

Contribution to the ant-lion and owl-fly fauna of Madagascar with description new taxa (Neuroptera: Myrmeleontidae, Ascalaphidae)

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ÁBRAHÁM, L. & DOBOSZ, D.: *Contribution to the ant-lion and owl-fly fauna of Madagascar with description new taxa (Neuroptera: Myrmeleontidae, Ascalaphidae)*.

Abstract: In this paper the authors listed 27 ant-lion (Myrmeleontidae) and 7 owl-fly (Ascalaphidae) species from Madagascar preserved in both museum collections: SCMK (Kaposvár, Hungary) and USMB (Bytom, Poland). *Palpares germaini* Navás, 1919 is a junior synonym of *Palpares martini* van der Weele, 1907, its type locality was confused in the original description. It is not a member of the fauna of Madagascar but that of Northern Africa. *Centroclisis alluaudi* (Weele, 1909) is combined to *Syngenes alluaudi* (Weele, 1909) n. comb.; *Disteleon majungalensis* (Esben-Petersen, 1916) is combined to *Nemoleon majungalensis* (Esben-Petersen, 1916) n. comb. *Neeles belohensis* Navás, 1924 from East Afrika is a junior synonym of *Disteleon majungalensis* (Esben-Petersen, 1916). *Visca magnus* Ábrahám sp. n. and *Visca murzini* Ábrahám sp. n. are new species. *Botjederinus* Ábrahám gen. n. is a new genus, genotype species is *Suphalomitus cephalotes* (McLachlan, 1871). *Fadrina rufa* Navás, 1912 is a new species for the Malgassan ant-lion fauna.

Keywords: new species, new genus, ant-lion, owl-fly, Myrmeleontidae, Ascalaphidae Madagascar

Introduction

Madagascar is the world's 4th largest island situated in the Indian Ocean. Around the main island several small islets and coral reefs can be found. It was separated from the continent by the Mozambique channel 135 million years ago and from the Indian sub-continent 88 million years ago (ALI & AITCHISON 2008).

The largest part of the main island is covered by 1300-1800 m high plateau, the highest peak (Maromokotro 2876 m) is in the Tsaratanana Mts. The plateau sinks gradually toward eastern to narrow coastal lowland (10-15 km) and gently sloping to the wider western lowland.

Madagascar's climate is strongly influenced by south-eastern winds, and its temperatures are also moderated by altitude. The western and southern parts of the island lies in the rain shadow thus heterogenic climate conditions created great diversity of habitats from the eastern tropical humid rainforests, western dry deciduous forests to south-western subarid spiny forests (VENCES et al. 2009).

The diversity of species on Madagascar is a truly hotspot, great diversity is linked to great endemism. According to the estimation of researchers, 60% of animals and plants live only in Madagascar (GOODMAN & BENSTEAD 2005).

The first Madagascan taxonomical and faunistical data of neuropteran species, *Ascalaphus festivus* (Rambur, 1842) (as *Bubo festivus*) go back to the middle of 19th century.

The intensive research work of ant-lion and owl-fly fauna of Madagascar started in the second half of 19th century and ended the first half of 20th century. Most of the endemic species of the island was described by McLACHLAN (1894), KARSCH (1889), KOLBE (1906), WEELE (1907, 1909) and NAVÁS (1909, 1912a, 1914a, 1923, 1924a, 1925, 1927, 1934, 1935).

The first synthesis completed with key on the Madagascan Neuroptera fauna was compiled by FRASER (1951a). He also described some new taxa as well (FRASER 1951b, 1952, 1957). Parallel with this, AUBER (1956, 1957) published new faunistic data for the island. Somewhat later, PAULIN (1961) summarised the previous researches. HANDSCHIN (1963) also reported valuable faunistic information on the neuropteran fauna of Madagascar. Finally, Stange, Tjeder and Hansson published several monographs summarizing our knowledge on the Madagascan Neuroptera fauna and enumerated the world's ant-lions (STANGE 2004) and the African owl-flies (TJEDER 1992, TJEDER & HANSSON 1992).

Recently, Penny continued their research, updated a checklist and created a website for the Madagascan Neuroptera fauna (PENNY 2003, 2006) but according to MANSELL 2010, the species- and generic-level revision of the Neuroptera fauna is still necessary.

The main aim of this paper is to publish data on the collected material preserved in the Natural History Department of Somogy County Museum Kaposvár (SCMK), Hungary and Natural History Department of Upper Silesian Museum, Bytom (USMB), Poland and to contribute to the preservation of the rich fauna.

