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TAXONOMIC NOTES ON THE GENUS *ELIMUS* DE SAUSSURE, WITH DESCRIPTION OF A NEW SPECIES (HYMENOPTERA, VESPIDAE, EUMENINAE)

Riassunto. *Note tassonomiche sul genere* Elimus *de Saussure, con descrizione di una nuova specie (Hymenoptera, Vespidae, Eumeninae).*
È presentato uno studio tassonomico sui vespidi solitari del genere *Elimus* de Saussure, 1852. Una nuova specie delle Isole Filippine, *Elimus chapmani* Selis, sp. nov., è descritta. Sono forniti una chiave per tutte le specie e una checklist distribuzionale.

Summary. A taxonomic study on the solitary vespid wasps in the genus *Elimus* de Saussure, 1852, is presented. A new species collected from the Philippine Islands, namely *Elimus chapmani* Selis, sp. nov., is described. A key to all species and a distributional checklist of the genus *Elimus* are provided.

Keywords: Potter wasps, Vespidae, Eumeninae, *Elimus*, new species, key, checklist.

Reference: Selis M. 2017. Taxonomic notes on the genus *Elimus* de Saussure, with description of a new species (Hymenoptera, Vespidae, Eumeninae). *Bollettino del Museo di Storia Naturale di Venezia* 67: 29-35.

INTRODUCTION

Elimus de Saussure, 1852 is a small genus of solitary wasps, comprising to date only three described species: *Elimus australis* de Saussure, 1852, and *Elimus mackayensis* Meade-Waldo, 1910, from Australia, and *Elimus papuanus* Borsato & Giordani Soika, 1995, from Papua New Guinea (MEADE-WALDO, 1910; GIORDANI SOIKA, 1969; BORSATO & GIORDANI SOIKA, 1995; NUGROHO et al., 2012). This genus belongs to the tribe Zethini (HERMES ET AL., 2014) and is recognizable by the following characters combined together: propodeal valvula short and rounded, palpal formula 6:4, stem of T II short, propodeal submarginal carina developed in a pointed lobe (BOHART & STANGE, 1965; GIORDANI SOIKA, 1969).

During a visit to Giordani Soika's collection, housed in the Museum of Natural History of Venice, among various Oriental *Zethus* Fabricius, 1804, the author found a single undetermined specimen which was collected by James W. Chapman while he was hiding in Horns of Negros during the World War II. A careful examination of the specimen showed that it is a new species belonging to the genus *Elimus*.

In this paper the new species, namely *E. chapmani* Selis, sp. nov., is described. A key to all the species and a distributional checklist of the genus *Elimus* are also presented.

MATERIALS AND METHODS

The adult morphological characters and coloration were observed on pinned and dried specimens under a stereo microscope.

"Body length" is the combined length of head, mesosoma and the first two metasomal terga. Metasomal terga, metasomal sterna and flagellomeres are abbreviated as T, S and F respectively.

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Terminology principally follows BOHART & STANGE (1965).

The materials examined are deposited in the Museum of Natural History of Venice, Venezia, Italy (MSNVE). The acronyms for other type repositories are as follows:

BMNH = Natural History Museum, London;
MNHN = Museum National d'Histoire Naturelle, Paris;
OUM = Oxford University Museum, Oxford;
RMNH = National Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden.

***Elimus chapmani* sp. nov.**
(figs. 1-7)

Material examined. Holotype, ♀, pinned (deposited in MSNVE), labelled: "Horns of Negros / Philippine Is. / 3600 ft. 1942-43 / J. W. Chapman" [printed on upper side], "1/1/43" [hand-written on lower side].

Diagnosis. This species can be distinguished from all congeners by the following combination of features: nearly entirely black coloration, T I strongly expanded and punctured, T II with a clearly distinct apical vertical lamella.

