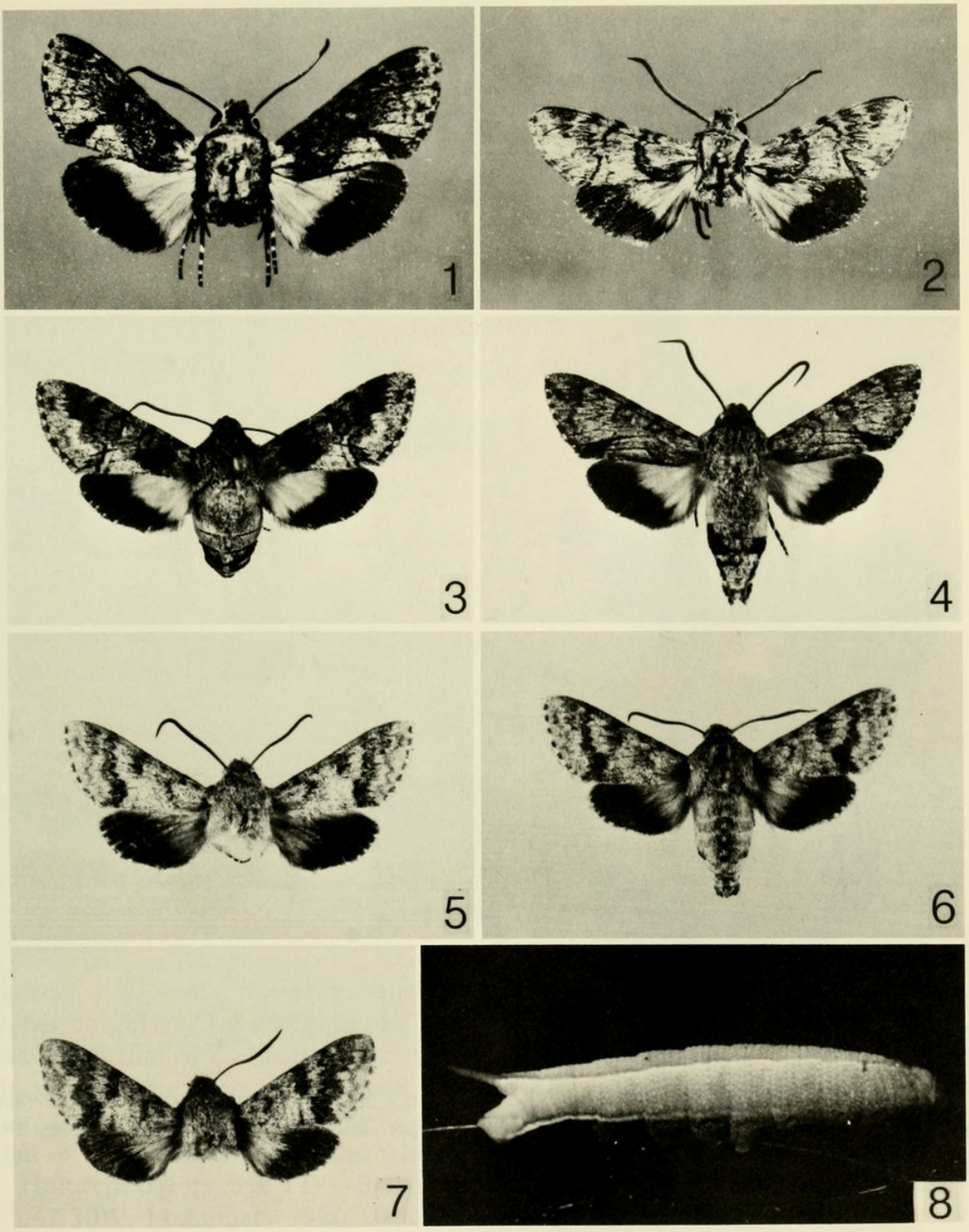
The genus *Cautethia* includes six species of small-sized moths. *Cautethia grotei* occurs in Cuba, the Cayman Islands, and the Bahamas. *Cautethia noctuiformis* is found in Puerto Rico, the Virgin Islands, and a few of the Lesser Antilles, and Cary (1971) recently described a race from Antigua (Fig. 2). The remaining species of *Cautethia* are: *C. spuria* Boisduval (1875) (Mexico) (male genitalia figured in Hodges, 1971), *C. simitia* Schaus (1932) (Columbia) and *C. yucatana* Clark (1919) (Mexico). The species described herein is, at present, known only from Great Exuma in the Bahamas.

