

Nyctemera groenendaeli spec. nov.
from New Guinea
(Lepidoptera: Arctiidae, Nyctemerinae)

by

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Abstract: *Nyctemera groenendaeli*, a new species of Nyctemerinae from New Guinea, is described (holotype in Amsterdam). The species appears to be very closely related to *N. coleta* (STOLL, 1782) as indicated by similarity in genitalia. The pattern on the wings, however, is very different. Only eight specimens are known of this species, seven males and one female. *N. groenendaeli* seems restricted to the eastern half of New Guinea with the westernmost sites in Irian Jaya near the Papuan border.

Nyctemera groenendaeli spec. nov. von Neuguinea (Lepidoptera: Arctiidae, Nyctemerinae)

Zusammenfassung: Die neue Nyctemerinen-Art *Nyctemera groenendaeli* wird von Neuguinea beschrieben (Holotyp in Amsterdam), gewidmet dem Arzt J. M. A. VAN GROENENDAEL, der einen Teil der Ausbeute fing. Die Art ist gemäß ihrer Genitalstruktur nah verwandt mit *N. coleta* (STOLL 1782), die aber habituell stark abweicht. Bisher sind nur 7 ♂♂ und 1 ♀ bekannt. *N. groenendaeli* scheint nach bisheriger Kenntnis auf den Osten der Insel beschränkt zu sein, mit den westlichsten Funden bisher in Irian Jaya nahe der papuanischen Grenze.

Nyctemera groenendaeli spec. nov. dari New Guinea (Lepidoptera: Arctiidae, Nyctemerinae)

Ringkasan: Di sini diberikan deskripsi dari *Nyctemera groenendaeli*, species baru dari Nyctemerinae, yang berasal dari New Guinea (= pulau yang terdiri atas Papua New Guinea dan Irian Jaya). Species ini sangat dekat dengan *N. coleta* (STOLL, 1782), seperti nyata dari perbandingan antara genitalia masing-masing species. Gambar pada sayap sangat berbeda. Hanya delapan ekor saja dari species ini diketahui, tujuh jantan dan satu

betina. Daerah distribusinya barangkali terbatas sampai bagian timur dari pulau New Guinea, dengan tempat temu yang paling barat di Irian Jaya, dekat perbatasan dengan Papua New Guinea.

Nyctemerinae (Arctiidae) are widely distributed with a large number of species in South East Asia and a few species in Africa. All species have a very recognizable black and white wing pattern, which caused much confusion in the past, when most entomologists identified the moths from external characters. *Nyctemera coleta* (STOLL, 1782) is one of the most widely distributed species of Nyctemerinae in South East Asia. Its wing pattern is very constant in a great part of its area. But a few distinct forms and subspecies are known from some Indonesian islands. One of the most extreme of these "forms" is known from New Guinea and appears to belong to a new species, *N. groenendaeli*. The material examined is conserved in the Zoological Museum in Amsterdam (ZMA) and the Natural History Museum in London (formerly British Museum (Natural History), BMNH).

Nyctemera groenendaeli spec. nov. (fig. 1)

Holotype: ♂, "Ampas, W. Irian, 28. VII. 1938, J. M. A. VAN GROENENDAEL", [ZMA].

Paratypes: 1 ♂, "Ampas, Nieuw Guinea, 12. IX. 1937, J. M. A. VAN GROENENDAEL", [ZMA]; 1 ♂, "Nieuw Guinea, IX. 1937, J. M. A. VAN GROENENDAEL", [ZMA]; 1 ♂, "Uskwar, W. Irian, 14. III. 1935, J. M. A. VAN GROENENDAEL", [ZMA]; 1 ♂, "New Guinea (M. T.), Njau-Limon., 17. VI. 1937, W. STÜBER", [BMNH]; 2 ♂♂, 1 ♀, "Boo-boomie (R. B. N. G., Aroa), 2000 ft., v. 1905, A. S. MEEK", [BMNH].