Description. Structure. Head in frontal view nearly circular; in dorsal view weakly swollen behind eyes, then narrowed posteriorly. Occipital carina well developed, forking in the lower third of genae, external branches reach base of mandibles, internal branches meet each other just above hypostomal carina. Inner eye margins weakly converging with deep ocular sinuses. Antennal sockets closer to inner eye margin than to each other; interantennal space weakly raised. Clypeus in frontal view about 1,3 times as wide as high and truncated apically, in lateral view slightly convex, with a very shallow depression before slightly inflated apical margin (fig. 2). Antennal scape about 2,6 times as long as its apical width; F I about 1,2 times as long as wide; F II-IX clearly wider than long; F X bullet-shaped, longer than wide. Palpal formula 6:4.

Pronotal carina well developed, produced into a thin lamella that is reduced dorsally, forming two little lobes on humeri; in dorsal view lateral sides of pronotum strongly converging anteriorly; lateral faces of pronotum weakly depressed, forming a rounded angle with dorsal face. Mesoscutum very weakly convex and almost flat, about 1,2 times as long as its maximum width; notauli present for the whole length of mesoscutum with anterior third weakly curving outward, well impressed in posterior half and becoming shallower anteriorly; posterior margin of mesoscutum depressed in a crenate furrow. Tegulae long and tapering posteriorly, adjoining parategulae. Parategulae short and straight, bent at right angle basally (fig. 3). Scutellum flat and weakly convex posteriorly, with a distinct but shallow furrow medially. Metanotum sloping down towards concavity of propodeum, with an extremely short dorsal face and a longer posterior face. Propodeum converging posteriorly in dorsal view, strongly convex in lateral view; transition between posterior and lateral faces marked by the lateral carina; submarginal carina produced into lobes above propodeal valvulae; posterior face with a

medial carina, reaching up half-way to the face (fig. 4). Propodeal valvulae short and rounded.

T I in dorsal view about 2,8 times longer than its maximum width, narrow at base and abruptly expanding from basal fifth, then parallel-sided (fig. 5); in lateral view dorsal margin rising strongly from base to basal fifth, smoothly curved thereafter, depressed sub-apically and inflated at apex (fig. 6). T II sub-sessile, bearing a short and vertical apical lamella; apical lamella reduced laterally and not reaching lateral margins (fig. 7).

Sculpture. The following sclerites shiny with sculpture as described: clypeus with big punctures medially, interspaces converging in irregular longitudinal ridges, lateral sides with smaller punctures, dorsal margin almost impunctate. Frons covered with small and very dense punctures and forming irregular ridges. Ocular sinus with punctures similar to frons but shallower and not forming ridges; ocellar area with some very sparse big punctures. Vertex with very dense punctures, genae with big punctures, very dense dorsally and sparser ventrally. Pronotum dorsally with big and dense punctures, laterally with strong striae mixed with shallow punctures, ventral corner with extremely fine punctures. Mesoscutum with big and irregular punctures anteriorly and laterally, punctures becoming finer and denser posteriorly and medially, especially between notauli; scutellum with punctures small anteriorly and bigger and sparser posteriorly; mesepisternum with punctures big and dense above epipleural suture and sparser below. T I laterally with very big and sparse punctures, becoming denser dorsally and forming irregular longitudinal ridges in the middle; T II with fine punctures, very dense in the basal petiole and becoming very sparse apically, T III-VI with slightly bigger punctures than in T II. S I transversely striate in apical two thirds, S II-VI with similar but deeper punctures to those of respective terga.

The following sclerites opaque with sculpture as described: metanotum with big and deep punctures. Posterior face of propodeum with dense and well defined striae, these striae becoming less defined at lateral angles; lateral faces of propodeum with extremely fine and dense, almost indistinct, striae. Dorsal half of metaepisternum striate as in lateral faces of propodeum, ventral half has very fine and dense punctures.

