The genus *Blaviodes* Bethune-Baker, 1910 from New Guinea restored and revised, with seven species transferred to this genus and three new species (Lepidoptera: Erebidae, Arctiinae, Lithosiini)

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Abstract: The genus *Blaviodes* Bethune-Baker, 1910 is restored and revised. Seven species are transferred to this originally monotypic genus from New Guinea: *Tigrioides approximans* Rothschild, 1912, *Graphosia phaeocraspis* Bethune-Baker, 1908, *Tigrioides laniata* Hampson, 1914, *Tigrioides albogrisea* Rothschild, 1912, *Scoliacma hampsoni* Bethune-Baker, 1904, *S. heringi* Gaede, 1925 and *S. virginea* Bethune-Baker, 1908. *Tigrioides lactea* Rothschild, 1912 **syn. nov.** is synonymised with *Graphosia phaeocraspis* Bethune-Baker, 1908, *Graphosia reticulata* Rothschild, 1912 **syn. nov.** is synonymised with *Graphosia bilineata* Hampson, 1900 and *Graphosia simplex* Rothschild, 1916 **syn. nov.** is synonymised with *Graphosia polylophota* Hampson, 1914. Three new species are described: *Blaviodes arfakensis* **spec. nov.**, *B. raanyae* **spec. nov.** and *B. schoutenae* **spec. nov.** The genus is compared with six apparently allied genera: *Graphosia*, *Pseudilema*, *Scoliosia*, *Tigrioides*, *Scoliacma* and *Tylanthes*.
The female of *Scoliosia brunnescens* (Rothschild, 1912) is described for the first time.
Of all treated species the adults and, when available, the genitalia are depicted.

Rangkuman: Genus *Blaviodes* Bethune-Baker, 1910 dikoreksi dan direvisi. Tujuh spesies ditransfer pada orisinil genus monotipik dari New Guinea: *Tigrioides approximans* Rothschild, 1912, *Graphosia phaeocraspis* Bethune-Baker, 1908, *Tigrioides laniata* Hampson, 1914, *Tigrioides albogrisea* Rothschild, 1912, *Scoliacma hampsoni* Bethune-Baker, 1904, *S. heringi* Gaede, 1925 dan *S. virginea* Bethune-Baker, 1908. *Tigrioides lactea* Rothschild, 1912 **syn. nov.** sinonim dengan *Graphosia phaeocraspis* Bethune-Baker, 1908, *Graphosia reticulata* Rothschild, 1912 **syn. nov.** sinonim dengan *Graphosia bilineata* Hampson, 1900 dan *Graphosia simplex* Rothschild, 1916 **syn. nov.** is sinonim dengan *Graphosia polylophota* Hampson, 1914. Tiga spesies baru yg dideskripsi: *Blaviodes arfakensis* **spec. nov.**, *B. raanyae* **spec. nov.** dan *B. schoutenae* **spec. nov.** Genus ini dibandingkan dengan 6 spesies lainnya yang tampaknya dekat kekerabatannya secara genetik: *Graphosia*, *Pseudilema*, *Scoliosia*, *Tigrioides*, *Scoliacma* dan *Tylanthes*. Betina *Scoliosia brunnescens* (Rothschild, 1912) dideskripsi untuk pertama kalinya. Semua spesies dewasa dideskripsi dengan gambar dan juga alat genitalianya bila tersedia. [translation by Daawia Suhartawan]

Keywords: *Graphosia*, *Pseudilema*, *Scoliosia*, *Tigrioides*, *Scoliacma*, *Tylanthes*, New Guinea, new species, new synonymy, new combination

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Introduction

In early taxonomy it was a tradition to arrange species in genera according to external characters as wing venation, wing shape, legs, antennae, etcetera. This was and still is in many cases sufficient to come to a satisfying arrangement of species, at least for the time being. This "time being" often lived its own life and resulted in a long lasting semi-true arrangement of species and genera and nobody ever took notice at it anymore, especially when they concern small and obscure species from such remote areas as in New Guinea, which in literature often resulted in a heterogeneous arranged mix of species in the genera reviewed below.

But even without having checked the genitalia or molecular samples one could get suspicious about the correct position of some species in a genus, because for instance antennae or wing shape seem quite different than in other species within the genus.

Blaviodes Bethune-Baker, 1910 was originally a monotypic genus with extraordinary fore- and hindwings in the males of *Blaviodes ochracea* Bethune-Baker, 1910. Genitalia were never examined or depicted before. It was noticed by the author that in other genera, such as *Graphosia* Hampson, 1900 and *Scoliacma* Meyrick, 1886, some species were placed that are quite similar in wing shape as in *Blaviodes*. An examination of the genitalia soon revealed that they are indeed of the same structure and are, without doubt, congeneric. Other genera, such as *Scoliosia* Hampson, 1914, *Pseudilema* Bethune-Baker, 1904 and *Tylanthes* Meyrick, 1889 also cover species with modified forewings or hindwings but the genitalia of those species proved to be quite different. It is also shown that the type species of *Tigrioides* Butler, 1877 has totally different genitalia than some species that for this reason are now transferred to *Blaviodes* and that the composition of species in *Tigrioides* probably still is heterogeneous and needs further revision.

Time for a comparison of the genera concerned and a review of the type species to settle down the characters of the genera.

The treated species from New Guinea are discussed with depiction of the adults and, when available, the genitalia. It resulted in the transfer of seven species to the originally monotypic genus *Blaviodes* Bethune-Baker, 1910 and the description of three new species. A revised checklist of the species concerned is given.

Abbreviations

BMNH – Collection of Natural History Museum, London, United Kingdom (former British Museum of Natural History)

BMNH(E) – Old acronym for unique collection numbers of specimens and slides in BMNH

Fwl – Forewing length (measured from wingbase to apex)

KSP – Koleksi Serangga Papua (Papua Insects Collection), Waena, Papua, Indonesia (former collection of Henk van Mastrigt)

MFNB – Museum für Naturkunde, Berlin, Germany

NHM – Natural History Museum, London, UK

NHM(UK) – New acronym for unique collection numbers of specimens and slides in BMNH

RMNH – Collection of Naturalis Biodiversity Center, Leiden, The Netherlands (former Rijksmuseum voor Natuurlijke Historie)

RMNH.INS. – Acronym for unique collection numbers of specimens and slides in RMNH

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Systematical part

Blaviodes Bethune-Baker, 1910

Type species: *Blaviodes ochracea* Bethune-Baker, 1910

The genus was originally monotypic with its type species *ochracea* Bethune-Baker, 1910. Hampson (1914) transferred this species to *Scoliacma*, but the type species of both genera have very different structured genitalia and certainly are not congeneric. Therefore the status of *Blaviodes* Bethune-Baker, 1910 is restored here being the valid genus name available.

Moreover, seven species are transferred from other genera to *Blaviodes* and three new species are added. All species are restricted to New Guinea and are listed here below.

Males in this genus have both wings modified. The forewing has the dorsum deepened with a flap which can vary in size between the species from slightly to extreme. The hindwing has the costa arched with the costal area without colour or pale with an indistinct androconial patch which is covered by the extended forewing dorsum.

Females have the normal fore- and hindwing shape of typical lithosiine moths, rather narrow forewings and broad but normal shaped hindwings. Because of this strong sexual dimorphism the females of most species are still unknown, possibly already described (in other genera) and are waiting to be matched with the males. If this is not done by accidental discoveries of copula or some character features which strongly indicate a conspecificity, it should be done by molecular study.

The male antennae are strongly bipectinate combed or serrate. The female antennae are filiform or serrate with short setae.

Male genitalia with finger-shaped uncus, vinculum with a short bilobed saccus. Valvae symmetrical. Cucullus of valve distally with a slightly sclerotized tongue-shaped extension covered by setae, and a long longitudinal clasper directing distally which is often club- or finger-shaped, the form of it is diagnostic for the species. Sacculus with a long and slender distal process curved inwards. Aedeagus generally simple, in most species a long and slender tube with a scobinated field on the vesica. Aedeagus in the type species short and wide distally with a triangle-shaped cornutus.

Female genitalia with a broad sclerotized antrum and globular cervix bursae. Bursa copulatrix oval shaped with in the middle one round arched and spined signum.

Revised checklist of *Blaviodes* Bethune-Baker, 1910:

Blaviodes ochracea Bethune-Baker, 1910 **comb. rev.**
Blaviodes approximans (Rothschild, 1912) **comb. nov.**
Blaviodes phaeocraspis (Bethune-Baker, 1908) **comb. nov.**
    margaritacea (Rothschild, 1912)
    lactea (Rothschild, 1912) **syn. nov.**
Blaviodes arfakensis **spec. nov.**
Blaviodes laniata (Hampson, 1914) **comb. nov.**
Blaviodes hampsoni (Bethune-Baker, 1904) **comb. nov.**
    nivea Bethune-Baker, 1904
    albescens (Rothschild, 1912)

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Blaviodes albogrisea (Rothschild, 1912) **comb. nov.**
Blaviodes raanyae **spec. nov.**
Blaviodes schoutenae **spec. nov.**
Blaviodes virginea (Bethune-Baker, 1908) **comb. nov.**
Blaviodes heringi (Gaede, 1925) **comb. nov.**
flava (De Vos & Van Mastrigt, 2007)

Blaviodes ochracea Bethune-Baker, 1910 comb. rev. (figs 1, 18-19)

Blaviodes ochracea: Bethune-Baker (1910: 441); Watson et al. (1980: 25)
Scoliacma ochracea (Bethune-Baker, 1910): Hampson (1914: 457); Strand (1922: 512)

Holotype: BMNH: ♂, Arfak Mountains, North New Guinea., 4,000 ft. Feb.-Mar., 1909. C.B. Pratt, Ex Kenrick Coll., B.M. 1933-46.

Diagnosis: Fwl. 10.9-11.5 mm. This species is conspicuous by its dark ochre forewings and dark grey hindwings with white costal half. Only males are known which is remarkable because females are expected to have at least the forewing with the same ochre ground colour, but until now no matching females have been found.

Male genitalia: Uncus finger-shaped with sharp apex. Tegumen triangle-shaped, slightly sclerotized. Saccus short, bilobed. Cucullus of valve straight, basal half slightly sclerotized, distal half with an oval shaped extension which is covered with long setae. In the middle of the valve a slender finger-shaped clasper with sharp apex, directing distally. Sacculus long and half as broad the valve, in the middle with a waved ridge under the clasper, distally with a strong sharp process which is slightly curved inwards.
Aedeagus short and with a wide distal opening, vesica with a triangle-shaped shortly spiked cornutus. Coecum narrow and relatively long.

Distribution: It seems a rather rare species, endemic in the northern Arfak Mountains, Papua Barat, Indonesia. Recently specimens have been collected in the villages Mokwam and Demaisi by members of the Papua Insects Foundation. It is found at altitudes between 1200-1645 meters.

Blaviodes approximans (Rothschild, 1912) comb. nov. (figs 2, 20-21)

Tigrioides approximans: Rothschild (1912: 217); Draudt (1914: 215)
Graphosia approximans (Rothschild, 1912): Hampson (1914: 441); Strand (1922: 506)

Holotype: BMNH(E)1325403: ♂, Mt. Goliath, 5-7000 ft., Centr. Dutch N.Guinea, about 139.long., January 1911 (A.S. Meek), Tigrioides approximans Type Rothsch., Rothschild Bequest, B.M. 1939-1.

Diagnosis: Fwl. 12.7-13.7 mm. Only males are known. Similar to *phaeocraspis*, but larger and with the forewing dorsum less deep. Forewings uniformly grey (in *phaeocraspis* buff) with white fringes. Hindwings almost uniform pale grey-brown, towards margin fading to darker

grey-brown, while in *phaeocraspis* the costal half is whitish with the dorsal and marginal area sharply defined dark grey-brown.

Male genitalia: Uncus rather thick finger-shaped with an acute sharp apex. Tegumen high, bottle-shaped, vinculum with a short bilobed saccus. Valva rather broad, cucullus with costa concave, basal third curved inwards, distal two-third a long sack-formed extension, covered with short setae. Clasper straight, finger-shaped with sharp apex and directing distally. Sacculus broadly based, slightly sclerotized in the center, a strong waved ridge running from base to middle of the sacculus. Distally with a slender sharp process which is slightly curved inwards.
Aedeagus a long slender curved tube, vesica with a large scobinated field, distally with a sharp triangular irregular indented carinal plate.

Distribution: Known from Mt. Goliath (now Gn. Yamin, Star Mountains) and recently collected in Walmak (Jayawijaya Mountains), Papua, Indonesia. It is found at altitudes from 1500-1710 meters.