Review of species

Abbreviations: Chlist – Checklist, Comb – New combination, Dist – Distribution, K – Key with comment, Mon – Monograph, Morph – Morphology, Odescr – Original description, Syn – Synonym
SCMK – Somogy County Museum, Kaposvár, Hungary, USMB – Upper Silesian Museum, Bytom, Poland

Myrmeleontidae Latreille, 1802

Palparinae Banks, 1911

Crambomorphus grandidieri van der Weele, 1907

Crambomorphus grandidieri van der Weele, 1907 – Weele 1907 (Odescr), Navás 1935 (Dist), Fraser 1951a (Chlist, K), Krivokhatsky 1998 (Dist), Whittington 2002 (Dist), Stange 2004 (Mon), Penny 2006 (Chlist, Dist).
Stenares grandidieri (van der Weele, 1907) – Banks 1911 (Comb), Penny 2003 (Chlist).
Stenares (Crambomorphus) grandidieri (van der Weele, 1907) – Banks 1913b (Comb, K).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♂ leg. S. Murzin & A. Shamaev in alcohol.

Comment: The original combination of the species was *Stenares grandidieri* Weele, 1907 but short time after the description a new combination was designed by BANKS (1913). The genus spreads in South Africa and Madagascar and characterized by divided costal area of the fore wing. The proximal part of costal area is divided at least with two but rather three-row cells. It appears to be an endemic recorded in Madagascar lowland (plain and seashore).

Distribution: Prov. Toliara, Toamasina.

***Crambomorphus madagascariensis* (van der Weele, 1907)**

Stenares madagascariensis (van der Weele, 1907) – Weele 1907 (Odescr), Banks 1913b (K), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Paulian 1961 (Dist), Penny 2003 (Chlist).

Crambomorphus madagascariensis (van der Weele, 1907) – Stange 2004 (Mon, Comb), Penny 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, La Mandraka 12.2000. 1♂ leg. ?.

Comment: This species is collected only in Madagascar living in south-eastern lowland.

Distribution: Prov. Toliara.

***Palparellus voeltzkowi* (Kolbe, 1906)**

Palpares voeltzkowi Kolbe, 1906 – Kolbe 1906 (Odescr), Weele 1907 (Morph, Dist), Banks 1911 (K), Banks 1913b (K), Klapalek 1913 (Morph, Dist), Navás 1925 (Dist), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Paulian 1961 (Dist), Whittington 2002 (Dist).

Negretus voeltzkowi (Kolbe, 1906) – Navás 1912a (Comb), Kimmins 1945 (Morph), Handschin 1963 (Dist), Krivokhatsky 1998 (Dist).

Palpares Woelkowi [sic!] Kolbe, 1906 – Navás 1925 (Dist).

Palparellus voeltzkowi (Kolbe, 1906) – Mansell 1996 (Comb, Morph, Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m 10.-27.12.2003. 2♀ leg. S. Murzin & A. Shamaev; Prov. Toamasina, Sakalaa 30.01.1995. 1♂ 1♀ leg. L. Misko.

Comment: It is a large (length of fore wing: 70-80 mm), very decorative and endemic insect living in western lowland in Madagascar and Europe Island (MANSELL 1996). The species was combined to the genus of *Negretus* (NAVÁS 1912a, KRIVOKHATSKY 1998) and later *Palparellus* (MANSELL 1996, STANGE 2004).

Distribution: Prov. Antsiranana, Mahajanga, Toliara, Toamasina.

***Palpares amitinus* Kolbe, 1906**

Palpares amitinus Kolbe, 1906 – Kolbe 1906 (Odescr), Weele 1907 (Morph, Dist), Banks 1911 (K), 1913b (K), Navás 1911 (Dist), 1924a (Dist), 1927 (Dist), 1933 (Dist), 1935 (Dist), 1936 (List), Klapalek 1913 (Morph, Dist), Kimmins 1945 (Morph), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Handschin 1963 (Dist), Whittington 2002 (Dist), Penny 2003 (Chlist), Penny 2006 (Chlist, Dist), Stange 2004 (Mon).

Palpares podai Navás, 1914 – Navás 1914a (Odescr), Stange 2004 (Syn).

Palpares latreillei Navás, 1933 – Navás, 1933 (Odescr), Navás 1934 (Syn).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 22 km N Tulear 30m 10.-27.12.2003. 10♂ 2♀ leg. S. Murzin & A. Shamaev in alcohol; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 14♂ 8♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 23 km N Tulear 30m 10.-17.12.2003. 13♂ 7♀ leg. S. Murzin & A. Shamaev
In Coll. USMB: Prov. Toliara, Ifaty 20 km Tulear, 30 m, 10.-27.12.2003, 1♂ leg. S. Murzin & A. Shamaev (det. L. Ábrahám) (USMB 5858/474).

Comment: It is an endemic, common and morphological variable species. *Palpares schrammi* Navás, 1914 (type material lost) and *Palpares decaryi* Navás, 1924 are probably synonym of this species as well.

