

RESEARCH PAPER

Revision of the genus *Allorhynchium* in the Philippine Islands (Hymenoptera: Vespidae: Eumeninae)

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Abstract. The Philippine species of the genus *Allorhynchium* van der Vecht, 1963 are revised, with three species recognized: *A. angulatum* sp. nov., *A. cariniventre* Giordani Soika, 1986, and *A. quadrituberculatum* (von Schulthess, 1913) (= *A. violaceipenne* Gusenleitner, 2003, syn. nov.). Three additional species, *Allorhynchium argentatum* (Fabricius, 1804), *A. chinense* (de Saussure, 1862), and *A. snelleni* (de Saussure, 1862), are excluded from the Philippine fauna.

Key words. Hymenoptera, Vespidae, Eumeninae, *Allorhynchium*, key, Philippine Islands, Oriental Region

Zoobank: <http://zoobank.org/urn:lsid:zoobank.org:pub:AB87AA14-747D-4D09-871C-0F20AFB9CF81>

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Introduction

Allorhynchium van der Vecht, 1963 is a small genus of Eumeninae currently comprising about 25 taxa, mainly distributed in the Oriental Region, with several species reaching the Palearctic Region and one species recorded from Australia (CARPENTER & BROWN 2021, LUO et al. 2020, TAN et al. 2018).

After the institution of the genus (VAN DER VECHT 1963), several studies dealing with the taxonomy of the continental species were published, comprising both descriptions of single species and keys to more or less large regions (DONG & WANG 2017; GIORDANI SOIKA 1986a,b, 1992; GUSENLEITNER 1997; GIRISH KUMAR & SHARMA 2015; GIRISH KUMAR et al. 2016; LI et al. 2019; LUO et al. 2020; NGUYEN et al. 2023; TAN et al. 2018), while very little attention was dedicated to the insular species, with the description of two Philippine species only (GIORDANI SOIKA 1986a; GUSENLEITNER 1998, 2003). Although included in the keys published by TAN et al. (2018) and NGUYEN et al. (2023), the current knowledge of the Philippine species of *Allorhynchium* is far from satisfactory, with some species records based on old and dubious data and others known from one or very few specimens. Examination of conspicuous recent material and some types showed how the current taxonomy of Philippine *Allorhynchium* needs to be revised. This revision is here carried out recognizing a total of three valid species in the Philippine Islands, including the description of a new species, a new synonymy and the exclusion of three species from the fauna.

Material and methods

The adult morphology and coloration were observed on pinned specimens under a Leica MZ6 stereoscopic microscope. Metasomal tergites, metasomal sternites and antennal flagellomeres are abbreviated as T, S and F respectively. “Body length” indicates the length of head, mesosoma, and first two metasomal tergites in dorsal view combined; measurements were taken using a digital Vernier caliper (accuracy ± 0.1 mm). Images were acquired using a Canon EOS 1300D equipped with an inverted Canon EF-S 18–55 mm lens and extension tubes, stacked with CombineZP, processed and assembled with Photoshop CC 2018.

For extraction and study of male genitalia, the following process was used: a) relaxation of specimen in humid chamber and extraction of genital capsule; b) immersion in 10% KOH solution until clarification; c) neutralization of the base with 10% acetic acid solution; d) dissection of the genital capsule while immersed in distilled water; e) storing in glycerin.

Examined primary types are listed before all other examined material, with reproduction of labels, single slash (/) dividing lines on the same label and double slash (//) dividing labels.

Distributional data are summarized under the heading “Distribution” by country, with all references listed in the end. The distributional map was created using the online tool SimpleMappr (SHORTHOUSE 2010), including all data from examined material and reliable records from literature.



The collection acronyms used are as follow:

MSNVE	Museo Civico di Storia Naturale, Venezia, Italy;
MSVI	Private collection of Marco Selis, Viterbo, Italy;
NHRS	Naturhistoriska Riksmuseet, Stockholm, Sweden;
OLML	Oberösterreichisches Landesmuseum, Linz, Austria.

Results

Genus *Allorhynchium* van der Vecht, 1963

Allorhynchium van der Vecht, 1963: 57, 58, genus. Type species: *Vespa argentata* Fabricius, 1804, by original designation.

Archancistrocerus Giordani Soika, 1986b: 143, genus. Type species: *Archancistrocerus diffinis* Giordani Soika, 1986, by original designation. Synonymized by TAN et al. (2018: 50).

Halysituberosus Dong & Wang, 2017: 184, genus. Type species: *Halysituberosus menglianensis* Dong & Wang, 2017, by original designation. Synonymized by LUO et al. (2020: 122).

Allorhynchium angulatum sp. nov.

(Fig. 1)

Type material. HOLOTYPE: ♀, labeled: “PH – Mindanao / Zamboanga, Gotalac / XII.2014 // *Allorhynchium angulatum* / HOLOTYPUS ♀ / Det. Marco Selis” (MSNVE). PARATYPES: 1 ♀, “PH – Mindanao / Agusan, Sibagat / I.2015” (MSVI); 1 ♀, “PH – Mindanao / Cabanglasan / XII.2014” (MSVI); 1 ♂, “PH – Mindanao / Zamboanga, Gotalac / V.2014” (MSNVE); 1 ♀, “PH – Mindanao, Zamboanga, / Gotalac, VIII.2014 / Leg. M.G. Felipe” (MSVI); 2 ♀♀, “PH – Mindanao / Zamboanga, Gotalac / XII.2014” (MSVI, OLML); 2 ♀♀, “PH – Mindanao / Zamboanga, Gotalac / I.2015” (MSVI, OLML); 1 ♂, “PH – Mindanao / Zamboanga, Gotalac / III.2015” (MSVI); 1 ♀, “PH – Mindanao / Zamboanga, Gotalac / VI.2015” (MSVI); 1 ♂, “PH – Mindanao / Zamboanga, Gotalac / VII.2015” (MSVI); 1 ♀, “PH – Mindanao / Zamboanga, Liloy / VII.2014” (MSVI).

Diagnosis. Recognized among the Philippine species by: clypeus distinctly emarginate with subtriangular and apically rounded apical teeth (Figs 1c–d), pronotal carina rounded on humeri, metanotum angulate and with oblique posterior face longer than horizontal anterior face, dorsal faces of propodeum distinctly below level of scutellum (Fig. 1f), T1 basally rounded, S2 evenly convex from base to apex, female vertex with cephalic foveae touching each other and with a small tuft of dark setae (Fig. 1e), male S2 shallowly convex on lateral thirds, male S7 with basal raised area about as long as flattened apical area and almost as wide as the sternite (Fig. 1g).