Blaviodes phaeocraspis (Bethune-Baker, 1908) comb. nov. (figs 3, 22-23)

Graphosia phaeocraspis: Bethune-Baker (1908: 193); Draudt (1914: 222); Hampson (1914: 440); Strand (1922: 506)
Tigrioides margaritacea: Rothschild (1912: 217); Draudt (1914: 215)
Tigrioides lactea: Rothschild (1912: 217) **syn. nov.**; Draudt (1914: 215)
Graphosia lactea (Rothschild, 1912): Hampson (1914: 441); Strand (1922: 506)

Holotype *phaeocraspis*: BMNH(E)1325404: ♂, Dinawa, B.New Guinea. 4,000 ft., Sept. 1902, Coll. A.E. Pratt., G.T.B.-Baker Coll., Brit.Mus. 1927-360, Graphosia phaeocraspis type ♂ B-Baker.
Holotype *margaritacea*: BMNH(E)1325405: ♂, nr. Oetakwa R., Snow Mts., Dutch N. G., up to 3500 ft., x. xii. 1910 (Meek), Tigrioides margaritacea Type Rothsch., Rothschild Bequest, B.M. 1939-1.
Holotype *lactea*: BMNH(E)1325402: ♂, nr. Oetakwa R., Snow Mts., Dutch N. G., up to 3500 ft., x. xii. 1910 (Meek), Tigrioides lactea Type Rothsch., Rothschild Bequest, B.M. 1939-1.

Diagnosis: Fwl. 10.8 mm. Only males are known. A smaller species than the previous resembling *approximans*. The buff coloured forewing, with white fringes, has the dorsum much deeper than in *approximans* and the hindwing has the costal half whitish with a dark grey-brown dorsal and marginal area, while in *approximans* the hindwing is almost uniformly coloured pale grey-brown fading darker towards the hind margin.

Male genitalia: Uncus long finger-shaped with a sharp and thin thorn-shaped apex. Tegumen wide bottle-shaped. Vinculum with strong deeply bilobed saccus. Valvae rather broad with deeply concave costa at cucullus. Extension long and broad, covered with rather long setae. The strong clasper long, straight and directed distally, apex club-shaped. Sacculus broad, vetral rim slightly concave at base, and with a relatively short distal process which is finger-shaped with a sharp apex.

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Aedeagus long, curved at the connection with the ductus ejucalatorius, tube straight. Distally with an irregular shaped sclerotized carinal plate with some thorns. Vesica with a small central scobinated field. Coecum long.

Distribution: A widely distributed species on New Guinea but restricted to the Central Mountain Range. Found at altitudes between 1000-1650 meters.

Blaviodes arfakensis spec. nov. (figs 4, 24-25)

urn:lsid:zoobank.org:act: 0B20BBD0-9BC0-4594-8F8E-80EE82D9917B

Holotype: RMNH.INS.1282794: ♂, Indonesia, Papua Barat, Birdshead Peninsula, Arfak Mountains, Mokwam, 1510 m, 1˚06'S – 133˚54'E, 6-10.xi.2011, at light, leg. Papua Insects Foundation.
Paratypes: RMNH.INS.1282784, 1282795: 2 ♂♂, Indonesia, Papua Barat, Birdshead Peninsula, Arfak Mountains, Mokwam, 1510 m, 1˚06'S – 133˚54'E, 6-10.xi.2011, at light, leg. Papua Insects Foundation; RMNH.INS.1282793, 1282796: 2 ♂♂, Indonesia, Papua Barat, Birdshead Peninsula, Arfak Mountains, Mokwam, 1469 m, 1˚06'S – 133˚54'E, 21-23.x.2014, at light, leg. P.J. Zumkehr & F. Groenen.; RMNH.INS.1282797 & KSP-65139: 2 ♂♂, Indonesia, Papua Barat, Birdshead Peninsula, Arfak Mountains, Demaisi, 1637 m, 1˚10'S – 133˚53'E, 14.xi.2011, at light, leg. Papua Insects Foundation.

Diagnosis: Both, forewings and hindwings, very broad. Forewing oval shaped by the deep dorsal flap, bone-white. Hindwings almost circular but with the apex wide angled, grey-brown margin with costal half whitish, dorsal part bone-white.

Description: Fwl. ♂ 12.0-13.5 mm. Only males are known. A rather large *Blaviodes* species. Only males are known. Antennae strongly bipectinate, bone-white with red-brown cilia. Labial palpi buff with distal segment suffused with grey. Head, thorax and greater part of forewing bone-white, costal area of forewing shaded with pale grey-brown (by shining through the dark colour from underside), fringes off-white, hindwing with costal half whitish, margins and broad tornal area dark grey-brown, dorsal area bone-white, fringes off-white, abdomen grey with a pale yellow anal tuft. Legs buff. Dorsum of forewing deep, making the forewing shape oval. Hindwing with costa strongly arched, wing shape almost circular but with a wide angle in the apex.
Underside of forewing with costal area brown, sharply defined from the off-white dorsal part of the wing, hindwing at underside uniformly grey-brown.

Male genitalia: Uncus long finger-shaped with a sharp apex. Tegumen triangular, vinculum with a short bilobed saccus. Valva rather narrow, cucullus distally with a long tongue-shaped extension which is covered with long setae. Clasper half the length of valva, broadly based, slightly sinuous and with stretched club-shaped apex. Sacculus rather broad, ventrally straight, distally at costal side narrowing and continued by a long thorn-like distal process with sharp apex, at base curved inwards.
Aedeagus long and slender, gradually curved. Distally with a sharp triangle-shaped carinal plate. Vesica with a scobinated field half the tube length. Coecum long.

Distribution: The types have been found in the northern Arfak Mountains, Papua Barat, Indonesia. It is found at altitudes between 1469-1637 meters.

Etymology: The species name refers to the Arfak Mountains where it is endemic.

Blaviodes laniata (Hampson, 1914) comb. nov. (figs 5-6)

Tigrioides laniata: Hampson (1914: 467); Strand (1922: 521)

Lectotype (herewith designated from syntypes): BMNH(E)1325475: ♂, New Guinea [Papua, Indonesia], Iwaka R., A.F.R. Wollaston., 1911-229., II.1911, Tigrioides laniata, type {male}. Hmpsn.
Paralectotype (designated from syntypes, but see diagnosis)**:** BMNH(E)1325476: ♀, locality label same as holotype.

Diagnosis: Fwl. ♂ 9-10 mm. A small species. Antennae, head and patagia bone-white, tegulae pale grey. Forewing males with moderate deepened dorsum. Ground colour forewing pale grey with costa and marginal fringes white. At the end of the cell a faint "C"-shaped white patch. Hindwing males broad with costa arched. Ground colour of hindwing buff with white fringes. Costal area orange-grey. Abdomen grey with a bone-white anal tuft.
The only presumed female known of this species is the paralectotype but this should be confirmed by genitalia and DNA matching. The paralectotype is (originally) totally white and has typical features for a lithosiine moth, like a dozen other species. It is therefore not sure if it is really a female of this species, although the same collection event does point in that direction. For the time being it is designated as paralectotype of the species but its status may change in the future. The paralectotype is stained on the wings and abdomen by abdominal fat. It is expected that clean moths are entirely white, including the head, thorax and body. Antennae of female serrate, with short cilia.

Genitalia: It was not possible yet to check the genitalia. However, the general appearance of the male, with the typical wings and the comb-like antennae, does clearly indicate that this species belongs to the genus *Blaviodes*. Specimens are present in NHM (London) and KSP (Waena, Papua). In the near future the male and female genitalia will be checked, which should have the features of the *Blaviodes* genitalia as described above with the genus.

Distribution: The lectotype and paralectotype are from Iwaka River in the Lorentz Reserve, close to Utakwa River, Papua, Indonesia. Furthermore two males are known from Borme in the northern Star Mountains (KSP). The species is found at moderate altitudes around 900 meters.

Blaviodes hampsoni (Bethune-Baker, 1904) comb. nov. (figs 7-8)

Scoliacma hampsoni: Bethune-Baker (1904: 417); Draudt (1914: 219); Hampson (1914: 457); Rothschild (1915: 45); Strand (1922: 512); Gaede (1925: 236)
Ilema nivea: Bethune-Baker (1904: 420)
Lithosia nivea (Bethune-Baker, 1904): Draudt (1914: 207)

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Tigrioides albescens: Rothschild (1912: 218); Draudt (1914: 215)

Holotype *hampsoni*: BMNH(E)1325453: ♂, Dinawa, B.New Guinea, 4,000 ft., Sept. 1902, Coll. A.E. Pratt, G.T.B.-Baker Coll., Brit.Mus 1927-360.
Holotype *nivea*: BMNH(E)1325454: ♀, Dinawa, B.New Guinea, 4,000 ft., Sept. 1902, Coll. A.E. Pratt, G.T.B.-Baker Coll., Brit.Mus 1927-360.
Lectotype *albescens* (herewith designated from syntypes): BMNH(E) 1325455: ♂, nr. Oetakwa R., Snow Mts., Dutch N. G., up to 3500 ft., x. xii. 1910 (Meek), Tigrioides albescens Type Rothsch., Rothschild Bequest, B.M. 1939-1.

Diagnosis: Fwl. ♂ 10 mm, ♀ 9.5 mm. A rather small species. Head, thorax and abdomen white, anal tuft in male pale ochre. Antennae of male strongly bipectinate, at base white, distally fading to reddish brown. Male forewing narrow with a rather shallow dorsal flap which is often flipped back under the forewing. Forewing entirely white, basally with a thin black costal rim. Hindwing very broad, costal area modified and with dark androconial scales, costa arched. Hindwing entirely white, median vein and subcostal vein strong developed and red-brown coloured with the area around it yellowish.
Female forewing (as seen in *nivea*) of normal lithosiine shape with rounded termen. Forewing entirely white except for a thin black costal rim. Hindwing of normal shape, entirely white.

Genitalia: It was not possible yet to check the genitalia. However, the general appearance of the male, with the typical wings and the comb-like antennae, does clearly indicate that this species belongs to the genus *Blaviodes*. Specimens are present in NHM (London). In the near future the male and female genitalia will be checked, which should have the features of the *Blaviodes* genitalia as described above with the genus.

Distribution: The types have been found in the Central Mountain Range of Papua New Guinea and Papua (Indonesia) at altitudes of 1000-1200 meter. Additional specimens are not known.

Blaviodes albogrisea (Rothschild, 1912) comb. nov. (figs 9-10, 26-27, 34-35)

Tigrioides albogrisea: Rothschild (1912: 218); Draudt (1914: 215)
Scoliacma albogrisea (Rothschild, 1912): Hampson (1914: 459); Strand (1922: 511)

Holotype: BMNH(E)1325448: ♂, nr. Oetakwa R., Snow Mts., Dutch N. G., up to 3500 ft., x. xii. 1910 (Meek), Tigrioides albogrisea Type Rothsch., Rothschild Bequest, B.M. 1939-1.

Diagnosis: Fwl. ♂ 7.9-10.4 mm., ♀ 9.2-9.9 mm. Resembles *hampsoni* but with some important differences. Male with white antennae bipectinate, less strong than in *hampsoni*. Labial palpi rather long and slender, white. Head (including antennae), thorax, abdomen and forewings off-white. Anal tuft of male abdomen pale yellow. Legs pale buff. Costa of forewing regularly arched with thin black rim to apex (in *hampsoni* only basally). Termen round, dorsum slightly arched with narrow dorsal flap. Hindwings with arched costa, making the hindwing almost circular. Hindwing pale brownish grey (in *hampsoni* white) with white

fringes. Underside forewing uniformly grey-brown, hindwing at underside with costal area grey-brown, rest of the wing off-white.
Female antennae dark brown, serrate with short ciliae. Labial palpi pale buff and very short. Head white with some darker grey scaling on frons and vertex. Thorax off-white, abdomen lead-grey. Legs buff. Forewing of same shape as in male but without the dorsal flap, off-white. Hindwings uniformly dark grey, fringes pale grey. Underside of both wings uniformly grey-brown but forewing with apical fringes white.

Male genitalia: Uncus slender and finger-shaped with a rather blunt apex. Tegumen fragile, weakly sclerotized, triangular shape. Vinculum with short but robust bilobed saccus. Valva long and narrow. Cucullus with straight costa, continued by the straight and narrow extension which has an oblique apex. Clasper rather short, directing distally, slightly sinuous and simple, finger-shaped with a pointed apex. Sacculus narrow with a long sinuous ridge from base to the middle of sacculus length. A long and slender distal process which is curved inwards, with a sharp apex just reaching the apex of the extension.
Aedeagus slender, slightly broadened and curved at the connection with the ductus ejaculatorius. Distally with a sharp triangular carinal plate. Vesica with a large scobinated field.
Female genitalia: Antrum strongly scloritized and almost square, followed by a wrinkled short globular cervix bursae. Ductus bursae unsclerotized, very short and broad and gradually running into the pear-shaped bursa copulatrix. The connection of the ductus seminalis at the left side just above the bursa copulatrix. At the left side at two-third one irregular oval signum is present composed of numerous small chitinous cones.