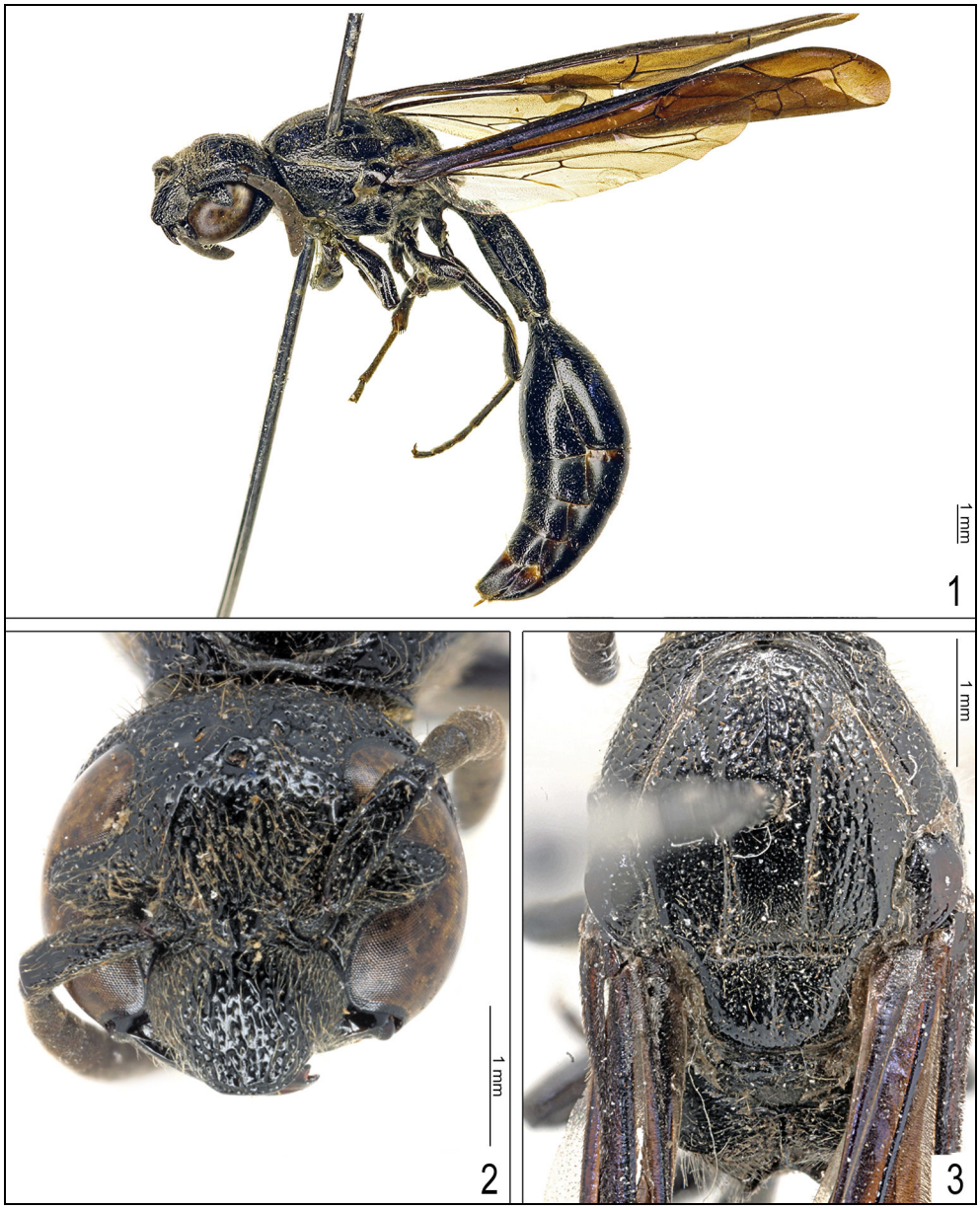
Pilosity. Whole body covered with silvery hairs, which are especially longer on: lateral sides of clypeus, frons, vertex, ventral face of head, lateral faces of pronotum, ventral side of mesosoma including coxae, propodeum and sterna.

Color. Black, with a small yellowish spot above each antennal socket. Apex of mandibles reddish-brown. Fore tarsi, upper side of hind coxae, propodeal valvulae and apical lamella of T II dark brown. Wings fuscous with weak purple reflections, veins blackish-brown.

