

# Ascalaphid studies X.

## *Maezous maezousi* sp. n. – a new ascalaphid species from the Philippines (Neuroptera: Ascalaphidae)

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ÁBRAHÁM, L.: *Ascalaphid studies X. Maezous maezousi* sp. n. – a new ascalaphid species from the Philippines (Neuroptera: Ascalaphidae).

**Abstract:** *Maezous maezousi* sp.n. is a new species from the Philippines namely Palawan Island compared to *Maezous princeps* (Gerstaecker, 1894), *Maezous lugubris* (Gerstaecker, 1894) comb.n., *Maezous jianfanglingana* (Yang & Wang 2002) comb.n., *Maezous tomijankae* Ábrahám, 2008 and *Malesianus harisi* (Ábrahám, 2008) comb. n. *Malesianus* gen. n. is a new genus from Malesia, Malaysian archipelago, the type species is *Maezous harisi* Ábrahám, 2008 and its male has been characterized. The lectotype of *Maezous lugubris* (Gerstaecker, 1894) is designated. *Suhplacsa fumiala* Wang, X.-l.; Sun, M.-x.; Liang, A, 2008 (syn. n.) and *Suhpalacsa ledrana* Navás, 1913 (syn. n.) are junior synonyms of *Maezous lugubris* (Gerstaecker, 1894). *Protacheron guangxiensis* Sun et Wang, 2006 (syn. n.) is a junior synonym of *Protacheron philippinensis* (van der Weele, 1904). Ascalaphid fauna of the Philippines is listed and commented. With figs: 1-14.

**Keywords:** new species, new synonyms, new combination, owlfly, Ascalaphidae, the Philippines

## Introduction

NEW (1993) compiled a monograph of the Malesian Neuroptera fauna, in which a key for all ascalaphid genera of the Indo-Malaysian region with short comments on their taxonomy and nomenclature were published. The data of this volume are based on the relevant literature and five ascalaphid species, *Protidricerus philippinensis* Esben-Petersen, 1927, *Helicomitus dicax* (Walker, 1853), *Protachereon philippiensis* van der Weele, 1904, *Suhpalacsa reducta* Banks, 1931, *Suhalomitus malayanus* (MacLachlan, 1871) were listed from the Philippines.

Comprehensive faunistical mapping of the region has not happened yet. Only descriptions of new species can be found in different papers (van der WEELE 1904, ESBEN-PETERSEN 1927, BANKS 1931) and in monographs (WALKER 1853, MACLACHLAN 1871, van der WEELE 1909) which were collected during casual field works. In addition, only a very few faunistical data were published by BANKS (1913, 1916, 1939) from the Philippine archipelago.

The recently studied owl-fly material come from an insect collecting expedition carried out in the Philippines and several interesting species including a new species were identified.

## Material and methods

In the last two years a series of owl-flies and ant-lions was received from the Philippines to identify them. The new species is also derived from this material.

To identify the collected material the monographs of van der WEELE (1909) and NEW (1993) and the local faunistic paper published by ÁBRAHÁM (2008a, 2008b) were used.

To study the morphological characters, Olympus SZX9 stereo microscope was used. Habitus photographs were taken by using digital camera Nikon D 3200 equipped with a AF-S micro Nikkor 40 mm lens and the flash system was F&V 230D.

To examine the genitalia, the caudal part of the abdomen was removed, treated with a 10% KOH solution with heating during 15 minutes and after cooling rinsed in distilled water. It was put into glycerine for further examination and finally stored in a genital vial. For photographs, the caudal part of the abdomen was placed in a Petri dish (diameter: 50 mm) which filled with glycerine. Photos of morphological characters were also taken by using Olympus SZX9 stereo microscope equipped with Alpha KL-1001 digital camera. Photos were adjusted and corrected with Adobe Photoshop software. Based on photos the inner genital characteristic drawings were made.

## Results

### *Maezous maezousi* sp. n. (Fig. 1)

*Holotype*: 1 male PHILIPPINES, Palawan, Magara Roxas, ??, 04. 2014, leg: Noel Mohagan

*Paratypes*: 1 male as holotype; 2 males 2 females Philippines, Palawan, Magara Roxas, ??, 06. 2015, leg: Noel Mohagan

*Deposited*: Entomological Collection of Rippl-Rónai Museum, Kaposvár (Hungary) and Upper Silesian Museum, Bytom (Poland)