Distribution: Found in the northern Arfak Mountains and on the Onin Peninsula, Papua Barat, Indonesia, at the southern slopes of the Snow Mountains (Utakwa River) and western Star Mountains (Mt. Goliath), Papua, Indonesia. At rather low altitudes from 100 up to 1000 meter.

Blaviodes raanyae spec. nov. (figs 11-12, 28-29, 36-37)

urn:lsid:zoobank.org:act: 425EABA4-EF3B-4732-A804-96CD4AD9CC7B

Holotype: RMNH.INS.1282788: ♂, Indonesia, Papua, Kab. Yahukimo, Lelambo (distr. Kangguruk), 4˚01'S – 139˚47'E, 900 m, at light, 24-26.x.2008, leg. P.J. Zumkehr.
Paratypes: RMNH.INS.1282789: 1 ♀, as holotype; RMNH.INS. 1282798: 1 ♀, KSP-24126-24128: 3 ♀♀, Irian Jaya, Kec. Borme, Borme, 900 m, 17-24.ix.1998, Henk v. Mastrigt.

Diagnosis: In the male the black rim with purplish blue shimmer running around the forewing with the deep dorsal flap is diagnostic. In the female the metallic blue costal and marginal rim is an unmistaken unique character. In both, male and female the heads are metallic blue.

Description: Fwl. ♂ 10 mm, ♀ 10.8-11.2 mm. Male with antennae bipectinate, yellow-brown. Labial palpi short, brown with blue shimmer. Head and patagia black with blue-purple shimmer. Labial palpi buff. Tegulae pale ochre-yellow, thorax and abdomen pale grey

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with an ochre anal tuft. Legs yellow-brown. Forewing shape very peculiar, short and broad with dorsum extremely arched. Forewing colour pale ochre-yellow edged with black and blue-purple shimmer all around the wing, fringes white. Hindwing broad with costa widely arched. Hindwing bone-white with the costal half off-white, rim of apex slightly touched with purple-brown.
Female with antennae filiform with short cilia, black with blue shimmering scales. Head with frons white, vertex black with strong blue shimmer. Labial palpi buff, some with a black tip. Patagia, tegulae and thorax pure white. Abdomen pale grey, legs buff with shimmering blue suffusion. Forewing of normal lithosiine shape, pure white but costa and termen with a black rim with strong blue shimmer, fringes pure white. Hindwings of normal shape, pure white.

Male genitalia: Uncus long and finger-shaped with a sharp apex. Tegumen high, almost trapezium-shaped. Vinculum with saccus robust and deeply bilobed. Valva with costa of cucullus concave, a long and curved tongue-shaped extension covered with rather long setae. Clasper strong, "S"-shaped with a half club-shaped apex, the swollen part at the costal side. Sacculus broad, especially in the middle, gradually tapering distally. Distal process at the apex of sacculus acutely bent inwards, at base thicker, gradually narrowing and sharp apex slightly curved.
Aedeagus strongly curved at the front of the connection with ductus ejaculatorius. Distally with a sharp triangular carinal plate which bear some unclear thorns, vesica with a narrow curved field of tiny thorn-like cornuti. Coecum very long, at the end broadened.
Female genitalia: Antrum rather small rectangular, at upper rim strongly scloritized, followed by a large globular cervix bursae. Ductus bursae short and broad, with the connection of the ductus seminalis half way at the left side where the ductus bursae has a twist and broadly connects to the bursa copulatrix. Bursa copulatrix oval shaped with one signum at the left side in the middle of the bursa. Signum a rounded concave aggregation of chitinous cones, at the edge more spread.

Distribution: The species is found in the northern Star Mountains and eastern Jayawijaya Mountains in the Central Mountain Range of Papua, Indonesia at an altitude of 900 meter.

Etymology: The species is named in honour of the authors beloved daughter Raanya de Vos.

Blaviodes schoutenae spec. nov. (figs 13, 38-39)

urn:lsid:zoobank.org:act: EFD145F5-6A6C-4C51-9518-9709E20F9328

Holotype: RMNH.INS.1282816: ♀, Indonesia, Papua, Keerom District, Ubrub, 3˚44'S – 140˚48'E, disused airstrip facing rainforest, 12.ii.2009, A.J. de Boer, M. Schouten & R. Mambrasar.

Diagnosis: Both wings in female pure white but with a thin black rim along costa and termen. Head not blue as in *raanyae* but off-white.

Description: Fwl. ♀ 10.7 mm. Female antennae filiform with short cilia, yellow-brown with tiny black rings. Labial palps very short, white. Head, thorax and first segments of abdomen off-white, rest of abdomen grey-white. Legs bone-white. Forewing white with at costa and

termen a black rim without any shimmering scales, fringes white. Hindwing white. Underside as upperside but with some scarce suffusion.
Male unknown but expected to be similar as in *B. raanyae* (see previous species), probably without the blue shimmer on the black rim.

Female genitalia: Antrum very wide and strongly sclerotized, shield-shaped. Cervix bursae dorsally fused to the antrum and at the left side running into a short wrinkled ductus bursae. The connection of the ductus seminalis at the right side at the end of the ductus bursae with the connection to the bursa copulatrix. Bursa copulatrix oval shaped with one signum at the right side in the middle of the bursa. Rounded signum strongly concave and covered with small thorns.

Distribution: The only known specimen yet is the holotype which was found in lowland forest near Ubrub (Keerom District) near the border of Papua New Guinea.

Etymology: This species is named in honour and remembrance of Mrs. Marieke Astrid Schouten, entomologist, who died at the young age of 40 of cancer in March 2017. She and her husband, entomologist Arnold J. de Boer, visited Papua in 2009, where they collected the holotype of this species.

Blaviodes virginea (Bethune-Baker, 1908) comb. nov. (figs 14-15, 30-31, 40)

Scoliacma virginea: Bethune-Baker (1908: 193); Draudt (1914: 220); Hampson (1914: 458); Strand (1922: 513); De Vos & Van Mastrigt (2007: 228)

Lectotype (herewith designated from syntype serie): BMNH(E)1325451: ♂, Owgarra, B.N.Guinea, A.S. Meek, G.T.B.-Baker Coll., Brit.Mus 1927-360.

Diagnosis: Fwl. ♂ 14.5 mm, 13.8-15.2 mm. Male antennae bipectinate, red-brown, white at base. Head, thorax and abdomen pure white, anal tuft pale yellow. Forewing narrow and long with rectangular apex, termen almost straight, in tornus rounded. Dorsum in apical half concave, with a distinct dorsal flap in the basal half. Forewing pure silky white but at dorsal flap somewhat yellowish coloured. Hindwings very broad with the costa highly arched, at apex wide and blunt. Hindwing mainly pure white, the costal half slightly yellowish coloured. Female with filiform antennae, white but fading to brown distally. Head, thorax and abdomen pure white. Forewing stretched triangular, slightly concave at tornus. Hindwing of normal shape, pure white.

Male genitalia: Tegumen basally broad, closed and tappering towards top, the uncus slender and straight finger-shaped, only slightly sclerotized. Valva cucullus with unsclerotized extension covered with long setae. Clasper slightly sinuous and tongue-shaped (in *heringi* club-shaped). Sacculus with a long slender upwards curved extension with a sharp apex, costal rim of sacculus with a wide angle (in *heringi* rounded).
Aedeagus cylindrical and straight, apically with a blunt triangle-shaped carinal plate. Coecum slightly narrowing and rather long. Vesica with a field of numerous tiny chitine drops.

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Female genitalia: Ostium with sclerotized rim. Antrum funnel-shaped, hardly sclerotized, shorter than in *heringi*. Cervix bursae broad kidney-shaped and not sclerotized, connection with ductus seminalis at the left side of the upper part of cervix bursae. Bursa copulatrix globular, near connection with cervix with a small circular signum composed of tiny chitinous drops which are slightly more coarse than in *heringi*.

Distribution: A common species, widely distributed in New Guinea in mountainous areas. From the Arfak Mountains (Papua Barat, Indonesia) in the West through the Central Mountain Range in Papua New Guinea in the East. Found at altitudes from 900-2140 meter.

Blaviodes heringi (Gaede, 1925) comb. nov. (figs 16-17, 32-33, 41)

Scoliacma heringi: Gaede (1925: 236); De Vos (2008: 9)
Scoliacma flava: De Vos & Van Mastrigt (2007: 227)

Lectotype *heringi*: MFNB: ♂, D.N.Guinea 1913, Hunsteinspitze III.13, Kais.Augustafl.Exp., Bürgers S.G.
Holotype *flava*: RMNH: ♂, Indonesia, Papua, Kecamatan Nipsan, Walmak, 1710 m, 4°07' S - 139°38' E, 31.i-9.ii.2005, at light; cultivated area, UNCEN-ZMA Expedition, Papua Indonesia 2005

Diagnosis: Fwl. ♂ 16-17 mm, ♀ 13-15 mm. Male with antennae bipectinate, pale brown. Head and thorax yolk-yellow. Abdomen yellowish brown with a yellow anal tuft. Forewing rather broad with almost square angle at apex and a straight hindmargin. Dorsum deeply convex with a brush of pale yellow androconial hairs. Groundcolour of forewing yolk-yellow, the cell pale yellow. Underside of forewing below the cell with long yellow hairs. Hindwing very broad, costa strongly arched, convex, rounded apex and tornus. Dorsum somewhat crumpled with long yellow hairs. Groundcolour shiny yellowish white with yellow fringes. Tornal area yellow, fading towards wing centre.
Female with antennae filiform, pale greyish brown. Head and thorax as in male. Fore- and hindwings of normal shape. Forewing elongate, entirely yolk-yellow to pale yellow. Hindwing pale yellow, fringe line darker yellow.

Male genitalia: Very similar as in *virginea* but with some slight differences. Uncus finger-shaped with a blunt apex. Tegumen high, triangle-shaped. Vinculum with a short but widely bilobed saccus. Male valva cucullus with large unsclerotized extension, slightly longer than in *virginea*, clasper club-shaped (in *virginea* slightly sinuous tongue-shaped). Sacculus with the costal rim rounded (in *virginea* with a wide angle).
Aedeagus cylindrical with a bent at the base of the narrow coecum. Distally with a wide triangular carinal plate. Vesica with a field of numerous chitine drops which are more coarse than in *virginea*.
Female genitalia: Ostium with sclerotized rim. Antrum unsclerotized and funnel-shaped (longer than in *virginea*) and ribbed. Cervix bursae broad kidney-shaped, not sclerotized. Connection of ductus seminalis in the first part of cervix at the left side. Bursa copulatrix globular, in the upper part at the left side a small circular signum composed of tiny chitinous drops, finer than in *virginea*.

Distribution: Most common in the Central Mountain Range of New Guinea, reaching from the Jayawijaya Mountains (Papua, Indonesia) in the West to the higher areas of the Sepik River near the "Hunsteinspitze" (Papua New Guinea) in the East. Also found in the mountains of Wandammen Peninsula and the northern Arfak Mountains (Papua Barat, Indonesia). It is recorded from altitudes between 1340-1950 meter.

Allied genera in comparison with *Blaviodes*:

Graphosia Hampson, 1900

Type species: *Graphosia bilineata* Hampson, 1900

The genus previously comprised nine species, of which *approximans* Rothschild, 1912 and *phaeocraspis* Bethune-Baker, 1908 are in this publication transferred to *Blaviodes* Bethune-Baker, 1910 (see above), *Graphosia reticulata* Rothschild, 1912 **syn. nov.** is herewith synonymised with *Graphosia bilineata* Hampson, 1900 and *Graphosia simplex* Rothschild, 1916 **syn. nov.** is synonymised with *Graphosia polylophota* Hampson, 1914. The two Australian species *lophopyga* Turner, 1940 and *stenopepla* Hampson, 1914 almost certainly do not belong to *Graphosia* Hampson, 1900. They more likely belong to *Tigrioides* Butler, 1877 or an allied genus, preliminary judged on external characters, so this must be confirmed by study of the genitalia. This would mean that *Graphosia* as a monophyletic genus comprises only three species as listed here below, all restricted to New Guinea.