When compared with the key provided by NGUYEN et al. (2023) this species appears somewhat anomalous, showing a mix of the alternative characters: already at the first point of the key, both males and females appear intermediate having propodeal dorsum slightly below level of metanotum, weak metasomal punctures, and S7 of male with a raised basal area. The shape of male S7, however, places *A. angulatum* closer to the species having propodeal dorsum raised to the same level as metanotum, and the rounded pronotal carina places it in the *A. argentatum*-group *sensu* VAN DER VECHT (1963: 59). In this group, *A. angulatum* is readily distinguished by its deeply incised apical margin of clypeus and the propodeal dorsum placed slightly below the level of metanotum.

Another species with a similar propodeal morphology is *A. concolor* van der Vecht, 1963, which is, however, readily distinguished by the shape of clypeus (with narrow incision in the middle of apical margin) and male S7 (with

two elongate tubercles).

Description. Female. Body length 13.2–15.0 mm (holotype 14.6 mm); fore wing length 13.0–16.0 (holotype 14.0 mm). Habitus in Fig. 1a.

Head 1.3× as wide as long in frontal view. Clypeus 1.1× as long as wide, apical margin with rounded emargination and 0.3× as wide as clypeus width, emargination 0.25× as deep as wide, apical corners subtriangular with rounded apex and bearing short blunt carinae; clypeus in lateral view weakly convex in basal half, then shallowly depressed to apex. Distance from posterior ocellus to occipital carina 2.25× as long as distance from posterior ocellus to inner eye margin; cephalic foveae small and placed on mid-line of vertex and touching each other, separated by very narrow septum, placed in deep depression slightly smaller than one ocellus. Gena 0.75× as wide as eye at bottom of ocular sinus; occipital carina complete, strong, and shortly lamellate on gena, very fine on vertex. F1 1.7× as long as wide and 1.35× as long as F2; F2–9 more or less subquadrate, becoming progressively shorter apically; F10 bullet-shaped and shorter than F9. Sides of pronotum weakly sinuate and markedly converging anteriorly in dorsal view; pronotal carina complete and entirely rounded, slightly stronger on humeri; pretegular carina complete and strong; dorsal faces of pronotum convex posteriorly and shallowly depressed along pronotal carina. Mesoscutum 0.9× as long as wide between tegulae, evenly convex in lateral view. Scutellum distinctly convex with more or less flattened median third; anterior margin crenate; mid-line shallowly depressed in posterior third. Metanotum in lateral view oblique and weakly angulate but without distinct transverse carina, anterior horizontal face about one third as long as posterior oblique face. Tegula short and with convex surface, outer margin evenly rounded, posterior lobe subtriangular and not equaling parategula; parategula curved and with broad subtruncate apex. Mesepisternum strongly convex; epicnemial carina strong but blunt, not reaching scrobal furrow; epimeron ventrally produced. Propodeum in lateral view almost vertical, with dorsal horizontal face shorter than metanotum; dorsal face weakly convex and strongly sloping posterolaterally, touching each other behind metanotum but not forming distinct horizontal shelf, placed below level of scutellum; posterior face broadly depressed, median longitudinal carina replaced by deep subtriangular pit at dorsal margin; lateral faces mostly flattened, but curving into other faces at posterodorsal margin; dorsal and lateral carinae absent, inferior carina weak. T1 0.6× as long as wide in dorsal view, trapezoidal with rounded anterior margin; T2 wider than long and slightly wider than T1; S2 very shallowly depressed basally, evenly convex in lateral view.

Clypeus almost matte, finely shagreened and very sparsely micropunctate, with shallow oblique punctures, interspaces ranging from one to several puncture diameters. Head deeply punctured, interspaces very narrow and ridge-like on frons, flattened and reaching one puncture diameter on vertex and gena. Pronotum, mesoscutum and scutellum sculpted similarly to frons, but punctures larger and interspaces wider; mesoscutum more finely and

