

ON SOME NEW OR LITTLE KNOWN
INDO-MALAYAN NOCTUIDS (LEPIDOPTERA
HETEROCERA, FAMILY AGROTIDAE)

by

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Wageningen

With 2 plates and 2 textfigures

1. ***Trisula celebensis*** nov. spec. (Pl. I fig. 5 ♂).

♂. A large species, near *T. variegata* Moore in Horsfield-Moore (Cat. &c., II, 1858—59, p. 420, ♂♀, pl. 12a fig. 1 ♂, pl. 22 fig. 1 (larva), 1a (pupa): India). General coloration, however, more variegated, vivid, light greyish brown, with a slight coppery gloss, mixed with white on forewing chiefly near middle of costa. Transversal lines on forewing darker, strongly dentate and curved, the outer forming an irregular, black, subapical streak. Reniform irregularly circular. Hindwings greyish, with dark cloudy bands, a dark patch on dc and with some reddish brown and light grey near anal angle.

Underside paler, both wings darker clouded with broad bands and a black patch on dc.

Palpi yellowish brown, except the tip which is darker; pectus yellowish brown, abdomen nearly white.

♀ unknown.

2 ♂♂, holo- and paratypus, 75 and 80 mm, both from Sidaonta, Palu, W.-Celebes, 7. 37, leg. Kalis, coll. Wageningen.

The genus *Trisula* Moore, till now, only contains two species, viz. the above mentioned *variegata* Moore from India and Ceylon, and the smaller *T. dudgeoni* Hps. (Hampson, Moths, IV, 1896, p. 530, ♂) from Bhutan. It is, therefore, interesting here to record a third species from Central Celebes, which replaces the continental *variegata* in this island.

2. ***Acronycta ardjuna*** nov. spec. (Pl. II fig. 5 ♂).

♂. A distinct species, easily separable from all other known species of this genus by its general appearance. Forewings white, with prominent

black markings, forming broad bands, chiefly basal and postmedian. In the dark postmedian area with some greyish brown and an indistinct reniform. Orbicular as a black dot in the white surroundings. Marginal area white, with some black spots, the cilia white and black. Hindwings light grey, somewhat darkening towards outer margin.

Underside whitish, with faint dark transversal lines and patches on both wings.

Palpi white, the first joint with black scales. Head white, also with black scales, chiefly on frons. Collare and tegulae white, black bordered. Thorax with white and black scales. Abdomen greyish, darker towards apex, with a small, white, anal tuft. Anterior segments with slight, black, dorsal tufts.

4 ♂♂, holo- and paratypi, 36—40 mm, three of them from Djunggo-Ardjuno, E.-Java, 1500 m, 9. and 11. 37, leg. Kalis, one from Sumber Brantas, Ardjuno, 1936, leg. Walsh. One paratypus in the Leiden Museum, the holotypus and two paratypi in coll. Wageningen.

3. *Heliobasis tertia* (Van Eecke i.l.) nov. spec. (Pl. II fig. 7 ♂).

♂♀. This species is easily recognisable from the closely allied and similar *armigera* Hb. and *assulta* Gn., if represented by sufficient material. In the Tring Museum I saw a long series from E.-Java, leg. Kalis, correctly put aside under a plain label. The Leiden Museum has 7 specimens, from Fort de Kock, Padangsche Bovenlanden, Sumatra, leg. Jacobson, labelled by Van Eecke as *tertia* MS.

This species is at once characterized by its dull, purplish brown coloration of head, thorax and forewings. The latter show three darker cross-bands, the median one being narrower than the two others. The postmedian band is broad, with one or two crenulate, dark lines in it. Orbicular and reniform not visible. Cilia unicolorous purplish brown.

Hindwings light yellowish, with a broad, grey, antemarginal band. Cilia yellow.

Underside of both wings light yellowish, the dark band on hindwing shortened, reaching from anal angle to about n_4 , the same band on forewing somewhat fading towards costa. The dark patches on dc of both wings, so significant in *armigera* and *assulta*, are completely wanting on both wings.

1 ♂, 29 mm, holotypus, Djunggo-Ardjuno, E.-Java, 1500 mm, 9. 37, leg. Kalis; 1 ♀, Perbawatee, W.-Java, 25. 7. 24, leg. Walsh; both in Coll. Wageningen. 7 specimens in the Leiden Museum, from Fort de Kock, Sumatra.

Heliothis tertia evidently is a mountain species, confined to the higher elevations of Java and Sumatra.

Recently I pointed out the systematic position of the common *armigera* Hb. (*obsoleta* F., praeocc.) and *assulta* Gn. (cf. Roepke, Bull. Mus. Roy. Hist. Nat. Belge XIV/13, 1938, 7, 8), stating that they are specifically different, though closely allied, and that their life history also shows certain differences. In Java and Sumatra, *assulta* feeds on tobacco and *Physalis*, and not on *Mimosa*; *armigera*, on the contrary, prefers *Mimosa* and refuses tobacco and *Physalis*. When I stayed in South Africa, about two years ago, I became informed that in this country the situation is quite similar, *assulta* being a well known enemy of the tobacco crop, *armigera* being destructive to cotton fields. Judging from literature, this is also the case in the New World.

4. **Phlegetonia bryochlora** nov. spec. (Pl. II fig. 9 ♂)

♂. Basal half of antennae strongly lamellate, the tips of the lamellae with long, curled ciliae, distal half of antennae gradually becoming smooth. Palpi ascending, nearly straight, second joint thickly scaled, third joint thinner, moderately pointed, length nearly $\frac{1}{2}$ of second joint. Proboscis well developed. Head roughly, thorax densely scaled, crests or tufts indistinct, perhaps damaged. Abdomen smooth, ending with two lateral tufts. Forewing with the outer margin strongly produced on n_4 .

Colour of antennae and palpi light brownish, head and thorax greenish, forewings variegated with moss green and purplish brown, the green colour prevailing along costa, outer margin and in the basal area. Markings indistinct, formed by some very dentate cross lines. Orbicular large, light green; reniform absent. Cilia green, mixed with dark brown.

Hindwings white along costa and in the basal area, elsewhere greyish. Cilia grey and brown.

Underside much more variegated with dentate cross bands, hindwings with a thick, black dot on dc. Abdomen with a white median patch at the base of the last segment.

♀ unknown.