Male antennae robust filiform, not bipectinate or comb-like as in *Blaviodes* but densely ciliated. Female antennae thinner filiform and scarcely ciliated. Males with forewings stretched triangular with a sharply angled apex and without modified dorsum. Hindwing short but of normal shape. Females with longer wings but of normal lithosiine appearance. Usually there is a pattern of transverse bands, longitudinal stripes or patches on a pale yellow or grey ground colour.

Male genitalia with a long uncus, in the type species *bilineata* needle-shaped, in the other two known species at apex spatula-shaped with a small thorn. Tegumen high triangular-shaped, vinculum without distinct saccus. Valve with broad cucullus with a large oval extension. Sacculus with a long thorn-like distal process. In type species a short simple straight clasper present, in other two species it is fused with the cucullus. Aedeagus short with distally a sclerotized carinal plate. Vesica with one large thorn-like cornutus and a scobinated field. Abdomen of male laterally with a large brush on each side of the last segmental ring, and two small brushes ventrally on this ring.

Female genitalia rather simple with a sclerotized antrum. Cervix bursae no more than a swollen part in the dustus bursae. Between cervix and bursa copulatrix a connection with the ductus seminalis. Bursa copulatrix without any structures, no signum present. In the type species, at the right side of bursa copulatrix a smaller lateral pocket. The absence of a signum is one of the characters that distinguishes *Graphosia* from *Blaviodes*, which has one signum present.

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Revised checklist of *Graphosia* Hampson, 1900:

Graphosia bilineata Hampson, 1900 (figs 42-43, 48-49, 54, 57)
    reticulata Rothschild, 1912 **syn. nov.**
    quadrilineata (Rothschild, 1912)
    dilutior (Rothschild, 1912)
Graphosia pachygramma Hampson, 1914 (figs 44-45, 50-51, 55, 58)
Graphosia polylophota Hampson, 1914 (figs 46-47, 52-53, 56, 59)
    griseola Rothschild, 1916
    simplex Rothschild, 1916 **syn. nov.**
[*Graphosia lophopyga* Turner, 1940] **should be transferred to another genus**
[*Graphosia stenopepla* Hampson, 1914] **should be transferred to another genus**

Scoliacma Meyrick, 1886

Type species: *Lithosia bicolora* Boisduval, 1832 (figs 60-61, 64-65, 68-69)

As mentioned by De Vos (2008), the genus *Scoliacma* Meyrick, 1886 is a very heterogeneous group of species with about 26 Indo-Australian species. Its great variety of genital structures and even more varied male wing shapes in several species indicate that this genus is in desperate need of revision. It is therefore not very useful to present a checklist of the species. Only the species that should be transferred from *Scoliacma* to *Blaviodes* are mentioned. Even the type species of *Blaviodes, B. ochracea* **comb. rev.,** was placed in *Scoliacma* by Hampson (1914) and is here restored in his original and correct position; *Scoliacma hampsoni* Bethune-Baker, 1904, *S. albogrisea* (Rothschild, 1912), *S. virginea* Bethune-Baker, 1908 and *S. heringi* Gaede, 1925 are all transferred from *Scoliacma* to *Blaviodes* based on external and genital characters as described above with the genus *Blaviodes*. In the future probably more species will await to be transferred to other genera and it could well turn out that true *Scoliacma* species are restricted to Australia from where the type species originates. Moreover, there are indications that *Scoliacma* Meyrick, 1886 is a junior synonym of *Tigrioides* Butler, 1877 (see below).

Male antennae of *Scoliacma bicolora* (Boisduval, 1832), and thus true *Scoliacma* species, are filiform with setae. Fore- and hindwings of normal lithosiine habitus without any modifications. The bright colours red and pink with black marginal pattern may not be a generic character but indicates that it is totally differing from species in *Blaviodes*.

Male genitalia very characteristic for Lithosiini: uncus long and needle shaped, tegumen high and triangular, vinculum with a short bilobed saccus like in *Blaviodes*. Cucullus broad with a large distal extension with rounded apex. Sacculus rather narrow, gradually narrowing into a distal process which is in the type species curved as a hook with a slightly thickened sharp apex. No clasper present. Aedeagus short with a finger-shaped extension on the carinal plate in a 90˚ angle with the tube of the aedeagus. Vesica with on the basal lobe a very large claw-shaped cornutus in a scobinated field, distal lobe and verticle without cornuti. The absence of the clasper and the presence of such a large cornutus is very characteristic for the genus and distinguishes it from *Blaviodes*.

Female genitalia with a broad and short sclerotized antrum, lunular shaped, followed by a short broad ductus bursae with a wrinkled globular cervix bursae. Ductus seminalis connected at a lateral lobe at the right side and distally of the cervix. Cervix bursae and

globular bursa copulatrix broadly connected. Bursa with two signa: one irregular rounded patch of confluent chitinous spines, and one oval concave signum covered with spines and at one side a narrow extension. The presence of two signa distinguishes *Scoliacma* from *Blaviodes* which has one signum, apart from some other details.
The structure of both, male and female genitalia, have many similarities with those in *Tigrioides* and one might wonder if it does not concern one and the same genus. In that case *Scoliacma* Meyrick, 1886 is a junior synonym of *Tigrioides* Butler, 1877. Molecular study should either confirm or reject this. The type species of both occur in Australia.

Tigrioides Butler, 1877

Type species: *Setina alterna* Walker, 1854 (figs 62-63, 66-67, 70-71)

Like *Scoliacma*, the genus *Tigrioides* Butler, 1877 is a heterogeneous mix of at least 24 species which should be revised. The type species *Setina alterna* Walker, 1854 from southern Australia is a very conspicuously patterned and a bright coloured species, most Asiatic and Melanesian species however are very different in size (from large to tiny) and usually rather dull patterned, some with a totally different wing shape. Without even having seen genitalia or DNA of all species it is not difficult to state that this just could not be a correct arrangement. Leaving this matter for the future there is one species which is here transferred from *Tigrioides* to *Blaviodes*: *T. laniata* Hampson, 1914. *Tigrioides alterna* has the typical lithosiine shaped wings in males while those of *laniata* are clearly of the *Blaviodes* type with the modified dorsum.
The structure of the male genitalia of *Tigrioides* is very similar to that of *Scoliacma* Meyrick, 1886. Uncus long and finger-shaped with a sharp hooked apex. Tegumen high and triangular, vinculum with short robust bilobed saccus. Valve with distally of broad cucullus a large and broad extension with rounded apex. Sacculus broad, gradually extended with a robust curved process with a hooked blunt apex. No clasper present. Aedeagus short with a triangular carinal plate. Vesica with on the basal lobe a very robust claw-shaped cornutus in a scobinated field, distal lobe without cornuti.
Female genitalia with a broad shield-shaped sclerotized antrum. Cervix bursae large and globular, broadly connected to the oval bursa copulatrix. Bursa with two signa, both being a sclerotized irregular patch.
Like in *Scoliacma*, the absence of the clasper, the presence of such a large cornutus in the male and the presence of two signa in the female distinguishes it from *Blaviodes*.
The general structure of both, male and female genitalia, is very similar in *Scoliacma* and *Tigrioides* and indicates a very close alliance or congenericity. This should be further investigated with a revision of all species considered to belong to *Scoliacma* and *Tigrioides*.

Pseudilema Bethune-Baker, 1904

Type species: *Pseudilema dinawa* Bethune-Baker, 1904

This is a monotypic genus, one species with two identities. The female was described as *Graphosia ochracea* and the male as *Pseudilema dinawa* in the same publication by Bethune-Baker (1904), but the first mentioned taxon has page priority. Unfortunately the female has

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no conspicuous external characters but a general lithosiine appearance, and it is therefore remarkable that it was placed in *Graphosia* by Bethune-Baker in the first place. The male, however, has very conspicuous characters and even without having studied the genitalia it is easily distinguished from other genera by its peculiar nodded forewing costa and androconial patch in the centre of the forewing. Judged by this and the different construction of the genitalia it is clearly separated from *Graphosia* and *Blaviodes*.

Pseudilema ochracea (Bethune-Baker, 1904) (figs 72-73, 78, 81-82, 87) is widely distributed on and endemic to New Guinea and is a common species.
Male genitalia of type species with uncus long needle-shaped, at base curved and with sharp apex. Tegumen triangle-shaped, fragile. Vinculum with a long robust bilobed saccus. Valva narrow, cucullus elongate with a rather sharp apex. Sacculus broadly based, distally gradually narrowing to a short narrow process with a sharp hooked apex. In the middle of the sacculus an oblique ridge with setae. Aedeagus long and straight with a very long needle-shaped cornutus. Abdomen of male laterally with a compact and large brush on each side of the last segmental ring.
Female genitalia with antrum barely sclerotized. Unsclerotized ductus bursae broad and long, just below the antrum with a connection to the ductus to the ovaria, both strongly developed and clearly visible in the preparation slide which is quite unusual. Cervix bursae broadly connected to the bursa copulatrix. Ductus seminalis connected at the ventral side of the cervix. Bursa copulatrix oval shaped with a large elongate oval signum with a central longitudinal fold.

Scoliosia Hampson, 1914

Type species: *Scoliacma brunnescens* Rothschild, 1912 (figs 74-75, 79, 83-84, 88)

Again a monotypic genus, restricted to New Guinea where it is widely distributed and common. The males of *Scoliosia brunnescens* (Rothschild, 1912) are externally somewhat similar to those of *Pseudilema ochracea* (Bethune-Baker, 1914) but the forewing costa is not nodded but regularly rounded and bears a longitudinal sent pouch at the middle of the costa, below it is a faint grey patch. Females were previously unknown but are here matched and described for the first time.
Fwl. ♀ 10.7-12.1 mm. Antennae filiform with short cilia. Head, short labial palpi, antennae and thorax brown-buff, abdomen yellow-grey, legs brown-buff. Forewing narrow and long, typical lithosiine form without modifications. Groundcolour reddish buff to buff, from base between subcostal vein and costa at two-third wing length pale buff. Near apex suffused with darker brown, accentuating the veins in the margin. A post-median row of indistinct dots of which the central dot is the most conspicuous, in some specimens it is the only visible dot. Hindwings of normal lithosiine form, pale yellow with a thin marginal line just at the base of the bone-white fringes.
Male genitalia of type species with a very high elongate triangle-shaped tegumen with a small trident uncus, the middle tooth being the actual uncus with a small hook-shaped apex. Vinculum with a short saccus. Valva broad, with cucullus narrow and elongate, distally with rounded apex and with some long setae. Sacculus broad, distally acutely narrowing to a hook-shaped distal process with long sharp apex. Aedeagus short, slightly curved, with a long "S"-shaped cornutus with some longitudinal ribs. Like in *Graphosia*, abdomen of male

laterally with a brush on each side of the last segmental ring, and two small brushes ventrally on this ring.
Female genitalia with antrum short and triangle-shaped. Ductus bursae long and rather broad. Distally of the ductus bursae a branch to the ovaria (small bulbus) strongly developed and clearly visible which is quite unusual. Cervix bursae not modified but indicated by the connection of the ductus seminalis which is at the right side on top of the bursa copulatrix. Bursa copulatrix globular and without signum.
Both, male and female, show by the different genital structures that *Scoliosia* is clearly not congeneric with *Blaviodes*.

Tylanthes Meyrick, 1889

Type species: *Tylanthes ptochias* Meyrick, 1889 (figs 76-77, 80, 85-86)

Tylanthes Meyrick, 1889 is a monotypic genus. *Tylanthes ptochias* Meyrick, 1889 is widely distributed in New Guinea, the Louisiade Archipelago and northern Australia. There has never been any confusion in historical systematics with *Blaviodes* or *Graphosia* but the genus is treated here as a comparison, because the males more or less resemble those from *Pseudilema ochracea* (Bethune-Baker, 1904) and *Scoliosia brunnescens* (Rothschild, 1912), but differ in wing shape and the androconial patch. The male forewings are broadly triangular with a rather sharp apex and unmodified costa, the grey androconial mark is at submedial position in the centre of the wing, with some pledges of swollen veins around it. The hindwings are relatively small with a sharp apex. Females are robust with a strong thorax and abdomen, more or less resembling *Eilema* Hübner, [1819] or *Brunia* Moore, 1878 species. Female forewings are rather broad, very different from those of *Scoliosia* and *Pseudilema*. It is obvious that *Tylanthes* has not much to do with species in *Blaviodes*.
Male genitalia of type species with uncus long and granulate finger-shaped with a blunt apex. Tegumen clock-shaped and around the base of the uncus a collar which is extended ventrally in a slender sclerotized slip. Vinculum with a short robust saccus with a median split. Valva broad, cucullus broad with the distal half oval shaped and slightly sclerotized with rounded apex. Sacculus broadly based, in the middle strongly broadened and distally narrowing, but the extension is not separated from the valve until the last fifth of the sacculus length. At the blunt apex a small hook-shaped process curved outwards. Between sacculus and cucullus a long narrow ridge running from base of sacculus to apex. Aedeagus short and sinuous, vesica with a bundle of long strong cornuti. Like in *Graphosia*, abdomen of male laterally with a large broad brush on each side of the last segmental ring, and two small brushes ventrally on this ring.
Female genitalia not examined.