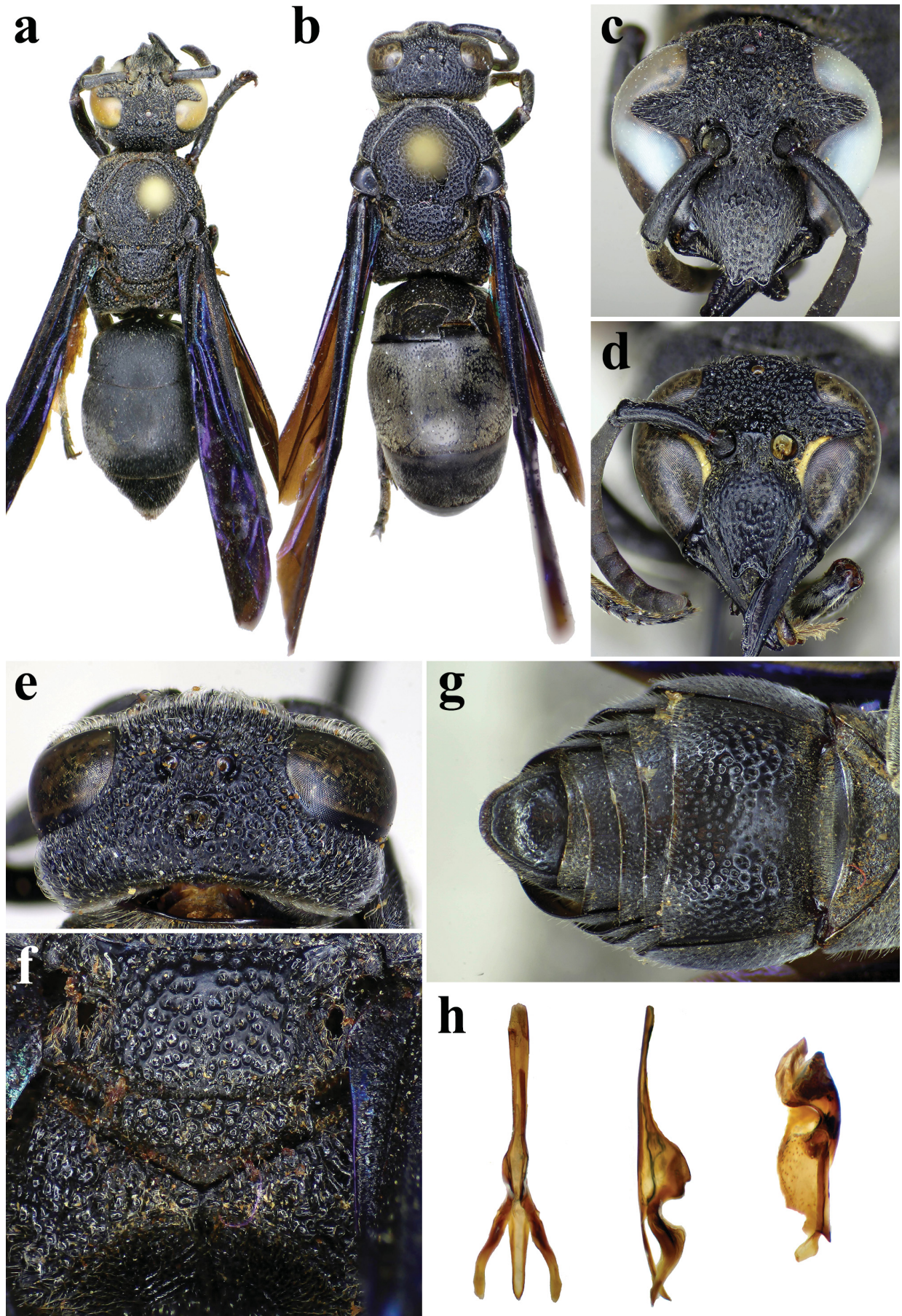


Fig. 1. *Allorhynchium angulatum* sp. nov. a – habitus of female; b – habitus of male; c – head of female in frontal view; d – head of male in frontal view; e – head of female in dorsal view; f – mesosoma in posterodorsal view; g – metasoma of male in ventral view; h – male genitalia (aedeagus in ventral and lateral view, digitus).

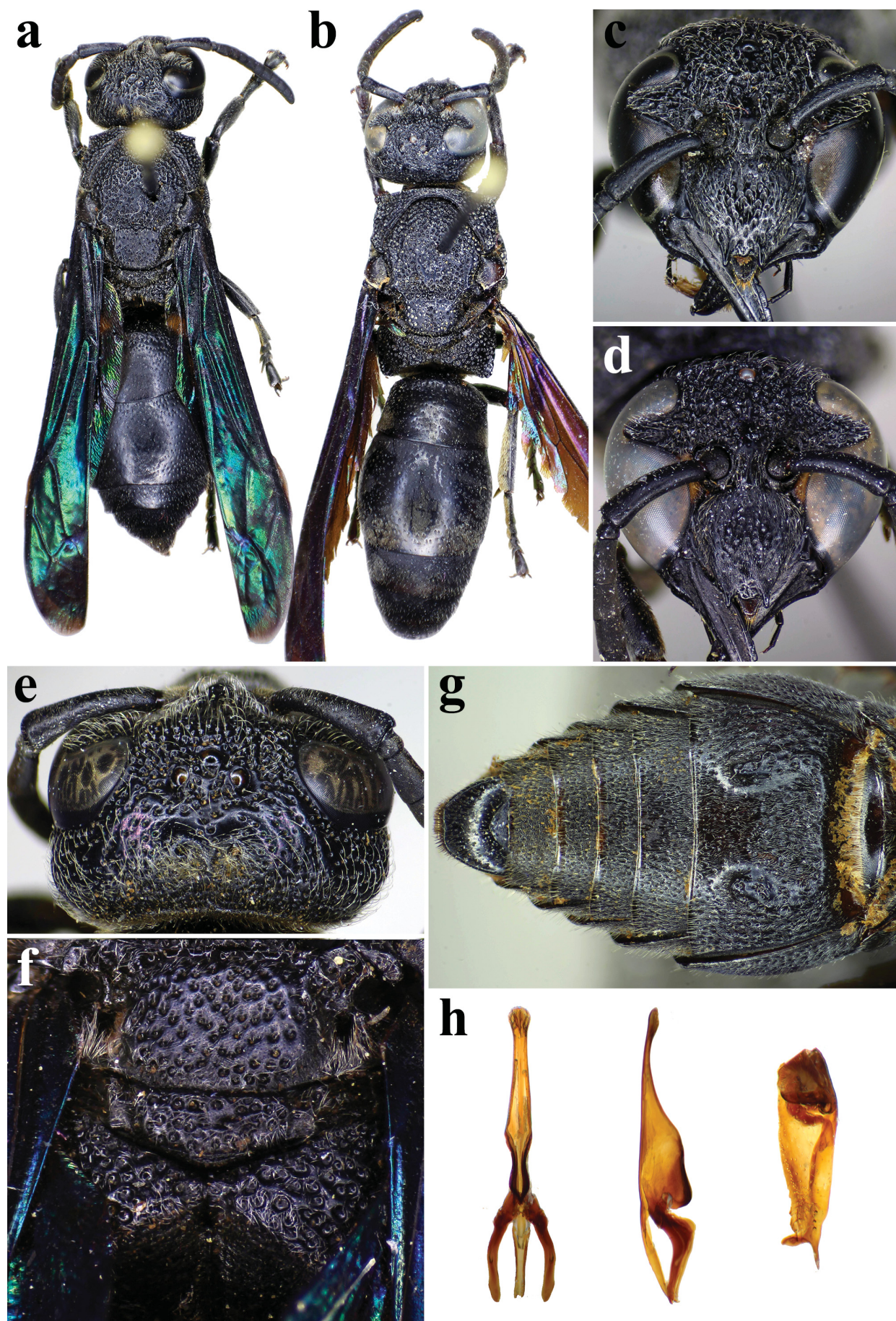


Fig. 2. *Allorhynchium cariniventre* Giordani Soika, 1986. a – habitus of female; b – habitus of male; c – head of female in frontal view; d – head of male in frontal view; e – head of female in dorsal view; f – mesosoma in posterodorsal view; g – metasoma of male in ventral view; h – male genitalia (aedeagus in ventral and lateral view, digitus).

