

NOTES ON A COLLECTION OF *SPHINGIDAE* COLLECTED
BY MESSRS. M. AND E. BARTELS IN JAVA (Lep.).

By

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The following is an enumeration of a small but very interesting collection of Javan *Sphingidae*, made by the sons of the late Mr. M. E. G. BARTELS, the well known ornithologist, and their mother, at Pasir Datar near Soekaboemi, West Java.

The collecting-ground is the factory-site of the tea-estate "Pasir Datar" on the southern slope of Mt. Panggerango-Gedeh, situated at an altitude of about 1000 metres above sea-level. With few exceptions the material dealt with in the following list was caught at two powerful lamps of the factory-building, from the close of the year 1913 till the end of 1915. About one-third of the specimens captured bear a locality-label "Po., Februari 1915" (Panggerango, February 1915), and there are also a few specimens taken by Mrs. BARTELS previous to 1915.

The opportunity has been taken of incorporating in these notes some unpublished records of Javan specimens of *Sphingidae* in the Buitenzorg Museum collection.

My sincere thanks are due to Dr. MAX BARTELS Jr., who placed the specimens into my hands allowing me to deposit the whole collection in the Buitenzorg Museum.

I have to acknowledge with gratitude the ready help of Dr. KARL JORDAN to whom a few of the more difficult species were sent for his judgment.

Subfam. ACHERONTIINAE.

1. *Herse convolvuli* (L.).

2 ♂, 3 ♀. One of the males taken in February, 1915.

2. *Megacorma obliqua* (Wlk.).

1 ♀.

As compared with two fresh females in the Buitenzorg Museum collection caught by myself at light in Buitenzorg (Jan. 19 and Febr. 17, 1933), the colours of the actual specimen are slightly faded.

In fresh individuals the dark oblique stripe on the upperside of the fore wing is dark brownish-black or black, and most of the hind wings above is "bone-brown" (RIDGWAY). The fore wings of the Buitenzorg specimens measure 70 and 68 mm respectively, while those of the actual female are 65 mm long.

Dr. DAMMERMAN took a male of this rare species on Krakatau I., in December, 1919; fore wing 52 mm.

3. **Acherontia lachesis** (F.).
8 ♂, 3 ♀.
4. **Acherontia styx crathis** R. & J.
1 ♂.
5. **Psilogramma menephron** (CR.).
1 ♂. Not differing from Buitenzorg specimens.

Subfam. AMBULICINAE.

6. **Compsogene panopus** (CR.).
1 ♀.
7. **Oxyambulyx pryeri** (DIST.).
1 ♂, 1 ♀, dated February 1915.

As has been pointed out by JORDAN (Novit. Zool. 35, 1929, p. 60-62, pl. III), the male of this species may be distinguished from *O. substrigilis* (WESTW.) by the shape and armature of the 7th abdominal sternite, the median lobe of which is not short with the apical margin turned dorsad, as in *substrigilis*, but about as long as it is apically broad. The conical projections on the lateral angles of the margin, though directed upwards more or less distinctly, are well visible in postero-ventral view (cf. JORDAN's fig. 4 on pl. III, loc. cit.).

The presence or absence of a dark subbasal spot in the submedian space of the fore wing appears to be of no specific value. In our ♂ it is quite distinct, pale brown surrounded by a light ring, but in the ♀ it is entirely absent. The development of the dark median and postmedian lines in the fore wing is also very variable.

The only other Javan specimen in the Buitenzorg Museum is a large ♂ from Malabar (W. Java), P. A. OUWENS leg., in which the spot is obsolete.

Measurements of fore wing: ♂ Pasir Datar 54
♂ Malabar . . . 61
♀ Pasir Datar 71 mm.

In the Buitenzorg Museum collection is a ♀ bred by Mr. L. HUNDESHAGEN at Loeboek Sikaping (W. Sumatra, ca 450 m alt.), June 18, 1924, which is smaller than the ♀ from Pasir Datar. Its fore wing measures only 56 mm. It differs from the Javan ♀ by the presence of a large olive-black subbasal spot to the fore wing and by the transverse median and postmedian blackish-brown lines being hardly visible (except on anterior border of the wing). Dr. JORDAN kindly confirmed the identification of this example ¹⁾.

¹⁾ In this connexion it is worthy of note that ROTHSCILD (Ann. Mag. Nat. Hist. 5, 1920, p. 479) described from Sumatra as *pryeri sumatranus* an example that would differ from typical *pryeri* (N. Borneo) by the better development of the undulated median and antemedian lines of the fore wing, the black basal mark and transverse bands of the hind wing being also more conspicuous.

8. *Oxyambulyx liturata* (BTLR.).

1 ♀, dated February 1915.

(1 ♀, Buitenzorg, 250 m alt., 1934, Mus. Buitenzorg).