1 ♂, 29 mm, holotypus, Kariorang, S.-E.-Borneo, 12, 2. 37, leg. Quarles de Quarles, coll. Wageningen.

The structure of the ♂ antenna makes it easy to place this species in *Phlegetonia*, as already Guenée (Noct. II, 1852, p. 301) mentions this structure as typical for the genus.

5. *Baorisa hieroglyphica* Moore

Moore, Lep. Atk., 1882, p. 133 ♂, pl. 4 fig. 14, ♂ : Darjeeling. — Hampson, Moths, II, 1894, p. 358 (*Ramadasa* sect. II, *Baorisa*): Sikhim.

This beautiful Noctuid, omitted in Hampson's famous Catalogue as well as in Seitz XI, is till now only recorded from the Himalayas. It is, however, in the mountains of Java evidently not rare, though never plentiful. The Leiden Museum has several specimens from W.-Java, I caught it at Tosari, Tengger Mts., already in 1910 and 1915, and now the Wageningen collection has a large series from Mt. Ardjuno, leg. Kalis, and Mt. Tengger, leg. Wegener. When I saw the first specimens from Java, I thought that we had to do with one of those typical examples of geographic distribution, viz., that a Himalayan insect reappears in the higher mountains of Java. However, in this case, the question is more complicated. Besides from Java, I know the species now from Sumatra, Celebes and the Philippines. I saw two specimens from Korintji, Sumatra, in the Tring Museum, and one specimen, from the Philippines, in the British Museum; but the most remarkable specimen is one ♀ from Lindu Palu, Central Celebes, leg. Kalis, now in the Wageningen collection.

This Noctuid is very conspicuous by its pure white colour and some curious markings on forewing which bear some similarity to certain Japanese characters. By this reason, the insect is called by the collectors in E.-Java "het Japannertje", i.e., "the Japanese".

In the Celebes specimen, the red antemarginal patch in forewing is much reduced, but otherwise all the specimens at my disposal show practically no variation at all, so that the pattern may be fairly homozygotic and the insect may be phylogenetically an old one, perhaps of a typical Malayan origin, extending westwards as far as the Himalayas.

6. *Audea irioleuca* Meyr. (Pl. II fig. 4 ♀).

Meyrick, Trans. Ent. Soc. Lond. 1897, p. 373, ♂ (*Thyas*): Queensland; New Guinea. Hampson, XII, 1913, p. 219 ♂ ♀, fig. 17 ♂ (*Audea*): New Guinea; Australia. Gaede-Seitz, XI 1938, p. 456, pl. 50a: New Guinea; Queensland.

The Wageningen collection has a ♂ and ♀ from Perbawattee, W.-Java, II. 8. 24 and 9. 37, both leg. Walsh, and one ♀ from Patuhawattee, W.-Java, 1750 m, 12. 4. 36, leg. Toxopeus. The latter specimen is figured here, pl. II fig. 4.

Both ♀♀ have the ovipositor extruded and curved downwards, showing the tip distinctly bifid.

The species is Papuan and Australian, extending Westwards to W.-

Java. Not yet recorded from other localities. Previously, I thought it to be new, but it agrees so well with the figure in Gaede-Seitz, that I place it here.

The dark coloration in two of the specimens is somewhat reduced, perhaps due to loss of scales, the specimens being slightly rubbed off.

The genera **Catephia** O.-Tr., **Aedia** Hb. and **Anophia** Gn.

There exists some uncertainty regarding the systematic value of these three genera. Hampson (1894, p. 481) and much later (1926, p. 49) regards *Aedia* and *Anophia* as synonyms of *Catephia* only, though other authors, e.g., Staudinger-Rebel (1901, p. 246), Spuler (1908, p. 312, 313) and Warren in Seitz III (1913, p. 376) treat them as separate genera.

At first we have to settle the question of the generotypes. *Catephia* was first used by Ochsenheimer (1816, p. 94) as a nomen nudum for *leucomelas* L. and *alchymista* Schiff. In 1826, Treitschke gave the diagnosis of this genus with both species mentioned. Guenée (1841, p. 81) erected *Anophia*, also as a nomen nudum, for *leucomelas*, thus restricting *alchymista* for *Catephia*; a diagnosis of *Anophia* was published by the same author (1852, p. 45). Hampson (1894, p. 481) clearly designated *alchymista* as the generotypus of *Catephia*. This fixation is valid; unfortunately, as already mentioned, he regards *Aedia* and *Anophia* as synonyms. In 1926, however, he gives *leucomelas* L. as the type; this is certainly incorrect, as his former fixation stands.

As to *Aedia*, the situation is simple, the genus being monotypical with *funesta* Esp. as sole species and therefore as generotypus.

By examining the three generotypes morphologically, one arrives at the following conclusions. In *Catephia*, the forewing has n_7 free from areola; in *Aedia* and *Anophia*, n_7 is stalked with n_{8-9} . The male genitals of *Catephia*, already sufficiently figured and described by Pierce (1909, p. 82, pl. 32 fig.), are strongly chitinized, the uncus is short; between uncus and anal tube there is a chitinous structure, called "scaphium" by Pierce (l.c.); the aedeagus is fairly slender, bent, without internal structures. The valvae are asymmetrical, each valva having a strongly chitinous process and a harpe, the processus of the right valva being short and broad, truncate, the free margin somewhat excavate. In the left valva, this processus is somewhat longer and slender, digitiform. Both harpes are hook-shaped, in the left longer and less curved than in the right. I have at my disposal only 1 ♂ from Dalmatia, the slide agrees completely with Pierce's (l.c.) figure of an English specimen (see fig. 1a).