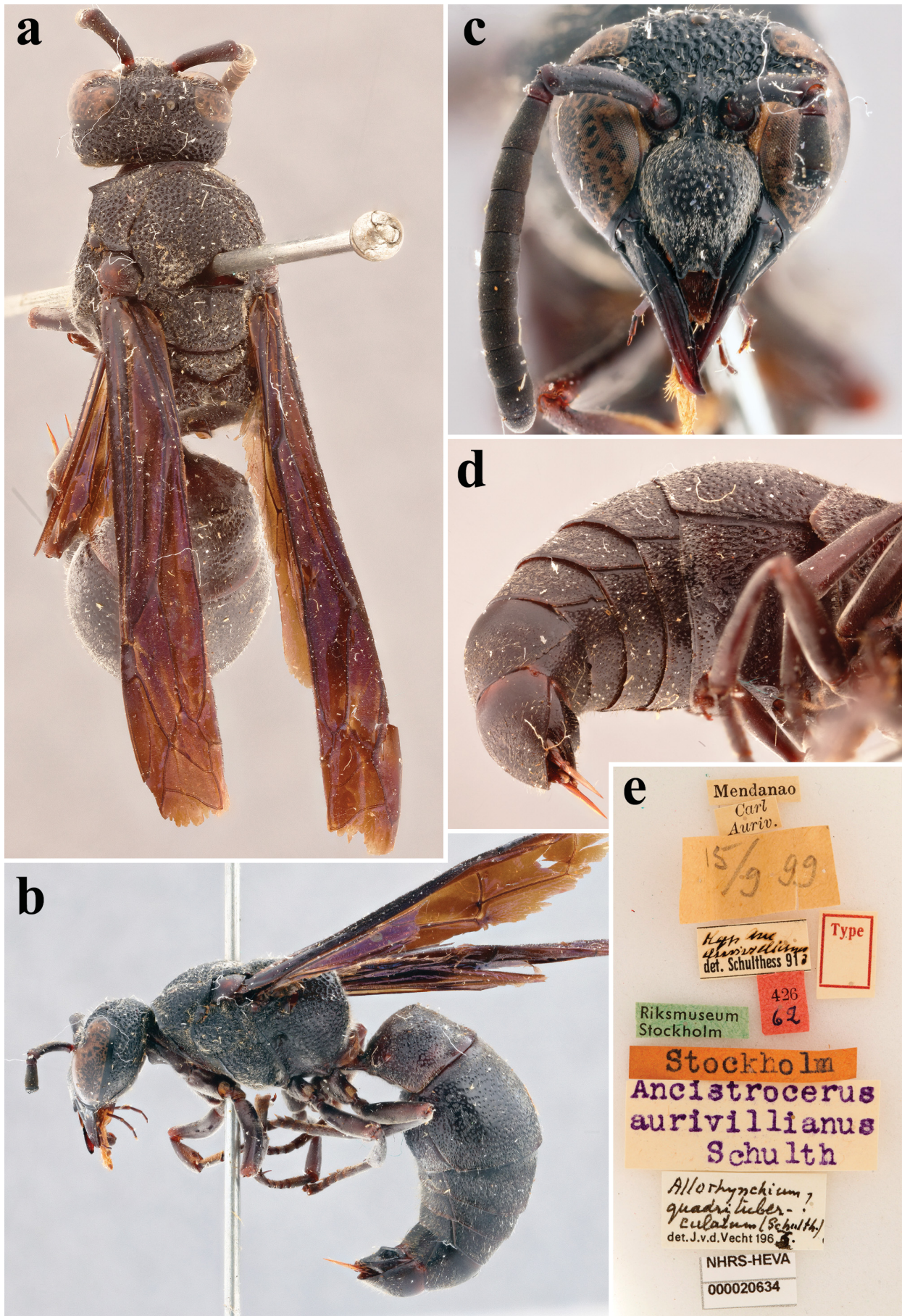


Fig. 3. *Allorhynchium cariniventre* Giordani Soika, 1986 (misidentified paralectotype of *Odynerus aurivillianus* von Schulthess, 1913, ♂). a – habitus in dorsal view; b – habitus in lateral view; c – head in frontal view; d – metasoma in ventrolateral view; e – labels. Credits: Hege Vårdal (NHRS) 2023.

densely punctured on sides than on disc; scutellum with impunctate area in middle of anterior margin. Metanotum very coarsely punctured, interspaces reduced to sharp ridges. Mesepisternum with large flat-bottomed punctures arranged in irregular series, deeper above scrobal sulcus, bottom of punctures shinier than interspaces; epicnemium with few shallow punctures ventrally. Metaepisternum shiny with very shallow punctures anteriorly. Dorsal faces of propodeum similar to metanotum, with very large and coarse punctures, interspaces reduced to ridges and spikes; lateral faces with very shallow flat-bottomed punctures arranged in longitudinal series, interspaces reduced to irregular striation; posterior face with strong oblique striae originating from median carina, some shallow punctures along dorsal margin. Metasoma silky shiny with extremely fine micropunctures; tergites with sparse punctures, interspaces reaching up to several puncture diameters, finer and shallower on disc, becoming stronger and deeper on sides; punctures becoming progressively finer from T3; S1 shiny with irregular sculpture; S2 strongly shiny with deep punctures, coarser on sides than on basal depression, becoming denser posterolaterally; S3–6 similar to respective tergites. Head and mesosoma with short pale pubescence; frons and dorsal side of mesosoma with apically bent setae; clypeus with short oblique setae outstanding from very short pubescence; mesepisternum with denser and whitish pubescence and longer setae; metasoma with dense dust-like grayish pubescence and scattered oblique setae.

Entirely grayish-black, with very short pale yellow line between eye and antennal insertion. Wings strongly fuscous with blue to purple reflections.

Male. Body length 11.5–14.0 mm; fore wing length 12.0–15.0 mm. Habitus in Fig. 1b.

Similar to female, differing as follows: apical margin of clypeus more deeply emarginate, emargination 0.30–0.35× as deep as wide, F3–9 slightly convex dorsally, F11 claw-shaped and apically pointed, not reaching basal margin of F9, S2 slightly more depressed medially, S7 with large semicircular raised area basally, as long as or longer than flattened apical area and basally as wide as sternite itself. Genitalia in Fig. 1h.

Etymology. The specific name is the Latin adjective *angulatus* (-a, -um), meaning angulate, given in reference to the angulate apical corners of the clypeus.

Distribution. Philippine Islands: Mindanao (Fig. 6).

Allorhynchium cariniventre Giordani Soika, 1986

(Figs 2–3)

Odynerus aurivillianus von Schulthess, 1913: 4 [partim].

