

A REVISION OF TWO SPECIES COMPLEXES
IN THE PYRAUSTINAE
(LEPIDOPTERA, PYRALIDAE)

1. *COTACHENA HISTRICALIS* WALKER
2. *SYNGAMIA FLORIDALIS* ZELLER

BY

PAUL E. S. WHALLEY *xuf.*



Pp. 96-III ; Plates 3-4 ; 6 Text-figures

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I. THE *HISTRICALIS* COMPLEX OF THE GENUS *COTACHENA* MOORE (LEP., PYRALIDAE)

BY

By PAUL E. S. WHALLEY

INTRODUCTION

THE genus *Cotachena* was erected by Moore (1885) for the species *Botys histricalis* Walk. The genus was subsequently placed (e.g. Hampson, 1896) in the Endotrichiinae, but recently Inoue (1955) has placed it correctly in the Pyraustinae. The actual relationships with other genera in the Pyraustinae still remains to be worked out.

Walker (1859) described *Botys histricalis* from Ceylon. He also mentions two other specimens " ? female " from China and Shanghai.

Butler (1887) described a new species in the genus, *Cotachena trinotata*, from Alu in the Solomon Islands.

Snellen (1890) records *histricalis* from Sikkim but transfers it to the genus *Stenophyses* Led. The type of this genus is *serinalis* Walk. and it is generically distinct from *histricalis*.

Ragonot (1891) uses *Cotachena histricalis* Walk. as the species and was the first to place it in the Endotrichiinae but he comments on its similarity to some Pyraustinae.

Warren (1892) describes *Archernis pubescens* from N. India and China. In 1896 he described *Cotachena peractilis* from Dili and Tenimber.

Hampson (1896a) gives an account of *C. histricalis* Walker and puts the Chinese and N. Indian specimens as " race *pubescens* Warren ". Later in the same year (1896b) he gave the following synonymy of the *Cotachena* complex and retained it in the Endotrichiinae.

1. *Cotachena histricalis* Walk. List Lep. Ins. B.M., XVIII, p. 655, 1859

Synonym *Archernis pubescens* Warr. A.M.N.H. (6) IX, p. 300, 1892.

2. *Cotachena trinotata* Butl. A.M.N.H. (5) XX, p. 122

Synonym *C. peractilis* Warr. A.M.N.H. (6) XVII, p. 465, 1896.

Subsequently Rothschild (1916) described a subspecies *orientalis* of *histricalis* Walk. The types of all these species are in the British Museum (Natural History). I have compared them and examined long series of each species. As a result the synonymy is as follows :—

Cotachena histricalis Walk.

C. peractilis Warr. **syn. nov.**

C. trinotata Butl. **syn. nov.**

C. histricalis orientalis Rothsch. **syn. nov.**

Cotachena pubescens* Warren**Cotachena alysoni* sp. nov.*****Cotachena histricalis* Walker**

(Pl. 3, 1-4; Text-figs. 1a, 1b, page 102)

Botys histricalis Walk. *List Lep.*, p. 655, 1859. *C. trinotata* Butler. *A.M.N.H.* (5) XX, p. 122, 1887. *C. peratilis* Warren. *A.M.N.H.* (6) XVII, p. 465, 1896. *C. histricalis orientalis* Rothschild. *Rep. B.O.U. Ex.p.* 2, no. 15, p. 117, 1916. *Archernis pubescens* Warren, Hampson not Warren. *Trans. ent. Soc.*, p. 498, 1896. *C. histricalis pubescens* Warren, Inoue not Warren. *Check List Jap. Lep.*, pt. 2, p. 159, 1955. *Stenophyses histricalis* Walker, Snellen (?) not Walker. *Trans. ent. Soc.*, p. 600, 1890.

Type ♂ "Ceylon" in B.M.

This is a very widespread and variable species but it is difficult to separate any definite trend in any region. The Pacific Island species tend to be larger with a more prominent coremata than the Ceylon specimens, but some of the Pacific specimens are identical with those from Ceylon.

Australian specimens tend to be rather greyer than the Ceylon-Pacific specimens but the differences are slight. On some Pacific Islands (e.g. Ysabel) a dark yellow form occurs. This is "*C. trinotata* Butler". It occurs in a number of islands and is merely an aberration.

While some of the Pacific Island specimens are smaller than the "typical" Pacific form, the genitalia and wing pattern are all identical and further naming of subspecies is not thought necessary.

Genitalia: ♂ Text-fig. 1a; ♀ Text-fig. 1b, page 102.