Distribution: Prov. Antsiranana, Fianarantsoa, Mahajanga, Toliara.

***Palpares insularis* McLachlan, 1894**

Palpares insularis McLachlan, 1894 – McLachlan 1894 (Odescr), Kolbe 1906 (Dist), Weele 1907 (Morph, Dist), Banks 1911 (K), 1913b (K), Klapálek 1913 (Morph, Dist), Navás 1924a (Dist), 1935 (Dist), 1936 (Dist), Kimmins 1945 (Morph), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Handschin 1963 (Dist), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Palpares hildebrandti Kolbe, 1906 – Kolbe 1906 (Odescr), Weele 1907 (Syn), Handschin 1963 (Dist), Whittington 2002 (Dist).

Material examined:

In Coll. SCMK: Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. 1♀ leg. Mráček; Prov. Toliara, Ifaty 20 km N Tulear 30m 10.-27.12.2003. 3♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 2♂ leg. S. Murzin & A. Shamaev in alcohol.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 1♀ leg. J. Stolarczyk (det. V. Krivokhatsky) (USMB 5858/462); Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995, 1♂ leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/471); Prov. Toliara, Kirindi Nat. Res., 7.12.1995, 1♀ leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/456); Prov. Mahajanga env., Mahajanga distr., 1-10.12.1996 1♀ ad lucem, leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/481).

Comment: Endemic.

Distribution: Prov. Antsiranana, Fianarantsoa, Mahajanga, Toliara.

***Palpares pardaloides* van der Weele, 1907**

Palpares pardaloides van der Weele, 1907 – Weele 1907 (Odescr), Banks 1911 (K), 1913b (K), Klapálek 1913 (Morph, Dist), Lacroix 1921 (Dist), Navás 1927 (Dist), 1935 (Dist), 1936 (List), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Handschin 1963 (Dist), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Palpares guttatus Navás, 1933 – Navás 1933 (Odescr), 1934 (Syn, Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Isalo NP Amboantrika 19.01.2007. 1♂ 1♀ leg. Mráček.

Comment: Endemic.

Distribution: Prov. Toliara, Fianarantsoa.

***Palpares martini* van der Weele, 1907 (Fig. 1.)**

Palpares martini van der Weele, 1907 – Weele 1907 (Odescr), Klapálek 1912 (Dist), Banks 1911 (K), Banks 1913b (K), Fraser 1951a (Chlist, K), 1951b (comment on type), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Palpares germaini Navás, 1919 – Navás, 1919b **syn. n.**

Material examined:

In Coll. SCMK: Topotype material from Morocco: 10 km N from Tazenakt, 1594m, 01.07.2008. 1♀ leg: Ábrahám L., Bognár L., Nagy L.; Tiz-n-Bachkoun 10 km N from Tazenakt, 1594m, 28.06.2008. 2♂ 1♀ leg: Ábrahám L., Bognár L., Nagy L.; 5 km from Anezol, 1533m, 02.07.2008. 1♂ 1♀ leg: Ábrahám L., Bognár L., Nagy L.; 5 km from Anezol, 1533m, 30.06.2009. 1♀ leg: Ábrahám L., Bognár L., Nagy L.; 5 km from Anezol, 1533m, 24.06.2008. 1♂ 1♀ leg: Ábrahám L., Bognár L., Nagy L.; 6 km Ait Saoun, 1606m, 28.-29.06.2009. 1♂ 1♀ leg: Ábrahám L., Bognár L., Nagy L.; 14 km Ait Saoun, 1606m, 29.06.2009. 1♂ 1- (missing the tip of abdomen) leg: Ábrahám L., Bognár L., Nagy L.; 6 km Ait Saoun, 1606m, 15.06.2010. 3♂ 1♀ leg: Ábrahám

L., Kisbenedek L., Wágner L.; 13 km SW from Agdz, 1050m, 16.06.2010. 1♂ leg: Ábrahám L., Kisbenedek L., Wágner L.

Comment: Except for the type specimen, it has never been recorded from Madagascar. According to WEELE (1907) the type locality “Marocco” (Morocco) was a mislabelling and it was probably collected in Madagascar. Thus, *Palpares martini* as a new species for the fauna of Madagascar with an excellent illustration was published by WEELE (1907). However, his assumption of the recording place of the specimen was incorrect since it was really collected in Morocco and is conspecific with later described species of *Palpares germaini* Navás, 1919. KŁAPÁLEK (1912) reported it as *Palpares martini* from Egypt, evenmore he was also skeptical about the collecting place of *Palpares martini*. BANKS (1913) did not examine the validity of type locality when compiled a key for African *Palpares* species with short remarks. This is a little known species (ASPÖCK et al. 2001) spreading in Northern Africa from Morocco via Algeria and Tunisia (GÜSTEN 2004) to Egypt (KŁAPÁLEK 1912).