Description

Head and patagium black with yellow margins. Male with dark brown bipectinate antennae, female with dentate antennae. Thorax dark brown. Tergites of abdomen dark grey brown, with hardly visible dark brown dorsal spot and distinct black lateral spots on each segment. Sternites of abdomen white, with lateral black spots on each segment. Anal segment of male with yolk-yellow tuft, female without this tuft. Legs dark brown, innerside of femur and trochanter white. Tibia of foreleg of

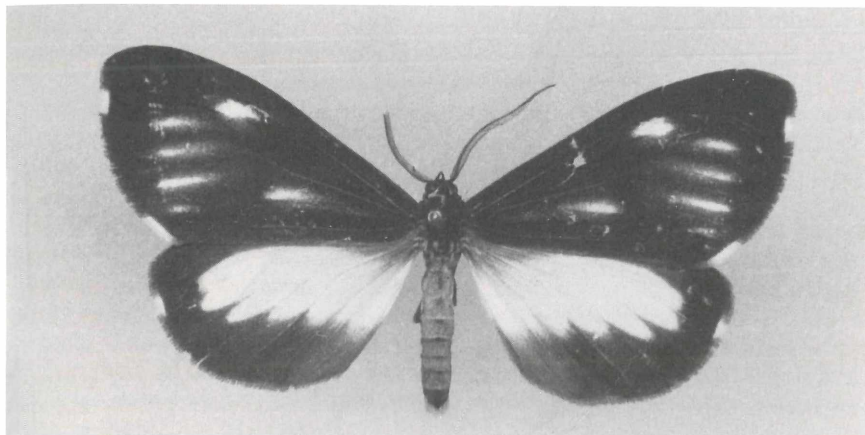
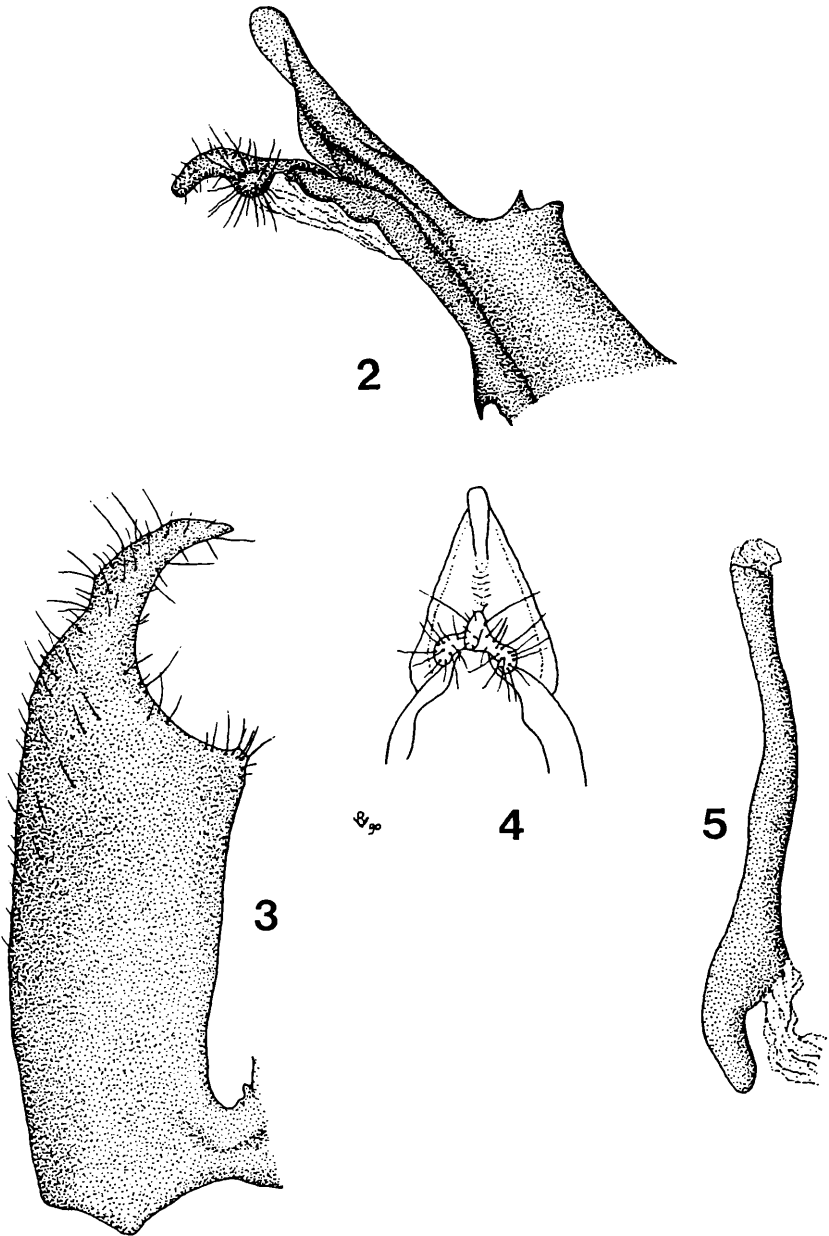