GEOGRAPHICAL DISTRIBUTION: Ceylon, India, Burma, Malaya, Philippines, Hainan, Talaut, Java, Sumatra, Borneo, Sarawak, Celebes, Moluccas, New Guinea, Vulcan I., Australia, Solomon I., Bismarck Archipelago, Louisiade Archipelago.

***Cotachena pubescens* Warren**

(Pl. 3, 5; Text-figs. 2a, 2b, page 103)

Archernis pubescens Warr. *A.M.N.H.* (6) IX, p. 300, 1892. *C. histricalis* Walk. auctt. *C. histricalis pubescens* Warr. auctt.

Lectotype ♂ "Dharmasala N. India" in B.M.

Walker (1859) first noticed that the Chinese and N. Indian specimens were smaller and darker than *histricalis* Walk. Warren described these specimens as a new species but it has subsequently either been regarded as a synonym (Hampson, 1896) or a subspecies (Inoue, 1955). The genitalia of the male are quite distinct from those of the male *histricalis*.

There is a considerable amount of variation in the intensity of the coloration, the Formosan and Japanese specimens being paler than the Indian ones. Specimens which are probably this species from Borneo and Malaya are darker than the Indian race with less yellow on the fore wings.

Genitalia: ♂ Text-fig. 2a; ♀ Text-fig. 2b, page 103.

GEOGRAPHICAL DISTRIBUTION: India, Malaya, China, Korea, Japan, Hainan, Formosa, Borneo, Oinainisa (S.W. Timor).

Cotachena alysoni sp. nov.

(Pl. 3, 6; Text-fig. 3a, page 104)

C. histricalis Walk. partim auctt. *C. histricalis pubescens* Warr. partim auctt. ? *Stenophyses histricalis* Walk., Snellen. *Trans. ent. Soc. Lond.*, p. 600, 1890.

Type ♂ "Chang Yang, A. E. Pratt Coll. May 1888" in B.M.

Pyral. genit. slide No. 4129.

♂. Wing 10 mm. (Centre of thorax to apex of wing). Head light sandy brown. Thorax yellowish brown.

Fore wing: Fringe yellow ochre with brown line through centre. Terminal line black with minute yellow spots at apex of each vein. Terminal area yellow ochre, narrowing posteriorly, becoming brown. Three hyaline areas (see plate) edged with black on outer and inner edges. From the middle patch a small hyaline line extends to the hind margin of the fore wing. Rest of fore wing sepia. Sub-basal line continuous with black inner edge of inner hyaline patch. Costal margin sepia along basal two thirds. Yellow opposite outer hyaline patch. Apical part of costal margin black.

Hind wing: General colour yellow ochre. Four small sepia marks indicate ante- and post-medial lines.

Underside, similar, paler.

♀. Unknown.

Genitalia: ♂, Text-fig. 3a, page 104.

MATERIAL EXAMINED: CHINA, 1 ♂, Chang Yang (type); 3 ♂, Ding Manon (Bailey), 1911 (paratypes); 1 ♂, Chang Yang (Pratt) (paratype); 3 ♂, Chungking (Barry), 1912 (paratypes): SIAM, 2 ♂, Musklik, 1,000 ft. (Fruhstorfer): INDO CHINA, 1 ♂, Laos, Muang Awm, 900 m., 1932: MALAY PENINSULA, 1 ♂, Perak (Pendlebury), 1925; 1 ♂, Mt. Tahan (Waterstradt): INDIA, 4 ♂, 1 ♀, Sikkim (Moller), 1886 (paratypes); 1 ♂, Sikkim (Pilcher, 1895, (paratype); 1 ♂, Sikkim (B.M.), 1895 (paratype); 3 ♂, Darjeeling (paratypes); 2 ♂, Khasis Hills (paratypes); 1 ♂, Shillong (paratype); 1 ♂, Naga Hills, 5,000–7,000 ft., Doherty, 1889 (paratype); 2 ♂, Mishmi Hills, Lolit River (Steele), 1935 (paratypes): JAPAN, 1 ♂, Takao San (Inoue), 1950 (paratype), (in Coll. H. Inoue).

This species is very close to the other species of *Cotachena* but is primarily separated in the male by the blunt uncus.

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 WARREN, W. 1892. *Ann. mag. Nat. Hist.* (6) 9: 300.
 — 1896. *Ibid.* (6) 17: 465.