Cautethia exuma McCabe, NEW SPECIES

Adult.—Wingspan 27–32 mm; forewing light-gray irrorated with dark gray or black scales; AM line, when traceable, strongly angled at cubitus, then directed basally to anal vein, then even more steeply angled basally to inner margin; reniform diffuse, with white scaling proximally and diffuse black patch distally; PM double and shallowly scalloped on veins, slightly darker in anal area; terminal line diffuse; forewing ventrally uniform gray; hindwing yellow brown in basal $\frac{2}{5}$ths and brownish-black in distal $\frac{3}{5}$ths; hindwing ventrally with basal yellow-brown restricted to base of anal area. Thorax and abdomen same shade of light gray as forewing; abdomen with weak tufts on abdominal segments 2, 3, 4, & 5. Male and female similar.

Male genitalia (Fig. 11). Gnathos straight, broad, and heavily chitinized at apex; uncus large, straight and blunt tipped; valves broad and upturned, with undifferentiated cucullus; process present at base of valve, $\frac{1}{3}$ length of valve; aedeagus (Fig. 12) with simple vesica marked by right-angle bend.

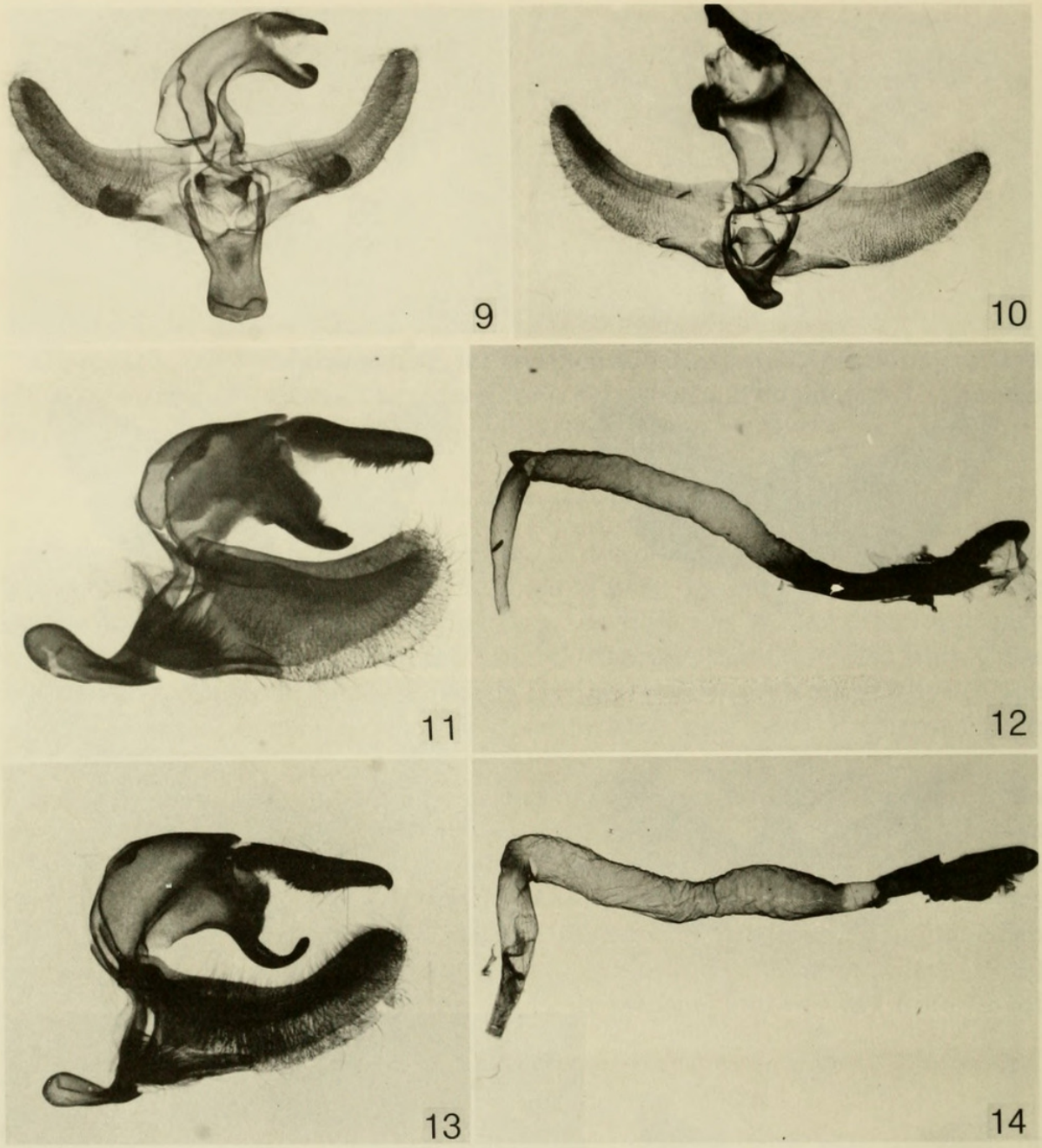
Female genitalia (Fig. 15). Bursa copulatrix very long-stalked and bulbous at



