



Revision of *Aleyroctonus* Masner & Huggert (Hymenoptera, Platygastidae, Sceliotrachelinae)

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Abstract

The genus *Aleyroctonus* Masner & Huggert is revised. *Aleyroctonus pilatus* Masner & Huggert is redescribed, and two species are described as new: *A. miasmus* Lahey & Polaszek, **sp. nov.** (Australia) and *A. stanslyi* Lahey & Polaszek, **sp. nov.** (Australia). We consider *Aleyroctonus* to be most closely related to a complex of three morphologically similar genera: *Aphanomerus* Perkins, *Austromerus* Masner & Huggert, and *Helava* Masner & Huggert. *Aleyroctonus* is diagnosed from other genera of Sceliotrachelinae and a key is provided to the platygastrid genera of the *Aphanomerus*-cluster.

Keywords

Aleuroctarthrus, *Aleurodicus*, Aleurodicinae, Platygastroidea, taxonomy, whitefly

Introduction

Masner and Huggert (1989) erected the genus *Aleyroctonus* Masner & Huggert for the type species *A. pilatus* Masner & Huggert, a parasitoid of *Aleuroctarthrus destructor* (Mackie) (Hemiptera, Aleyrodidae, Aleurodicinae) in Indonesia. Masner and Huggert (1989) included *Aleyroctonus* in the ‘*Amitus*-cluster’, composed of *Amitus* Haldeman, *Alfredella* Masner & Huggert, and *Nanomerus* Masner & Huggert based on its compact antennal clava, opisthognathous mouthparts, and ‘stocky’ habitus. Morphologi-

cally, however, *Aleyroctonus* more closely resembles *Aphanomerus* Perkins than it does *Amitus*. The densely setose axillar area (Figures 28, 32), tubular submarginal vein that is distant from the fore wing margin (Figure 46), lack of foamy structures on the propodeum and metasoma (Figures 28, 31, 38), and structure of the meso- and metasoma ally the two genera (Figures 3, 35, 41). For this reason, we transfer *Aleyroctonus* to the *Aphanomerus*-cluster of genera *sensu* Masner and Huggert (1989).

This research is part of an ongoing effort to revise the genera of Sceliotrachelinae, with priority given to the monotypic genera described by Masner and Huggert (1989). The purpose is to update the generic concept of *Aleyroctonus*, describe new species of this economically important genus, and provide an identification key to the genera of the *Aphanomerus*-cluster.

Materials and methods

The numbers prefixed with “NHMUK”, “OSUC”, and “USNMENT” are unique identifiers for the individual specimens (note the blank space after some acronyms). Details of the data associated with these specimens may be accessed at the following link: <http://hol.osu.edu> and entering the identifier in the form.

Abbreviations and morphological terms used in the text: sensillar formula of clavomeres: distribution of large papillary sensilla on the ventral clavomeres of the female (Yang et al. 2016), with the segment interval specified followed by the number of papillary sensilla (PS) per segment (e.g., A10–A8/1-2-2) (Bin 1981); LOL: lateral ocellar line, shortest distance between outer margins of the lateral and median ocellus (Masner 1980); OD: ocellar diameter, greatest width of ocellus; OOL: ocular ocellar line, shortest distance between inner orbit and outer margin of posterior ocellus (Masner 1980); POL: posterior ocellar line, shortest distance between inner margins of lateral ocelli (Masner 1980); T1, T2, ... T6: metasomal tergite 1, 2, ... 6; S1, S2, ... S6: metasomal sternite 1, 2, ... 6. Morphological terminology follows Masner and Huggert (1989), Mikó et al. (2007), and Lahey et al. (2019), except for that of the male genitalia which follows Johnson (1984). Morphological terms were matched to concepts in the Hymenoptera Anatomy Ontology (Yoder et al. 2010) using the text analyzer function. A table of morphological terms and URI links is provided in Suppl. material 1: Table S1.

Photographs of card- or point-mounted insects were captured with a Z16 Leica lens, JVC KY-F75U digital camera, and Cartograph software, or using a Macroscopic Solutions Macropod Micro Kit with optical slices rendered in Helicon Focus. Image stacks of card- or point-mounted insects were processed with CombineZP to produce single montage images. Photographs of slide-mounted insects were captured with a Nikon DS-Fi1 camera attached to a Nikon Eclipse 90i compound microscope with DIC illumination. Image stacks of slide-mounted insects were processed with NIS Elements BR (version 3.22.01, Build 715) to produce single montage images. The single scanning electron micrograph was produced using the methods of Talamas et al. (2016). Montage images from the various imaging systems were postprocessed for exposure and contrast with Adobe Photoshop CC.

Collections

This work is based on specimens deposited in the following repositories:

ANIC	Australian National Insect Collection, Canberra, ACT, Australia
CNCI	Canadian National Collection of Insects, Ottawa, Ontario, Canada
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, USA
NHMUK	Natural History Museum, London, United Kingdom
OSUC	C.A. Triplehorn Collection, The Ohio State University, Columbus, Ohio, USA
USNM	Smithsonian National Museum of Natural History, Washington, DC, USA

Abbreviations and characters annotated in the figures

2Rs	second abscissa of the radial sector vein (Figure 46)
apT2	anterior setal patch of T2 (Figure 3)
bcT2	basal costae of T2 (Figure 19)
bsT2	basal striae of T2 (Figure 27)
clv	clava (Figures 16, 17, 25)
fs	foamy structures (Figures 13, 14)
gc	genal carina (Figure 36)
M	median vein (Figure 46)
mfp	metafemoral spines (Figure 7)
mlc	median carina on mesoscutellum (Figure 18)
msc	mesoscutum (Figure 8)
mssp	median mesoscutellar projection (Figure 10)
ps	papillary sensilla (Figure 4, 12, 25)
psu	posterior mesoscutellar sulcus (Figures 11, 26)
R	radial vein (submarginal vein) (Figure 46)
RS+M	basal vein (Figures 1, 46)
sce	setation of compound eye (Figure 20)
scu	mesoscutellum (Figure 8)
tel	transepisternal line (Figures 2, 6, 14)
tf	transverse furrow (Figure 24)

Character discussion

Facial and malar striae

Aleyroctonus is one of the few sceliotracheline genera with facial and malar striae. Normally, the malar sulcus serves as the boundary separating the facial striae (dorsal to the malar sulcus) from the malar striae (ventral to the malar sulcus). In *Aleyroc-*

tonus, the precise position of this boundary is not clear because the malar sulcus is inseparable from the facial and malar striae in terms of surface sculpture. Despite this uncertainty, we use these terms to refer to the striae on either side of where we would expect the malar sulcus to be located based on our experience with other platygastroid genera.