*Head*: Vertex yellowish brown covered with long dense and brown hairs frontally and pale hairs caudally. Frons shining brown with long dense brown hairs. Genae brown and hairless. Clypeus and labrum shining yellow. Lateral and dorsal part of clypeus with sparse brown hairs. Ventral margin of labrum with short sparse and ochraceous hairs curved to mouthparts. Mandible shining yellow with black apex with sparse lateral brown hairs. Maxillae and labial palpi yellow. Last segment yellow to brown. Occiput and postorbital sclerite shining yellow and hairless. Eyes medium size divided by suture-like inflection transversally. Antenna 23-24 mm, 2/3x shorter than distance between base of forewing and pterostigma. Scape and pedicel shining brown with long, dense and brown pubescence. Flagellar segments yellow to light brown, bare and broadened at joins. Club yellow with short smoothing and black verticals, subglobular-shaped with flattened apex. Bristle of club brown.

*Thorax*: Pronotum narrow, yellow with indistinct longitudinal brown band centrally. Both pronotal margins flexed upwards with long pale hairs. Lateral projection brown with long, dense and brown hairs. Mesonotum yellow with distinct and indistinct brown markings as in Fig. 3. Metanotum dominantly brown. Notum with medium long brown and pale hairs. Sides brown to yellow with long soft and shining yellow hairs.

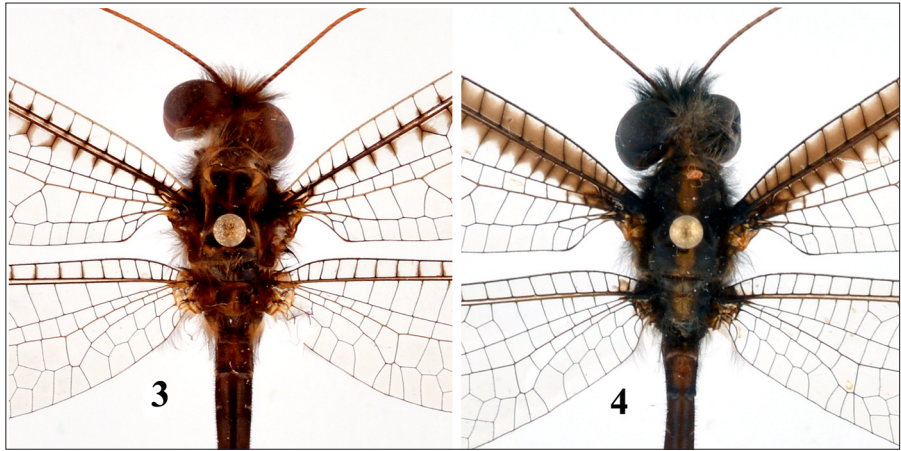
*Legs*: Coxae yellow covered with long soft and shining yellow hairs. Femora yellow with soft and yellowish hairs. Ventral side of femora with long black and stiff bristles in



Fig. 1: Habitus of *Maezous maezousi* sp.n.



Fig. 2: Habitus of male *Malesianus harisi* (Ábrahám, 2008)



**Figs 3-4: Thorax pattern of *Maezous maezousi* sp.n. (Fig. 3),  
*Malesianus harisi* (Ábrahám, 2008) (Fig. 4)**

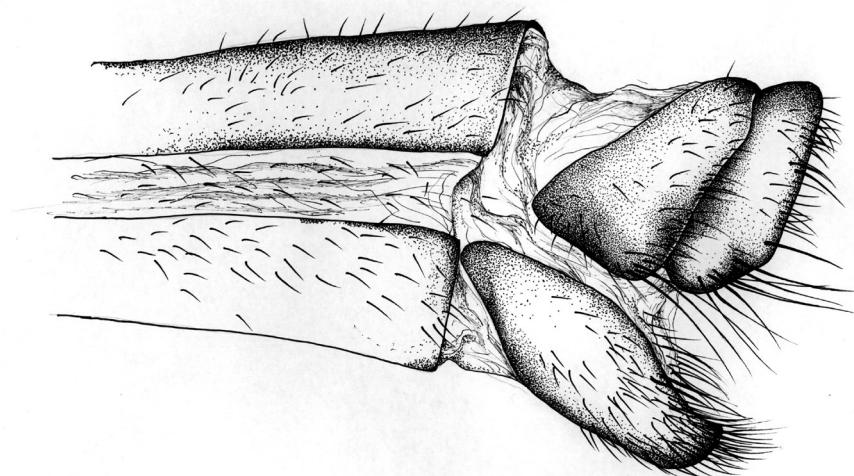
two rows, dorsal side covered with long white hairs. Tibiae yellow distal part shining brown with short black hairs and long stiff black bristles. Tarsi dark shining black only distal ends of segment 5 brown with stiff, shining and black bristles. Tarsal segments 1-4 equal; segment 5 as long as segments 1-4 combined on fore and middle legs. Tarsal segments 1-4 as long as segment 5 on hind leg. Tibial spurs reddish brown as long as segment 2 together. Claws reddish brown.