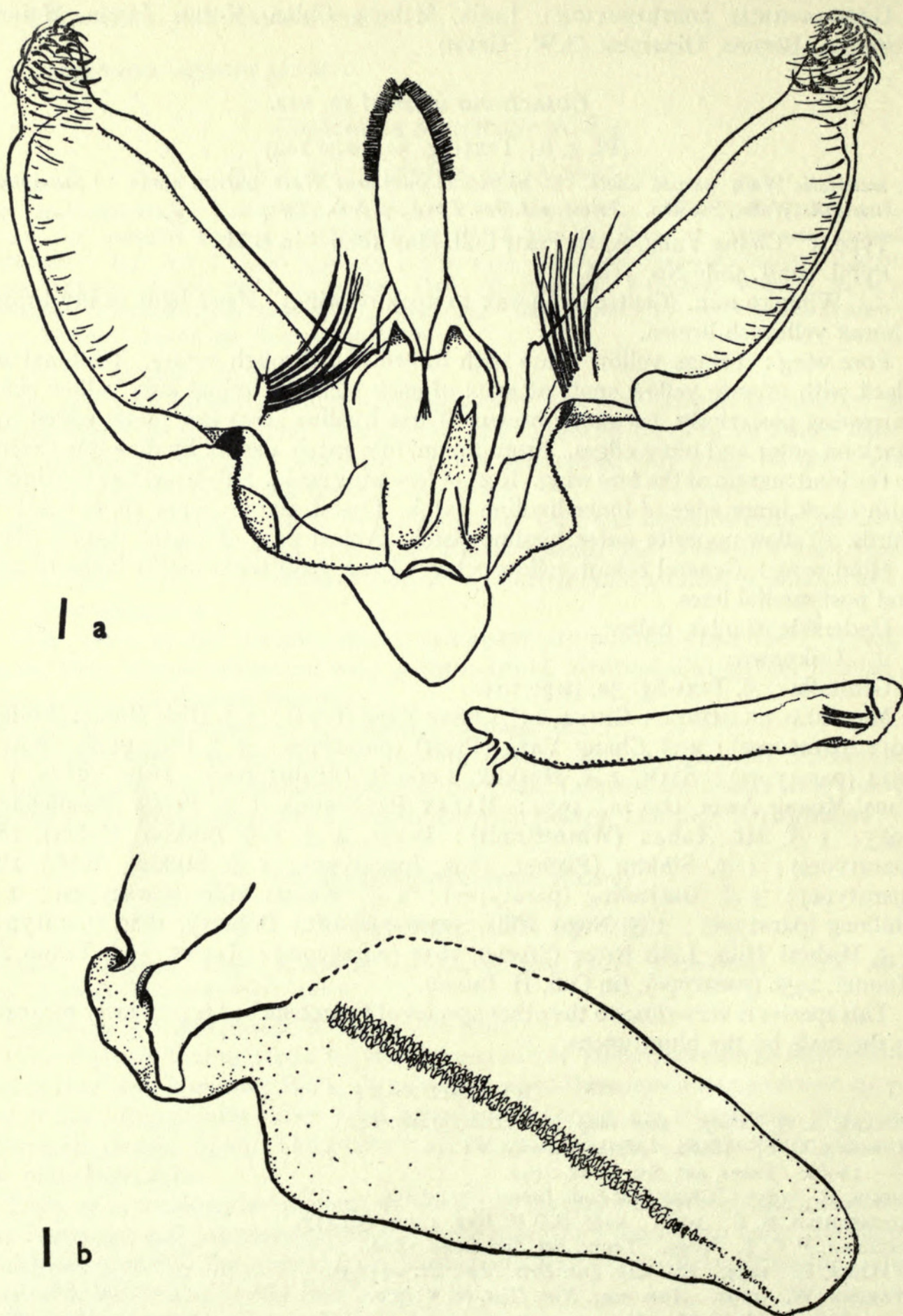


FIG. 1a. *Cotachena histricalis* Walk., ♂ genitalia, type.

FIG. 1b. *C. histricalis* Walk., ♀ Bursa copulatrix and duct.