Metascutellar setae

Setation of the metascutellum is uncommon within Platygastroidea, occurring in several genera of Scelionidae (e.g., *Bracalba* Dodd, *Chromoteleia* Ashmead, *Microthoron* Masner, *Oxyscelio* Kieffer, *Paridris* Kieffer, *Romilius* Walker, *Sceliacanthella* Dodd, *Tanadytes* Masner, *Thoron* Haliday, *Thoronidea* Masner & Huggert, *Tiphodytes* Bradley, *Trichoteleia* Kieffer, and *Trimorus* Förster) and at least one species of *Metaclisis* Förster (Platygastridae; USNMENT01197956). *Aleyroctonus* is the only sceliotracheline known to us with a setose metascutellum, a character best observed when viewed posteriorly.

Aphanomerus-cluster

The *Aphanomerus*-cluster was loosely defined by Masner and Huggert (1989) and includes genera with or without foamy structures on the propodeum or metasoma; with basal costae, striae, or anterolateral pits on T2; different numbers of clavomeres; and an articulated, subcompact, or compact antennal clava. We retain use of this cluster until relationships among these genera are better understood, knowing full well that the genera included in this cluster may not form a monophyletic group.

Key to genera of the *Aphanomerus*-cluster

- 1 T1 fused with T2 and S1 fused with S2, without sutures (Figures 22, 23); frons with transverse furrow above torulus (Figure 24); eyes strongly diverging ventrally (Figure 24) ***Parabaeus* Kieffer**
- T1 and T2 and S1 and S2 separated by distinct sutures, sometimes obscured by dense setation (Figure 3); frons without transverse furrow above torulus (Figure 7); eyes not strongly diverging ventrally **2**
- 2 Anterior margin of T2 costate or striate medially, without lateral pits (Figures 1, 19, 26, 27) **3**
- Anterior margin of T2 smooth medially, usually with 2 pits laterally (Figures 3, 8, 28) **7**
- 3 Female antenna 7- or 8-merous; clava without sutures (Figure 12) **4**
- Female antenna 9- or 10-merous; clava with sutures (Figures 16, 17) **5**

- 4 Female antenna 7-merous (Figure 25); clava with 3 papillary sensilla (Figure 25); posterior mesoscutellar sulcus complete (Figure 26); posteromedial surface of mesoscutellum flat ***Pseudaphanomerus* Szelényi**
- Female antenna 8-merous; clava with 4 papillary sensilla (Figure 12); posterior mesoscutellar sulcus incomplete medially (Figure 11); posteromedial surface of mesoscutellum with projection (Figure 10) ***Calomerella* Masner & Huggert**
- 5 Claval formula 1-2-2-1; eyes distinctly setose (Figure 20); mesoscutellum with longitudinal median carina (Figure 18); transepisternal line not extending to anterior and posterior margins of mesopleuron ***Indomerella* Buhl**
- Claval formula 1-2-2-2; eyes glabrous or without distinct setation; mesoscutellum without longitudinal median carina; transepisternal line complete (Figure 2) 6
- 6 RS+M of fore and hind wings nebulous (Figure 1) ***Aphanomerella* Dodd**
- RS+M of fore and hind wings absent or spectral ***Tetrabaeus* Kieffer**
- 7 Foamy structures on posterior surface of metapleuron present (Figures 6, 14) 8
- Foamy structures on posterior surface of metapleuron absent (Figures 9, 36, 42) 9
- 8 Clava composed of articulated segments (Figure 7); ventral surface of metafemur with one or two rows of erect, stout setae (Figure 7); transepisternal line wide and straight, not reaching anterior margin of mesopleuron (Figure 6)
- ***Astromerus* Masner & Huggert**
- Clava compact, segments not articulated (Figures 16, 17); ventral surface of metafemur without rows of erect, stout setae; transepisternal line absent or thin, length variable (Figure 14) ***Helava* Masner & Huggert**
- 9 Malar and facial striae present (Figures 29, 37, 43, 44); distal margin of clypeus pointed (Figures 29, 37, 43) ***Aleyroctonus* Masner & Huggert**
- Malar and facial striae absent (Figure 7); distal margin of clypeus truncate, not pointed (Figures 4, 5) 10
- 10 Mesoscutellum approximately as long as mesoscutum (Figure 8); transepisternal line absent (Figure 9) ***Calixomeria* Lahey & Masner**
- Mesoscutellum clearly shorter than mesoscutum (Figure 13); transepisternal line present ***Aphanomerus* Perkins**

Key to species of *Aleyroctonus*

- 1 Genal carina present (Figure 36); antennal clava approximately as long or longer than A3–A7 (Figure 33); notauli of uniform width throughout, not strongly converging posteriorly (Figures 32, 35) ***A. pilatus* Masner & Huggert**
- Genal carina absent; antennal clava distinctly shorter than A3–A7 (Figure 45); notauli dilated or strongly converging posteriorly (Figures 28, 41) 2
- 2 Notauli strongly converging posteriorly, of uniform width throughout (Figures 28, 31); posterior mesoscutellar sulcus complete (Figure 28); length of POL

- greater than 2 OD (Figure 28); metasoma xanthic (Figures 28, 29).....
..... *A. miasmus* Lahey & Polaszek, sp. nov.
- Notauli not strongly converging posteriorly, dilated posteriorly (Figure 41); posterior mesoscutellar sulcus incomplete medially (Figure 41); length of POL less than or equal to 2 OD (Figure 41); metasoma black (Figures 41, 42).....
..... *A. stanslyi* Lahey & Polaszek, sp. nov.

Taxonomy

Aleyroctonus Masner & Huggert

<http://zoobank.org/012252F4-956E-4A7E-ADBE-955697F0F236>

Aleyroctonus Masner & Huggert, 1989: 36 (original description. Type: *Aleyroctonus pilatus*. Masner & Huggert, by monotypy and original designation); Vlug 1995: 10 (cataloged, catalog of world species).