Pasir Datar. — Corresponds closely with the drawing of a ♀ in SEITZ (pl. 61b), except that the subbasal spot of the fore wings is a little smaller and cinnamon-coloured, not black. It differs further in that the fore wings and the body have a very distinct violet-grey gloss (mentioned already by ROTHSCHILD & JORDAN in the Revision, p. 200).

The specimen is remarkable in that the hind wings are diffusely brownish on middle, at base. Fore wing 52 mm.

Buitenzorg. — Similar to the preceding specimen but with the subbasal spot of fore wing dark brown and much enlarged (diameter 2.8 mm). Hind wing at base with ill-limited brown colouring. Fore wing 55 mm.

So far as I am aware this species has not previously been recorded from Java. Very similar in size and colouring to certain individuals of *pryeri* but easily distinguished therefrom by the dark reddish-brown submarginal line which borders the grey marginal band of the fore wing beneath.

9. *Oxyambulyx sericeipennis joiceyi* CLARK.

1923. CLARK, Proc. New Engl. Zoöl. Club., 8, 1923, p. 70 (*O. joiceyi*).

1 ♂, dated February, 1915.

The only specimen of this rare insect is in excellent state of preservation. Originally described from S. W. Sumatra (Mt. Korintji, 7300 ft. and North Korintji Valley, 5000 ft.) as a distinct species but considered as a subspecies of *sericeipennis* by Dr. JORDAN, who identified our example as *joiceyi*. Dr. JORDAN tells me (in litt.) that our specimen does not exactly agree with the single one he has from the typical locality in Sumatra, but the difference, according to him, is due to the Sumatran specimen being quite fresh and therefore showing the blackish marking [obviously the subbasal round patch of the fore wing, M.A.L.] less distinctly than our specimen.

On comparing CLARK's description with the ♂ before me, I notice that the latter differs from the Sumatran specimens chiefly in the great development of the subbasal round patch on the middle of the fore wing, this having a diameter of 2.8 mm. This spot is placed under (not beyond) the subbasal costal spot, which itself is not "semilunar" but rather lozenge-shaped and placed about 6 mm (not 4 mm) distant from the wing-base. The apex of the fore wing is very strongly produced, almost falcate. Our specimen bears a striking resemblance to that of typical *sericeipennis* from Sikkim, photographed on Pl. IX fig. 2 in ROTHSCHILD & JORDAN's Revision (Novit. Zool. 9, 1902, Suppl.), except that the basal spots of the fore wing are larger and in the character of the narrowly produced apices of the fore wing.

Length of fore wing 50, greatest width 18.5 mm.

I am not aware of the differences existing between *joiceyi* and *sericeipennis javanica*, described also by CLARK (l.c. 12, 1930, p. 26 - 27) after a ♂ from Mt.

Gedeh (W. Java). The description of this new subspecies is very vague and gives no decisive answer about its relationship to *joiceyi*.

O. sericeipennis joiceyi is here recorded from Java for the first time.

10. **Marumba spectabilis** (BTLR.), **subspec.**

1 ♀, dated February, 1915.

(1 ♂, Mt. Panggerango-Gedeh, southern slope, Perbawatie Est., 1000 m, Dec. 1936, M. E. WALSH).

Not yet reported from Java.

♀ Pasir Datar. — A single specimen of this very rare species in excellent condition.

Apparently almost identical in colouring to the type described from Darjeeling (Sikkim). Here follows a short description (cf. ROTHSCHILD & JORDAN, Revision, 1903, p. 273 - 274):

The underside of the fore wing has an apical patch of the same bright orange-tawny colour as the anal area, but this tint is restricted to the apex between SC_4 and SC_5 ; the rest of the wing-tips is Verona-brown, bordered by a convex line that runs from the costal margin to the tip of R_3 ; first discal line several mm proximal to base of SC_5 (placed under right angles at base of R_1 !); fifth line ceasing at R_3 , thence interrupted, marginally less distinctly continued to tip of M_1 . First line of hind wing close to base of fork $M_1 - M_2$ and continued in cell; fourth line strongly angulate at M_1 , 4 mm distant from tip of M_1 .

Vaginal plate exactly identical in shape to that of typical *spectabilis*, figured by Dr. JORDAN (Revision, pl. XIX, fig. 2).

Fore wing 54 mm.

♂ Perbawatie. — The locality is only few miles distant from Pasir Datar. Markings as in the ♀ described above. Colouring of upperside of wings a little darker. The tenth tergite is deeply divided and the lobes are decidedly broader than in typical *spectabilis*: parallel-sided and broadly rounded apically (not notched as in *spect. malayana* R. & J., nor obliquely rounded as in typical specimens!); sternite produced on middle to form a low rounded lobe (cf. R. & J., Revision, pl. XXVI, fig. 1).

Fore wing 47.5 mm.