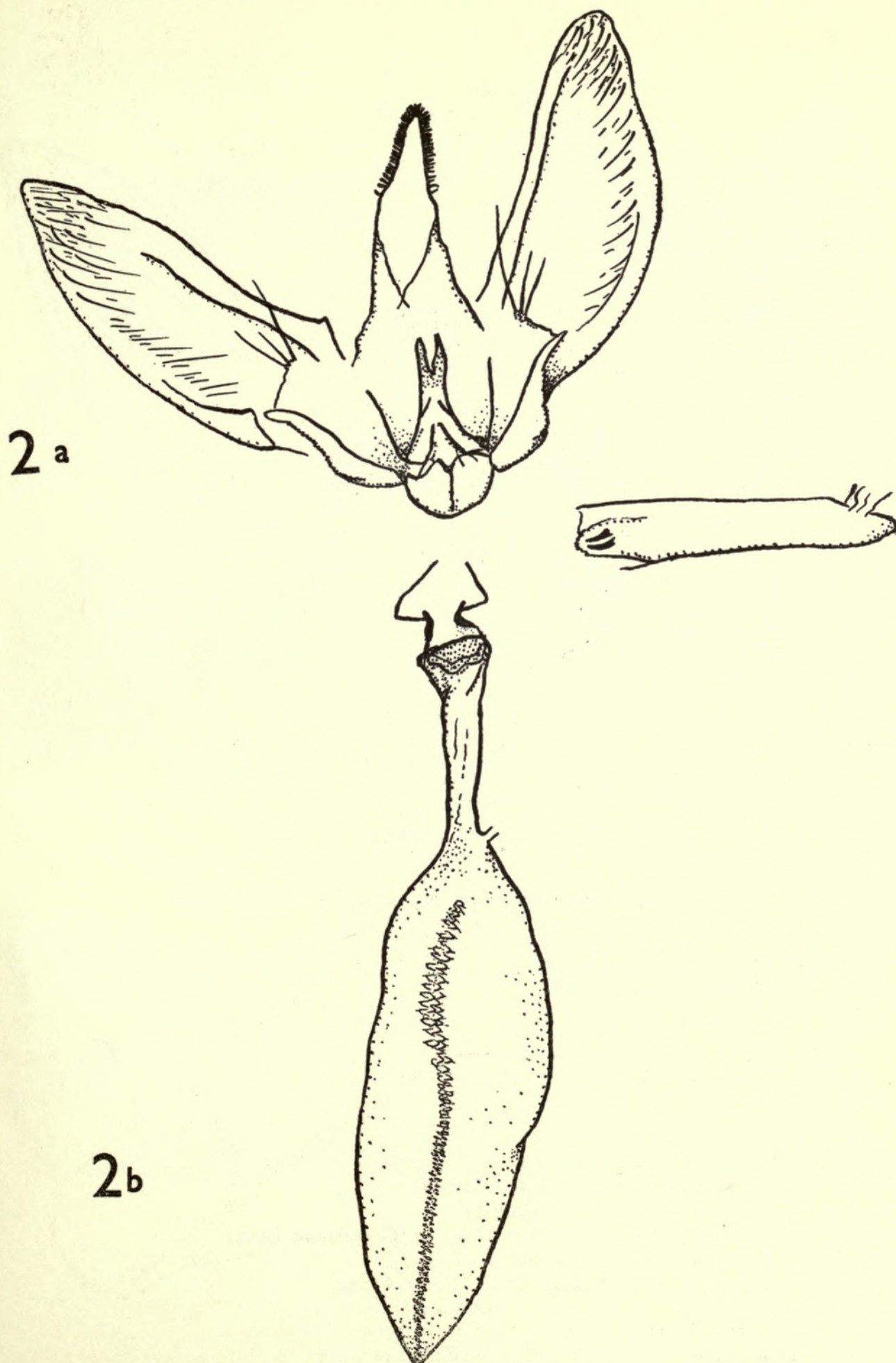


FIG. 2a. *Cotachena pubescens* Warr., ♂ genitalia, Lectotype.
 FIG. 2b. *C. pubescens* Warr. ♀ Bursa copulatrix and duct.