Conclusions and discussion

The genus *Blaviodes* Bethune-Baker, 1910 was originally monotypic. Hampson (1914) transferred *Blaviodes ochracea* Bethune-Baker, 1910 to *Scoliacma* Meyrick, 1886, but the type species of both genera have very different structured genitalia and certainly are not congeneric. Therefore the status of *Blaviodes* Bethune-Baker, 1910 is restored here being the valid genus name available.

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It was noticed by the author that in genera, such as *Graphosia* Hampson, 1900 and *Scoliacma* Meyrick, 1886, some species were placed that are quite similar in wing shape as in *Blaviodes* Bethune-Baker, 1910. An examination of the genitalia soon revealed that they are indeed of the same structure and are, without doubt, congeneric. Seven species, which previously were placed in three different genera, are transferred to *Blaviodes*, and three new species were discovered and described above. Moreover, it revealed that the structure of the genitalia of the type species of *Tigrioides* Butler, 1877 and *Scoliacma* is surprisingly similar which applies for further investigation to confirm that they are synonym. Both type species, *Setina alterna* Walker, 1854 and *Lithosia bicolora* Boisduval, 1832, have their residence in Australia and it could mean that *Tigrioides* is an endemic genus for Australia. The monotypic genera *Scoliosia* Hampson, 1914, *Pseudilema* Bethune-Baker, 1904 and *Tylanthes* Meyrick, 1889 also represent species with modified wings but the genitalia of those species proved to be quite unique and are therefore considered to represent true different genera.

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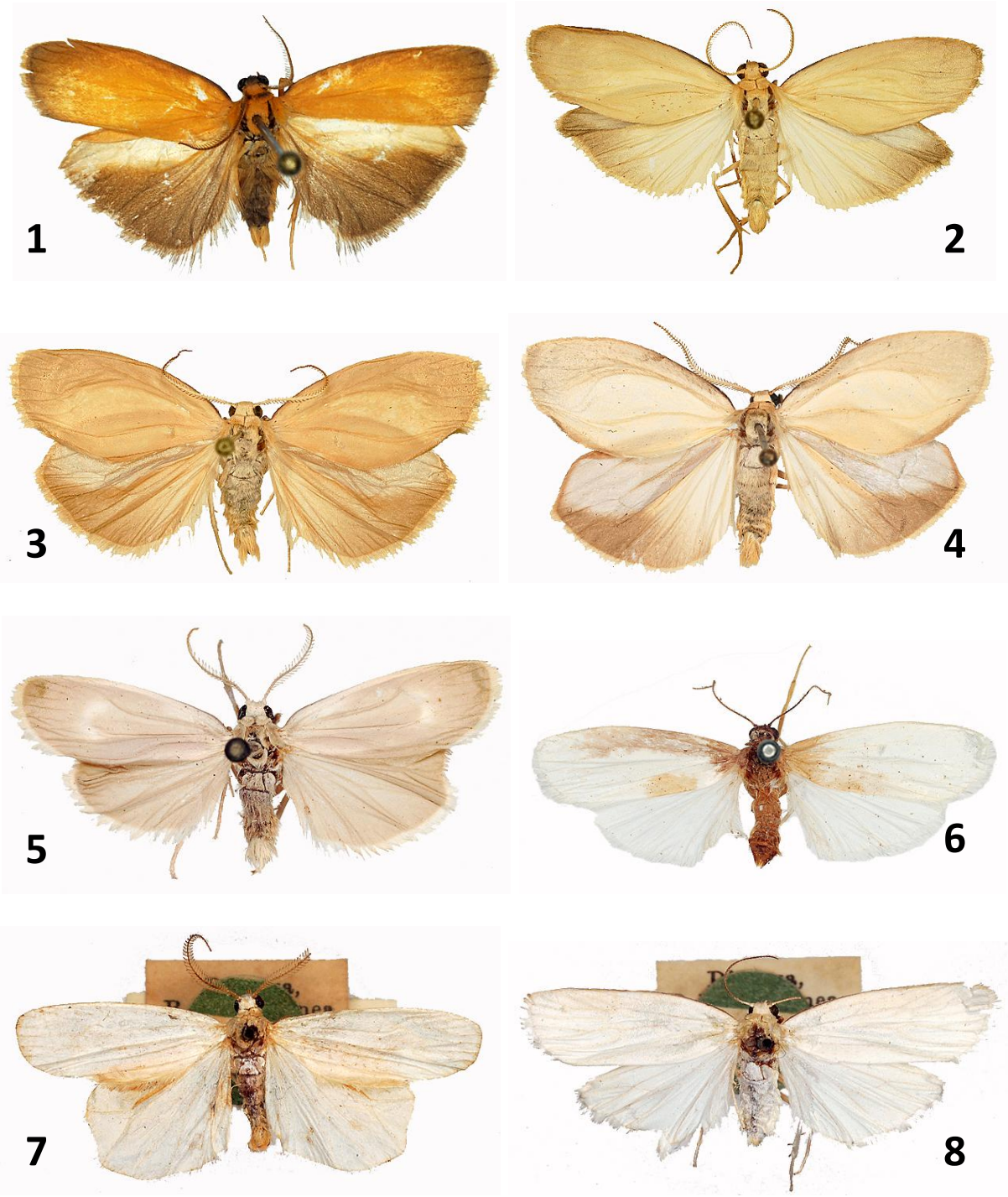

Figs 1-8. *Blaviodes* species. **1.** *Blaviodes ochracea* Bethune-Baker, 1910, ♂, Mokwam, Papua Barat, Indonesia, RMNH.INS.1282825; **2.** *B. approximans* (Rothschild, 1912), ♂, Walmak, Papua, Indonesia, RMNH.INS.1282826; **3.** *B. phaeocraspis* (Bethune-Baker, 1908), ♂, Mabilabol, Papua, Indonesia, RMNH.INS.1282827; **4.** *B. arfakensis* **spec. nov.**, holotype ♂, Mokwam, Papua Barat, Indonesia, RMNH.INS.1282794; **5.** *B. laniata* (Hampson, 1914), lectotype ♂, Iwaka river, Papua, Indonesia, BMNH(E)1325475; **6.** *B. laniata* (Hampson, 1914), paralectotype ♀, Iwaka river, Papua, Indonesia, BMNH(E)1325476; **7.** *B. hampsoni* (Bethune-Baker, 1904), holotype ♂, Dinawa, Papua New Guinea, BMNH(E)1325453; **8.** *B. hampsoni* (Bethune-Baker, 1904), holotype *Ilema nivea* Bethune-Baker, 1904 ♀, Dinawa, Papua New Guinea, BMNH(E)1325454.

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Figs 9-15. *Blaviodes* species: **9.** *Blaviodes albogrisea* (Rothschild, 1912), ♂, Warmare Dua, Papua Barat, Indonesia, RMNH.INS.1282805; **10.** *B. albogrisea* (Rothschild, 1912), ♀, Tuan Wowi, Papua Barat, Indonesia, RMNH.INS.1282813; **11.** *B. raanyae* **spec. nov.**, holotype ♂, Lelambo, Papua, Indonesia, RMNH.INS.1282788; **12.** *B. raanyae* **spec. nov.**, paratype ♀, Lelambo, Papua, Indonesia, RMNH.INS.1282789; **13.** *B. schoutenae* **spec. nov.**, holotype ♀, Ubrub, Papua, Indonesia, RMNH.INS.1282816; **14.** *B. virginea* (Bethune-Baker, 1908), ♂, Pass Valley, Papua, Indonesia, RMNH; **15.** *B. virginea* (Bethune-Baker, 1908), ♀, Pass Valley, Papua, Indonesia, RMNH.

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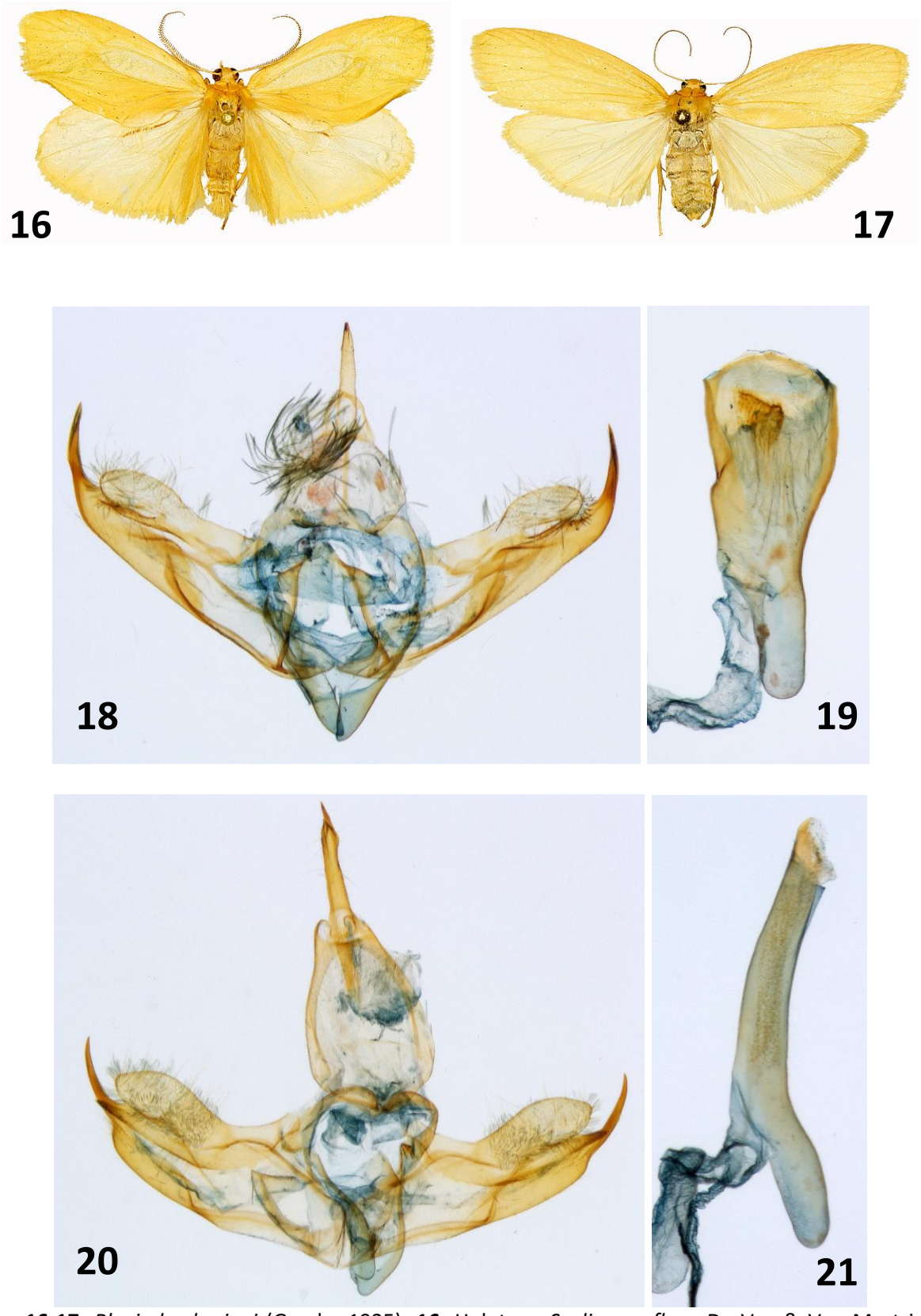

Figs 16-17. *Blaviodes heringi* (Gaede, 1925): **16.** Holotype *Scoliacma flava* De Vos & Van Mastrigt, 2007 ♂, Walmak, Papua, Indonesia, RMNH; **17.** Paratype *S. flava* De Vos & Van Mastrigt, 2007 ♀, Walmak, Papua, Indonesia, RMNH. **Figs 18-19.** Male genitalia *Blaviodes ochracea*, RMNH.INS. 1282787: **18.** genital armature; **19.** aedeagus. **Figs 20-21.** Male genitalia *B. approximans*, RMNH.INS. 1282786: **20.** genital armature; **21.** aedeagus.