**Wings:** Forewing: 35-36 mm long and 9 mm wide. Hindwing: 27-28 mm long and 7.5 mm wide. Membrane transparent with brown shadow on both sides of cross-veins in costal area near subcosta (Sc) and right below radius (R). Pterostigma brown, somewhat longer than wide with 4-5 brown cross-veins. In apical area beyond pterostigma membrane also transparent and tinged with brown shadow (Fig. 1). Longitudinal and cross-veins yellow to brown. Apical area beyond vein Sc+R with 3 (or 2) rows of cells. In front of origin of Rs 7-8 radial cross-veins took place in forewing and 4-5 in hindwing. Colouration of hindwing similar to forewing but below radius without brown shadow. Hind pterostigma with 3-4 cross-veins.

**Abdomen:** 32-34 mm long. Tergite 1 divided dorsally; yellow with long, soft and pale hairs. Tergites brown. Tergite 2 as long as wide with long dorsal black hairs. Tergit 3 short stiff lateral black setae. Sternites yellow with narrow indistinct medial band. Sternite 2 white with lateral brown marks (may be meal-like powder present on last segments).

**Genitalia:** Tergite 9 triangular-shaped and covered with sparse short setae in lateral view. Caudo-ventral apex acute with 5-6 long stiff and black bristles. In lateral view (Fig. 5) ectoproct subrhomboid-shaped, lateroventral projection papilla-like hardly visible with long stiff and black bristles curved caudally. Sternite 9 pentagonal-shaped, brown and covered with short, stiff and black setae in ventral view. Gonarcus slightly elongated, arch-like, fused with parameres (Figs. 6-7). Caudal margins of parameres serrated (Fig. 8). Pelta small. Pulvini bag-like with moderately long dense gonosetae.

**Habitat and seasonal activity:** It flies at lights in tropical rain forest from April to July.



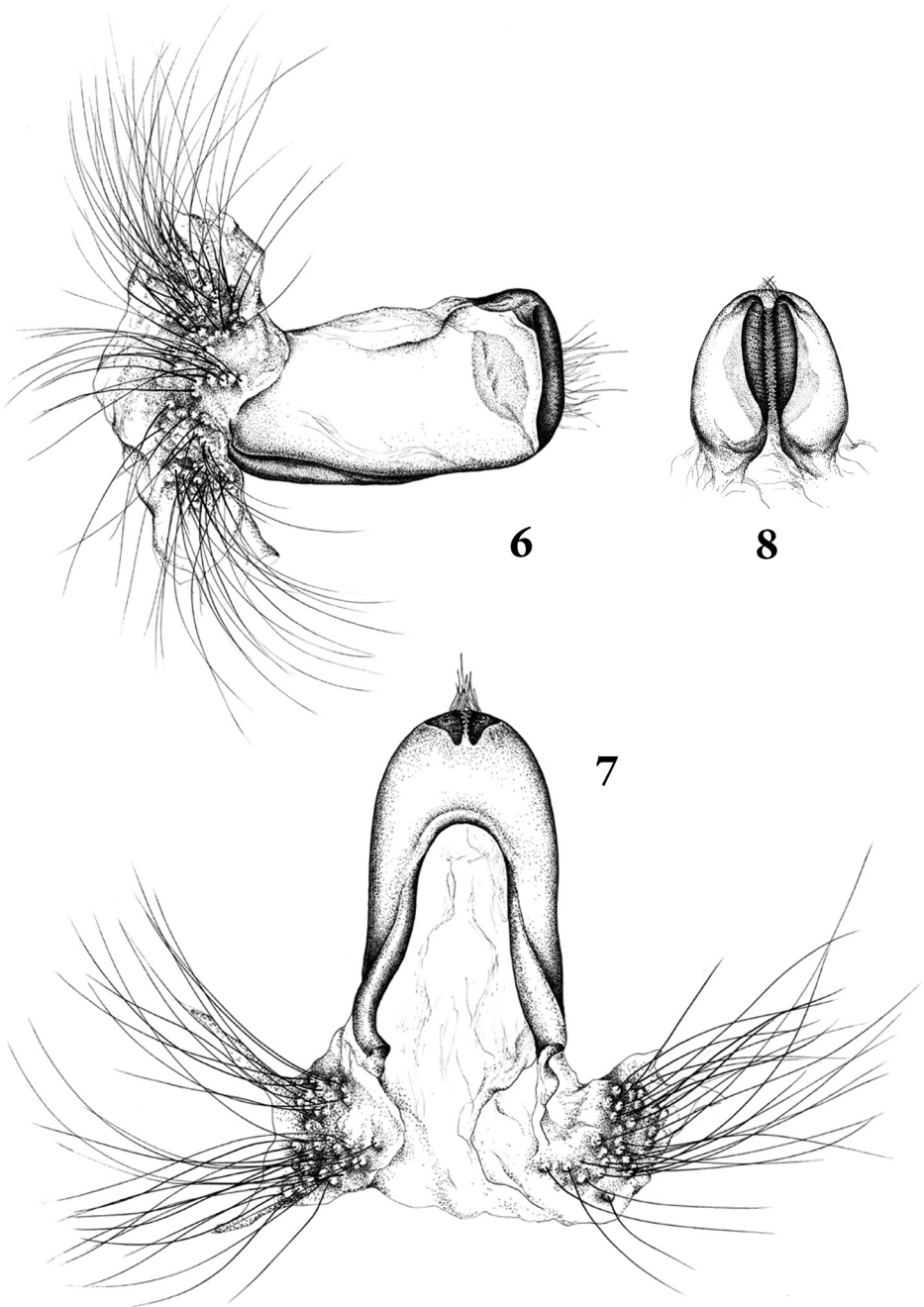
**Fig. 5: Male genitalia of *Maezous maezousi* sp.n. in lateral view**