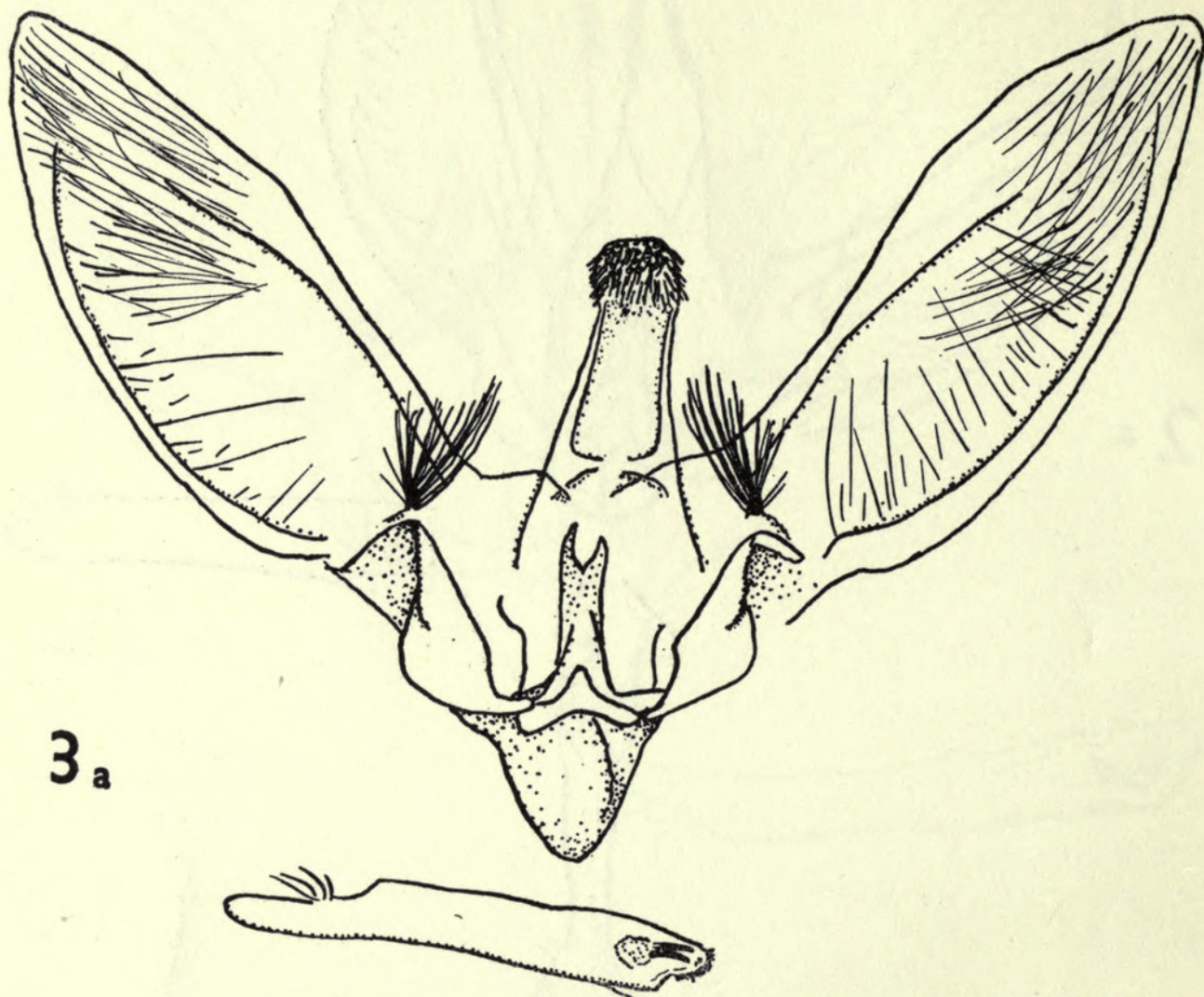


FIG. 3a. *Cotachena alysoni* sp. nov., ♂ genitalia, type.

PLATE 3

- FIG. 1. *Cotachena histricalis* Walk., type ♂, Ceylon.
 FIG. 2. *C. histricalis* Walk., ♂, Solomon Islands.
 FIG. 3. *C. histricalis* Walk., ♀, Solomon Islands.
 FIG. 4. *C. histricalis* Walk., ♀, Solomon Islands (*C. trinotata* Butl.).
 FIG. 5. *C. pubescens* Warr., ♂, Khasis, N. India.
 FIG. 6. *C. alysoni* sp. nov., type ♂, Chang Yang, China.
 (All $\times 2$.)



1



2



3



4



5



6

2. A REVISION OF THE *SYNGAMIA FLORIDALIS* ZELL. COMPLEX WITH THE DESCRIPTION OF A NEW SPECIES

By PAUL E. S. WHALLEY

INTRODUCTION

Syngamia floridalis Zell. is an omnibus name used for specimens from Africa to Australia. Although seven different species had been described in this complex they were all synonymized by Hampson (1898). He gave the synonymy :—

Syngamia floridalis Zell.

synonym *Glyphodes calidalis* Guen.
„ *Syngamia octavialis* Walk.
„ *S. merionealis* Walk.
„ *S. tiphalis* Walk.
„ *S. secutalis* Walk.
„ *Hyalea fulvidalis* Wallengr.
„ *Botys witalis* Feld.

Recently I have been examining specimens of “*floridalis*” from a collection made by Mr. J. D. Bradley on the Solomon Islands in 1953. These specimens clearly did not agree with the Zeller type. In order to identify these specimens I have examined all the available material of this complex. The type of *G. calidalis* Guen. has been lost. I have, however, examined a specimen from the Ragonot collection, kindly lent by Mr. P. Viette, Paris, which had been compared with Guenée type by Ragonot. I have selected this specimen as the neotype (see later). I have not seen the type of *H. fulvidalis* Wallengr. but have examined a long series from the type locality (Tahiti). All the other types were examined together with the type of *Syngamia aurantiaca* Hamps.