Figs. 1–8. 1, *Cautethia yucatana* male. 2, *Cautethia noctuiformis bredini* Cary (Holotype). 3, *Cautethia grotei* male. 4, *Cautethia grotei* female. 5, *Cautethia exuma* male (Holotype). 6, *Cautethia exuma* male (Paratype). 7, *Cautethia exuma* female (Paratype). 8, *Cautethia exuma* ultimate instar larva at rest on host, *Erithalis fruticosa* (L.).

anterior end, without signa, but with large appendix bursa subequal in size to bulbous portion of bursa copulatrix.

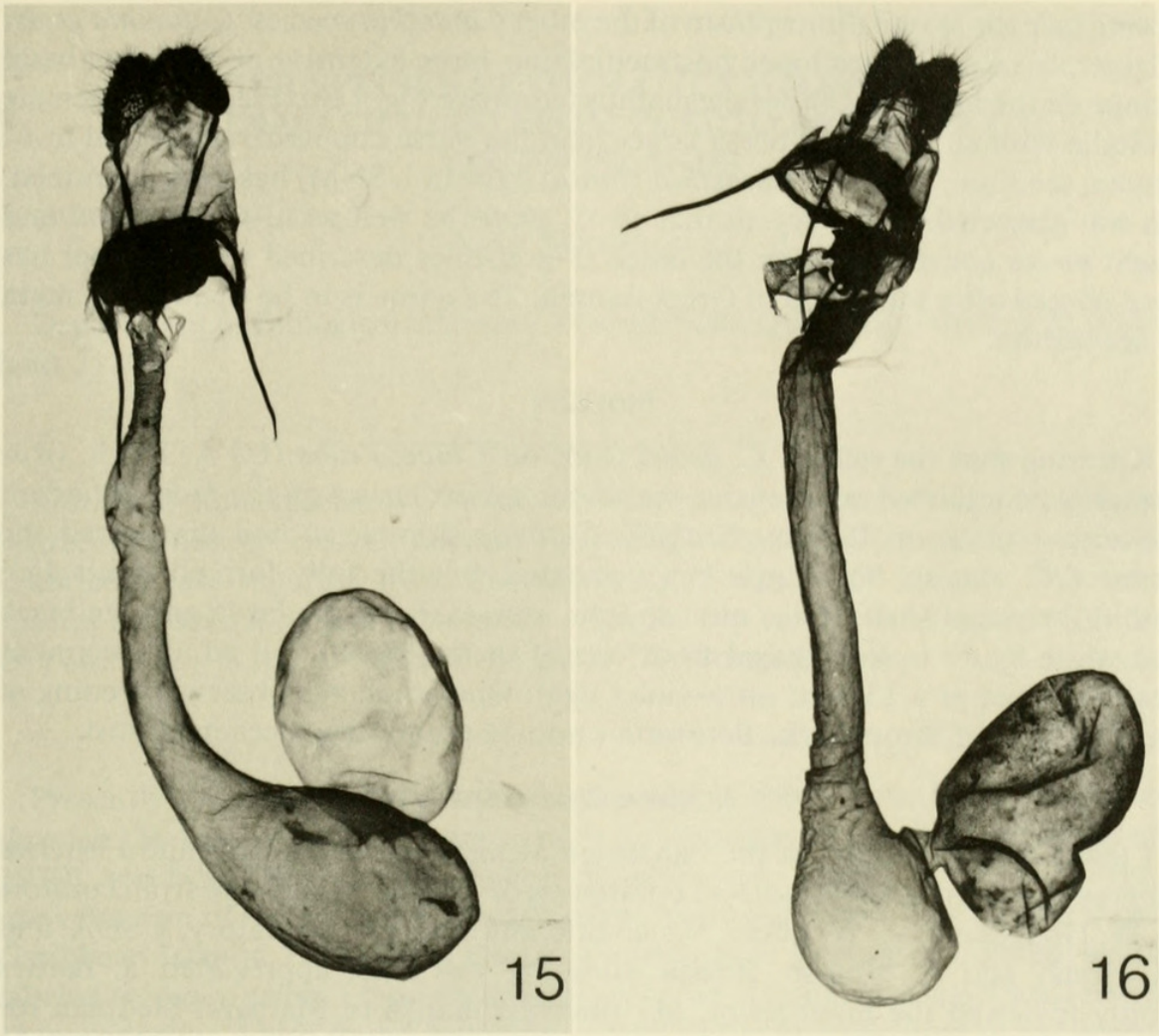
Full grown larva. Length 36 mm; head green with pair of faint longitudinal greenish-white stripes; body green with subdorsal white stripe running length of