Distribution: It is not a member of the Malgassan neuropteran fauna.



Fig. 1: Habitus of male of *Palpares martini* van der Weele, 1907 from Morocco



Fig. 2: Habitus of female of *Syngenes alluaudi* (Weele, 1909)

Myrmeleontinae Latreille, 1802

***Syngenes alluaudi* (Weele, 1909) comb. n. (Fig. 2.)**

Acanthaclisis alluaudi Weele, 1909 – Weele 1909b (Odescr), Klapalek 1913 (Dist), Fraser 1951a (Chlist, K).

Centroclisis alluaudi (Weele, 1909) – Penny 2003 (Chlist), Stange 2004 (Mon, Comb).

Sogra alluaudi (Weele, 1909) – Navás 1912b (Comb), Whittington 2002 (Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 24 km N Tulear 30m, 10.-17.12.2003. 4♂ 24♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 8♂ 62♀ leg. S. Murzin & A. Shamaev in alcohol.

In Coll. USMB: Prov. Toliara, Toliara env., 23-27.11.1996, 1♂ 1♀ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/723; USMB 5858/733).

Comment: A large series of specimens was investigated and significant morphological differences were found especially in the pigmentation of fore wing. Many specimens have a dark spot above the hind margin at the joint of Cu2 and CuP+A1 on the fore wing. The cross-veins are simple in the one-fourth part of the costal area but the distal part is subequally divided with two-row cells; there are no bifurcated cross-veins except for the area right before the pterostigma, which are characteristic for the other species of the genus, too. There is less pubescence on legs than that of *Centroclisis* sp. Tibial spurs curve smoothly without inward processus. Male ectoproct is long, straight and with a tapered apex. STANGE (2004) assigned it to *Centroclisis* but that was a wrong combination.

The taxonomical status of African *Syngenes* Kolbe, 1897 species need to be revised since the validity of *S. inquinatus* (Gerstaecker, 1885), *S. dolichocerus* Navás, 1914, *S. maritimus* Needham, 1913 is doubtful. *S. longicornis* (Rambur, 1842) seems to be a widespread species in the Central and Southern part of Africa (STANGE 2004) and many authors (WEELE 1907, ESBEN-PETERSEN 1916, 1920, NAVÁS 1935, FRASER 1951,

HANDSCHIN 1963, PENNY 2003) reported it from Madagascar and NEEDHAM (1913) described a closely related species (*Acanthaclisis maritimus* Needham, 1913) from Aldabra (Seychelles) near to Madagascar. Based on its original description (FRASER 1955), *Synclisis cryptica* Fraser, 1955 may belong the genus of *Syngenes* with a long processus of ectoproct but its costal area is completely biareolate. So far, it has been known only from Madagascar.

Distribution: Prov. Toamasina, Toliara.

Fadrina rufa Navás, 1912

Fadrina rufa Navás, 1912 – Navás 1912c (Odescr).

Material examined:

In Coll. SCMK: Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 26.11.-02.12.2003. 2♂ leg. S. Murzin & A. Shamaev.

Comment: This species lives in African humid equatorial and sub-equatorial area (PROST 1998). Further unpublished data from coll: SCMK - Madagascar, Namibia, Zambia, Tanzania and Ghana. *Fadrina clementi* (Fraser, 1951) was described from Madagascar, however, its taxonomical status should be revised. The original combination was designated into a new genus *Synclisis* as the type species of *Synclisis clementi* Fraser, 1951 but it is a junior homonym of *Synclisis* Navás, 1919. HANDSCHIN (1963) mentioned a faunistic record of *Fadrina nigra* Navás, 1912 from Madagascar but this species lives rather in Saharan zone (GÜSTEN 2003).

Distribution: Prov. Fianarantsoa. It is a new species for the Malgassan fauna.

Centroclisis felina (Gerstaecker, 1885)

Sogra superba Navás, 1912 – Navás 1912c (Odescr), 1935 (Dist), Klapalek 1913 (Dist), Banks 1913a (Syn), Navás 1934 (Dist).

Sograssa superba (Navás, 1912) – Navás 1924b (Comb), Fraser 1951b (Morph, Dist), Handschin 1963 (Dist) *Acanthaclisis distincta* Rambur, 1842 – Weele 1909b (Dist, Misid?).

Centroclisis superba (Navás, 1912) – Penny 2003 (Chlist).

Centroclisis distincta (Rambur, 1842) – Esben-Petersen 1916 (Dist, Misid?).

Centroclisis felina (Gerstaecker, 1885) – Gerstaecker 1885 (Odescr), Esben-Petersen 1928 (Comb), Stange 2004 (Mon).