As a result of this examination it was found that in fact there are three distinct species. It also became apparent that the “*floridalis*” complex was not congeneric with *Syngamia florellalis* Cr. the type of *Syngamia* Guen. Two genera were used by Lederer (1863), *Aethalöessa* and *Chnaura* (Wien. ent., p. 435, 1863). The former (type *floridalis* Zell.) has page preference over the latter (type *octavialis* Walk.) The species should thus be referred to the former genus.

Aethalöessa floridalis Zell. (**comb. nov.**). Type of genus

Syngamia floridalis Zell., *Lep. Caffr.* 60, 1852 : *S. merionealis* Walk., *List Lep.* 17 : 334, 1859 : *Aethalöessa floridalis* Walk., Lederer, *Wien. ent. mon.* 435, 1863.

Type ♂ "Natal" in B.M. Pl. 4, fig. 1.

This species is restricted to Africa and Madagascar. Specimens from Madagascar tend to be smaller than those from the mainland, however the mainland specimens themselves also vary considerably in size. Further material may show some sub-speciation over Africa. The shape of the cornutus in the ♂ genitalia is characteristic.

Genitalia : ♂ Text-fig. 1a. ♀ Text-fig. 1b, pages 109 and 111.

DISTRIBUTION : Africa ; S. Africa, Fernando Po, Angola, Kenya, Uganda, Cameroons, Sierra Leone, Nigeria, Ghana, Belgian Congo. Madagascar ; Diego Suarez.

Aethalöessa calidalis calidalis Guen. (**comb. nov.**)

Glyphodes calidalis Guen., *Delt. et Pyr.* 294, 1854 : *Chnaura octavialis* Walk., Lederer, *Wien. ent. mon.* 435, 1863 : *Syngamia floridalis* Zell., Hampson *nec* Zeller, *Proc. ent. Soc.* 644, 1898 : *S. floridalis* auctt.

Type lost. Neotype selected from Ragonot collection labelled : "Indes orient. calidalis Gn (Glyph.) = *Chnaura octavialis* Walk., vue le type au M.N." in Paris museum. Pl. 4, fig. 2.

This species is found in India and Ceylon. The main cornutus in the aedeagus is shorter and blunter than in specimens from the Australasian-Pacific region and there are some differences in the female genitalia (see Text-figs. 1b and 2b page 111).

Genitalia : ♂ Text-fig. 2a. ♀ Text-fig. 2b. Pages 109 and 111.

DISTRIBUTION : Indian Subcontinent ; North and South. Ceylon, Seychelles.

Aethalöessa calidalis tiphalis Walk. (**comb. nov.**)

Syngamia tiphalis Walk., *List Lep.* 17 : 335, 1859 : *S. secutalis* Walk., *List Lep.* 34 : 1291, 1865 : *Hyalea fulvidalis* Wallengr., *Wien. ent. mon.* 174, 1860 : *Chnaura octivialis* Walk., Led., *Wien. ent. mon.* 435, 1863 : *Botys witalis* Feld., *Reis. Nov.* pl. 135, f. 8, 1864-67 : *Syngamia aurantiaca* Hmps., *Ann. mag. Nat. Hist.* 9 : 254, 1912, **syn. nov.** : *S. floridalis* Zell., Hamps. *nec* Zell., *Proc. ent. Soc.* 644, 1898 : *S. floridalis* auctt.

Type ♂ "Celebes" in B.M. Pl. 4, fig. 3.

This subspecies ranges from Malaya to Australia with very little variation in the male genitalia. Slight variation occurs in wing pattern and colour intensity, but this cannot be related to any geographic area.

Genitalia : ♂ Text-fig. 3a. ♀ Text-fig. 3b. Pages 110 and 111.

DISTRIBUTION : Malaya, Burma, Formosa, Java, Sumatra, Borneo, Celebes, New Guinea, Solomon I., New Ireland, New Britain, Bali, Ceram, Sudest I., Rook I.,

Tambora, Philippines, Samoa, Tahiti, Tenimber, Warri, Australia (Queensland and New South Wales).

In some of the Pacific Islands, this subspecies flies alongside the next species.

Aethalöessa rufula sp. nov.

Syngamia floridalis Zell., Hampson nec Zell., *Proc. ent. Soc.* 644, 1898: *S. floridalis* auctt.

Type ♂. "Arawa, N. Bougainville (Solom. I.), Dec. 1907" in B.M. Pyral.

Genitalia Slide No. 6002. Pl. 4, fig. 4.