As appears from the description, these Javan examples agree in most respects with Indian *spectabilis*. The form of the tenth sternite of both sexes suggests a closer affinity to the typical race than to the subspecies *malayana* R. & J., described from Benkoelen (S. Sumatra). Very likely the Javan insect represents a distinct subspecies but more material is needed to settle this point.

Subfam. PHILAMPELINAЕ.

11. **Chromis erotus erotus** (CR.).

1 ♂, dated February, 1915.

12. **Deilephila hypothous** (CR.).

1 ♂, 4 ♀, two of these dated February, 1915.

These individuals are quite similar to specimens from the environs of Buitenzorg.

13. **Elibia dolichus** (WESTW.).

1 ♂, Pasir Datar, Nov. 1935, M. BARTELS JR.

Not different from Buitenzorg specimens, dark stripes sharply pronounced.

14. **Acosmeryx socrates cinerea** BTLR.

3 ♂, 1 ♀, the latter dated February, 1915.

A fine series, not differing from a ♀ in the Buitenzorg Museum from Loeboek Sikaping (W. Sumatra).

15. **Panacra mydon elegantulus** (HERR.-SCH.).

2 ♂, one labelled February, 1915.

16. **Panacra dohertyi** ROTHSCH.

1 ♂, dated February, 1915.

Not previously recorded from Java. Referred by me to *dohertyi* with some misgivings, but definitely recognized as that species by Dr. JORDAN to whom the specimen was sent for examination. The typical race of this species is known from Perak, Sarawak (Borneo) and the island of Nias. It was recently reported from N.E. Sumatra by ROEPKE (Misc. Zool. Sum. 99, 1935, p. 6). A race from Assam has been characterized by GEHLEN as *doh. continentalis* (Int. Ent. Zeitschr. Guben, 24, 1930, p. 218).

JORDAN gives 76.5 mm for the wing-expanse of the type but this is possibly an error for ROEPKE's ♀ measured only 59 mm and our Javan example 60 mm (fore wing 27.5 mm).

17. **Angonyx testacea** (WLK.).

1 ♀, dated February, 1915.

18. **Enpinanga borneensis** (BTLR.).

1 ♂.

New to Java. It has been a matter of some difficulty to correctly identify this delicate little species inasmuch as the available descriptions of the three allied species *assamensis*, *borneensis* and *labuana* are not at all detailed and at the same time may give rise to some confusion.

The ♂ and ♀ from W. Java have been examined by Dr. JORDAN who tells me in a letter that there is no difference between these specimens and those which are in the Tring Museum from Borneo.

ROTHSCHILD & JORDAN (Revision, p. 546) state that there are no pale postdiscal patches on the underside of fore wing but this is evidently a *lapsus calami*. On comparing *borneensis* with *assamensis*, SEITZ follows these authors and writes on it: "Vorderflügel unterseits gleichfalls ohne lehmgelben Fleck".

Apart from the above mentioned ♂, the Buitenzorg Museum possesses one ♂ and one ♀ of *borneensis* from the following localities:

1 ♂ W. Billiton I., Tandjong Pandan, sea-level, Dec. 31, 1936, F. J. KUIPER leg.;

1 ♀ W. Java, Buitenzorg, 250 m alt., "at lamp", Jan. 9, 1933, M. A. LIEFTINCK leg.

These three specimens agree perfectly with one another and correspond rather closely with the coloured drawing in SEITZ (pl. 64d). *E. borneensis* may be characterized as follows:

♂♀ Upperside. — Fore wing: smoky drab-gray, or smoky-gray at certain lights, with silvery hue. Two large, angular patches, deep velvet-black in colour, on middle of anterior portion of wing, the external costal patch largest, cut-off along R_2 , and two rather well defined, somewhat Z-shaped or crescentic, creamy-yellow postdiscal (prae-apical) spots $R_3 - M_1$ and $M_2 - SM_2$, the latter about 2 mm distant from the anal angle and black-bordered externally. A minute black point upon SC_4 close to base.

Hind wing: Hay's or Natal brown with slight marginal silver-white scaling between ends of $M_1 - M_2$ and $M_2 - SM_2$; area posterior to SM_2 creamy-yellow upwards to base of wing.

♂♀ Underside. — Fore wing: pale cinnamon-buff (♂ Java, discoloured), cinnamon-drab (♀ Java), or vinaceous-pink (♂ Billiton), except a broad, irregular marginal band which is drab-coloured. No dark patches on middle of anterior portion of wing but an indistinct, cloudy, grey-brown costal spot extending across the wing from end of SC_2 to R_1 . An undulated brown line from near apex (end of SC_3) inward to R_2 (similar to upperside) but joined interiorly by a ferruginous stripe. Crescent- or Z-shaped creamy yellow spot $R_3 - M_1$ and $M_2 - SM_2$ as on upperside of wing but definitely better pronounced exteriorly.