Description. Head. Color of head: black. Shape of head in dorsal view: transverse. Occipital carina: present. Setation of compound eye: present. Hyperoccipital carina: absent. Occipital pit: absent. Preocellar depressions: present. Position of lateral ocellus: less than 1 OD from inner margin of compound eye. Antennal scrobe: present. Sculpture of antennal scrobe: transversely striate. Sculpture of upper frons: densely reticulate. Sculpture of vertex: densely reticulate. Malar striae: present. Malar sulcus: not apparent, undifferentiated from facial and malar striae. Facial striae: present. Epistomal sulcus: absent. Central keel: present. Shape of clypeus: almost V-shaped, projecting over mandibles. Anteclypeus: undifferentiated from postclypeus. Orientation of mandibular teeth: transverse. Mandibular dentition: bidentate. Number of maxillary palpomeres: 1. Number of labial palpomeres: 1. Number of antennomeres, female: 10. Number of antennomeres, male: 9. Number of clavomeres: 3. Sensillar formula of clavomeres: 1-2-2. Condition of A7: not fused with A8, separated by a deep suture.

Mesosoma. Epomial carina: present. Pronotal shoulders: lateral portion visible in dorsal view, not angled. Sculpture of mesoscutum: reticulate. Anterior admedian line: present as pits. Median mesoscutal line: absent. Notaulus: percurrent. Parapsidial line: present. Mesoscutal humeral sulcus: present as a thin groove. Netrion: present. Scutoscutellar sulcus: present as a deep, noncrenulate groove. Sculpture of mesoscutellum: reticulate. Shape of mesoscutellum: nearly hexagonal, widest anteriorly. Setation of axillula: dense. Metascutellum: obscured medially by posterior margin of mesoscutellum. Setation of metascutellum: present. Transepisternal line: present, terminating in anterior and posterior pits. Mesopleural carina: absent. Metapleural carina: present. Metapleural sulcus: present posteriorly. Paracoxal sulcus: absent. Number of mesofurcal pits: 3. Setation of plical area: dense. Color of legs: yellow. Protibial spur: bifid. Tibial spur formula: 1-2-2. Tarsal formula: 5-5-5. Length of tarsal claws: equal.



Figures 1,2. *Aphanomerella* sp., female (USNMENT00916678) **1** head, mesosoma, metasoma, dorsal view **2** head, mesosoma, metasoma, lateral view. Scale bars: in millimeters.



Figures 3–5. *Aphanomerus* spp. **3** female (USNMENT01109890), head, mesosoma, metasoma, dorsal view **4** female (USNMENT00916681), head, anterior view **5** female (USNMENT00916681), head, lateral view. Scale bars: in millimeters.



Figures 6,7. *Austromerus grandis* Masner & Huggert, female (USNMENT00916679) **6** head, mesosoma, metasoma, lateral view **7** head, mesosoma, metasoma, ventrolateral view. Scale bars: in millimeters.

Metasoma. Foamy structures: absent. Number of visible terga in female: 6. Number of visible terga in male: 8. Setation of laterotergites: present. Number of visible sternae: at least 6. Sculpture of terga: absent. Laterotergites: present. Laterosternites: absent. Nucha: present, visible in dorsal view. Sculpture of nucha: costate. Shape of T1: transverse. Anterolateral pits on T2: present. Longest tergite: T2. Transverse felt field on anterior S2: present, sparsely setose. Ovipositor: *Ceratobaeus*-type (Austin and Field 1997).

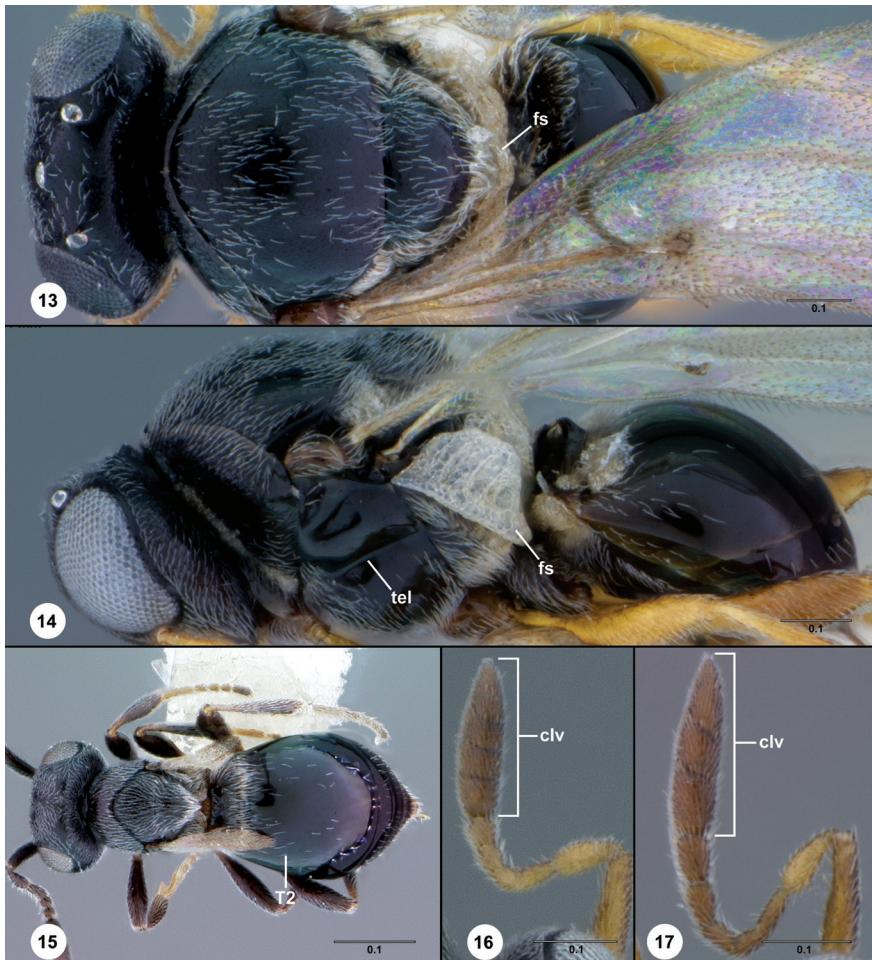
Wings. Color of wings: hyaline. Wing development: macropterous. Length of fore wing: exceeding apex of metasoma. Marginal cilia of fore wing: present. Length of fore wing R: 1/3 length of fore wing. R of fore wing: tubular, remote from costal margin. Shape of knob of R: truncate. Cu of fore wing: spectral. M+Cu of fore wing: spectral. Marginal cilia of hind wing: present, longest along ventral margin. R of hind wing: present, 1/8 length of hind wing.