*Etymology:* The new species is dedicated to Prof. Dr. Zoltán Mészáros for his 80th birthday. His Hungarian nick name is MéZo (in latin Maezo).

*Diagnosis:* In the Philippines three large sized *Maezous* species were found namely *Maezous princeps* (Gerstaecker, 1894), *Maezous lugubris* (Gerstaecker, 1894) comb. n., and the newly described *Maezous maezousi* sp. n. as well as *Malesianus harisi* (Ábrahám, 2008) comb. n. They can be distinguished based on the following key:

- 1. Labrum and clypeus yellow.....2
- Labrum and clypeus dominantly brown, mesothorax dark brown with wide yellow central band (Fig. 4) .....*M. harisi*
- 2. Mesothorax reddish brown, costal area not or only faintly pigmented, pterostigma almost indistinct (Fig. 10) .....*M. lugubris*
- Mesothorax brown with two lateral wide yellow bands (Fig. 3), costal area strongly pigmented, pterostigma distinct.....3
- 3. Apical area completely pigmented (Fig. 9) .....*M. princeps*
- Apical area beyond pterostigma transparent and distal part pigmented (Fig. 1).....*M. maezousi* sp.n.

The new species also resembles to the other three *Maezous* species namely *Maezous jianfanglingana* (Yang & Wang 2002) comb. n., original combination: *Acheron jianfanglinganus* Yang, 2002, but later it was combined to *Suhpalacsa jianfanglingana* (Yang, 2002) by WANG et al. (2008), *Maezous fuscimarginata* (Wang et Sun, 2008) comb. n. from China and *Maezous tomijankae* Ábrahám, 2008 from Laos. *Maezous maezousi* sp.



**Figs 6-8: Gonarcus and parameres complex of *Maezous maezousi* sp.n. in dorsal (Fig. 6) in lateral (Fig. 7) and parameres in caudal (Fig. 8) views**

n. differs from those in the wing pattern of apical area and it has the smallest lateroventral projection of male ectoprocts.

The pterostigma of *Maezous tomijankae* is yellow and it has the longest lateroventral projection of ectoproct among the above mentioned species. Both *Maezous jianfenglingana* and *Maezous fuscimarginata* were described from SE China. The caudal part of abdomen of the types of *Maezous jianfanglingana* lost so the validity of the species can not be checked. Types of *Maezous fuscimarginata* from SE China can not be surely separated from the previous species. These Chinese species are easily separated from the new species based on the wing pattern of apical area.

## A check list of the Philippines Ascalaphidae

### **Ascalaphidae** Lefébvre, 1842

#### **Haplogleninae** Newman, 1853

*Protidricerus irene* van der Weele, 1909

*Protidricerus philippinensis* Esben-Petersen, 1927

#### **Ascalaphinae** Lefébvre, 1842

*Protacheron philippinensis* (van der Weele, 1904)

*Helicomitus placidus* (Gerstaecker, 1894)

*Maezous princeps* (Gerstaecker, 1894)

*Maezous lugubris* (Gerstaecker, 1894) comb. n.