Fig. 1: *Nyctemera groenendaeli* spec. nov., holotype ♂, Ampas (Irian Jaya, Indonesia).

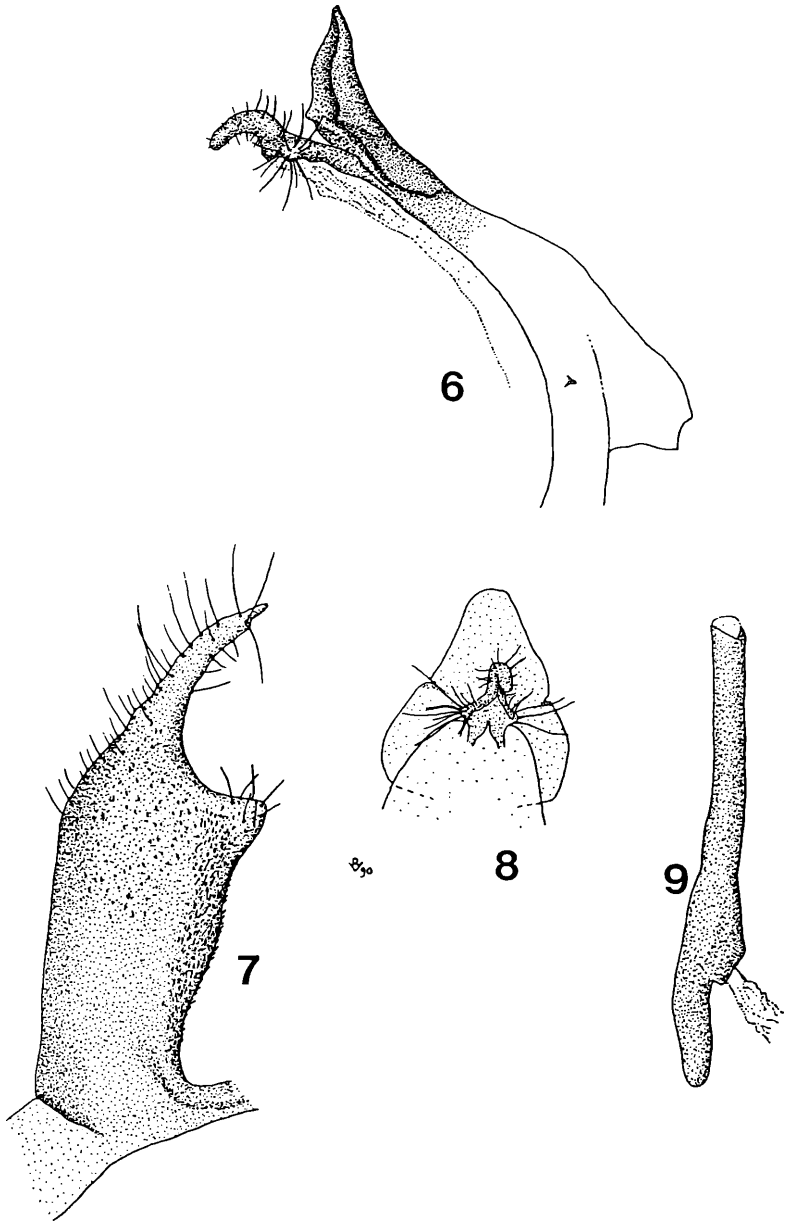
male short, with long golden-yellow tuft of pheromone-scales, female without this tuft. Length of the forewing 23–26 mm. Forewing dark brown. Two white spots in fringes; one just below apex and one in tornus. Transversal band existing of three longitudinal white spots on one line between veins 2–5. Sometimes a very small fourth spot belonging to this band is present between vein 1 and 2. A variable and more or less round spot at the end of the cell. Longitudinal basal spot between vein 1 and 2. Fringes of hindwing with one white subapical spot, no tornal spot present. Dark brown margin of white hindwing very broad and broadening towards dorsum, ranging from 2.5–7 mm and covering almost half of hindwing. Margin dentated inwards at every vein and interrupted at dorsum. Basal part tinged with grey brown. Underside of fore- and hindwing identical to upperside. Wingpattern identical in male and female.