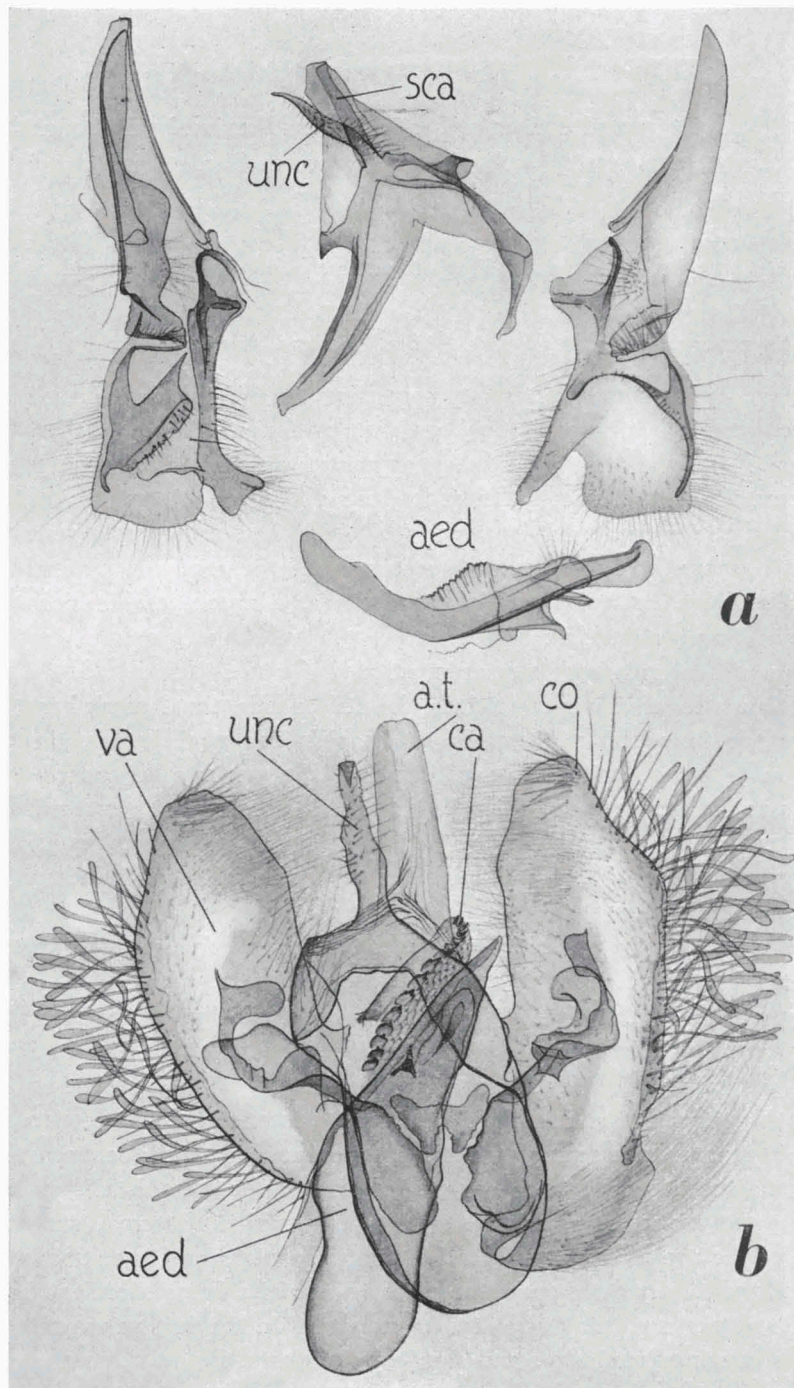


Fig. 1. a, ♂ genitals of *Catephia alchymista* Schiff.; b, ♂ genitals of *Aedia funesta* Esp.
aed, aedeagus; a.t., anal tube; ca, catena; co, corona; sca, scaphium; unc, uncus; va, valva

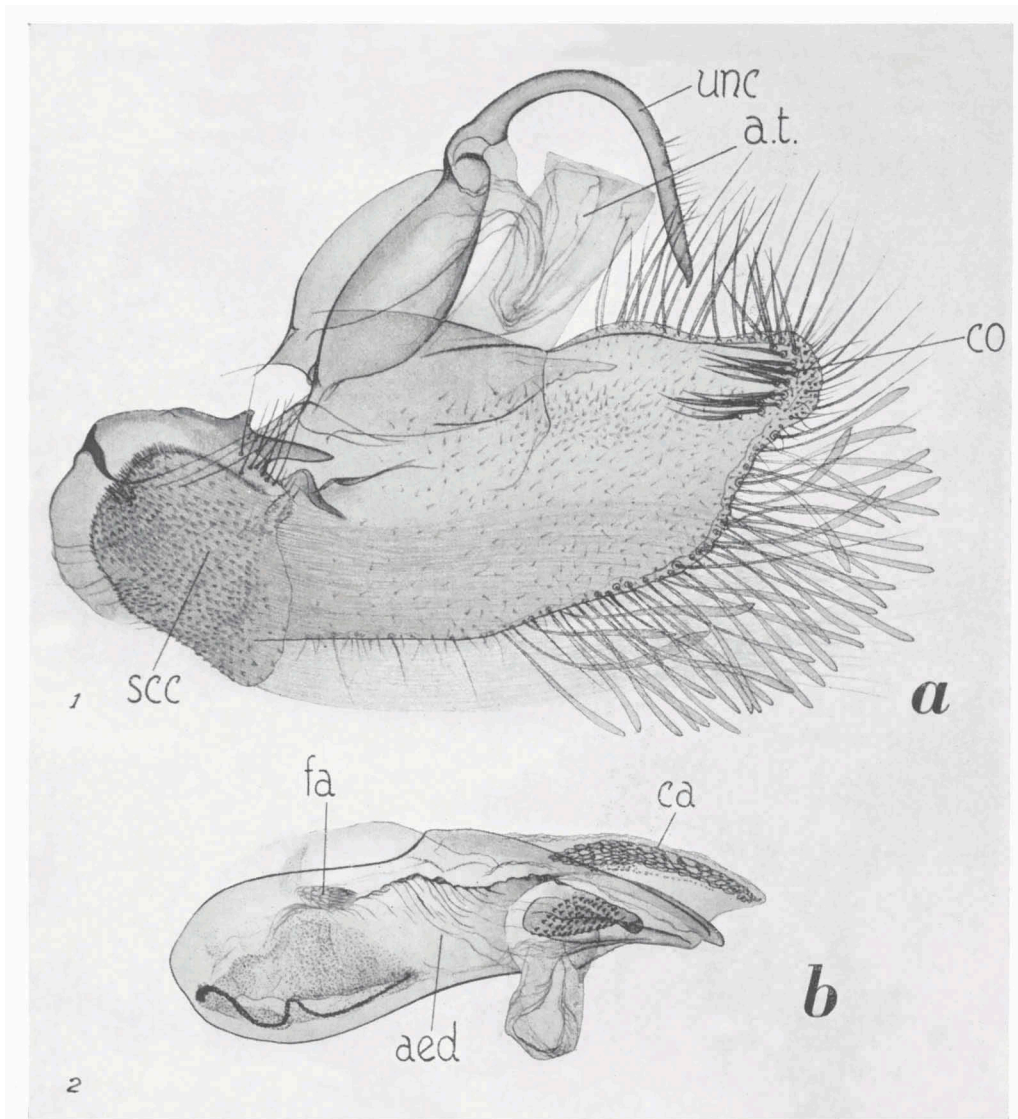


Fig. 2. a, ♂ genitalia of *Aedia leucomelas* L., aedeagus removed; b aedeagus of the same.
aed, aedeagus; a.t., anal tube; ca, catena; co, corona; fa, fasciculus; scc, saccellus; unc, uncus.