Figures 8,9. *Calixomeria lasallei* Lahey & Masner, female (USNMENOT1197947) **8** head, mesosoma, metasoma, dorsal view **9** head, mesosoma, metasoma, lateral view. Scale bars: in millimeters.



Figures 10–12. *Calomerella scutellata* Masner & Huggert, female (USNMENOT00916680) **10** head, mesosoma, metasoma, lateral view **11** mesosoma, dorsal view **12** antenna, ventral view. Scale bars: in millimeters.



Figures 13–17. *Helava* spp. **13** *Helava samantheae* Masner & Talamas, male paratype (USNMENT00989200), head, mesosoma, metasoma, dorsal view **14** *Helava samantheae* Masner & Talamas, female holotype (USNMENT00989199), head, mesosoma, metasoma, lateral view **15** *Helava microptera* Masner & Talamas, female holotype (USNMENT00989197), head, mesosoma, metasoma, dorsal view **16** *Helava samantheae* Masner & Talamas, female holotype (USNMENT00989199), antenna, lateral view **17** *Helava allomera* Masner & Talamas, female holotype (USNMENT00989217), antenna, lateral view. Scale bars: in millimeters.

Male genitalia. Length of basal ring: 2/3 length of aedeago-volsellar shaft.

Diagnosis. The presence of facial and malar striae, a distally pointed clypeus, 3-merous antennal clava, compound eyes with long setae, setation of the metascutellum, and the absence of foamy structures on the propodeum and metasoma separates *Aleyroctonus* from other members of Sceliotrachelinae. Excluding the clava, these characters are also present in males of the genus, facilitating the identification of specimens of either sex.

Link to distribution map. [<https://hol.osu.edu/map-large.html?id=7857>]



Figures 18–21. *Indomerella vanachterbergi* Buhl, female holotype (RMNH.INS1104989) **18** head, mesosoma, metasoma, dorsal view **19** head, mesosoma, metasoma, lateral view **20** head, anterodorsal view **21** specimen labels.

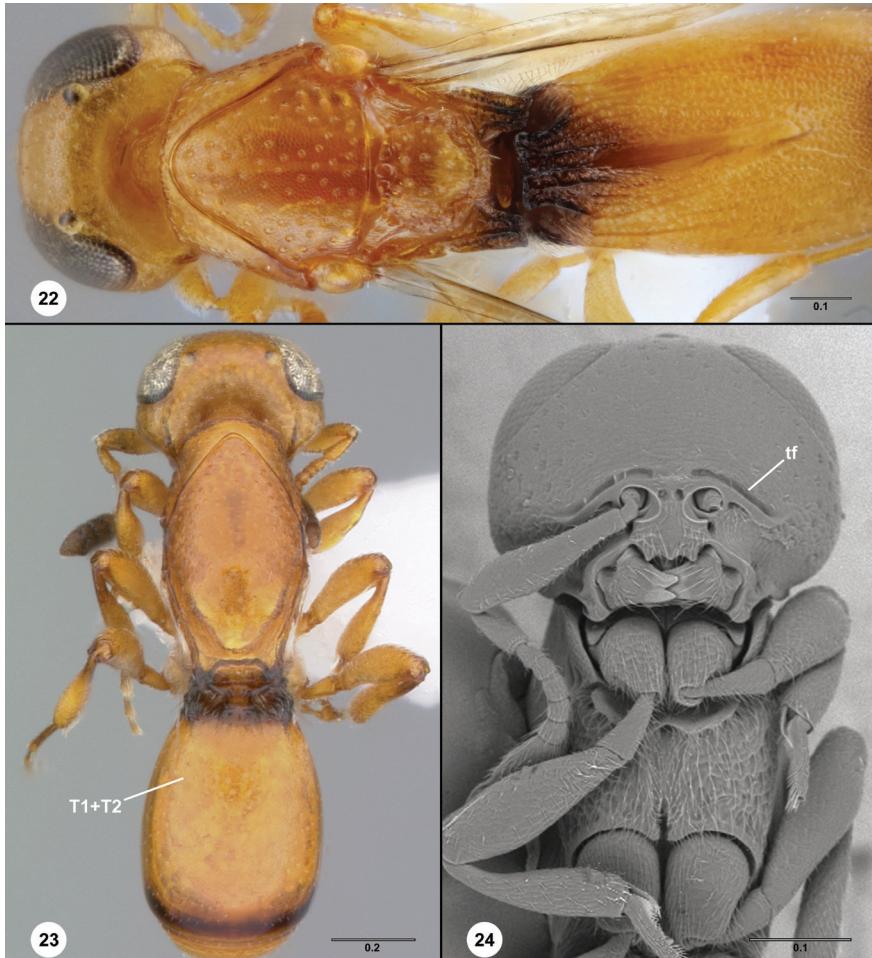
Aleyroctonus miasmus Lahey & Polaszek, sp. nov.

<http://zoobank.org/90A8E729-876E-4297-8A70-BC325E9D401E>

Figures 28–31

Description. Body length of female: 0.96–1.06 mm (n=3). Color of radicle: yellow. Color of mesosoma: brown. Color of metasoma: yellow. Length of LOL: equal to or greater than 2 OD. Length of POL: greater than 2 OD. Genal carina: absent. Length of clava: not longer than A3–A7. Length of A4: approximately as long as A3. Shape of mesoscutum in lateral view: convex. Path of notaui: strongly converging posteriorly. Shape of notaulus: same width throughout. Posterior mesoscutellar sulcus: continuous. Setation of posterior mesoscutellar sulcus: sparse. Sculpture of posterior mesoscutellar sulcus: foveolate. Rim of posterior mesoscutellar sulcus: present. Sculpture of metanotal trough: costate. Prespecular sulcus: present. Sculpture of prespecular sulcus: costate. Setation of metapleuron: dense. Length of metabasitarsus: shorter than tarsomeres 2–5. Setation of anterolateral pits on T2: thin. Rs of fore wing: spectral. M of fore wing: spectral. Rs+M of fore wing: spectral.