Allorhynchium cariniventre Giordani Soika, 1986a: 75, ♀ – [Philippines] “Mindanao: Musuan Bukidnon” (holotype in coll. Kojima, Ibaraki, Japan)

Type material examined. *Odynerus aurivillianus*: PARALECTOTYPE: ♂, “Mindanao // Carl / Auriv. // 15/9 99 // Hypanc / aurivillianus / det. Schulthess 912 // Type // Riksmuseum / Stockholm // 426 / 62 // Stockholm // Ancistrocerus / aurivillianus / Schulth // *Allorhynchium* / *quadrituber-?* / *culatum* (Schulth.) / det. J.v.D. Vecht 1963 // NHRS-HEVA / 000020634” (NHRS, catalogue number NHRS-HEVA000020634).

Additional material examined. PHILIPPINES: MINDANAO: Agusan, Esperanza, v.2016, 2 ♀♀ (MSVI); Agusan, Sibagat, i.2015, 2 ♀♀

(MSVI); Agusan, Sibagat, ix.2016, 1 ♂ (MSVI); Lanao, Wao, v.2016, 1 ♀ (MSVI); Zamboanga, Gutalac, viii.2014, 1 ♂ (MSVI); Zamboanga, Gutalac, xi.2014, 1 ♂ (MSVI); Zamboanga, Gutalac, vi.2015, 1 ♂ (MSVI); Zamboanga, Labuan, i.2018, 1 ♀ (MSVI); Zamboanga, Liloy, ix.2014, 1 ♀ (MSVI).

Diagnosis. Recognized among the Philippine species by: apical teeth of clypeus spiniform and with a short lobe in between (Figs 2c–d), pronotal carina sharply angled on humeri, metanotum short and almost entirely horizontal, dorsal faces of propodeum at the same level as scutellum (Fig. 2f), T1 with basal transverse ridge dorsally, S2 with a strong basal transverse ridge creating a short basal vertical face, female vertex with cephalic foveae very widely spaced and covered by patches of brownish setae (Fig. 2e), male S2 with a pair of longitudinal bulges, male S7 with basal raised area shorter than flattened apical area and about as wide as 0.3× sternite width (Fig. 2g).

Following the key provided by NGUYEN et al. (2023), *A. cariniventre* belongs to the group of species characterized by pronotal carina sharply angled on humeri, propodeal dorsum at the same level as metanotum and S7 of male with a raised basal area. In particular, it comes very close to *A. snelleni*, from which it is readily differentiated by the following characters: male clypeus with a short median lobe on apical margin, female vertex with two large hairy pits, T1 more elongate, S2 with a strong basal transverse ridge, sides of S2 in male with longitudinal raised tubercles, hind wing entirely fuscous.

Distribution. Philippines: Mindanao (VON SCHULTHESS 1913, as *Odynerus aurivillianus*; GIORDANI SOIKA 1986a; GUSENLEITNER 1998) (Fig. 6).

Notes. One of the paralectotypes of *Odynerus aurivillianus* from Mindanao (Fig. 3) was examined using pictures; it perfectly corresponds to *Allorhynchium cariniventre*. As reported below under *A. quadrituberculatum*, the lectotype of *O. aurivillianus* is from Biliton Island and belongs to *A. snelleni*.

Allorhynchium quadrituberculatum (von Schulthess, 1913)

(Figs 4–5)

Rhynchium quadrituberculatum von Schulthess, 1913: 1, Figs 1–2, ♂ (in subgenus *Prorhynchium*) – “Philippinen. »Weg von Asingay nach Begnet ...«” (holotype in NHRS)

Allorhynchium violaceipenne Gusenleitner, 2003: 855, 859, ♀ – “Philippinen, Luzon, Cam. Norte SW Daet, S. Vincente Fabrica, Mananap” (holotype in coll. Zettel, Vienna, Austria), **syn. nov.**

Type material examined. *Rhynchium quadrituberculatum*: HOLOTYPE: ♂, “Ins. / Philipp. // ♂ // *Rhynchium* / *quadrituberculatum* / det. Schulthess 913 // Type // Weg von Asin / gay nach Beng / uet 1 [indecipherable] 2 [indecipherable] / 61. [indecipherable] // 294 / 68 // *Rhynchium* / *quadrituber-?* / *culatum* Schulth Type // NHRS-HEVA / 000020633” (NHRS, catalogue number NHRS-HEVA000020633).

Additional material examined. PHILIPPINES: LUZON: Aurora, Dingalan, viii.2017, 1 ♂ (MSVI); Aurora, Dingalan, iii.2018, 1 ♀ (MSVI); Luzon, Catanduanes, Pandan, ix.2016, 4 ♂♂ 2 ♀♀ (MSVI). MINDANAO: Bukidnon, Dominorog, ix.2020, 1 ♀ (MSVI); Compostela, New Albay, ix.2016, 1 ♀ (MSVI); Davao, Governor Generoso, x.–xi.2017, 1 ♂ 1 ♀ (MSVI); Davao, Mati, xii.2016, 2 ♀♀ (MSVI); Lingig, Bugak, ix.–x.2016, 2 ♀♀ (MSVI); Mizamis, Balingasag, vi.2014, 1 ♂ (MSVI); Mizamis, Balingasag, viii.2014, 1 ♂ (MSVI); Mizamis, Balingasag, xii.2014, 2 ♀♀ (MSVI); Mizamis, Balingasag, i.2015, 2 ♂♂ (MSVI); Mizamis, Balingasag, vi.2015, 1 ♂ (MSVI); Mizamis, Balingasag, xii.2015, 3 ♂♂