Male genitalia (figs. 2–5).

Uncus with cap-shaped pseudo-uncus or “tectum” (ROEPKE 1949). Tectum stretched with keel at apex (fig. 2 & 4). Uncus short and finger-shaped, curved inwards. Tegumen with large downbend thorn (fig. 2). Valva (fig. 3) large and robust. Cucullus forming an angle of about 90° at distal part of valva, without distinct lobe. Sacculus finger-shaped and bend towards cucullus. Valva with setae at sacculus and at curved margin between sacculus and cucullus. Aedeagus long, slender and slightly curved (fig. 5). No cornuti present.



Figs. 2–5: Male genitalia of *Nyctemera groenendaeli*. **Fig. 2:** Lateral view of uncus and tectum. **Fig. 3:** Right valva, outer side. **Fig. 4:** Ventral view of uncus and tectum. **Fig. 5:** Aedeagus (after prep. RV 260).



Figs. 6–9: Male genitalia of *Nyctemera coleta*. **Fig. 6:** Lateral view of uncus and tectum. **Fig. 7:** Right valva, outer side. **Fig. 8:** Ventral view of uncus and tectum. **Fig. 9:** Aedeagus (after prep. RV 258).

The male genitalia of *N. coleta* compared with those of *N. groenendaeli*: Uncus of *N. coleta* with cap-shaped tectum but without keel (fig. 6 & 8). Finger-shaped uncus more curved inwards than in *N. groenendaeli*. Tegumen with very small thorn (fig. 6). Valva of *N. coleta* (fig. 7) smaller and less robust than in *N. groenendaeli* (fig. 3). Distal part of cucullus with a variable but distinct lobe. Sacculus finger-shaped, but more slender and straighter. Valva almost without setae at curved margin between sacculus and cucullus, lobe of cucullus with setae. Aedeagus shorter than in *N. groenendaeli* and absolutely straight (fig. 9). No cornuti present.

Female genitalia (fig. 10).

Apophysis anterior very short. Ostium wide, antrum (distal part of ductus bursae) chitinous and flat, little more than 180° curled at connection with ductus bursae (fig. 10). Ductus bursae without signa, bursa copulatrix with one signum, composed of tiny teeth.

The female genitalia of *N. coleta* compared with those of *N. groenendaeli*: Apophysis anterior almost three times longer than those in *N. groenendaeli*. Ostium more narrow and antrum curled about 360° at connection with ductus bursae (fig. 11). Two small signa in ductus bursae, bursa copulatrix with one signum, somewhat larger than in *N. groenendaeli*.

Distribution (fig. 12)

Until now only eight specimens are known from four different localities. The specimens in ZMA are from former Dutch New Guinea, all caught about 90 km south of Hollandia (now Jayapura). One specimen in BMNH is caught in the Northwestern part of former British New Guinea, near the above-mentioned localities. Three other BMNH specimens were collected near Aroa, in the southeastern part of New Guinea. This disjunct distribution (see fig. 12) must perhaps be explained by undercollecting, but *N. groenendaeli* is very likely a rare species.