Diagnosis. The strongly converging notaui, complete posterior mesoscutellar sulcus, and light coloration of the metasoma make *A. miasmus* a charismatic species that is unlikely to be confused with *A. pilatus* or *A. stanslyi*.



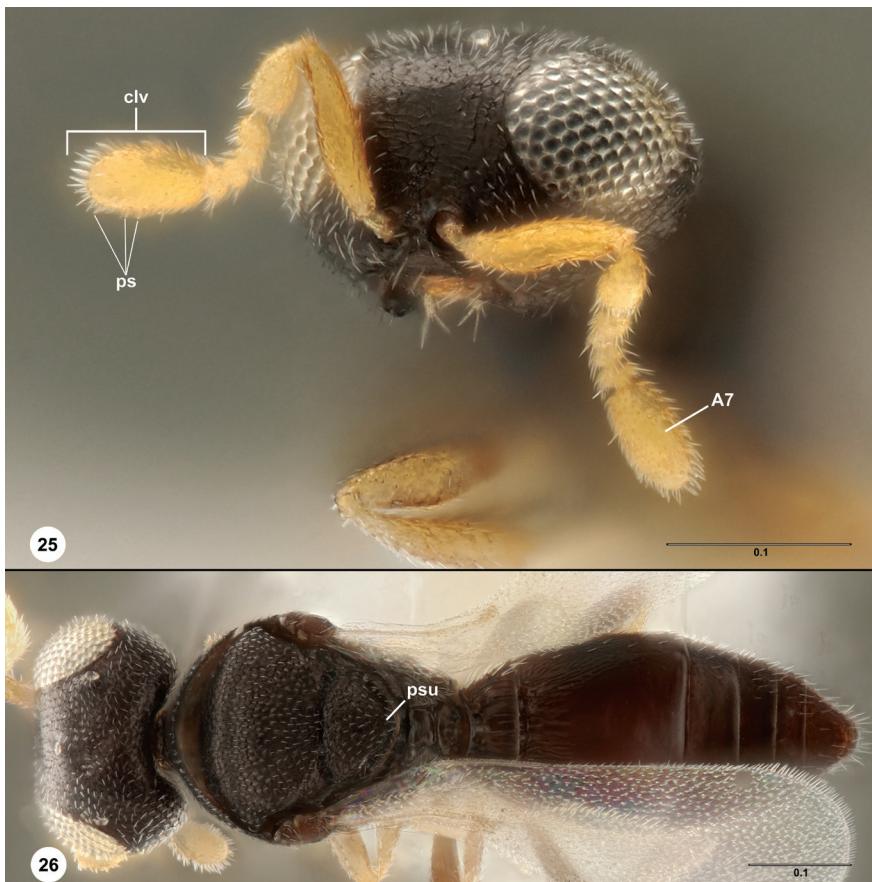
Figures 22–24. *Parabaeus* spp. **22** *Parabaeus* sp., female (USNMENT01197847), head, mesosoma, T1+T2, dorsal view **23** *Parabaeus* sp., female (OSUC 526295), head, mesosoma, metasoma, dorsal view **24** *Parabaeus* sp., female (USNMENT01059128), head, mesosoma, ventral view. Scale bars: in millimeters.

Etymology. The epithet was inspired by the miasma theory of disease, particularly the beaked masks worn by plague doctors during the Black Death of the 12th Century. The epithet is treated as a noun.

Link to distribution map. [<https://hol.osu.edu/map-large.html?id=466911>]

Material examined. Holotype, female: AUSTRALIA: QLD, rainforest, Q-23, 17°28'14"S 146°03'48"E, Ella Bay National Park, 21.IX–23.IX.2004, yellow pan trap, L. Masner, OSUC 697908 (deposited in ANIC). Paratypes: AUSTRALIA: 2 females, OSUC 697906–697907 (CNCI).

Comments. No significant variation in size was observed in the material examined. The host of *A. miamus* is unknown.



Figures 25, 26. *Pseudaphanomerus hyalinatus* Szelényi, female (FSCA 00090462) **25** head, anterior view **26** head, mesosoma, metasoma, dorsal view. Scale bars: in millimeters.