The male genitals of *Anophia* are quite different and very peculiar. I examined several specimens from Java, N.-Celebes and one ♂ from S.-France, the latter by the courtesy of the Director of the Leiden Museum (see fig. 2 a, b). They show the uncus long and slender, strongly curved and hook-shaped. The aedeagus is short and stout, nearly straight, showing a very complicated internal structure and dorsally a membranaceous structure with a very peculiar organ which may be compared with a scaled armour chain, consisting of a number of spined chitinous plates in several rows. I call this organ "catena" (see fig. 2b, ca). It is connected, anyhow, with the underside of the anal tube. A scaphium sensu Pierce is wanting. Both valvae are symmetrical, of a very simple structure, soft and nearly colourless. Their outer surface is covered with numerous spatulate hairs, their apex bears a feeble corona. At their base, every valva has outside a pouch-like organ, sacculus, scc, which emits a long brush of colourless, odoriferous hairs (the strongly developed black anal tuft in this genus originates from the preceding 7th segment). This pouch is rather loosely attached to the valva so that it is somewhat movable and can be turned within certain limits. Some other structures, of less importance, situated at the base of inner margin of the valva, may be seen from the figure.

Comparing these organs with those of *Catephia*, there can be no doubt that the differences are so evident that we must consider both genera as totally different.

Of *Aedia funesta* Esp., only one male from the Leiden Museum, locality unknown, could be examined. The genitals show a striking resemblance to those of *Anophia*. The uncus is smaller, less curved. The aedeagus is short and stout, with complicated internal structures, the catena is present, though more simple in shape, consisting only of one row of strongly chitinized spinose plates and some weak ones which are, therefore, less distinct. The scaphium is wanting. The valvae are simply built, also very soft and with spatulate scales outside; a corona is well developed. Some basal structures of inner margin resemble those of *Anophia*, in the only specimen examined, they are slightly asymmetrical (see fig. 1b). A pouch-like organ at the base of the valvae may be present, though it is not distinct in the slide, this structure may have suffered from macerating and dissecting.

It is obvious that there exists a great conformity between the male genitalia of *Anophia* Gn. and *Aedia* Hb. Both of them have the same peculiar catena, the same stout and complicated aedeagus, the soft, symmetrical valvae and probably the same pouch, so that the primary features

of these organs are practically the same. Considering furthermore, that the venation of the forewing agrees also, there can be only one conclusion, viz., that the two genera are congeneric, *Aedia* Hb. having priority and *Anophia* Gn. being a mere synonym. Swinhoe (1903, p. 77) as well as Pagenstecher (1911, p. 442) have used the name *Aedia* in this sense. Thus we arrive at the following classification:

1. *Catephia* O.-Tr.

Ochsenheimer (1816, p. 94) nomen nudum, typus *alchymista* Schiff., as accepted by Guenée (1852, p. 43) and fixed definitely by Hampson (1894, p. 481).

Treitschke (1826, p. 320) (diagnosis!).

2. *Aedia* Hb.

Hübner, Verzeichniss (1823?, p. 260), typus *funesta* Esp. = *Anophia* Guenée (1841, p. 81) (nomen nudum, typus *leucomelas* L.).

Guenée (1852, p. 45) (diagnosis!).

= *Catephia* Hampson (1894, p. 481) ex parte.

The systematic position of the genera *Catephia* and *Aedia* (including *Anophia*) within the large family "Agrotidae" Tams (= Noctuidae auct.) is somewhat doubtful. Most authors place them into the subfamily Cato-calinae, but in my opinion this is wrong, both genera having the mid- and hindtibiae not covered with small spines. Guenée (1852, p. 40) erects the family Catephidae, with the genera *Cocytodes* (= *Arcte*), *Catephia*, *Anophia*, *Erygia*, *Odontodes*, *Stictoptera* and *Lophoptera*. This family, therefore, is not homogeneous. Tams (1935, p. 219) places "*Catephia acronyctoides* Gn." from Samoa into the Ophiderinae in which subfamily he unites a number of very different genera (e.g., *Rivula*, *Ericeia*, *Cosmophila* (= *Anomis* Hb.), *Anticarsia* a.o.). I cannot decide if this arrangement is a natural one, but I see that in *Othreis* Hb. (= *Ophideres* Bsdv.) the mid- and hind tibiae indeed are not spined. As the name *Othreis* Hb. is older, the group should be called "Othreinae".

The frenulum of the Indian *leucomelas* ♀ consists of two bristles only; in *Othreis*, there are three.

7. *Aedia leucomelas* L.

Linnaeus, Syst. Nat. ed. 10 (1758, p. 518) (*Phalaena Noctua*): Europe.

Guenée, Noct. III (1852, p. 47) (*Anophia*): Europe.

? Guenée, Noct. III (1852, p. 47), ♂ (*acronyctoides*): Van Diemensland.

? Guenée, Noct. III (1852, p. 48, pl. 14 fig. 11), ♂ (*olivescens*): Java; Central India.

Walker, XIII (1857, p. 1128 ♂ ♀) (*olivescens*): Java.