Material examined:

In Coll. USMB: Prov. Fianarantsoa, Ranomafana, 24.02.-1.03.1995 1♂ leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/706), Prov. Antsiranana, Ambohitra env., 20-26.12.2002 1♂ Lgt. Mráček (USMB 5858/506).

Comment: It is the largest *Centroclisis* species in South East Africa and Madagascar. *Sogra superba* Navás, 1912 was also synonymised by BANKS (1913) to *Centroclisis felina* (Gerstaecker, 1885). Based on the description *Centroclisis dyscola* Navás, 1933 from Madagascar is a very similar species to *Centroclisis felina* that is why it should be revised in the future.

Otherwise, all *Centroclisis* species known from Eastern Africa need to be revised since *C. distincta* cited from many places eg. WEELE (1909b), ESBEN-PETERSEN 1916, PENNY 2006 from Madagascar and all over and out side of Africa (STANGE 2004) but PROST (1998) supposed that it lives only in Central and West Africa. Probably, its records from Madagascar are based on misidentification.

Distribution: Antsiranana, Fianarantsoa, Toliara.

***Centroclisis maillardi* (Sélys-Longchamps, 1862)**

Acanthaclisis maillardi Sélys-Longchamps, 1862 – Sélys-Longchamps, 1862 (Odescr).

Sogra rixosa Navás, 1912 – Navás 1912c (Odescr), 1924a (Dist), 1934 (Dist), 1935 (Morph, Dist), 1936 (Dist), Klapalek 1913 (Dist), Banks 1913a (Syn), Markl 1954 (Morph).

Sogra pertinax Navás, 1912 – Navás 1912c (Odescr), Banks 1913a (Syn).

Centroclisis maillardi (Sélys-Longchamps, 1862) – Penny 2003 (Chlist, Comb), Stange 2004 (Mon).

Material examined:

In Coll. SCMK: Prov. Antananarivo, Ankazobe Mts. Manankaz env., 29.11.-04.12. 1♀ leg. Jiri Stolarczyk; Prov. Antsiranana, Antsiranana, 20.-26.12.2002. 2♂ 4♀ 1 – broken abdomen leg. Mráček; Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 26.11.-02.12.2003. 1♂ leg. S. Murzin & A. Shamaev; Prov. Antsiranana, Djanga env. 12.12.2002. 1♀ leg. Mráček; Prov. Mahajanga, Ampatika env. Mahajamba riv. 03.-05.12.2002. 2♀ leg. Mráček; Prov. Toamasina, Moramanga env. 09.-12.01.2003. 1♂ 1♀ leg. Mráček.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 2♂: leg. J. Stolarczyk (det. as *C. rixosa* V. Krivokhatsky) (USMB 5858/735; USMB 5858/737); Prov. Antananarivo Ankazobe Mts., Manankazo env., 29.11.-4.12.1996 2♂ 2♀ leg. J. Stolarczyk (det. as *C. rixosa* V. Krivokhatsky) (USMB 5858/726; USMB 5858/738; USMB 5858/724; USMB 5858/704).

Comment: At first, this taxon with some typical morphological characters from Mauritius was mentioned by RAMBUR (1942). It is an inseparable species from *Acanthaclisis distincta* Rambur, 1942 from Senegal based on the description. Later, SÉLYS-LONGCHAMPS (1862) repeated Rambur's description for this distinct morphological taxon and designated a name as *A. maillardi* from the island of Réunion which is the neighbour island of Mauritius and both islands are not far from Madagascar.

From the beginning of last century several new taxa from Madagascar were described, namely *Centroclisis lanosa* Navás, 1909, this is genotype species for *Centroclisis*, its taxonomical status is uncertain, the type species is unknown. *Sogra pertinax* Navás, 1912 and *Sogra rixosa* Navás, 1912 were synonymised by BANKS (1913) to *Centroclisis maillardi* (Sélys-Longchamps, 1862).

Distribution: Prov. Antananarivo, Antsiranana, Fianarantsoa, Mahajanga, Toamasina, Toliara.

***Cueta indefinita* Navás, 1914**

Cueta indefinita Navás, 1914 – Navás 1914a (Odescr), Penny 2003 (Chlist), Stange 2004 (Mon).