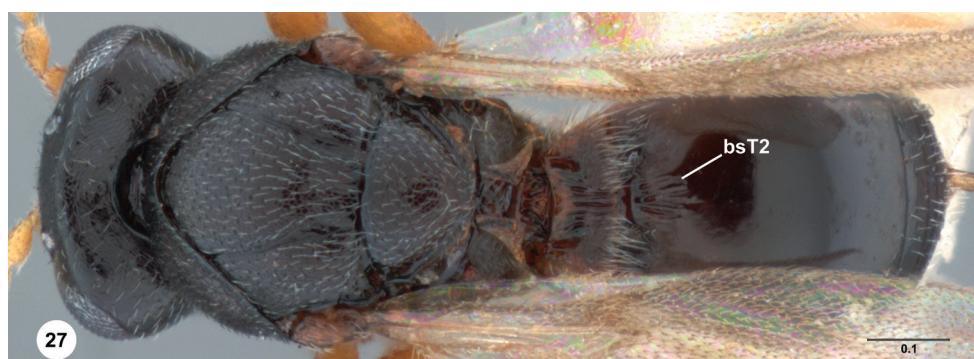
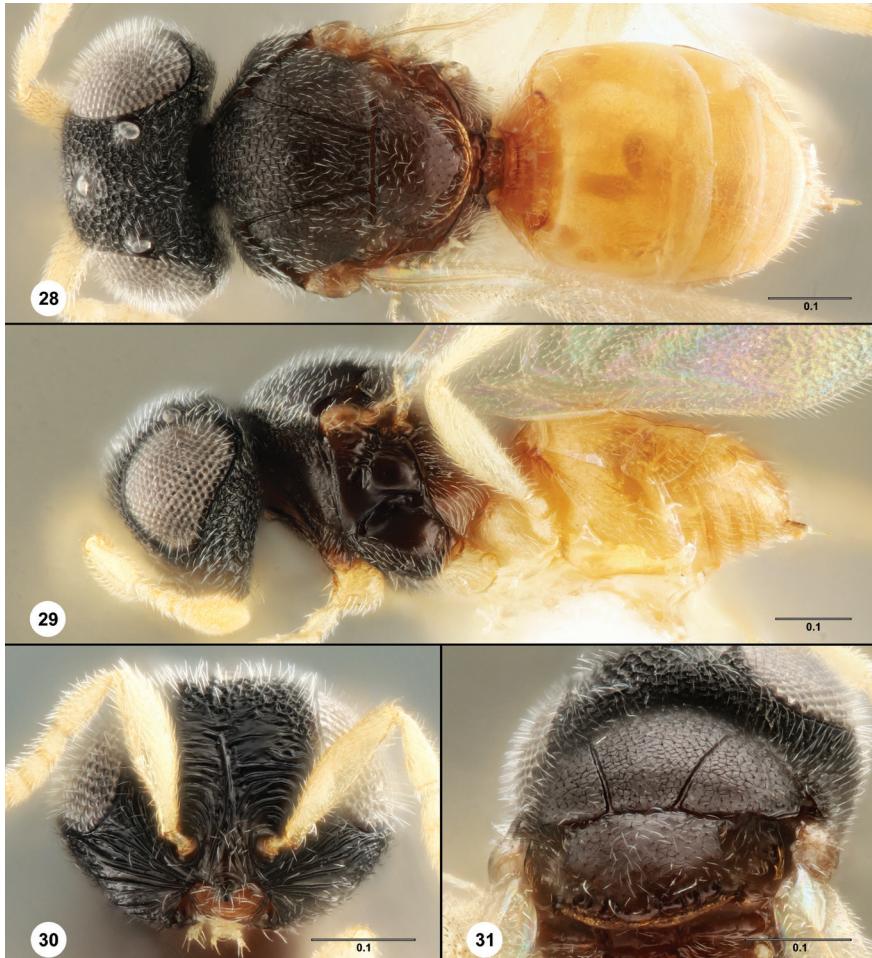


Figure 27. *Tetrabaeus americanus* (Brues), female (USNM 01109486) **27** head, mesosoma, metasoma, dorsal view. Scale bars: in millimeters.



Figures 28–31. *Aleyroctonus miasmus*, female holotype (OSUC 697908) **28** head, mesosoma, metasoma, dorsal view **29** head, mesosoma, metasoma, lateral view **30** head, anterior view **31** mesosoma, posterodorsal view. Scale bars: in millimeters.

Aleyroctonus pilatus Masner & Huggert

<http://zoobank.org/3245B5E8-3C0A-435E-A389-EED848B464FF>

Figures 32–40

Aleyroctonus pilatus Masner & Huggert, 1989: 38 (original description); Vlug 1995: 10 (catalogued, type information).

Description. Body length of female: 1.18–1.23 mm (n=2). Body length of male: 0.99–1.06 mm (n=2). Color of radicle: yellow; black. Color of mesosoma: black. Color of metasoma: black. Length of LOL: equal to or greater than 2 OD. Length of POL:



Figures 32–34. *Aleyroctonus pilatus*, female holotype (USNMENT01059255) 32 head, mesosoma, metasoma, dorsal view 33 head, mesosoma, metasoma, lateral view 34 head, anterior view. Scale bars: in millimeters.

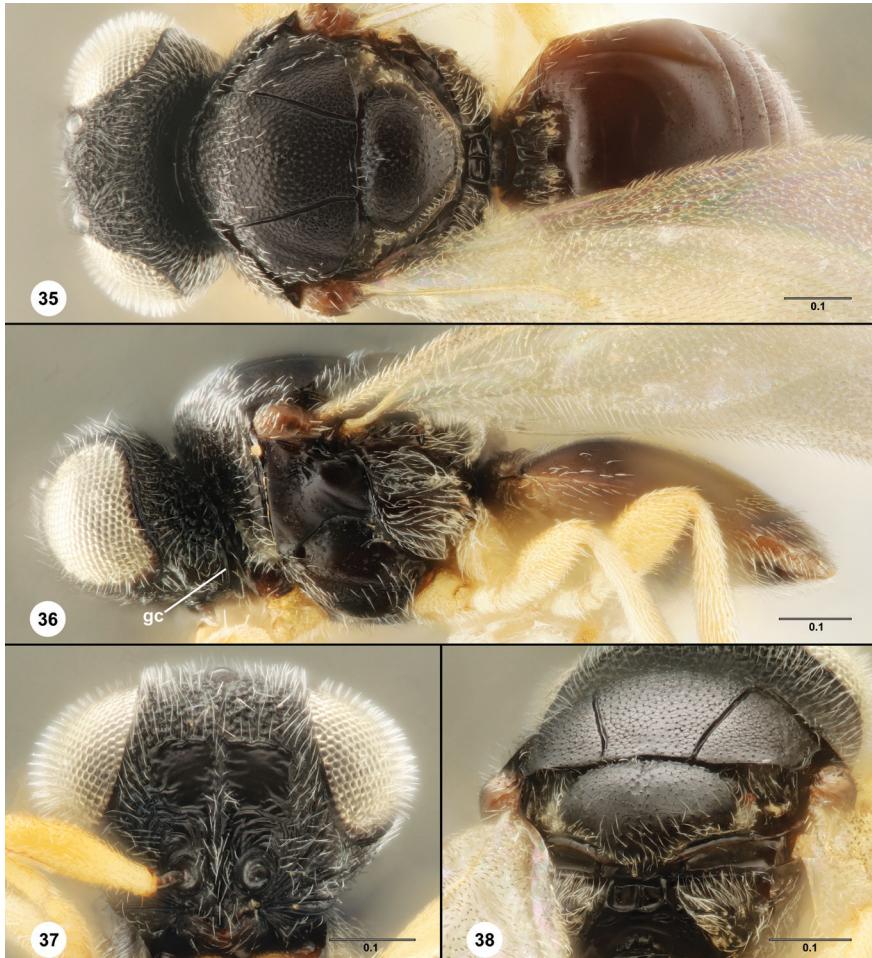
greater than 2 OD. Genal carina: present. Length of clava: longer than A3–A7. Length of A4: approximately as long as A3. Shape of mesoscutum in lateral view: flat to slightly convex. Path of notaui: subparallel. Shape of notaui: same width throughout. Posterior mesoscutellar sulcus: incomplete medially. Setation of posterior mesoscutellar sulcus: dense. Sculpture of posterior mesoscutellar sulcus: smooth. Rim of posterior mesoscutellar sulcus: absent. Sculpture of metanotal trough: smooth. Prespecular sulcus: absent; present. Sculpture of prespecular sulcus: smooth; weakly costate. Setation of metapleuron: dense. Length of metabasitarsus: shorter than tarsomeres 2–5. Setation of anterolateral pits on T2: dense. Rs of fore wing: spectral. M of fore wing: nebulous. Rs+M of fore wing: nebulous. Shape of ventral adeagal lobe: rounded.