- Snellen, T. v. E. XXIII (1879—80, p. 86) (*Anophia olivescens*): Celebes.
 Snellen, T. v. E. XXVIII (1884—85 p. 41) (*leucomelas*): Celebes.
 Pagenstecher, Jhrb. Nass. XLI (1888, p. 141): Ambon.
 Pagenstecher, Jhrb. Nass. XLIII (1890, p. 104): E.-Java.
 Hampson, Moths II (1894, p. 481) (*Catephia acronyctoides* p.p. ?). Africa; Australia.
 Swinhoe, Fasc. Mal., Het. (1903, p. 77) (*Aedia*): Malay Peninsula.
 Pagenstecher, Abh. Senck. XXXIII (1911, p. 442) (*Aedia*).
 Rothschild, N. Z. XXII (1915, p. 212), ♂ (*Catephia*): Ceram.
 Tams, J. N. H. S. Siam VI (1924, p. 246): Siam.
 Corbett & Dover, Mal. Agr. Jrn. XV/11 (1927, p. 44) (biology!)
 Roepke, Mém. Mus. Brux. (h. s.) IV/6 (1932, p. 92) ♂ ♀, pl. I fig. 7 ♂ (*Anophia leucomelas albodiscalis*): Celebes.
 Tams, Ins. Samoa III/4 (1935, p. 219) (*Catephia acronyctoides*): Samoa.
 Roepke, Bull. Brux. XIV (1938, p. 44) ♂ ♀ (*Anophia leucomelas albodiscalis*): N.-Celebes.

This species is widely distributed in the Far East and fairly common, at least in Java and Celebes, chiefly in the mountains. As I have stated already (Roepke, 1932, p. 92), the systematic position is somewhat doubtful, and the same can be said of the nomenclature too. When going through the fairly large material at my disposal, one gets the impression, that here two different species may be mixed together. The one agrees more with the S. European *leucomelas* L., both having the cross lines in forewing less strongly curved, but more regularly curved and less dark. The general colour of the forewing is more brownish and less variegated. In the other species the crosslines, chiefly the postmedian, are more strongly curved, but less crenulate or even without crenulation, sharp and black, sometimes even double. The ground colour varies from cinereous to dark bluish black, sometimes much variegated with white, as in f. *albodiscalis* Rpke. from N.-Celebes. A female from E.-Java, Djunggo-Ardjuno, leg. Kalis, has the markings nearly completely extinct, so that the forewing becomes unicolorous cinereous; I name it f. **diluta**, it is figured on pl. II fig. 6. The general appearance of this specimen is so obvious that at first one may be inclined to consider it as another species. Only after a careful examination, I am of opinion that it cannot be separated from what is called *leucomelas* L. here.

Unfortunately, a morphological examination led not yet to more definite conclusions. I had only 1 ♂ of the European *leucomelas* L., from the Leiden Museum. The genitals agree with the figure (fig. 2) but in the aedeagus I cannot discern the bundle of small spiculi called fasciculus, fa. In those Javanese "*leucomelas*" which agree more closely with the European *leucomelas*, this fasciculus is distinct, in other specimens in which the pattern differs from that of the true *leucomelas*, as indicated, this fasciculus is

absent. Now this absence may be artificial, as it is known that certain chitinous structures of the aedeagus may be lost during copulation.

Thus the question of the Far Eastern species of the *leucomelas*-group is not yet clearly settled. If there is only one species, it may be considered as conspecific with the European *leucomelas*; if there are two species, then one of them is *leucomelas*, the second ought to have another name. Judging from the description, the name *acronyctoïdes* Guenée (1852, p. 48: Van Diemensland) may refer to it. This name also becomes valid if there is only one Indian species which may have subspecific rank or even may prove to be distinct from the European *leucomelas* L. Of course, the taxonomic value of *acronyctoïdes* Gn. should become fixed first. Perhaps Guenée's type specimen is in the British Museum now, where it may have arrived with the famous collection of Mr. Oberthür who had acquired the Guenée collection.

Anophia olivescens Gn. from Java and Central India is unknown to me, I never saw a specimen that agrees with Guenée's figure. I think it must be different from *leucomelas*.

A serious investigation based on material larger than mine, is required before the taxonomic value of the *leucomelas* group can be settled definitely.

The genus **Athyrma** Hb.

Hübner, Verz. (1816, rect. 1827?, p. 267), typus *adjutrix* Cr., as fixed by Hampson, Descr. &c. (1926, p. 177).

This genus comprises a number of species the diagnoses of which are widely scattered through literature, whereas a comprehensive revision or even a complete enumeration of the species is still wanting, since Hampson (Moths II, 1894, p. 507) listed some Indian species under *Hypaetra* Gn.

The species are variable to a considerable extent and the descriptions are not always adequate so that some notes on several less known species with accompanying figures may be of value to the student of this group.

8. **Athyrma bubo** Hb.

Hübner & Geyer, Zutr. Samml. Ex. Schm. IV, 4. Hundert (1832—37, p. 13), fig. 633 ♂, 634 ♂ (underside) (misspelt as "*Athryma*"): Java.

Guenée, Noct. III (1852, p. 263) (*Hypaetra*): Java; India.

Walker, XIV (1858, p. 1412) (*perficiens*): India; id., ibid., p. 1413 (*condita*): Ceylon; id., ibid., p. 1417 (*bubo*).

Snellen, T. v. E. XXIII (1879—80, p. 102): Celebes.

Moore, Lep. Ceyl. III (1885, p. 173, pl. 170 fig. 5) (*Anereuthina condita*): Ceylon.

Hampson, Moths II (1894, p. 508, fig. 238) ♂ (*Hypaetra bubo*): India; Ceylon; Andaman Islands.

Pagenstecher, Jhrb. Nass. XLVII (1894, p. 35): Java.
 De Joannis, A. S. E. Fr. XCVIII (1929, p. 368): Tonkin.
 Roepke, Bull. Brux. XIV (1938, p. 52) ♂ : Celebes.

This species is excellently figured by Hübner (l.c.) and Hampson (l.c.). The outer border of the dark basal patch in forewing is straight and nearly vertical on hindmargin. The ♂ antennae are strongly ciliate.

A. bubo Hb. is not common in Java.

9. **Athyrma pulcherrima** Btl. (Pl. II fig. 3 ♂).

Butler, A. M. N. H. (6) X (1892, p. 298): Borneo.
 Swinhoe, A. M. N. H. (7) XVI (1905, p. 152) (*tepscens* nec Wlk.).
 Hampson, J. Bomb. N. H. Soc. XXI (1912, p. 1223) (*Hypaetra*).

The Leiden Museum has one ♂, labelled Gunung Bunder, W.-Java, 1892. It is a nice moth, vividly coloured, with a good deal of purplish colour, chiefly in the outer part of forewing. The dark brown basal patch is sharply bordered by a white line, the outer border being rather straight, though a little oblique. The ♂ antennae are filiform.