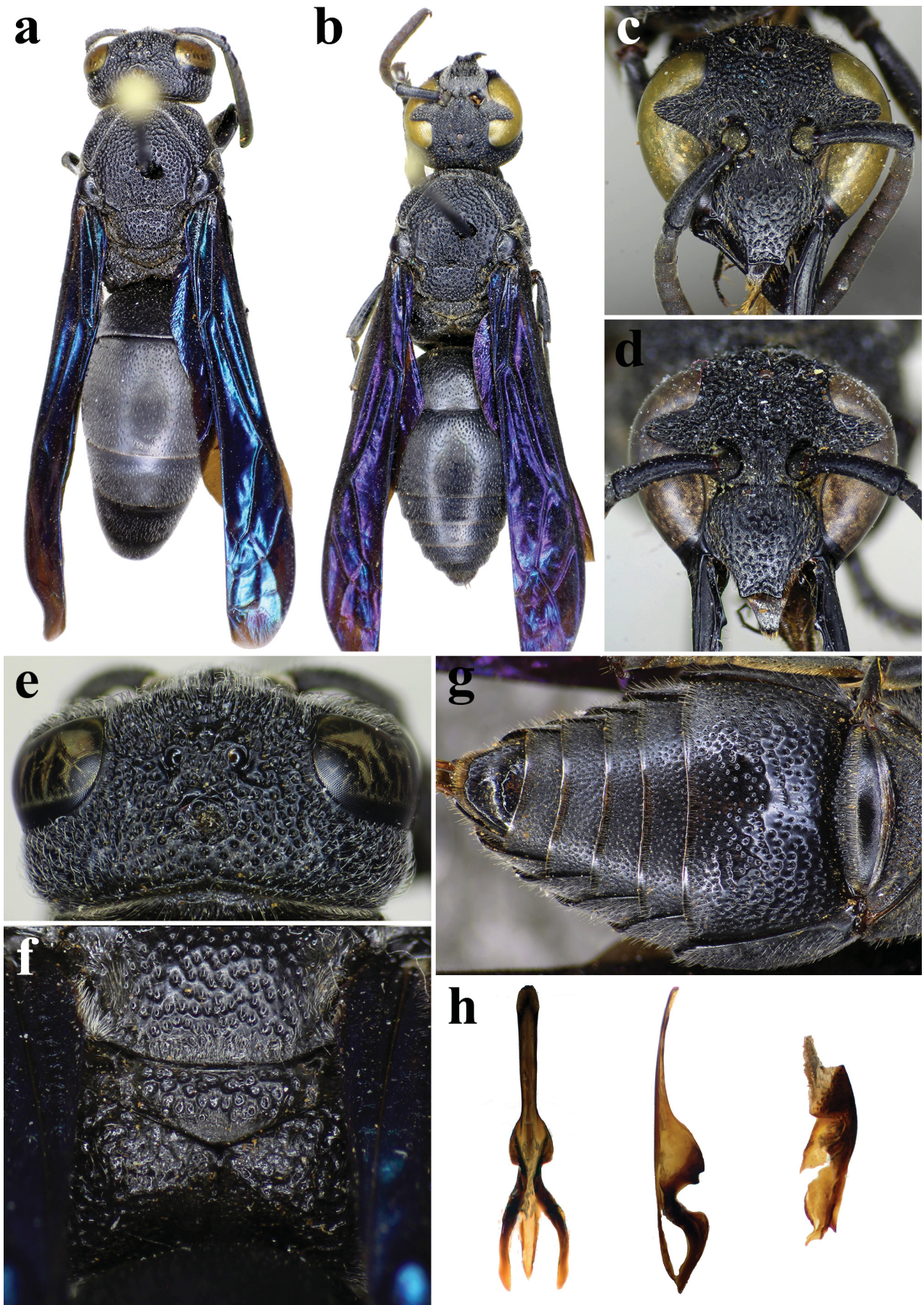


Fig. 4. *Allorhynchium quadrituberculatum* (von Schulthess, 1913). a – habitus of female in dorsal view; b – habitus of male in dorsal view; c – head of female in frontal view; d – head of male in frontal view; e – head of female in dorsal view; f – mesosoma in posterodorsal view; g – metasoma of male in ventral view; h – male genitalia (aedeagus in ventral and lateral view, digitus).