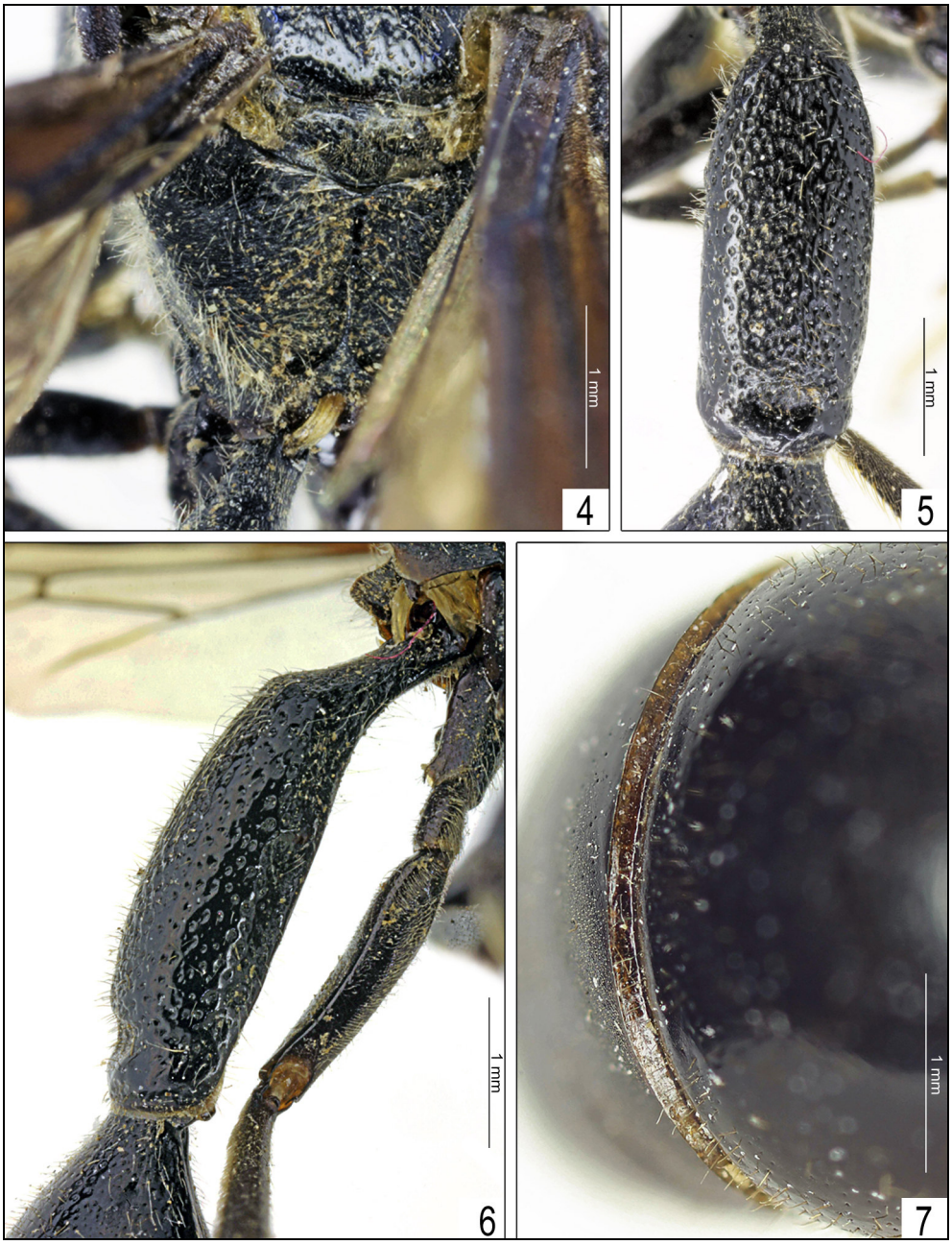
Distribution. Philippines: Negros.

Remarks. This is the only *Elimus* species known for the Philippines and the Oriental Region, while the other congeners occur in the Australasian Region. The disjoint distribution of this genus could suggest the presence of other undescribed *Elimus* species on Indonesian islands, like Sulawesi and Borneo.

Etymology. This species is dedicated to the late James W. Chapman who continued his work on collecting insects, including this new species, even when he had to hide during the war, an attitude showing his love for entomology.