The coll. Wageningen has 1 ♂ and 5 ♀♀ from Perwabattee (leg. Walsh) and 1 ♀ from Gunung Pantjar near Buitenzorg (leg. Dupont) which I am inclined to identify with this species, though their general coloration is obviously less vivid than in the Leiden specimen.

Dr. Tams who identified this species from the photograph reproduced here, informs me that the British Museum has the same insect from Sumatra also.

10. **Athyrma tepescens** Wlk. (Pl. I fig. 1 ♂; fig. 2 ♀)

Walker, List XIV (1858, p. 1417) ♀ : Penang.

The Leiden Museum has one ♂ from Tandjong Morawa, Serdang, N. E. Sumatra, leg. Hagen, and one ♀, from Batavia, 1881, both figured here. In the collection Wageningen there is one ♂ from Mt. Tjisuru, W. Java, leg. Walsh.

The coloration of forewing is more uniformly purplish brown, the dark patch surrounding the reniform is divided into several small parts connected by a dark line with the hind margin. This seems to be characteristic. The ♂ antennae with very short cilia.

11. **Athyrma eupepla** Prout

A. E. Prout, Bull. Hill Mus. I (1924, p. 448, pl. 15 fig. 9): Korintji, Sumatra.

The species is represented in the Leiden Museum and in the Wageningen collection by an extensive series, from the higher mountains of W.- and

E.-Java. It is evidently common there. It is rather variable as to the extension of the dark brown patches of forewing, the space between the two main patches may be filled up with yellowish brown. The outer border of the basal patch is more or less sinuate and very oblique. The ♂ antennae are bipectinate.

12. **Athyrra paucimacula** nov. spec. (Pl. II fig. 2 ♀).

♂ unknown.

♀. Forewing light greyish purple brown, all markings strongly reduced or absent, except a dark triangular patch at base, touching hind margin, with a small dark patch above it, reaching costa. Dark patch near reniform also small, externally bordered by a prolonged black line. Only faint traces of a dentate submarginal and other transverse lines.

2 ♀♀, holo- and paratypus, 48 and 43 mm, from Djunggo-Ardjuno, E.-Java, 1500 m, 9. 37, leg. Kalis. Coll. Wageningen.

The coloration and markings of both specimens are quite the same.

13. **Athyrra javanica** nov. spec.

♂♀. Resembles *bubo*, ground colour of forewing purplish brown, the dark basal patch triangular, with the outer border excurved, not reaching costa, at costa one or two indistinct, dark patches. Dark patch surrounding reniform separated from costa by a brownish interspace. All further markings, chiefly the crosslines, quite indistinct.

Underside uniformly greyish brown, the legs not spotted with white, the palpi whitish beneath, in ♂ much more than in ♀.

The coloration and pattern in both sexes are practically the same.

The ♂ has the antennae strongly bipectinate, in ♀ the antennae are ciliate only. Furthermore, the ♂ has an obvious androconium patch near outer margin of hindwing, originating from n_6 and covering the area between n_5 and n_7 , as in *Pseudathyrra* Btl., but broader, or in *Athyrrmella* Rpke.

1 ♂, holotypus, 44 mm, Djunggo-Ardjuno 1500 m, 9. 37, leg. Kalis.
1 ♀, allotypus, 49 mm, Tosari, 1780 m, 9. 17, leg. Roepke, coll. Wageningen.

Also in the Leiden Museum, one ♂, labelled W.-Java, Preanger, 5000 ft., Sijthoff.

14. **Pseudathyrra complens** Wlk.

Walker, XIV (1858, p. 1415) (*Hypaetra*): Sumatra.

Walker, XV (1858, p. 1804) ♀ (*Cropia glaucofascia*): Sumatra.

Walker, J. Linn. Soc., Zool. VII (1864, p. 166) (*Cropia onerata*): Sarawak.

Walker, XXXIII (1865, p. 166) (*Cropia onerata*): Sarawak.

- Moore, P. Z. S. (1877, p. 610): (*Hypaetra stigmata*): Andaman Islands.
 Cotes & Swinhoe, III (1888, p. 406): Singapore &c.
 Butler, A. M. N. H. (6) XI (1892, p. 300) (*Pseudathyrma complens, stigmata*).
 Hampson, Moths II (1894, p. 504) (*Hypaetra*): Andaman Islands, Sumatra.
 Swinhoe, Cat. Ox. II (1900, p. 146) (*Pseudathyrma*).
 Swinhoe, A. M. N. H. (7) XV (1905, p. 159) ♀ (*ruinosa*).
 Hampson, XIII, (1913, p. 59) ♂ ♀, fig. 15 ♂: Assam &c.
 De Joannis, A. S. E. Fr. XCVII (1928, p. 358): Tonkin.

This species, recorded from Assam, the Andaman Islands, the Malay Peninsula, Indochina, Sumatra and Borneo, occurs in Java also. The Leiden Museum and the Wageningen collection have a number of specimens from this island.

Athymella nov. gen.

Near *Athyrma* Hb. and *Pseudathyrma* Btl., but differing from the latter by the forewing venation which is not distorted. ♂ antennae strongly bipectinate, except apical $\frac{1}{4}$. Third joint of palpi somewhat longer and more slender than in *Athyrma bubo* Hb. Forewing a little narrower, the apex more rectangular, the characteristic dark patches absent. Apex of hindwing somewhat truncate, upperside of hindwing between n_6 and n_7 with a large, dull greyish androconium patch, as in *Pseudathyrma*, but larger, showing some iridescence. ♀ unknown, unless *Athyrma spilota* Joic. & Talb., only described from the ♀, belongs to this genus.

Typus generis: *A. priangani* nov. spec.

15. **Athymella priangani** nov. spec. (Pl. I fig. 3—4 ♂).

♂. Forewing at base and in outer area purplish, the median area brown, basally bordered by a strongly curved, dark line, externally the limits indistinct, followed by the straight purplish area. Costa with some dark spots, corresponding with subbasal, basal and median transverse lines. Orbicular only as a small dark dot; reniform large, dark, prolonged to costa. Cilia unicolorous brown.

Hindwing greyish brown, with the androconium patch obvious.

Underside lighter greyish, nearly without markings, on hindwing dc a small, white dot. Legs moderately strong and hairy, palpi laterally and above dark brown, beneath whitish.

♀ unknown.

2 ♂♂, both 43 mm, holo- and paratypus, both labelled Preanger, W. Java, 5000', Sijthoff, Leiden Museum (Mr. Sijthoff was a manager of a small Cinchona Plantation on the Pengalengan Plateau, where he collected many insects, chiefly Coleoptera).