Material examined:

In Coll. SCMK: Prov. Antsiranana, Antsiranana 20.-26.12.2002. 1♀ Mráček; Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 11.26.-12.02.2003. 1♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 21 km N Tulear 30m, 10.-27.12.2003. 1♂ 5♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 4♂ 2♀ leg. S. Murzin & A. Shamaev in alcohol; Prov. Mahajanga, Ampatika env. Mahajamba riv. 03.-05.12.2002. 1♂ leg. Mráček.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 1♂ leg. J. Stolarczyk (det. as *C. pallens* L. Ábrahám) (USMB 5858/677); Prov. Antananarivo, Manankazo env., 28-30.11.1997 1♂ leg. J. Stolarczyk (det. as *C. pallens* L. Ábrahám) (USMB 5858/602); Prov. Toliara, Marofandilia, 5-6.12.1995 1♀ leg. Ivo Jeniš (det. as *C. pallens* L. Ábrahám) (USMB 5858/545); Prov. Toliara, Ifaty 20 km Tulear, 30 m, 10-27.12.2003 1♀ leg. S. Murzin & A. Shamaev (det. as *C. pallens* L. Ábrahám) (USMB 5858/516).

Comment: Although, four *Cueta* Navás, 1911 species (*C. externa* Navás, 1914; *C. gracilis* Navás, 1914; *C. pilosa* Navás, 1934 and *C. simplicior* Navás, 1934) were described by NAVÁS (1914a, 1924a, 1934) from Madagascar but their taxonomical status are uncertain. Otherwise, *C. pilosa* Navás, 1934 is a junior homonym of *Cueta pilosa* Navás, 1917 from Vietnam (STANGE 2004). Beside, *C. klugi* Hölzel, 1982 (as *C. variegata* (Klug, 1834)) and *C. pallens* (Klug, 1834) are also listed by PENNY (2003) from the

island, probably, these specimens were misidentified by Klapálek (1913) and Fraser (1951b). The examined material from Madagascar preserved in the both collections (SCMK and USMB) belonged to only one and same *Cueta* species consequently all *Cueta* species from Madagascar need to be revised in the future.

Distribution: Prov. Antananarivo, Antsiranana, Fianarantsoa, Mahajanga, Toliara.

***Macroleon validus* McLachlan, 1894**

Myrmeleon validus McLachlan, 1894 – McLachlan 1894 (Odescr), Weele 1907 (Morph, Dist), Penny 2003 (Chlist), Penny 2006 (Chlist, Dist), Stange 2004 (Mon).

Myrmeleon (Macroleon) validus McLachlan, 1894 – Banks 1911 (Comb, Dist, K).

Macroleon validus (McLachlan, 1894) – Banks 1909 (Comb, Dist), Navás 1919a (Tax, Dist), 1935 (Dist), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Handschin 1963 (Dist), Krivokhatsky 1998 (Dist), Whittington 2002 (Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Isalo NP Amboantrika 19.01.2007. 1♂ leg. Mráček; Prov. Toliara La Mandraka 12.2000. 1♂ leg.?

Comment: It is the genotype species of *Macroleon* Banks, 1909 later he designated this genus as a subgenus (BANKS 1911). It is an endemic species recorded in the whole area of the island. FRASER (1951c) mentioned data of the species from Senegal but those specimens may belong to *Myrmeleon quinquemaculatus* Hagen, 1853 which is a wide-spread in the central part of Africa.

Distribution: Prov. Fianarantsoa, Toliara, Toamasina.

***Myrmeleon obscurus* Rambur, 1842**

Myrmeleon obscurus Rambur, 1842 – Rambur 1842 (Odescr), Weele 1907 (Morph, Dist), 1909b (Dist), Banks 1911 (Dist, K), Klapálek 1913 (Dist), Fraser 1951a (Chlist, K), 1951b (Morph, Dist), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Morter obscurus (Rambur, 1842) – Navás 1924a (Dist), 1934 (Dist), 1935 (Dist), Handschin 1963 (Dist).

Material examined:

In Coll. SCMK: Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. 1♂ 3♀ leg. Mráček; Prov. Antsiranana, Djanga env. 12.12.2002. 1♀ leg. Mráček; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 9♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 10♂ 1♀ 1- leg. S. Murzin & A. Shamaev in alcohol; Prov. Toliara, Kirindi 60 km N Morondava 100m, 13.-17.01.2004. 2♂ leg. S. Murzin & A. Shamaev Prov. Toliara, Isalo NP Amboantrika 19.01.2007. 1♂ leg. Mráček.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 1♂ leg. J. Stolarczyk (det. V. Krivokhatsky) (USMB 5858/791); Mahajanga env., Mahajanga distr., 1-10.12. 1996 1♂ ad lucem, leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/951).

Comment: This species is considerably smaller than the previous *Myrmeleon* sp. One of the most common *Myrmeleon* species is known almost all over in Africa (STANGE 2004). *Myrmeleon obscurus* (Navás, 1912) from South America (STANGE 2004) is a junior homonym of *Myrmeleon obscurus* Rambur 1842.

Distribution: Prov. Antsiranana, Mahajanga, Toliara, Toamasina.

***Doblina grandidieri* Navás, 1927**

Doblina grandidieri Navás, 1927 – Navás 1927 (Odescr), Handschin 1963 (Dist), Stange 1976 (List), 2004 (Mon), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♀ leg. S. Murzin & A. Shamaev in alcohol.