Diagnosis. The genal carina and ovoid clava that is longer than A3–A7 readily separates *A. pilatus* from other species in the genus.

Link to distribution map. [<https://hol.osu.edu/map-large.html?id=12274>]

Material examined. Paratypes: **MALAYSIA:** 6 females, 2 unsexed, OSUC 697943–697945 (BMNH); OSUC 697946–697950 (CNCI). Other material: **AUSTRALIA:** 3 females, 5 males, OSUC 697909, 697911–697912 (ANIC); OSUC 697918, 697921–697922 (CNCI); NHMUK010370460, OSUC697954 (NHMUK).

Comments. The distribution of this species is expanded to include northeast and southeast Queensland, Australia. In addition, Carver and Reid (1996) mentioned the presence of *A. pilatus* in Papua New Guinea; however, we did not examine specimens from that location.



Figures 35–38. *Aleyroctonus pilatus*, female (OSUC 697921) **35** head, mesosoma, metasoma, dorsal view **36** head, mesosoma, metasoma, lateral view **37** head, anterior view **38** mesosoma, posterodorsal view. Scale bars: in millimeters.



Figure 39. *Aleyroctonus pilatus*, male (OSUC 697912) **39** head, mesosoma, metasoma, lateral view. Scale bar: in millimeters.



Figure 40. *Aleyroctonus pilatus*, male (OSUC 697954) **40** antenna, lateral view. Scale bar: in micrometers.

***Aleyroctonus stanslyi* Lahey & Polaszek, sp. nov.**

<http://zoobank.org/0AAAD651-E536-4DEE-8B00-46DF1FB25DE5>

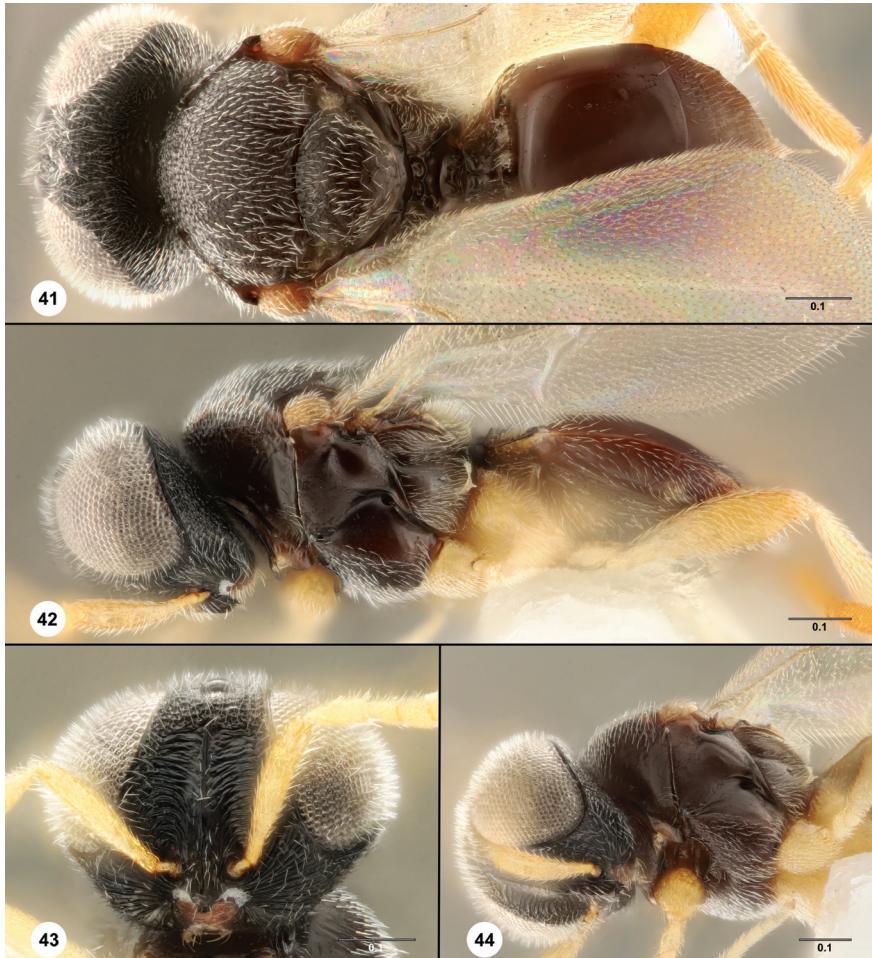
Figures 41–47

Description. Body length of female: 1.21 mm (n=1). Color of radicle: black. Color of mesosoma: black. Color of metasoma: black. Length of LOL: less than 2 OD. Length of POL: approximately 2 OD. Genal carina: absent. Length of clava: not longer than A3–A7. Length of A4: clearly longer than A3. Shape of mesoscutum in lateral view: flat to slightly convex. Path of notaui: subparallel. Shape of notaulus: posteriorly dilated. Posterior mesoscutellar sulcus: incomplete medially. Setation of posterior mesoscutellar sulcus: sparse. Sculpture of posterior mesoscutellar sulcus: smooth. Rim of posterior mesoscutellar sulcus: absent. Sculpture of metanotal trough: smooth. Prespecular sulcus: present. Sculpture of prespecular sulcus: smooth. Setation of metapleuron: medially sparse. Length of metabasitarsus: as long or longer than tarsomeres 2–5. Setation of anterolateral pits on T2: dense. Rs of fore wing: nebulous. M of fore wing: nebulous. Rs+M of fore wing: spectral. Shape of ventral adeagal lobe: truncate.