Figs. 9–14. 9, *Cautethia noctuiformis bredini* valves. 10, *Cautethia yucatana* valves. 11, *Cautethia exuma* (Holotype) valves. 12, *Cautethia exuma* (Holotype) vesica. 13, *Cautethia grotei* valves. 14, *Cautethia grotei* vesica.

body to base of horn; no dorsal line or pattern; dorsum slightly darker green than sides, both with raised white rugosities; spiracles yellow; yellow subspiracular line present from anal proleg forward to last abdominal proleg, then fading to white and not traceable anterior to abdominal prolegs; horn green, apex pale, projecting from an enlarged base; anterior end of body and thoracic legs raised at rest; thoracic legs held parallel (directed forward) to body when at rest; head retractable; body somewhat swollen anteriorly.

The larva of *Cautethia exuma* differs from Dyar's (1896) description of *C. grotei* in several respects: Abdominal prolegs 3 & 4 are not used when at rest in *C. grotei*; in *C. exuma* all prolegs are used when at rest; geminate dorsal line



Figs. 15–16. 15, *Cautethia exuma* female genitalia. 16, *Cautethia grotei* female genitalia.

present in *C. grotei,* dorsal line absent in *C. exuma*; subdorsal line pale yellow at upper border in *C. grotei,* that of *C. exuma* is white; spiracles white with median red band, that of *C. exuma* yellow with median reddish band; sides marked by dark green chevrons in *C. grotei,* that of *C. exuma* uniform light green and unmarked; subspiracular line white, yellow, and marked with pink in *C. grotei,* that of *C. exuma* is yellow and white, no pink.

Holotype ♂ (Figs. 5 & 11).—Bahamas, Great Exuma, Simon's Point, 23.31.50N 75.47.30W, 11 January 1980, deposited in New York State Museum.

Paratypes.—1 ♀, 30 ♂. All with the same data as holotype except dates range from 26 December to 22 January. Paratypes are to be distributed among the U.S. National Museum of Natural History, American Museum of Natural History, Cornell University Insect Collection, Canadian National Collections, British Museum of Natural History, Museum für Naturkunde der Humboldt-Universität, New York State Museum, and various other collections.

Diagnosis

Cautethia exuma males differ from the males of all other known *Cautethia* species in lacking a dark patch of scales in the tornus of the forewing; *Cautethia*

exuma lack the sexual dimorphism of the other *Cautethia* species. *Cautethia grotei* is larger, has a deeply scalloped postmedial line, more extensive and brighter basal orange on the hindwing, differing gnathos (compare Fig. 11 to Fig. 13) and female genitalia with an appendix bursa larger than the bursa copulatrix (subequal in *C. exuma*, see Figs. 15 & 16). *Cautethia simitia* (type in USNM) has been examined, but not dissected. It is very similar to *C. grotei* as well as to *C. yucatana* and might prove conspecific with the latter. The species described in this paper has been named after the island of Great Exuma. The name is to be treated as a noun in apposition.

Biology

Knowing that the related *C. grotei* feeds on *Chiocca alba* (L.) A. Hitch. (Rubiaceae), I conducted an intensive search for sphinx larvae on the most abundant rubiaceous plant on Exuma, *Erithalis fruticosa* (Linnaeus) and discovered the larva of *C. exuma*. The single larva pupated, but the fully formed moth died within the pupal shell. Color photographs were taken of the larva and the black and white figure is reproduced from one of them (Fig. 8). All adult specimens were collected at a 15 watt ultra-violet light. One adult was observed feeding at the blossoms of Strongback, *Bourreria ovata* Miers (Boraginaceae), at dusk.

Acknowledgments

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