*Maezous maezousi* Ábrahám sp. n.

*Malesianus harisi* (Ábrahám, 2008) comb. n.

*Suhalacsa reductus* Banks, 1931

*Suphalomitus malayanus* (MacLachlan, 1871)

***Protidricerus irene*** van der Weele, 1909 – It is a hardly known valid species and no faunistical data was published since the time of the description. The only type specimen was collected in Borneo (Malaysia). This species has not a sexual dimorphism. Its apical part of wings wider than that of *Protidricerus japonicus* (MacLachlan, 1891). Apical area with 4-5 rows of cells while that of *Protidricerus japonicus* with only in 3 rows of cells. Proximal half of pterostigma is dark brown, distal half is yellowish white while that of *Protidricerus japonicus* (MacLachlan, 1891) is dominantly brown to dark brown. In both wings, the most of cross-veins before Rs are connected with transverse veins to each other. In *Protidricerus japonicus* there are only 1-2 cells divided in the distal part before Rs. *Protidricerus japonicus* is not an endemic for Japan but it is a widespread species from Japan via China to Thailand.

It is a new record for the fauna of the Philippines.

***Protidricerus philippinensis*** Esben-Petersen, 1927 – A new record from Malaysia (Borneo, Sarawak): close to Mindanao (the Philippines) where the species was described. The clypeus and labrum of this species is brown, sternites are dominantly brown without large yellow and black marks than that of *Protidricerus japonicus* and *Protidricerus irene* have.

*Protacheron philippinensis* (van der Weele, 1904) – It is widely known in the Philippines (van der WEELE 1904) Laos, Thailand (coll. Kaposvár) and SE China (Guangxi, Guizhou, Yunnan, Hainan) (SUN and WANG 2006). *Protacheron guangxiensis* Sun et Wang, 2006 (syn. n.) is a new junior synonym of *Protacheron philippinensis* (van der Weele, 1904). The ectoproct of holotype female damaged otherwise it agrees with *Protacheron philippinensis* in all respect.

*Helicomitus placidus* (Gerstaecker, 1894) – It was mentioned from the region as *Helicomitus dicax* (Walker, 1853) (van der WEELE 1909, NEW 2003). *Helicomitus dicax* occurs in India, Pakistan and Nepal, its distribution does not reach SE Asia. *Helicomitus placidus* is a valid and very frequent species in SE Asia, the taxonomical status was confirmed by KIMMINS (1949). Known from Cambodia, Laos, Vietnam, Thailand, SE China, Taiwan, Indonesia, Malaysia and the Philippines.

*Maezous princeps* (Gerstaecker, 1894) (Fig. 9) – It is not endemic for the Island of Java, it was also reported from Indonesia, Malaysia and the Philippines (Luzon - BANKS 1913, 1916, 1931, 1939). ÁBRAHÁM (2008a, in Figs 2. 4, 5B) misidentified this species from Laos as *Maezous princeps*, those figures actually show *Maezous fuscimarginata* which was described also in 2008.

*Maezous lugubris* (Gerstaecker, 1894) – The description of *Suhpalacsa lugubris* Gerstaecker, 1894 is based on a single male specimen from East Java. van der WEELE (1909) published data of two specimens preserved in Berlin and Stettiner Museum (Nationalmuseum in Stettin / Szczecin, today it is in Poland) which is transferred later to Museum and Zoological Institute Polish Academy of Sciences (MIZ), in Warsaw. This collection contains several Gerstaecker's types, which was believed to had lost. Studying this collection the type of *Maezous lugubris* (Gerstaecker, 1894) was found and labeled as follows red label // Lectotype / *Maezous lugubris* / (Gerstaecker, 1894) / designated: L. Ábrahám //; white label // Java or.[iental] / Fr //; white label // Museum Polonicum Warsawa / 12/45 // van der WEELE (1909) also referred this specimen without type designation. Till this time only two males have been known. Additionally, new junior synonyms are *Suhpalacsa fumiala* Wang, X.-l.; Sun, M.-x.; Liang, A, 2008 (syn. n.) from China, type specimens preserved in the collection of the China Agricultural University (CAU), Beijing, China (white label with red upper band // Holotype [in capital letters] / ♂ //; white label with narrow black frame // Guangxi Prov. Sihongqi forestry centre [with Chinese letters] / 350m / 1999.V.29 Li Wenzhu [with Chinese letters] / ?????? [with Chinese letters] //; white label with narrow black frame // ?????? [with Chinese letters] / *Suhpalacsa / fumiala / Wang 2008 / det. Wan Xia //*; white label with upper and bottom lines // CAUN / 200272 //) and *Suhpalacsa ledrana* Navás, 1913 (syn. n.) preserved in the collection of the Museo Nacional de Ciencias Naturales (MNMS) Madrid, Spain (reddish label // Typus [with Navás's handwriting] //; white label with narrow black frame // Java. / Ledrú. 1894 / Lab. ent. Escalara //; white label // *Suhpalacsa [sic!] / ledrana Nav. [with Navás's handwriting] / Navás S.J. det. //*; red label with narrow black frame // MNCN / Cat. Tipos N / 10604 //; white label with narrow black frame // MNCN\_Ent / 90141 //).