Diagnosis. *Aleyroctonus stanslyi* is immediately recognizable by its short POL and posteriorly dilated notaui.

Etymology. Named in memory of Philip Anzolut Stansly (Professor of Entomology, University of Florida), former graduate advisor of the first author, authority on integrated pest management, and a world-renowned expert on the biological control of whiteflies. The epithet is treated as a noun in the genitive case.

Link to distribution map. [<https://hol.osu.edu/map-large.html?id=475493>]



Figures 41–44. *Aleyroctonus stanslyi*, female holotype (OSUC 697919) **41** head, mesosoma, metasoma, dorsal view **42** head, mesosoma, metasoma, lateral view **43** head, anterior view **44** head, mesosoma, ventrolateral view. Scale bars: in millimeters.

Material examined. Holotype, female: AUSTRALIA: QLD, Beechmont, 4.V.1991, W. I. Farno, OSUC 697919 (deposited in ANIC). Paratypes: AUSTRALIA: 15 females, 4 males, OSUC 697910 (ANIC); OSUC 697913–697917, 697920, 697924 (CNCI); 697936–697942, 97952–697953, 697955 (NHMUK); OSUC 697923 (OSUC).

Comments. Host records indicate that *A. stanslyi* is a solitary parasitoid of immature *Aleuroctarthrus destructor* (Mackie) (Hemiptera, Aleyrodidae, Aleurodicinae) on *Cordyline stricta* (Sims) Endl. (Asparagales, Asparagaceae), the narrow-leaved pond lily. *Aleyroctonus stanslyi* is the ‘*Aleyroctonus* sp. nov.’ discussed by Carver and Reid (1996).

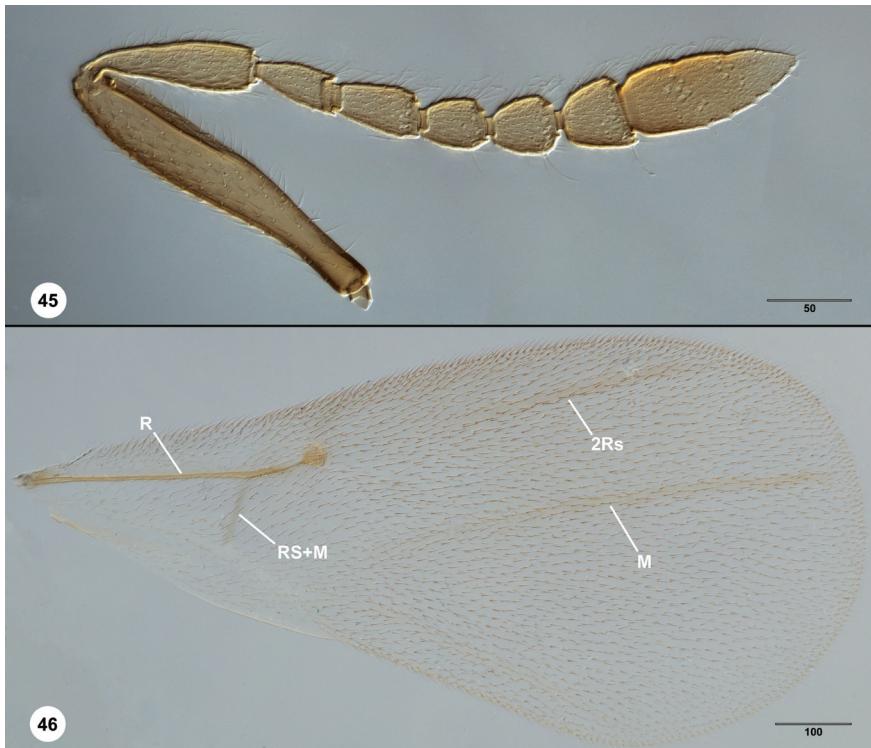


Figure 45, 46. *Aleyroctonus stanslyi*, female paratype (OSUC 697952) **45** antenna, lateral view **46** fore wing, dorsal view. Scale bars: in micrometers.

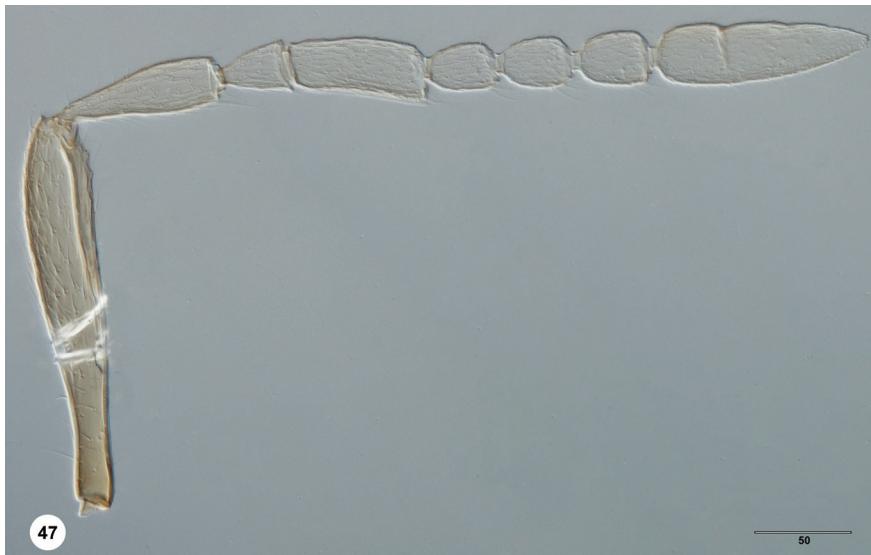


Figure 47. *Aleyroctonus stanslyi*, male paratype (OSUC 697953)

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Supplementary material I

Table S1

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Data type: species data

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Link: <https://doi.org/10.3897/jhr.37.38383.suppl1>