Comment: The genus is characterised by two-row costal cells of fore wing. This species has shorter fore wing (26.4 mm) than that of the following species (31.5 mm). Two tiny rounded and black spots can be seen on its vertex while these spots rather indistinct on the vertex of *D. tristrigatus* (Fraser, 1951). The transversal brand above scapes is narrower, fore wing and the abdomen is paler and less speckled than those of *D. tristrigatus*.

Distribution: Prov. Fianarantsoa, Mahajanga, Toliara.

***Doblina tristrigatus* (Fraser, 1951)**

Madagascarleon tristrigatus Fraser, 1951 – Fraser 1951b (Odescr).

Dendroleon tristrigatus (Fraser, 1951) – Stange 1976 (Comb).

Doblina tristrigatus (Fraser, 1951) – Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon, Comb).

Material examined:

In Coll. SCMK: Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 26.11.-02.12.2003. 1♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 2♀ leg. S. Murzin & A. Shamaev.

Comment: The original combination, *Madagascarleon* Fraser, 1951, was assigned by STANGE (1976, 2004) to *Dendroleon* Brauer, 1866 then later to *Doblina* Navás, 1927. Both known species live in Madagascar.

Distribution: Prov. Antsiranana, Fianarantsoa, Toliara.

***Voltor sylphis* (van der Weele, 1907)**

Glenurus sylphis van der Weele, 1907 – Weele 1907 (Odescr), Fraser 1951a (Chlist, K).

Voltor sylphis (van der Weele, 1907) – Navás 1935 (Comb), 1936 (Dist), Stange 1976 (Morph), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Material examined:

In Coll. USMB: Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995 1 ex. (apex of abdomen missing) leg. Ivo Jeniš (det as *D. grandidieri* V. Krivokhatsky) (USMB 5858/1193); Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 1♀ leg. J. Stolarczyk (det as *D. grandidieri* V. Krivokhatsky) (USMB 5858/1186).

Comment: The costal area is simple, only one or two cells are transversally divided but most of the costal veins are forked. The hind wing is somewhat longer than the fore wing. It is a rare and one of the largest species of *Dendroleontini* in the island. Based on its recording sites it seems to be associated with subtropical forests and their fragments.

Distribution: Prov. Antsiranana, Fianarantsoa, Mahajanga, Toamasina

***Distoleon pictiventris* (Navás, 1914) (Fig. 3. A, B)**

Formicoleo pictiventris Navás, 1914 - Navás 1914a (Odescr), Navás 1914c (Morph), Handschin 1963 (Dist).

Distoleon pictiventris (Navás, 1914) - Stange 2004 (Mon), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 30 km S Antsirabe 23.-27.01.2004. 1♂ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♂ leg. S. Murzin & A. Shamaev.

In Coll. USMB: Prov. Toliara, Marofandilia, 5-6.12.1995 1♀ leg. Ivo Jeniš (USMB 5858/1315).

Comment: There is a wide transversal brown brand and a narrow transverse stripe above and right below scapes. Eyes are rather large. The pronotum is as long as wide and