Both descriptions published by GERSTAECKER (1894) and van der WEELE (1909) are high quality, the female does not show considerable sexual dimorphism. The very short pterostigma and the weakly fumated wings are very characteristic for this species. The wings are transparent only the costal area is more or less pigmented. The older is an exemplar is the more pigmented its wings, this is why it shows wide range of varieties





Fig. 9: Habitus of female *Maezous princeps* (Gerstaecker, 1894)

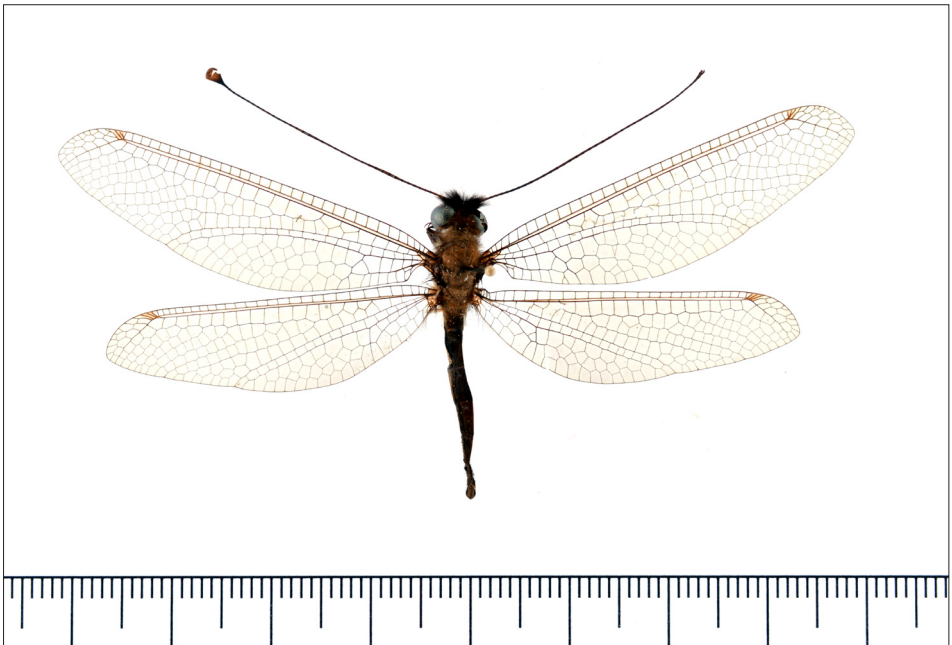


Fig. 10: Habitus of female *Maezous lugubris* (Gerstaecker, 1894)

resembling to eg. the well known species, *Acheron trux* (Walker, 1853) (ÁBRAHÁM 2008b).

*Female*: Vertex covered with long dense reddish brown hairs. Frons shining dark brown with long dense dark brown hairs. Gena shining dark brown toward frons and shining yellow next to eye. Clypeus and labrum yellowish brown. Antenna brown, club yellow. Thorax dominantly reddish brown with as same colour hairs as on vertex. Wings rather wide as in Fig. 10. Length of fore wing: 42 mm, hind wing: 36 mm. Pterostigma narrow and faintly pigmented. Apical area beyond pterostigma also transparent or slightly pigmented as membrane. Legs light brown to dark brown. Tibial spurs as long as the length of segment 2 together.

The examined female come from Mindano, a new record for the fauna of the Philippines, further males from Java (Indonesia) (van der WEELE 1909, NAVÁS 1913), SE China (Guangxi) (WANG et al. 2008b).