Etymology

Nyctemera groenendaeli is named in honour of Dr. J. M. A. VAN GROENENDAEL, who lived in the Dutch Indies and Indonesia from

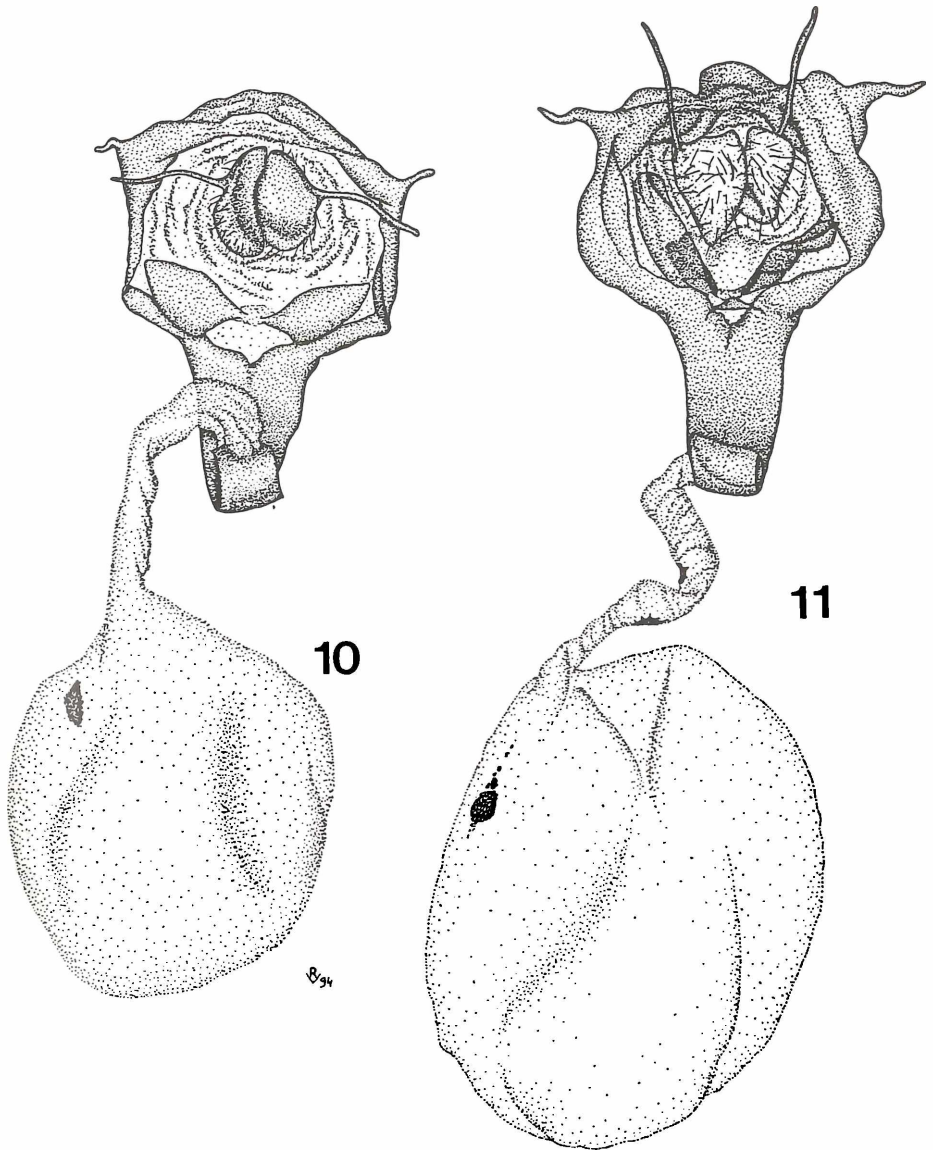


Fig. 10: Female genitalia of *Nyctemera groenendaeli*. Ventral view (after prep. RV 402). **Fig. 11:** Female genitalia of *Nyctemera coleta*. Ventral view (after prep. RV 401).