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Figs 22-23. Male genitalia *Blaviodes phaeocraspis*, RMNH.INS. 1282785: **22.** genital armature; **23.** aedeagus; **Figs 24-25.** Male genitalia *B. arfakensis*, RMNH.INS. 1282784: **24.** genital armature; **25.** aedeagus; **Figs 26-27.** Male genitalia *B. albogrisea*, RMNH.INS. 1282808: **26.** genital armature; **27.** aedeagus.

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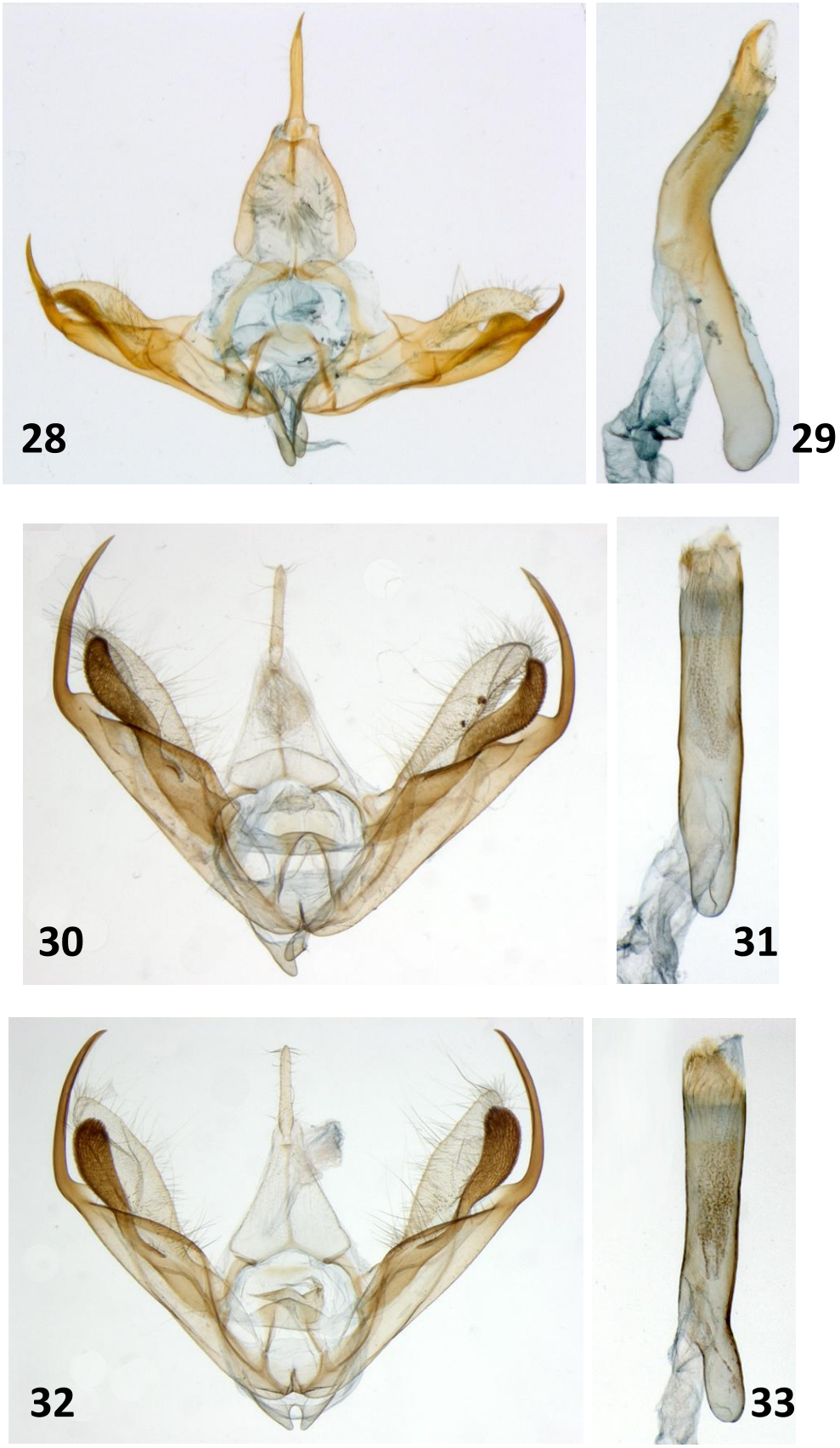

Figs 28-29. Male genitalia *Blaviodes raanyae*, RMNH.INS. 1282788: **28.** genital armature; **29.** aedeagus; **Figs 30-31.** Male genitalia *B. virginea*, RV1228: **30.** genital armature; **31.** aedeagus; **Figs 32-33.** Male genitalia *B. heringi*, RV1230: **32.** genital armature; **33.** aedeagus.

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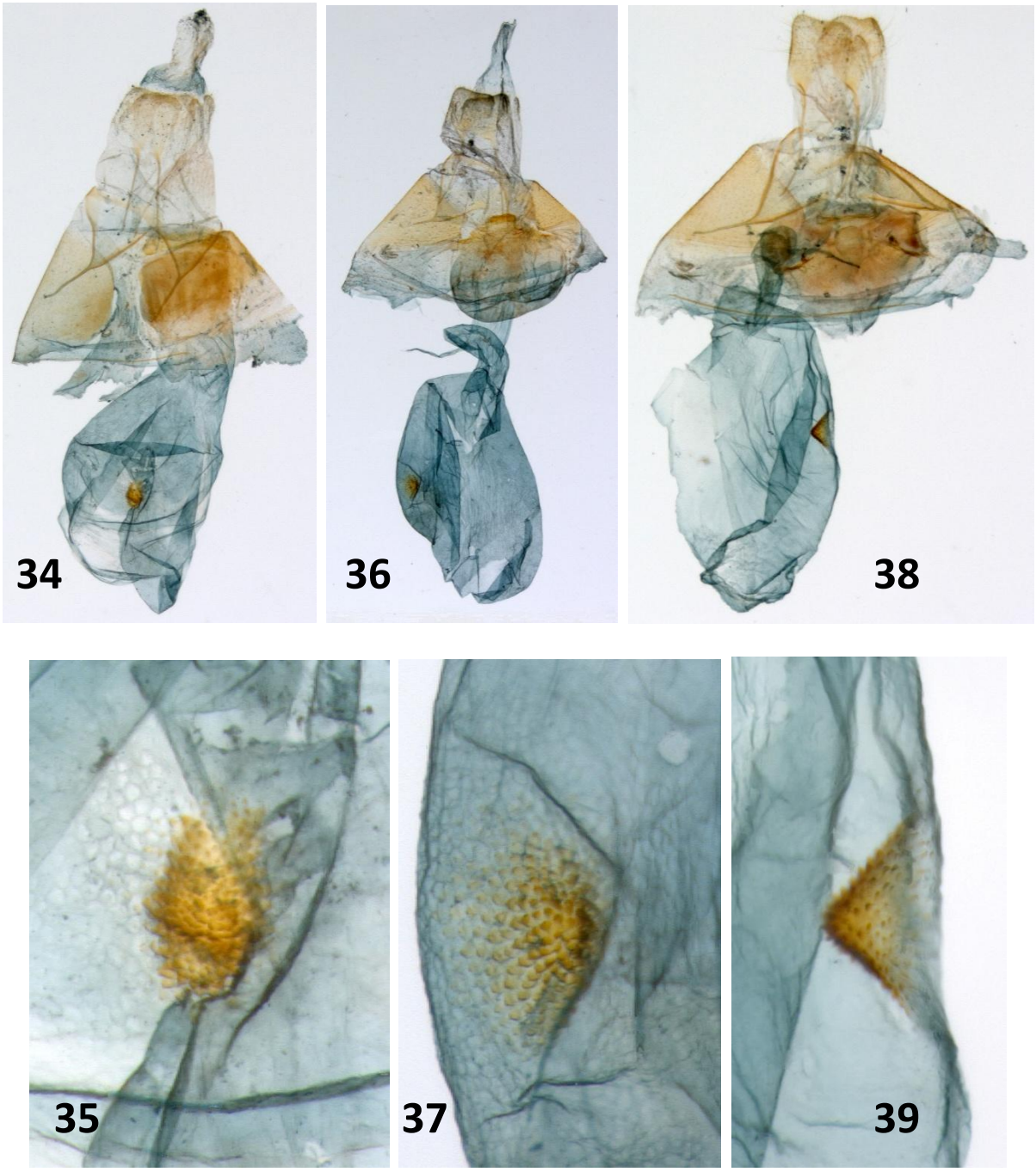

Figs 34-35. Female genitalia *Blaviodes albogrisea*, RMNH.INS.1282802: **34.** genital; **35.** signum; **Figs 36-37.** Female genitalia *B. raanyae*, RMNH.INS.1282789: **36.** genital; **37.** signum; **Figs 38-39.** Female genitalia *B. schoutenae*, RMNH.INS.1282816: **38.** genital; **39.** signum.

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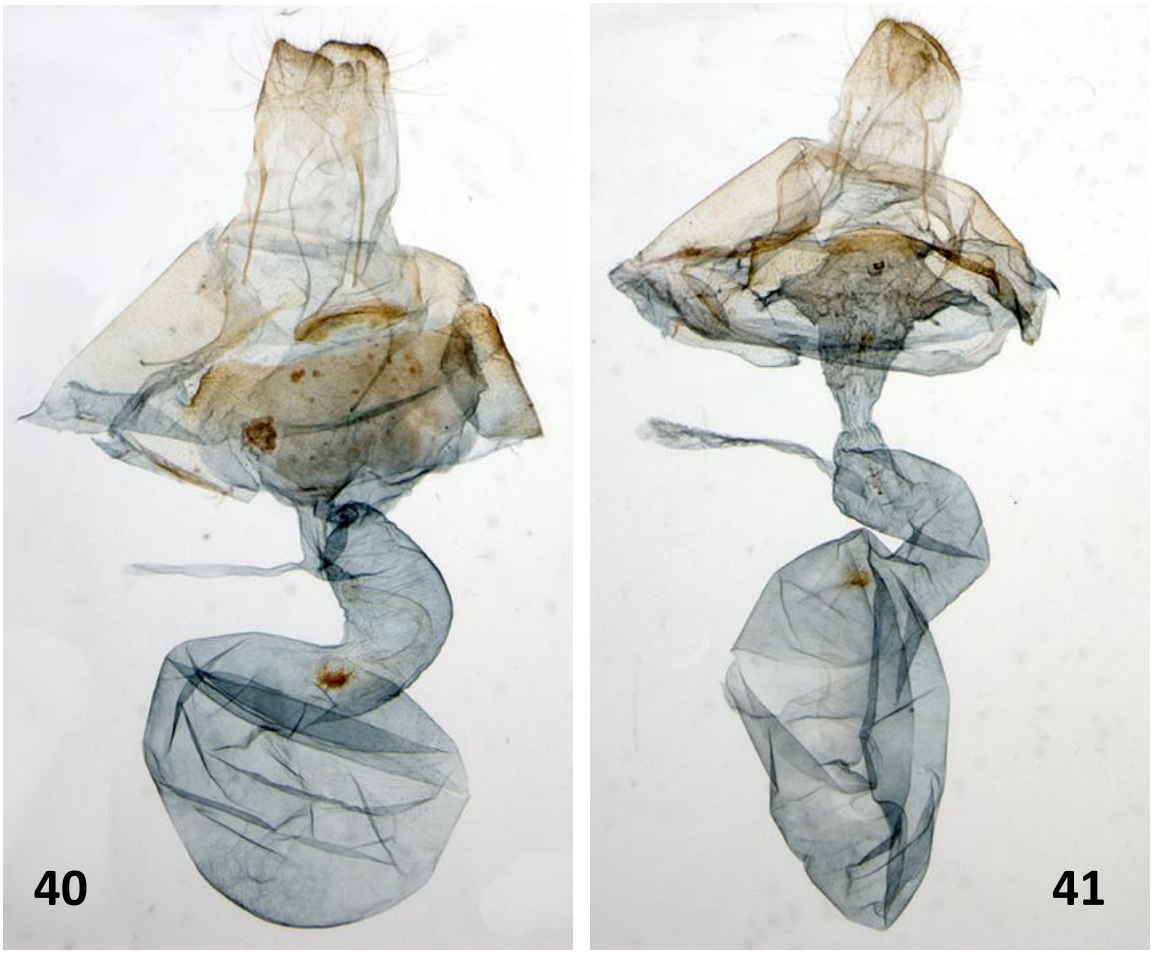

Fig. 40. Female genitalia *Blaviodes virginea*, RV1229; **Fig. 41.** Female genitalia *B. heringi*, RV1231.