### *Malesianus* gen. n.

Type species: *Maezous harisi* Ábrahám, 2008

#### *Description*

When describing *Malesianus harisi* (Ábrahám, 2008) comb. n. was only two known female specimens therefore it has been combined to the closest and newly described genus, *Maezous* Ábrahám, 2008. The genus of *Malesianus* is characterized by sexual dimorphism. The apical area of wings of female *Malesianus harisi* is strongly concave below the tip, while that of male is pointed and only slightly concave. The species of *Maezous* are not typical of the sexual dimorphism in the wing shape. *Malesianus* male ectoproct is a pair of convex plate with papilla-like appendices, while that of *Maezous* has rather longer appendices. The mesothorax pattern of *Malesianus* is characterized by a longitudinal wide light middle band in dorsal view (Fig. 4), that of *Maezous* species are different, a very narrow longitudinal light middle line and a wide band (usually yellow) on each side can be seen (Fig. 3).

Other morphological characters of the *Malesianus* are similar to the genus of *Maezous* (Ábrahám, 2008).

*Malesianus* is distributed in Malesia, Malaysian archipelago.

*Malesianus harisi* (Ábrahám, 2008) comb. n. – This species shows sexual dimorphism especially in the shape of wings and patterns (Fig. 2). The description of the type material is based on two female specimens from Malaysia (Malay Peninsula and N Borneo, Sabah Prov.). The male and female can be recognized by their transparent pterostigma which clearly visible between the strongly brown pigmented costal and apical areas, by brown thorax with rather wide yellow median band (Fig. 4) and by the shining brown clypeus and the same colour labrum which has an indistinct small yellow mark in the middle. There was no visible pattern on the thorax of the type specimens because they were discoloured (ÁBRAHÁM 2008a). In males, the pigmentation in the costal area is similar to that of females but it restricts to the apical area on fore and hind wings (Fig. 2); the shape of male wings right below the apex is less concave than that of female. Length of fore wing: 37-39 mm and hind wing: 29-31 mm. In lateral view (Fig. 11) male ectoprocts with pair of convex plate and papilla-like ventro-caudal projection. Ventral and ventro-caudal margins with medium long and long bristles. Inner genitalia as in Figs 12-14.

It is easily distinguished from the known *Maezous* species by the thorax pattern. The other known species, *Maezous princeps*, *Maezous maezousi* sp. n., *Maezous jianfenglin-*

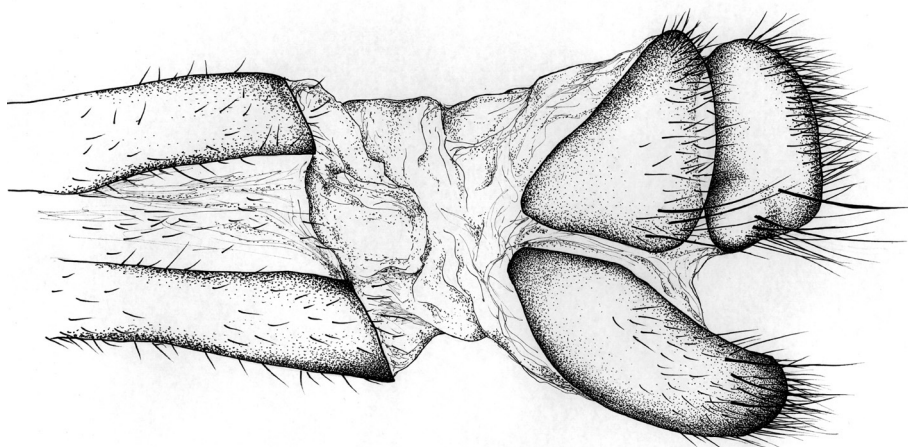


Fig. 11: Male genitalia of *Malesianus harisi* sp.n. in lateral view

*gana* and *Maezous tomijankae* have a narrow medial line and two lateral yellow bands on brown mesothorax. *Maezous lugubris* has dominantly reddish brown thorax. All these *Maezous* species have yellow labrum and clypeus and shorter or longer ventro-lateral projection on ectoproct but it is missing on male ectoproct of *Malesianus harisi*.