♂. Wingspan 12–15 mm. Head, crown yellow, antennae long, filiform. Thorax brown. Abdomen orange-yellow, last two or three segments brown.

Fore wings: General colour orange-red with brown edges. Costal margin, apex and terminal margin brown, apical brown part broad. From half-way along costa brown projections extend backwards towards similar brown projections from hind margin. These two may meet in some specimens giving a round orange-red area separated by a brown band from basal and sub-basal part. Small brown projection from costa one third from base, rarely reaching hind margin. Basal area brown.

Hind wings: Terminal and subterminal area brown, broad anteriorly, narrowing posteriorly. Small brown median spot on anterior margin of hind wing. Rest of wing orange-red. Small indistinct brown spot on hind margin.

FEMALE. Similar.

Genitalia: ♂ Text-fig. 4a. ♀ Text-fig. 4b. Pages 110 and 111.

MATERIAL EXAMINED. Solomon I., 6 specimens Renell I. (J. D. Bradley) 1953; 9 specimens Arawa, Bougainville, May 1904 (Meek); 6 specimens Guadalcanal v.01 (Meek); 8 specimens Nissen I. Aug. 24 (Eichhorn); 2 specimens Vella Lavella (Meek), 1908; 5 specimens Rendova (Meek). St. Aignans, 7 specimens Oct. 1897. Buru, 3 specimens. Kayeli, 2 specimens '97 (Doherty). Little Kei, 5 specimens (H. Kuhn). Teoor, 2 specimens (H. Kuhn). Sudest I., 5 specimens Feb. 1916 (Eichhorn bros.). St. Matthias, 9 specimens June 1923 (A. F. Eichhorn). New Hannover, 12 specimens March–April 1923 (Meek). Amboyna, 11 specimens (Doherty), 1892. Rossell I., 1 specimen March 1898 (Meek). Tobriand I., 3 specimens. Kiriwini, 2 specimens iii.95 (Meek). Banks I., 1 specimen. Dampier I., 6 specimens Feb. 1914 (Meek). Squally I., 2 specimens (A. F. Eichhorn). Admiralty I., 5 specimens Sept.–Oct. 1913 (Meek). Gt. Kei, 2 specimens 4.v.98 (H. Kuhn). Fergusson I., 10 specimens x.94 (Meek). Fenni I., 8 specimens May 1924 (A. F. Eichhorn). Witu, 9 specimens June 1925 (Eichhorn). New Hebrides, 5 specimens (Cheesman) 1929. Woodlark I., 1 specimen (Meek) iv.97. New Guinea: 2 specimens Milne Bay i.99; 4 specimens Kumusi R., June, 1907; 6 specimens Upper Aroa R., March 1903 (Meek); 2 specimens Kapaur, 1896 (Doherty); 6 specimens Upper Setakwa R. Snow Mts. 2–3000 ft. 1919 (Meek). Celebes; 1 specimen reg. basse entre Maros et Tjamba (Doherty) 1896.

This species is easily distinguished externally from *calidalis* Guen. and its subspecies by the lack of the black scales on the dorsal side of the first abdominal segment. Some variation in pattern of the wings of this species may occur. The small brown dots on the anterior and posterior margin of the hind wing may form part of

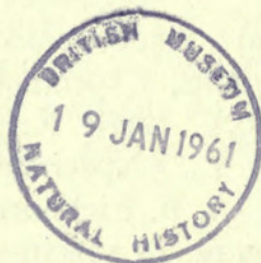
a broken brown line which is continued on to the fore wing. This species is closely related to *A. calidalis* Guen.