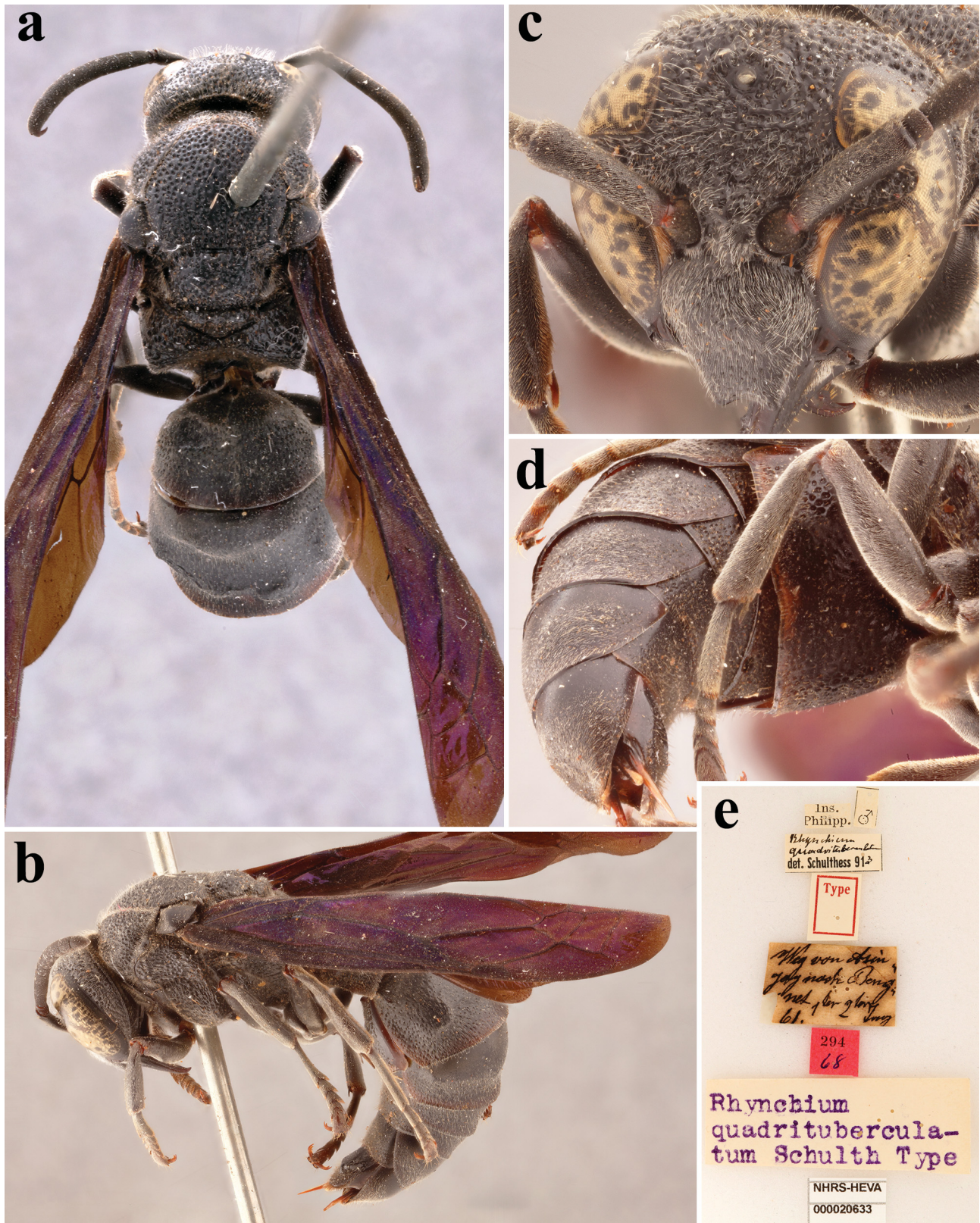


Fig. 5. Holotype of *Rhynchium quadrituberculatum* von Schulthess, 1913, ♂. a – habitus in dorsal view; b – habitus in lateral view; c – head in frontal view; d – metasoma in ventrolateral view; e – labels. Credits: Hege Vårdal (NHRS) 2023.

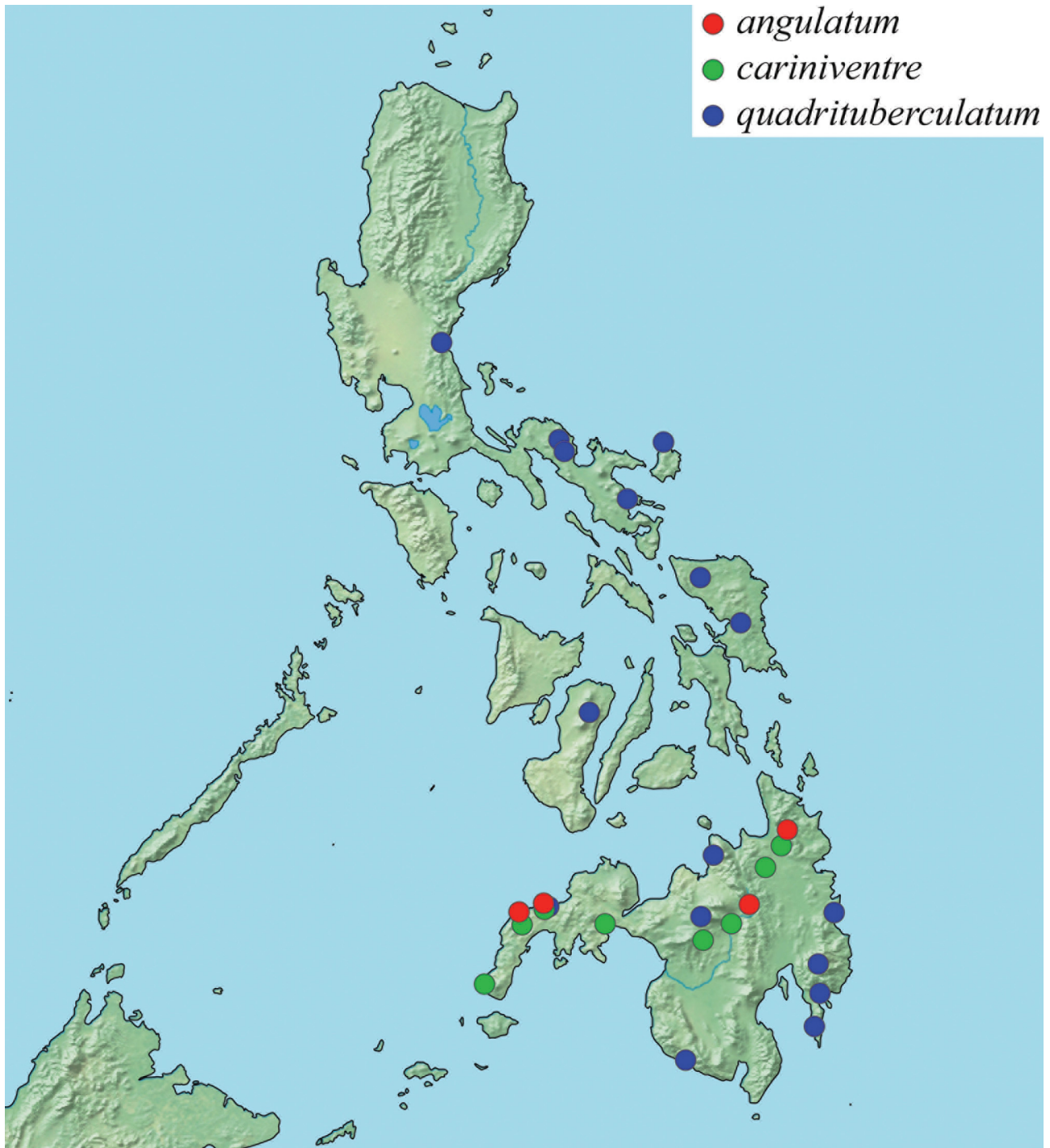


Fig. 6. Distributional map of Philippine species of *Allorhynchium* van der Vecht, 1963.

(MSVI); Sarangani, Maitum, x.2017, 1 ♀ (MSVI); Zamboanga, Liloy, viii.2014, 1 ♀ (MSVI). **NEGROS:** Don Salvador, xii.2014, 1 ♂ (MSVI). **SAMAR:** Hinabangan, xi.2014, 1 ♂ (MSVI); Lope de Vega, vii.2016, 1 ♀ (MSVI); Lope de Vega, xii.2016, 2 ♂♂ 1 ♀ (MSVI); Lope de Vega, xi.2017, 1 ♂ (MSVI).

Diagnosis. Recognized among the Philippine species by: clypeus subtruncate with almost right-angled apical teeth (Figs 4c–d), pronotal carina rounded on humeri, metanotum short and almost entirely horizontal, dorsal faces of propodeum at the same level as scutellum (Fig. 4f), T1 basally rounded, S2 evenly convex from base to apex, female vertex with cephalic foveae touching each other and with a small tuft of dark setae (Fig. 4e), male S2 shallowly

convex on lateral thirds, male S7 with basal raised area about as long as flattened apical area and almost as wide as the sternite (Fig. 4g).