Hind wing: slightly paler and more vividly coloured than fore wing; disc in the ♂ of Billiton more definitely pinkish; a transverse, postmedian row of brownish speckles upon the veins (this row parallel to distal border), and a brown costal spot on middle of wing. Area posterior to SM_1 a little paler. Small and indistinct creamy-yellow postmarginal spots between $M_2 - SM_2$.

Sexes very similar. Fore wing ♂ 24, ♀ 25 mm.

Subfam. CHAEROCAMPINAE.

19. **Hippotion echeclus** (Bsd.).

2 spec.

20. **Hippotion rafflesi** (BTLR.).

2 spec., one dated February, 1915.

21. **Hippotion boerhaviae** (F.).

2 spec., one dated February, 1915.

22. **Hippotion celerio** (L.).
1 ♂, dated February, 1915.
23. **Theretra alecto** (L.).
1 ♂, 1 ♀.
24. **Theretra clotho** (DR.).
1 ♂, dated February, 1915.
25. **Theretra latreillei lucasii** Wlk.
1 ♀, dated February, 1915.
(I took this species at Tjisaroea, on the opposite (northern) slope of Mt. Panggerango, about the same altitude).
26. **Theretra oldenlandiae** (F.).
1 ♀, dated February, 1915.
27. **Theretra rhesus javanica** ROTHSCHE.
1 ♂, 1 ♀, February, 1915.
Theretra javanica was described by ROTHSCHE in *Novit. Zool.* 1, 1894, p. 76 after a single specimen from 'Java'. The colouring of the body of the type was described as deep grey above, the abdomen with deep brown dorsal longitudinal stripes. In our ♀ the thorax as well as the abdominal stripes are distinctly olive-green, the lateral dark patch to the basal segments being dark brown. In the ♂ the third (narrowest) transverse olive-green stripe on the fore wing is so much effaced as to be scarcely perceivable. Fore wing ♂ 43, of ♀ 42 mm.
On account of the presence of the black basi-lateral patch to the abdomen (which is not mentioned in the original description) I thought that this insect might belong to a species allied to but distinct from *rhesus*, but Dr. JORDAN, having confronted it with *javanica*, is of opinion that the latter is a subspecies of *rhesus*.
28. **Theretra nesus** (DR.).
8 ♂, one of these dated February, 1915.
Apparently quite common at Pasir Datar.
29. **Rhyncholaba acteus** (CR.).
3 ♂, 1 ♀, one labelled February, 1915.
30. **Rhagastis castor** (Wlk.).
1 ♂.
Evidently a rare species.
31. **Cechenena pollux** (Bsd.).
1 ♂.
(1 ♂, Mt. Gedeh, northeastern slope, Tjibodas, 1400 m alt., leg. H. H. KARNÝ, Mus. Buitenzorg).

The ♂ from Tjibodas has the body and fore wings green above, as in typical examples (SEITZ, pl. 68b), the terminal abdominal segments showing a scattered cinnamon scaling on the mesial parts, between the two pale yellow lines. The specimen is not in too good a condition, but 4 of the normally 5 straight lines on the upperside of the fore wing are well visible. Fore wing 46 mm.

Our second specimen, from Pasir Datar, differs considerably from the first in that the colouring of the upperside of the thorax and abdomen is bright ochraceous-orange, the fore wings being more ochraceous-tawny with cinnamon-brown stripes. These stripes are less distinct than usual, only the first and third (this extending from wing apex to the median point of inner margin) being conspicuous.

As regards colours this specimen seems to resemble *C. pollux* ab. *rubrescens* CLARK, described from Mt. Korintji (S.W. Sumatra), in which the normal green tint is replaced throughout by reddish-brown, but at the same time it is stated that there is greater contrast in colour between the transverse lines of the fore wing above and the remainder of the wing, a condition not shared by our Javan specimen (cf. CLARK, Proc. New Engl. Zool. Club, 8, 1923, p. 74).

According to ROTHSCHILD & JORDAN (Revision, p. 803, 804), the body-colour in at least some of the species of *Cechenena* varies from green to reddish-brown. Fore wing 50 mm.

32. *Cechenena lineosa subangustata* ROTHSCH.

1 ♂, dated February, 1915.

A prominently striped specimen. Resembling the coloured drawing in SEITZ (pl. 68a), of typical *lineosa*, but body ochraceous-tawny instead of green and anterior third of fore wing likewise similar in colour to the remainder of the wing (not green). Basal black patch on upperside of hind wing less deepened, extending further distad anteriorly, its distal margin very diffusely limited, running parallel to the distal margin of the wing and lacking the black rays upon the veins. Accordingly, the pale band evenly narrowed anterad, not reaching costal margin of wing. The three proximal stripes of fore wing quite distinct. Fore wing 56 mm.

This species is new to the Javan fauna.