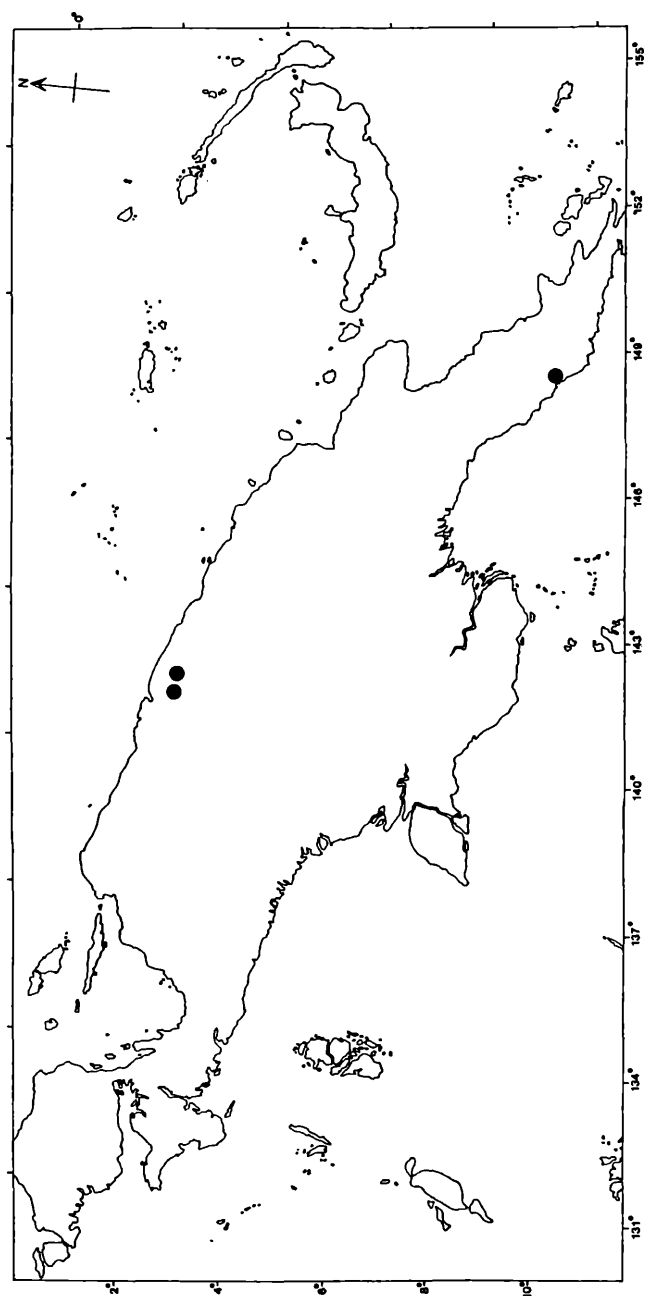


Fig. 12: Distribution of *Nyctemera groenendaeli*.

1931 till 1954. He collected about a million butterflies and moths in this area, including the holotype and three of the paratypes of this species.

Remark

Nyctemera coleta and *N. groenendaeli* have a peculiar position within the genus. Morphologically they differ from other species. For instance the fringe-spots and the position of the pheromone-scales on the foretibia of the male (which do not occur in any other *Nyctemera*-species) are distinct characters. Moreover the genitalia are strikingly different, e.g., in the construction of the uncus in the male and the curled antrum in the female. Though it is clear that *coleta* and *groenendaeli* are related to *Nyctemera*, ROEPKE (1949) already stated that *N. coleta* possibly belongs to a separate subgenus, for which he proposed the name *Coleta*. Whether the status of *Coleta* ROEPKE must be regarded as of genus-level can possibly be cleared by further studies.

Acknowledgements

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- ROEPKE, W. (1949): The genus *Nyctemera* HÜBNER. – Trans. R. entomol. Soc. Lond. **100** (2): 47–70.

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