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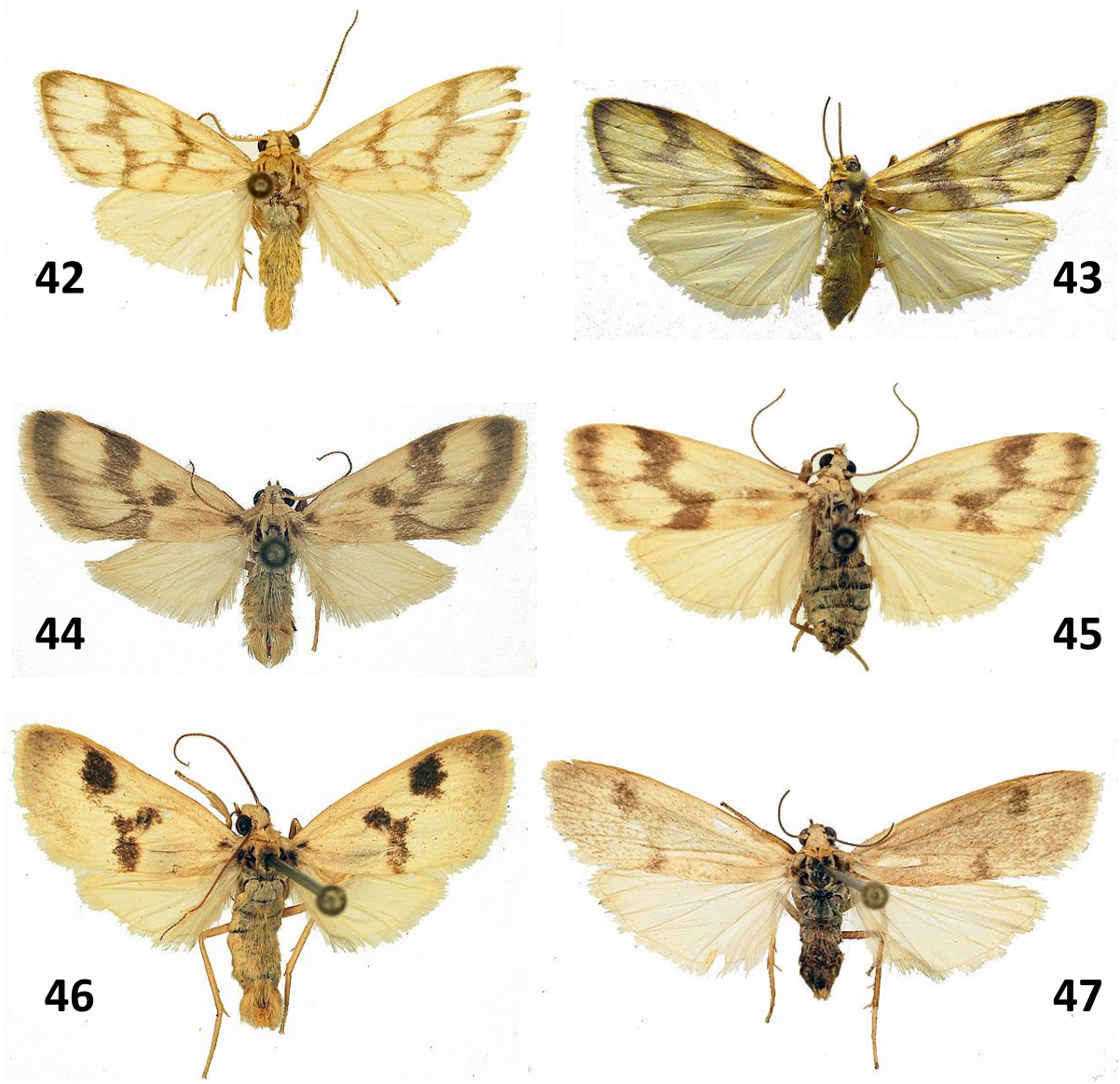

Figs 42-47. *Graphosia* species. **42.** *Graphosia bilineata* Hampson, 1900, ♂, Batanta Island, Papua Barat, Indonesia, RMNH; **43.** *G. bilineata* Hampson, 1900, ♀, Borme, Papua, Indonesia, KSP-48636; **44.** *G. pachygramma* Hampson, 1914, ♂, Prafi, Papua Barat, Indonesia, RMNH; **45.** *G. pachygramma* Hampson, 1914, ♀, Prafi, Papua Barat, Indonesia, RMNH; **46.** *G. polylophota* Hampson, 1914, ♂, Depapre, Papua, Indonesia, RMNH; **47.** *G. polylophota* Hampson, 1914, ♀, Rasiei, Papua Barat, Indonesia, RMNH.

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Figs 48-49. Male genitalia *Graphosia bilineata*, RMNH.INS. 1282770: **48.** genital armature; **49.** aedeagus; **Figs 50-51.** Male genitalia *G. pachygramma*, RMNH.INS.1282772: **50.** genital armature; **51.** aedeagus; **Figs 52-53.** Male genitalia *G. polylophota*, RMNH.INS.1282775: **52.** genital armature; **53.** aedeagus.

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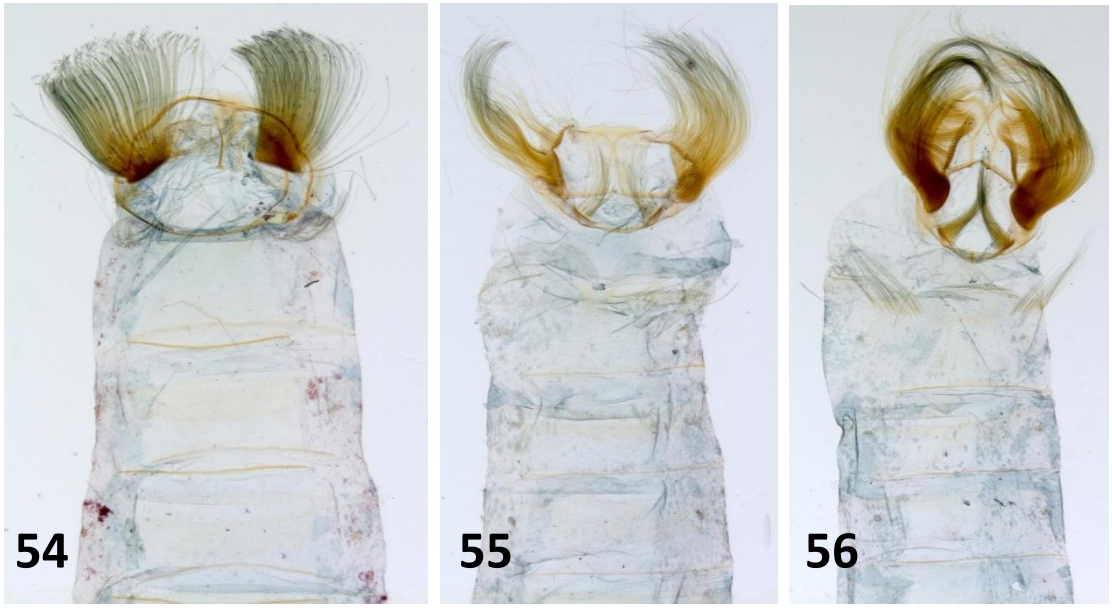

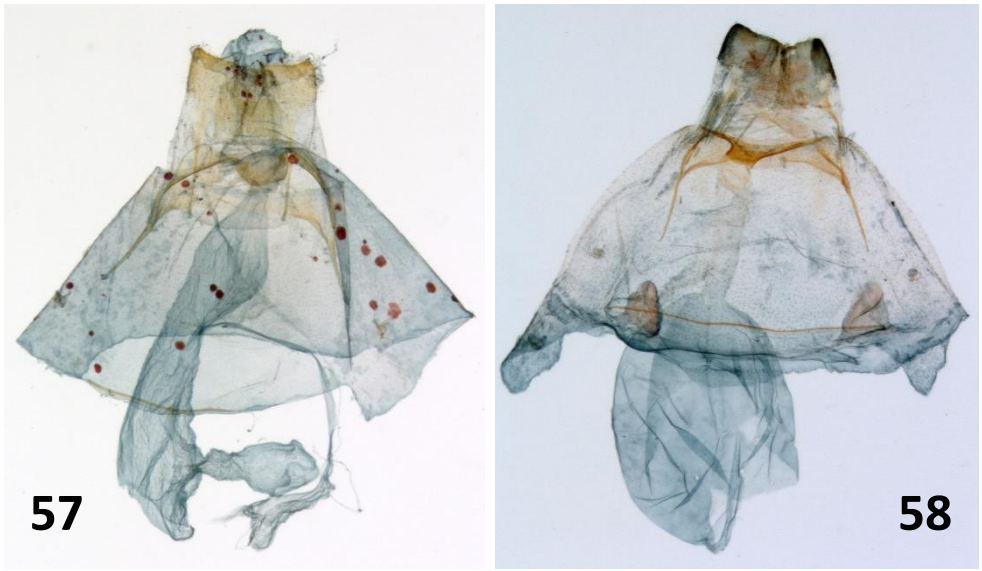

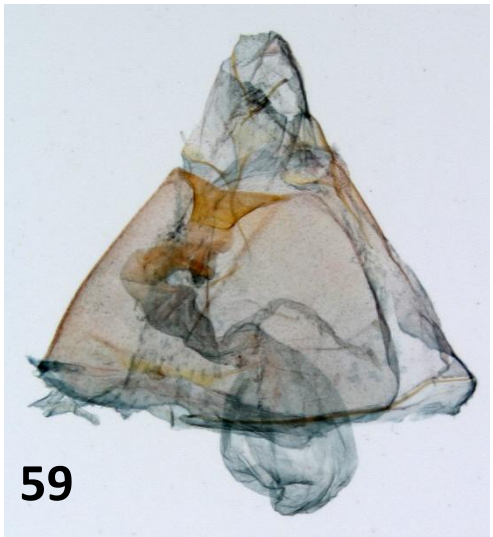

Figs 54-56. Male abdomen with bristles *Graphosia* species. **54.** *Graphosia bilineata*, RMNH.INS. 1282770; **55.** *G. pachygramma*, RMNH.INS.1282772; **56.** *G. polylophota*, RMNH.INS.1282775.

Figs 57-59. Female genitalia *Graphosia* species. **57.** *Graphosia bilineata*, RMNH.INS.1282771; **58.** *G. pachygramma*, RMNH.INS.1282774; **59.** *G. polylophota*, RMNH.INS.1282776.

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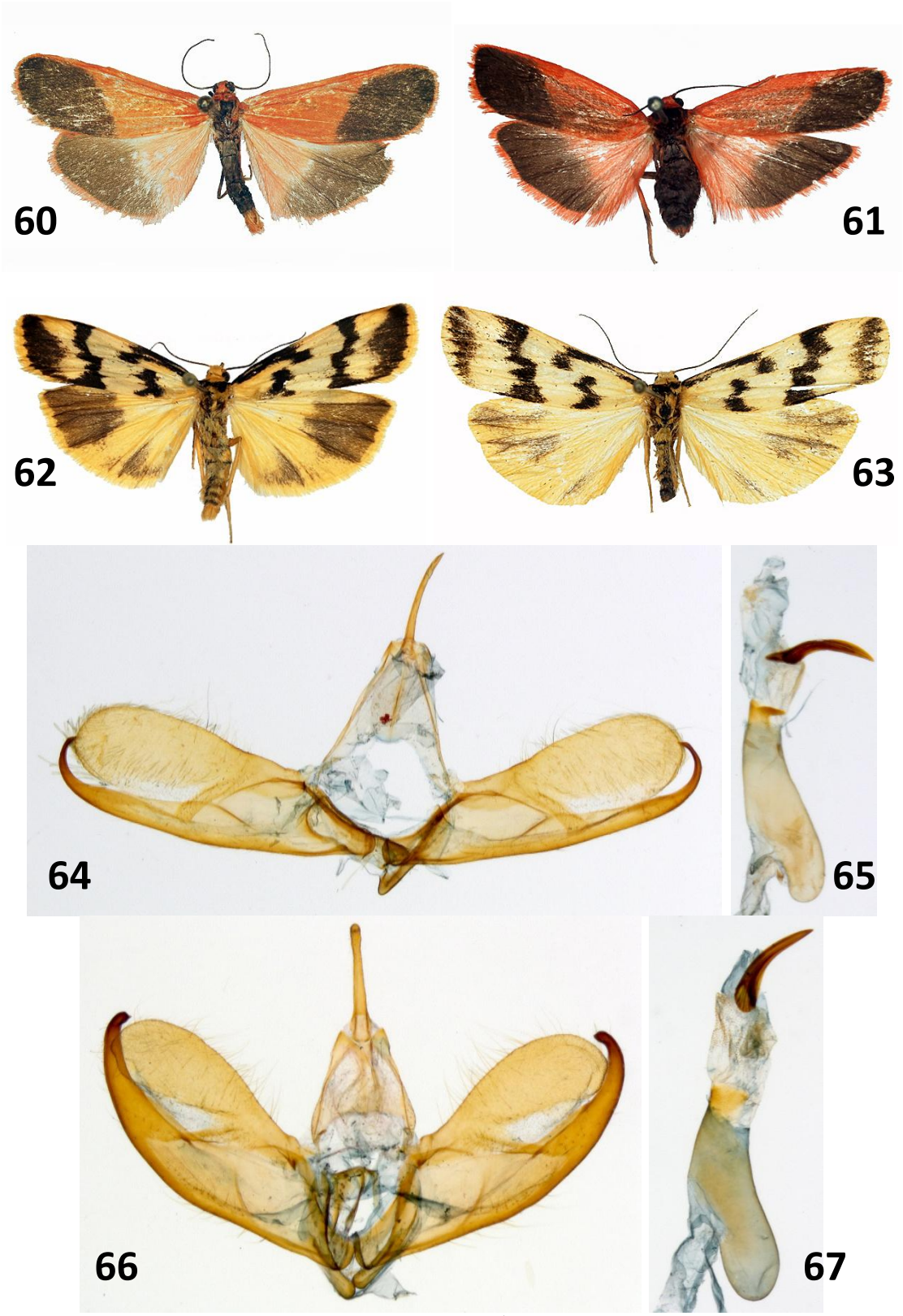