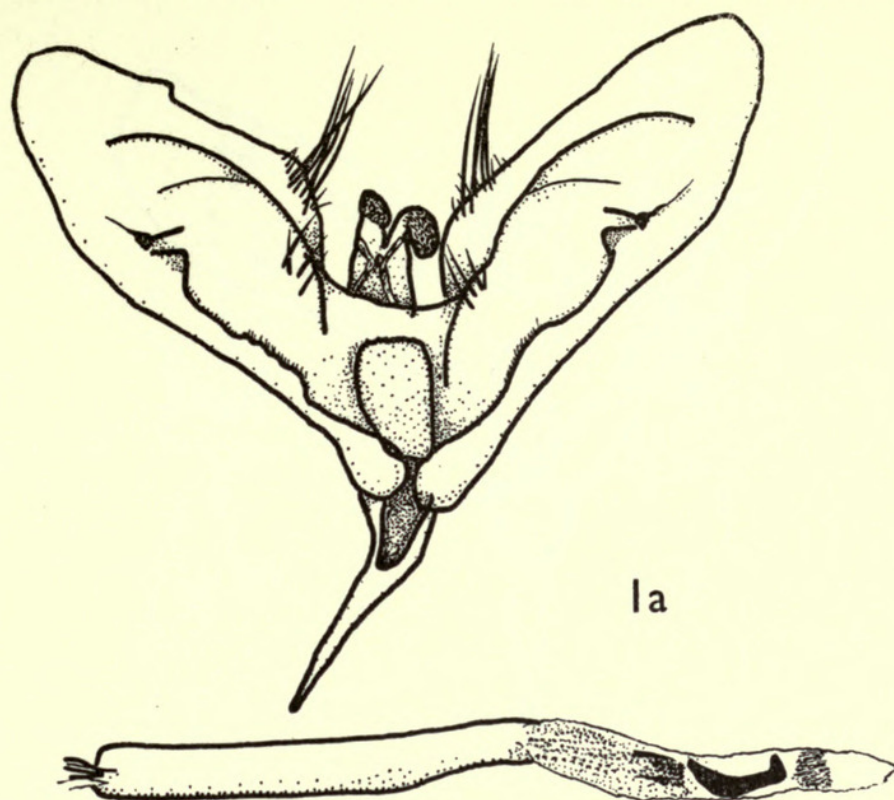
KEY TO THE MALES OF THE SPECIES OF *Aethalöessa*

- | | | | | | | | | |
|----|--|---|---|---|---|---|---|----------------------------|
| 1. | First abdominal segment black or brown dorsally | . | . | . | . | . | . | 2 |
| | First abdominal segment not black | . | . | . | . | . | . | <i>rufula</i> |
| 2. | Main cornutus in aedeagus bent at both ends (Text-fig. 1a) | . | . | . | . | . | . | <i>floridalis</i> |
| | Main cornutus straight | . | . | . | . | . | . | 3 |
| 3. | Main cornutus short and broad (Text-fig. 2a) | . | . | . | . | . | . | <i>calidalis calidalis</i> |
| | Main cornutus elongate (Text-fig. 3a) | . | . | . | . | . | . | <i>calidalis tiphalis</i> |

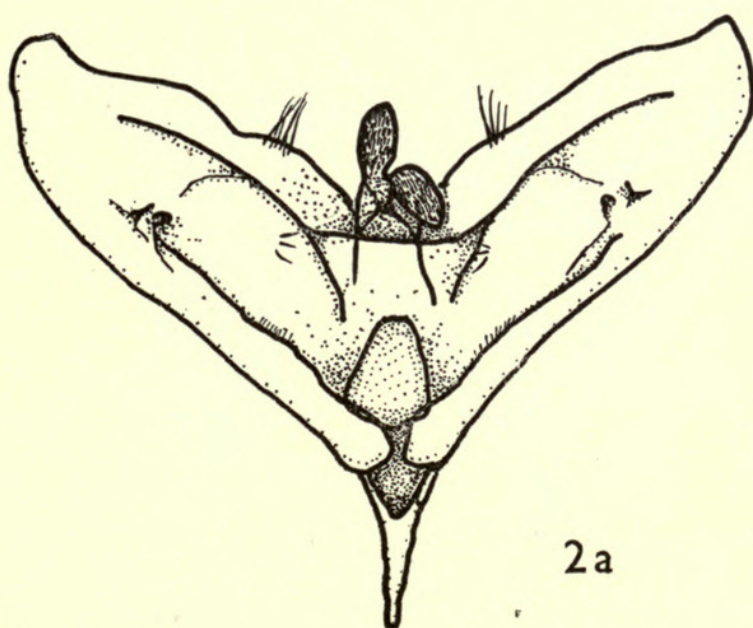
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1a



2a

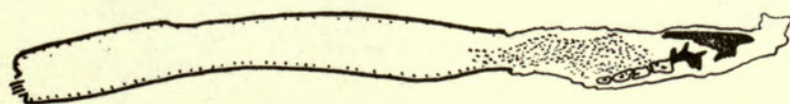


FIG. 1a. *Aethalöessa floridalis* Zell., ♂ genitalia.
FIG. 2a. *A. calidalis calidalis* Guén., ♂ genitalia.



Whalley, Paul Ernest Sutton. 1961. "A revision of two species complexes in the Pyraustinae (Lepidoptera, Pyralidae). 1. The histricalis complex of the genus Cotachena Moore. 2. A revision of the Syngamia floridalis Zell. complex with the description of a new species." *Bulletin of the British Museum (Natural History) Entomology* 10, 97–111. <https://doi.org/10.5962/bhl.part.16258>.

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