Figg. 1-3. *Elimus chapmani*, sp. nov., holotypus ♀. **1:** habitus; **2:** head in frontal view; **3:** thorax in dorsal view.



Figg. 4-7. *Elimus chapmani*, sp. nov., holotypus ♀. **4:** propodeum in postero-dorsal view; **5:** T I in dorsal view; **6:** T I in lateral view; **7:** apical lamella of T II.

KEY TO SPECIES OF THE GENUS *ELIMUS* DE SAUSSURE, 1852

The characters used are applicable to both sexes unless the sex is specified.

1 Body almost entirely black. T I very densely and strongly punctured and strongly expanded basally. T II with an apical vertical lamella, clearly separated from the rest of tergum. Philippine Islands ..... *chapmani* nov. sp.
- Body with extensive pale markings. T I with sparser and finer punctures, weakly expanded basally and almost linear. T II with a very short apical lamella that is on the same plane as the rest of the surface.....2

2 Scutellum subquadrate. Black with yellow markings, T I black with small yellow spots apically. Papua New Guinea..... *papuanus* Borsato & Giordani Soika
- Scutellum quadrate. Black with red, yellow and orange markings, T I almost entirely red. Australia 3

3 Metanotum with a median tooth. Clypeus of female strongly transverse (ratio w/l ca. 1.6), yellowish-orange, narrowly borderes of black and with a slightly darkened area in the middle. Clypeus of male with anterior margin almost straight, weakly tri-lobed, with no medial darkening. Propodeum strongly and densely punctate dorsally, shiny with big punctures laterally, lateral carinae absent. T I black in the basal half, entirely convex in lateral view. T II with a short and black petiole .....*australis* de Saussure
- Metanotum without a median tooth. Clypeus of female less transverse (ratio w/l ca. 1.3), black with basal angles and apical margin yellowish-orange. Clypeus of male with two strong acute teeth, slightly concave in between, completely yellow. Propodeum irregularly striated dorsally, opaque and almost impunctate laterally, lateral carinae well developed. T I with a black marking sub-basally, the extreme base red, dorsal margin mostly plane in lateral view. T II with a longer and red petiole..... .....*mackayensis* Meade-Waldo

CHECKLIST OF THE GENUS *ELIMUS* DE SAUSSURE, 1852

Genus *Elimus* de Saussure, 1852
Elimus de Saussure, 1852, Ét. Fam. Vesp. 1: 7, genus.
Type species: *Elimus australis* de Saussure, 1852, by monotypy

***Elimus australis* de Saussure, 1852**
Elimus australis de Saussure, 1852, Ét. Fam. Vesp. 1: 8, pl. 8 fig. 3, male – "L'Australie (Saustralia)" [sic!] (types in MNHN and OUM).
Material examined: Australia: National Pk. Q., XI.1920, leg. H. Hacker, 1♂; Mackay, leg. R.E.Turner, 1♀; Stanthorpe, 11.II.30, 1♀.
Distribution. Australia: New South Wales, Queensland (GIORDANI SOIKA, 1969).

***Elimus chapmani* sp. nov.**
Distribution. Philippines: Negros.

***Elimus mackayensis* Meade-Waldo, 1910**

Elimus mackayensis Meade-Waldo, 1910, Ann. Mag. Nat. Hist. (8)5: 39, female, male – "Mackay, N. Queensland" (holotype female in BMNH, no. 18.125).

Material examined. Australia: Mackay, II.92, 1♂; Mackay, 1♀; Mackay, XII.1900, leg. R. E. Turner, 1♀.

Distribution. Australia: Queensland (GIORDANI SOIKA, 1969; BORSATO, 2003).

***Elimus papuanus* Borsato & Giordani Soika, 1995**

Elimus papuanus Borsato & Giordani Soika, 1995, Boll. Mus. Civ. St. Nat. Venezia 44: 86, female – "NE Nuova Guinea, Morobe Distr. Kilolo Ck., 1070 m, 7Km, W. Wau" (holotype female in RMNH).

Material examined. No specimens were available for this study.

Distribution. Papua New Guinea: Morobe (BORSATO & GIORDANI SOIKA, 1995; NUGROHO et al., 2012).

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