Figs 60-61. *Scoliacma bicolora* (Boisduval, 1832). **60.** ♂, Red Hill, Victoria, Australia, RMNH; **61.** ♀, Victoria, Australia, RMNH; **Figs 62-63.** *Tigrioides alterna* Walker, 1854. **62.** ♂, Sebastopol, Victoria, Australia, RMNH.INS.1282836; **63.** ♀, Sebastopol, Victoria, Australia, RMNH.INS.1282836; **Figs 64-65.** Male genitalia *Scoliacma bicolora*, RMNH.INS. 1282790: **64.** genital armature; **65.** aedeagus; **Figs 66-67.** Male genitalia *Tigrioides alterna*, RMNH.INS.1282834: **66.** genital armature; **67.** aedeagus.

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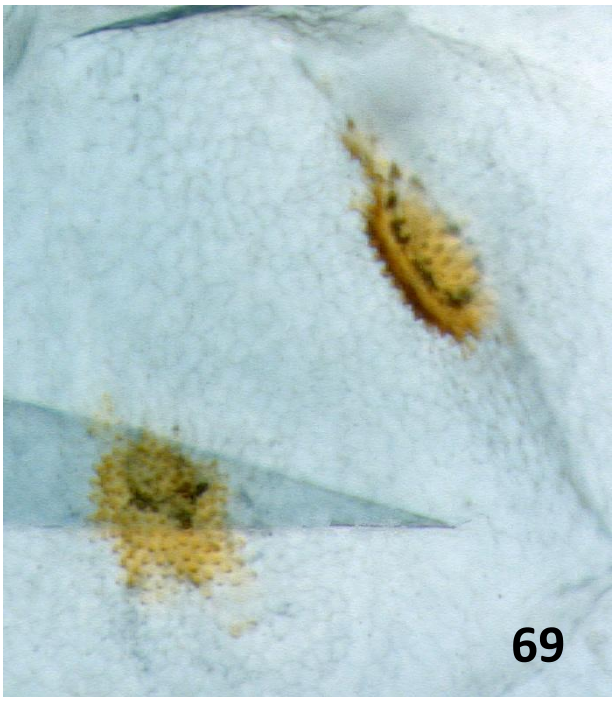

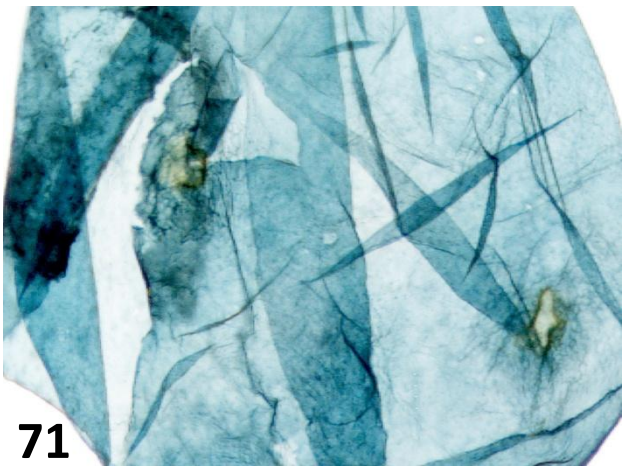

Figs 68-69. Female genitalia *Scoliacma bicolora*, RMNH.INS. 1282791: **68.** genital; **69.** signa; **Figs 70-71.** Female genitalia *Tigrioides alterna*, RMNH.INS.1282835: **70.** genital; **71.** signa.

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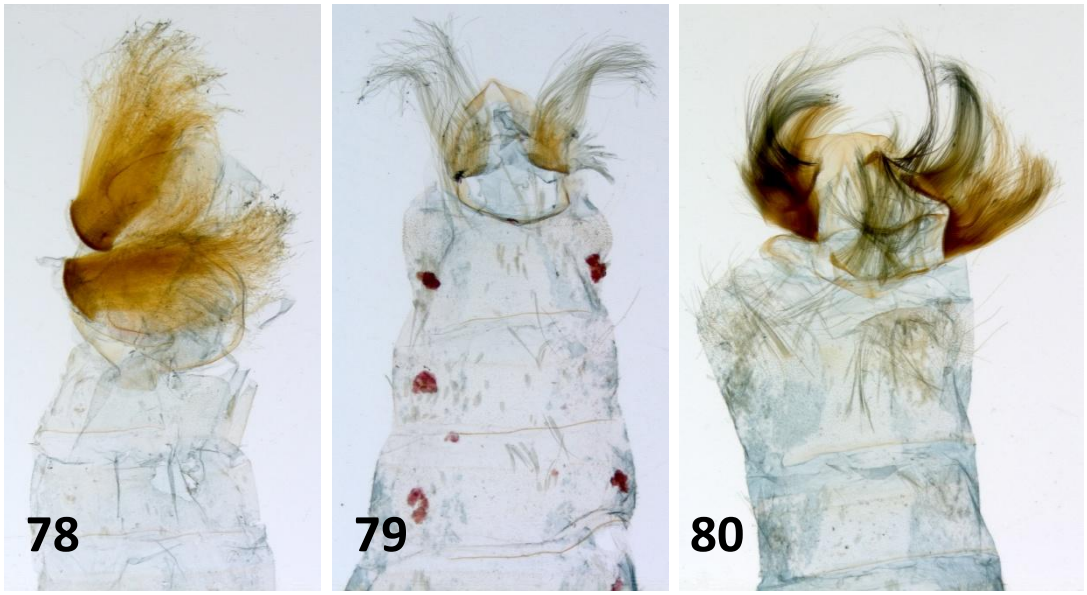

Figs 72-73. *Pseudilema ochracea* (Bethune-Baker, 1904), Walmak, Papua, Indonesia, RMNH: **72.** ♂; **73.** ♀; **Figs 74-75.** *Scoliosia brunnescens* (Rothschild, 1912): **74.** ♂, Walmak, Papua, Indonesia, RMNH; **75.** ♀, Demaisi, Papua Barat, Indonesia, RMNH; **Figs 76-77.** *Tylanthes ptochias* Meyrick, 1889: **76.** ♂, Andai, Papua Barat, Indonesia, RMNH; **77.** ♀, Milne Bay, PNG, BMNH.
Figs 78-80. Male abdomen with bristles: **78.** *Pseudilema ochracea*, RMNH.INS. 1282782; **79.** *Scoliosia brunnescens*, RMNH.INS.1282781; **80.** *Tylanthes ptochias*, RMNH.INS.1282792.

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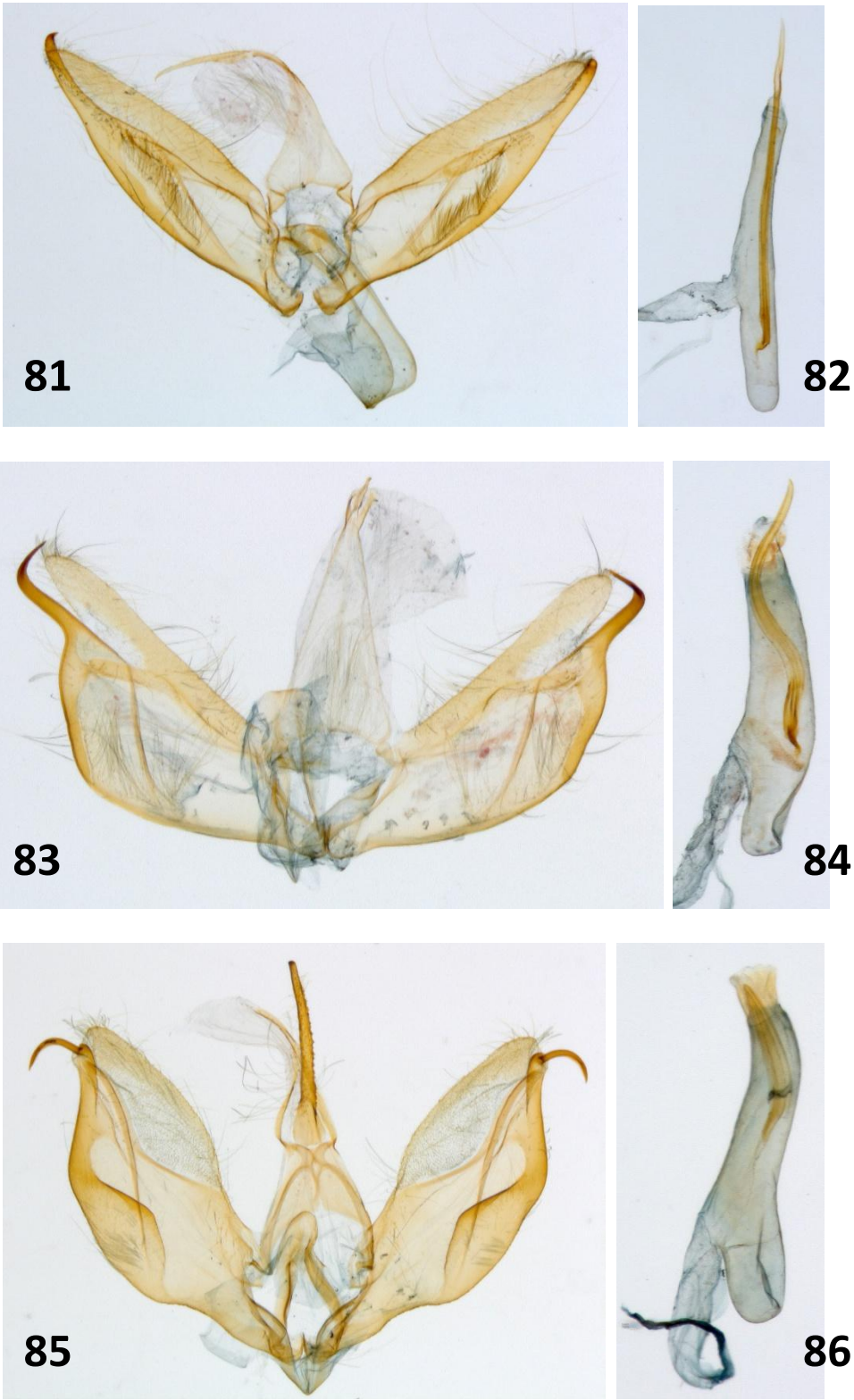

Figs 81-82. Male genitalia *Pseudilema ochracea*, RMNH.INS. 1282782: **81.** genital armature; **82.** aedeagus; **Figs 83-84.** Male genitalia *Scoliosia brunnescens*, RMNH.INS.1282781: **83.** genital armature; **84.** aedeagus; **Figs 85-86.** *Tylanthes ptochias*, RMNH.INS.1282792: **85.** genital armature; **86.** aedeagus.

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Fig. 87. Female genitalia *Pseudilema ochracea*, RMNH.INS. 1282783; **Fig. 88.** Female genitalia *Scoliosia brunnescens*, RMNH.INS.1282778.

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