Although NGUYEN et al. (2023) placed both *A. quadrituberculatum* and *A. violaceipenne* in the group of species with angled pronotal carina, this species belongs in fact to the *A. argentatum*-group *sensu* VAN DER VECHT (1963: 59) having rounded pronotal carina, propodeal dorsum at the same level as metanotum and S7 of male with basal raised area. Inside this group, it is readily distinguished by: clypeus with coarse sculptures in both sexes, proportionally longer and with shallower emargination, almost subtrunca-

te, raised area of male S7 large and rounded and proximal lobe of aedeagus small and rounded, weakly projecting.

Distribution. Philippines: Luzon (GUSENLEITNER 2003, VON SCHULTHESS 1913), Mindanao, Negros, Samar (new records) (Fig. 6).

Notes. Although having propodeum and metasoma deformed, the holotype of *Rhynchium quadrituberculatum* (Fig. 5) was examined using pictures and found to be identical to *Allorhynchium violaceipenne*, making the latter species a junior synonym. The species is widely distributed in the Philippine Islands and occurs on Mindanao too, but the past records from that island were erroneous, being based on the presumed identity of the paralectotypes of *Odynerus aurivillianus* with the holotype of *A. quadrituberculatum* (VAN DER VECHT 1963). As stated in other parts of the current paper these paralectotypes are not *A. quadrituberculatum* but *A. cariniventre*, a taxon endemic to Mindanao.

Key to the species of *Allorhynchium* occurring in the Philippine Islands

- 1 Apical margin of clypeus with trapezoidal emargination, bottom of emargination with short median lobe, apical teeth spiniform (Figs 2c–d). Pronotal carina sharply angled and produced on humeri. T1 with basal transverse ridge dorsally; S2 basally produced in a strong transverse ridge. Female vertex with widely spaced cephalic foveae and a pair of setose patches (Fig. 2e). Male S2 with longitudinal bulges; S7 with short and narrow basal raised area (Fig. 2g).
..... *A. cariniventre* Giordani Soika, 1986
- Apical margin of clypeus subtruncate or with rounded emargination, median lobe absent, apical teeth blunter (Figs 1c–d, 4c–d). Pronotal carina entirely rounded. T1 basally rounded; S2 evenly convex from base to apex and without ridges. Female vertex with cephalic foveae touching each other and with a single tuft of dark setae (Figs 1e, 4e). Male S2 shallowly convex laterally, without distinct bulges; S7 with long and wide basal raised area (Figs 1g, 4g). 2
- 2 Clypeus subtruncate, apical teeth almost right-angled (Figs 4c–d). Metanotum short and mostly horizontal; dorsal faces of propodeum on the same level as scutellum (Fig. 4f).
..... *A. quadrituberculatum* (von Schulthess, 1913)
- Clypeus deeply emarginate, apical teeth subtriangular and apically rounded (Figs 1c–d). Metanotum angulate, with oblique posterior face longer than horizontal anterior face; dorsal faces of propodeum distinctly below the level of scutellum (Fig. 1f).
..... *A. angulatum* sp. nov.

Allorhynchium argentatum, *A. chinense* and *A. snelleni* in the Philippine Islands

Among the species recorded from the Philippine Islands in the past, three need to be excluded and considered absent from the archipelago:

1) *Allorhynchium argentatum* (Fabricius, 1804). Originally recorded by BROWN (1906), never recorded again.

The taxonomy of *Allorhynchium argentatum* and allied species, the *A. argentatum*-group *sensu* VAN DER VECHT (1963: 59), has been chaotic for a long time and most of the old records should be revised following the modern interpretation of the included species. The Philippine record of *A. argentatum* was probably based on *A. angulatum* or *A. quadrituberculatum*.

2) *Allorhynchium chinense* (de Saussure, 1862). Originally recorded by GIORDANI SOIKA (1986a), never recorded again. This species is currently known for sure from China only and doubtfully from Vietnam, therefore its presence in the Philippine Islands is unlikely and, as already proposed for *A. argentatum*, the record was probably based on a misidentified specimen of *A. angulatum* or *A. quadrituberculatum*.

3) *Allorhynchium snelleni* (de Saussure, 1862). Originally recorded by VON SCHULTHESS (1913) in the description of *Odynerus aurivillianus*, a taxon currently recognized as a junior synonym of *A. snelleni* (VAN DER VECHT 1963). As already reported by VAN DER VECHT (1963), the type series of *O. aurivillianus* is made of two species, the lectotype from Biliton Island being *A. snelleni*, and the paralectotypes from Mindanao belonging to a different species. VAN DER VECHT (1963) considered the paralectotypes to be identical to *A. quadrituberculatum*, but examination of one of them showed that it is in fact *A. cariniventre*.

Discussion

The Philippine Islands are one of the countries with the highest rate of endemic Eumeninae *s.l.* (including Zethini) in the world, having 82 endemic species and subspecies out of a total of 93 (~88%) (Selis, in prep.). It is therefore no surprise that all the Philippine species of the genus *Allorhynchium* turned out to be endemic.

The Philippine species of *Allorhynchium* show clear similarities with the Indonesian species of the genus, but still with some important peculiarities. The three recorded species can be divided in two distinct lineages: *A. angulatum* and *A. quadrituberculatum* in the *A. argentatum*-group *sensu* VAN DER VECHT (1963), and *A. cariniventre* in a group of species characterized by having the pronotal carina sharply pointed on humeri, which we can refer to as the *A. snelleni*-group.

While *A. quadrituberculatum* shows all the typical characters of the *A. argentatum*-group, *A. angulatum* appears to be a rather peculiar species inside it, having angulate metanotum and deeply incised clypeus, in opposition to the flattened metanotum and shallowly emarginate to subtruncate clypeus of the other species. Similar characters are observed in *A. concolor*, another anomalous species in the genus, but the morphology of the male S7 would exclude any affinity between the two species. In the *A. snelleni*-group, *A. cariniventre* appears to be closely related to *A. snelleni* in several aspects, but also shows a pair of large setose pits on the vertex, a character not observed in other species of the genus.

Further studies are needed to better understand the taxonomy of *Allorhynchium*. In particular, a robust phylogenetic study is needed to delineate the exact limits of

the genus, given the heterogeneity of the species included and the paraphyly of the genus shown in recent phylogenetic studies based on molecular data (LUO et al. 2022). Another aspect that deserves to be explored in the future is the apparent absence of the genus from Palawan: the fauna of this island having strong affinities with the Indonesian fauna, other species are expected to be found there, whether already known from Indonesia or undescribed.

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