The species probably comes near *Athyrrma spilota* Joic. & Talb. (A. M. N. H. (8) XX (1917), p. 51 ♀, pl. 1 fig. 3 ♀: Angi Lakes and Mt. Goliath, New Guinea, 6000'). Judging from this figure, the pattern is rather different; perhaps our species will prove to be a subspecies of *spilota* only. If the new genus will stand or will sink to the rank of a mere subgenus of *Athyrrma*, can only be decided when the whole group of these Noctuids might be revised by competent specialists. As long as one depends upon the monographs of Sir George Hampson, the systematics of these important insects in many respects remain quite uncertain.

16. **Serrodes curvilinea javana** nov. subsp. (Pl. I fig. 1 ♀).

A. E. Prout, A. M. N. H. (9) VII (1921, p. 30, ♂ ♀, pl. 5 fig. 2 ♂, 3 ♀) (*curvilinea*): Sarawak.

A. E. Prout, The Entomologist LIX (1926, p. 76, ♀) (*curvilinea euryplima*): Buru.

♀. This subspecies is characterized by the dark outer area of the forewing. Otherwise, it agrees fairly well with the description and figure given by Miss Prout (l.c.). The wings are broader, the apex and outer margin of the forewing is more rounded than in the genotypical *S. inara* Cr.

1 ♀, 46 mm, holotypus, Djunggo-Ardjuno, E.-Java, 9. 37, leg. Kalis. Coll. Wageningen.

Loboplusia nov. gen.

♂. Antennae filiform, palpi erected, third joint nearly $\frac{1}{2}$ of second. Proboscis fully developed. Thorax, forewing and abdomen like an ordinary *Plusia*, hindwing difformed and very conspicuous by an elongated and strongly haired anal fold. The venation, however, fairly normal.

Typus generis: *L. vanderweelei* nov. spec.

17. **Loboplusia vanderweelei** nov. spec. (Pl. II fig. 8 ♂).

♂. A strange, but beautiful moth. Antennae except insertion which is white, head and palpi greyish brown. Behind head, at base of collar, with beautiful, golden red scales. The brown collar with a white extremity. Forewing of normal shape and venation, purplish brown, with rather simple, slightly waved transversal lines, some golden markings in cell and near dc, a small and a larger silvery white patch at base of n_2 . Chiefly the median area, towards inner margin, mixed with brownish gold. Cilia purplish grey. Hindwings light brownish yellow, with a darker median shade.

Abdomen yellowish, dorsal tufts brown, anal tuft grey. Underside of wings unicolorous grey, yellowish towards base, chiefly on hind wing.

Hindlegs with an enormous yellowish brown pilosity on upperside of femur and tibia.

♀ unknown.

1 ♂, holotypus, 36 mm; 1 ♂, 41 mm, paratypus, lacking abdomen. Both from Tjinieruan, 1700 m, W.-Java, 10. 1909, leg. Dr. Van der Weele. Leiden Museum.

I name this curious insect in honour of the collector whose premature death in Java was deeply regretted by his many friends.

Calesiodes nov. gen.

Resembles *Calesia* Gn., but differing by the palpi and other structures.

♂. Antennae strongly bipectinate, the lateral projections of the joints bearing a terminal cilia and tapering abruptly towards $\frac{2}{3}$. Eyes very large, ocelli wanting. Palpi obviously large, fairly straight, porrect, 2nd joint short, third elongated, densely haired, chiefly on upperside. These hairs extend between the base of antennae. Facies covered by the palpi, naked. Proboscis weak.

Forewings with a dense, velvety pilosity near base and along costa, the base of costa swollen, n_6 , n_7 , n_8 and n_9 stalked, no areola, cell deformed. Hindwings without frenulum, in its place a light hair pencil. n_3 , n_4 and n_5 rather from one point at lower angle of cell; n_6 and n_7 shortly stalked from upper angle of cell; n_8 united with $n_{6,7}$ at base; dc very weak or absent.

Typus generis: *C. punctigera* nov. spec.

18. **Calesiodes punctigera** nov. spec. (Pl. I fig. 6 ♂).

♂. Forewing rather unicolorous greyish brown, with some traces of bluish, chiefly in the middle of the hind margin. Almost no markings, or only faint traces of oblique cross bands. Cilia of both wings grey. Hindwings of the same coloration, some bluish in the centre and near base, with three indistinct and incomplete dark cross bands, the outer with four yellowish white dots on the veins. Abdomen with a yellowish anal tuft.

Underside greyish brown, the light spots on hindwing less distinct, occurring until n_6 . Tarsi of forelegs with an obvious dense and long pilosity. Foretibiae short. Mid and hind legs moderately long.

♀ unknown.

1 ♂, 40 mm, holotypus, Kariorang, E.-Borneo, leg. Quarles de Quarles. Coll. Wageningen.

Cyrtandra nov. gen.

♂. Joints of antennae broadly enlarged beneath, dorsally fasciculate, these structures tapering towards the end. Length about $\frac{2}{3}$ of costa of forewing. Frons smoothly haired, facies naked, ocelli distinct. Palpi with the second joint about twice as long as broad; third joint thin, rod-like, the apex abruptly blunt, nearly as long as second joint. Proboscis fully developed.

Forewings with the apex not produced; shape of both wings normal; in the hindwing, anal angle somewhat truncate. Areola rather large and broad, giving off n_7 near base of the stalked n_{8-9} , the latter near n_{10} ; dc distinct, deeply angled.

Hindwing with dc absent, venation quite normal.

Thorax densely, but smoothly haired. Abdomen dorsally with long hairs on the first visible four segments. Anal tuft not prominent. Mid and hindtibiae not spinulose.

♀ unknown.

Typus generis: *C. borneensis* nov. spec.

19. **Cyrtandra borneensis** nov. spec. (Pl. I fig. 7 ♂).

♂. Antennae light brown, the insertion white. First and second joint of palpi yellowish brown, third joint greyish brown. Head, thorax, both wings and abdomen dark chocolate brown. Forewing almost without markings, only three bluish white, marginal or submarginal lines are distinct, they are straight, but crenulate, running along outer margin. It seems that the uniform brown colour is caused by an outer covering of hairy scales; it covers an inner layer which is bluish and becomes visible where the wing is a little rubbed off.