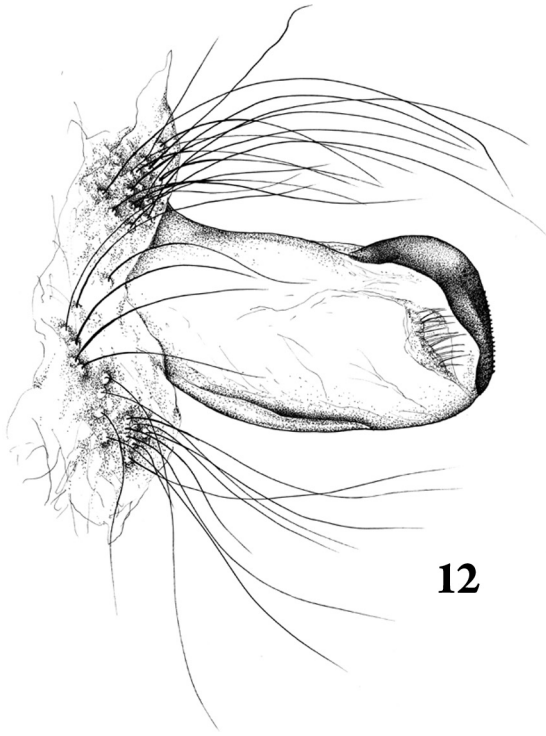
The examined material 4 males and 12 females come from also Palawan. The known distribution of species is Malaysia and the Philippines including the new record.

*Suhalpacsa reductus* Banks, 1931 – The taxonomical status needs revision since several similar species (*Suhalpacsa donckieri* Navás, 1913, *Suhalpacsa obscura* Fraser, 1922, *Suhalpacsa sumbawana* van der Weele, 1909, *Suhalpacsa hainana* Yang & Wang 2002) were described from SE Asia. These species probably belong to an undescribed genus spreading in the Oriental realm. So far, only one taxon has been known from the Philippines.

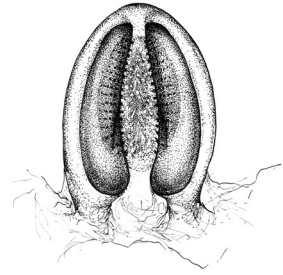
*Suhalomitus malayanus* (McLachlan, 1871) – It is known from Indonesia, Malaysia and the Philippines.

## Discussion

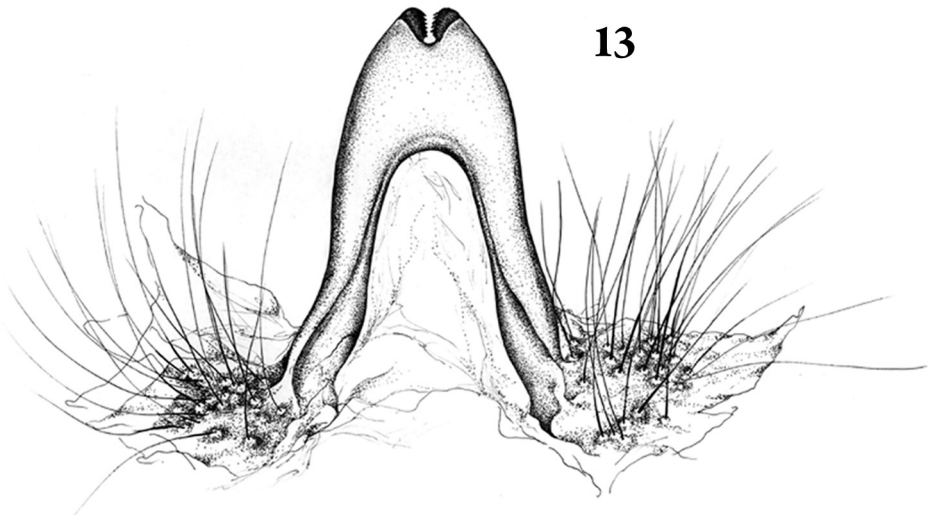
The Neuroptera fauna of the Philippines is hardly known (NEW 2003), only five ascalaphid species were previously reported from the archipelago due to the lack of a comprehensive taxonomic revision for the whole fauna and there are unexplored areas of certain species. Now, further four species were recorded. The Philippines are phyloge-



12



14



13

Figs 12-14: Gonarcus and parameres complex of *Malesianus harisi* in dorsal (Fig. 12), in lateral (Fig. 13) and parameres in caudal (Fig. 14) views

netically diverse area due to the strong fragmentation of the Indo-Malaysian region. The ascalaphid fauna is partly characterized with wide distributed species like *Helicomitus placidus* and *Protacheron philippinensis* however there are large number of taxa that may be endemic like *Protidricerus irene*, *Malesianus harisi*, *Maezous maezousi* sp.n. Based on the number and distribution of the species known in the Indo-Malaysian region, it seems to be the core area of the genus *Maezous* Ábrahám, 2008. The distinct *Maezuos* species show significant differences in the colour of clypeus and labrum, in the shape and pattern of apical area of wings and in the shape of male ectoproct and in the pattern of sternites either.

### Acknowledgement

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