On the hindwing, the same marginal lines occur between, n_{1b} and n_5 . Cilia greyish brown.

Underside lighter greyish brown, hindwings with some indistinct wavy dark lines; apex of forewings lighter. Legs greyish brown, the short fore tibiae broadly marked with white.

♂, holotypus, 46 mm, Kariorang, E.-Borneo, Quarles de Quarles leg. Coll. Wageningen.

♀ unknown.

EXPLANATION OF THE PLATES

PLATE I

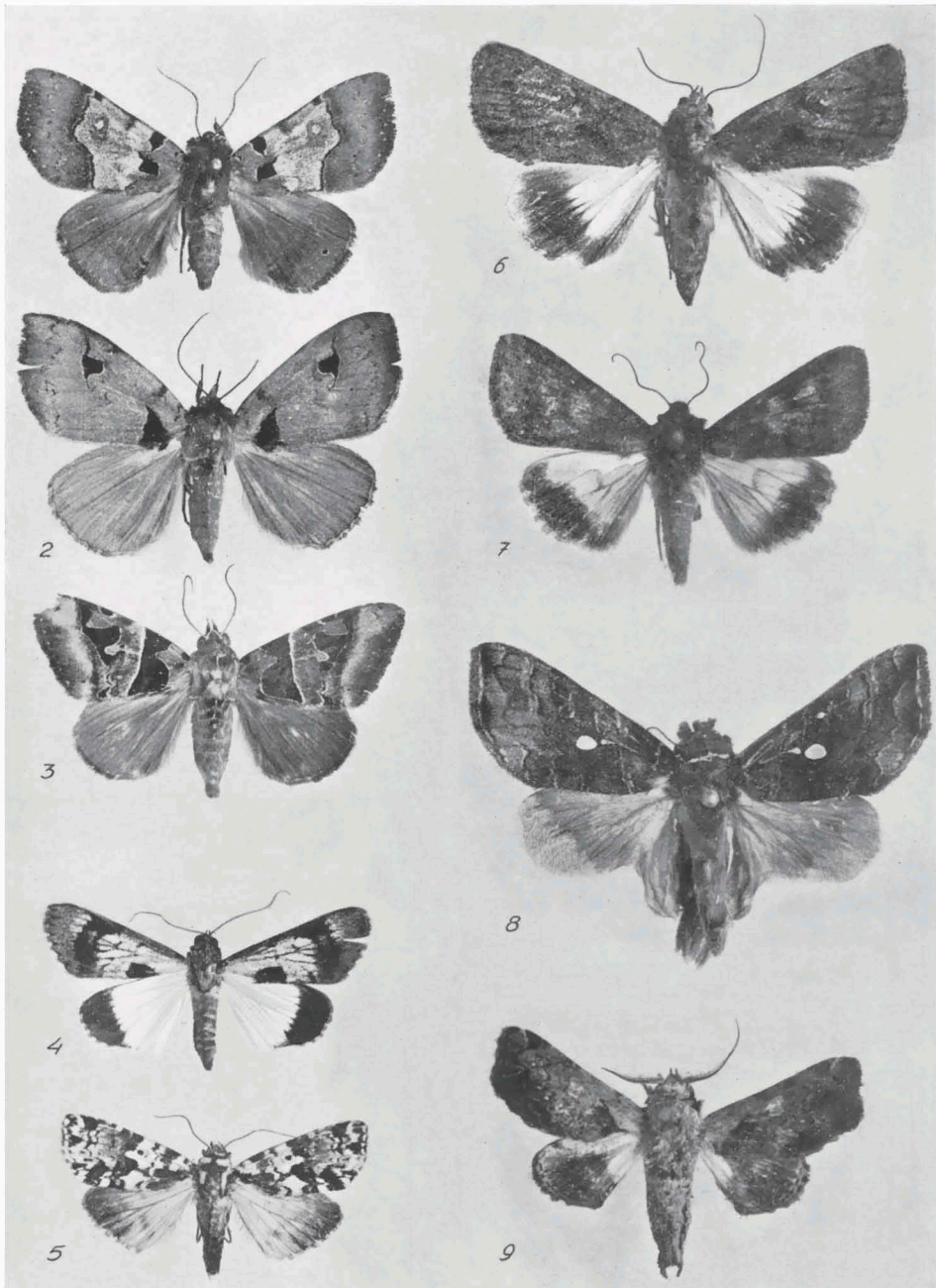
- Fig. 1. *Athyрма tepescens* Wlk. ♂. Museum Leiden (p. 24).
 Fig. 2. *Athyрма tepescens* Wlk. ♀. Museum Leiden (p. 24).
 Fig. 3. *Athyrmella priangani* Rpke. ♂. Museum Leiden (p. 26).
 Fig. 4. *Athyrmella priangani* Rpke. ♂. Museum Leiden (p. 26).
 Fig. 5. *Trisula celebensis* Rpke. ♂. Collection Wageningen (p. 13).
 Fig. 6. *Calesiodes punctigera* Rpke. ♂. Collection Wageningen (p. 28).
 Fig. 7. *Cyrtandra borneensis* Rpke. ♂. Collection Wageningen (p. 29).
 All figures about natural size.

PLATE II

- Fig. 1. *Serrodes curvilinea javana* Rpke. ♀. Collection Wageningen (p. 27).
 Fig. 2. *Athyрма paucimacula* Rpke. ♀. Collection Wageningen (p. 25).
 Fig. 3. *Athyрма pulcherrima* Btl. ♂. Museum Leiden (p. 24).
 Fig. 4. *Audca irioleuca* Meyr. ♀. Collection Wageningen (p. 16).
 Fig. 5. *Acronycta ardjuna* Rpke. ♂. Collection Wageningen (p. 13).
 Fig. 6. *Aedia leucomelas* f. *diluta* Rpke. ♀. Collection Wageningen (p. 22).
 Fig. 7. *Heliiothis tertia* Rpke. ♂. Collection Wageningen (p. 14).
 Fig. 8. *Loboplusia vanderweelei* Rpke. ♂. Museum Leiden (p. 27).
 Fig. 9. *Phlegetonia bryochlora* Rpke. ♂. Collection Wageningen (p. 15).
 Figs. 1—6, natural size; fig. 7, × 1.7; fig. 8, × 1.6; fig. 9, × 1.7.



ROEPKE phot.



ROEFKE phot.