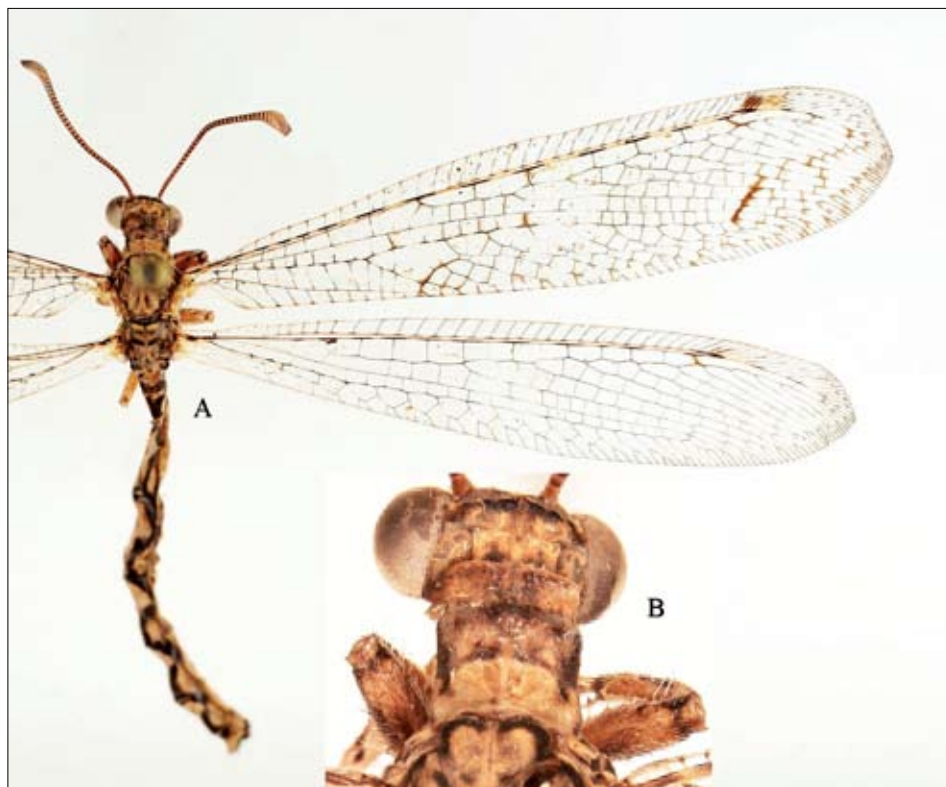


Fig. 3: Habitus of *Distoleon pictiventris* (Navás, 1914) (A); vertex and pronotum (B)

yellow with brownish indistinct pattern. Tibial spurs are slightly longer than tarsal segment 1-4 together. The tarsal segment 1 is longer than segment 2-4 together. The segment 5 is as long as segment 1-4 combined. The membrane is transparent with brown pattern. The pterostigma is distinct, the proximal part is brownish, the distal part is white and with 6-7 cross-veins. 7 radial cross-veins can be seen in the front of the origin of Rs. A2 and A3 originate from the same meeting point. The hind wing is transparent with a small brown spot on the proximal part of hypostigmatic cell. Pterostigma is indistinct, brown and white and with 4 cross-veins.

The abdomen is shorter than wings. In the lateral view each segment is yellow with an expanded S-shaped brown pattern. Sternites are yellow without pattern.

Distribution: Prov. Toliara

***Distoleon seyrigi* (Navás, 1933) comb. n.**

Neeles seyrigi Navás, 1933 – Navás 1933 (Odescr), 1934 (Dist), 1935 (Dist), 1936 (Dist).

Hagenomyia seyrigi (Navás, 1933) – Whittington 2002 (Dist, Comb).

Neuroleon seyrigi (Navás, 1933) – Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon, Comb).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 30 km S Antsirabe 23.-27.01.2004. 1♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tuléar 30m, 10.-27.12.2003. 1♀ leg. S. Murzin & A. Shamaev in alcohol.

Comment: It seems to be a Madagascan endemic species recorded only in the driest part of Madagascar. NAVÁS (1933) mentioned the type locality from Kenya, Amparandrandava but later it was corrected by NAVÁS (1934) as the settlement could be found in Madagascar.

Distribution: Prov. Toliara.

***Neuroleon macilentus* Auber, 1956**

Neuroleon macilentus Auber, 1956 – Auber 1956 (Odescr), Handschin 1963 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 6♀ leg. S. Murzin & A. Shamaev in alcohol.

In Coll. USMB: Prov. Toliara, Toliara env., 23-27.11.1996 1♀ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1388).

Comment: So far, this endemic species has been collected in the south western part of Madagascar where ant-lions live in great diversity.

Distribution: Prov. Toliara.

***Nemoleon madegassus* (Navás, 1923)**

Glandulus madegassus Navás, 1923 – Navás 1923 (Odescr).

Nemoleon madegassus (Navás, 1923) – Penny 2003 (Chlist, Dist), Stange 2004 (Mon, Comb).

Material examined:

In Coll. SCMK: Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. 3♀ leg. Mráček.

Comment: Distribution of this genus spreads mainly in Africa and Madagascar where the genus is rich in endemic species (STANGE 2004). It is recorded on the whole island except the central higher mountains.

Distribution: Prov. Antsiranana.



Fig. 4: Habitus of *Nemoleon majungalensis* (Esben-Petersen, 1916)

Nemoleon picturatus (Navás, 1934)

Lybekius picturatus Navás, 1934 – Navás 1934 (Odescr), 1935 (Dist).

Nemoleon picturatus (Navás, 1934) – Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon, Comb).

Material examined:

In Coll. SCMK: Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 26.11.-02.12.2003. 1♂ 2♀ leg. S. Murzin & A. Shamaev.

Comment: The original combination was *Lybekius picturatus* Navás, 1934, STANGE (2004) assigned to the genus of *Nemoleon* Navás, 1909. It is an endemic species known in SW Madagascar.

Distribution: Prov. Fianarantsoa, Toliara.

Nemoleon majungalensis (Esben-Petersen, 1916) **comb. n.** (Fig. 4.)

Formicoleo majungalensis Esben-Petersen, 1916 – Esben-Petersen 1916 (Odescr).

Distoleon majungalensis (Esben-Petersen, 1916) – Penny 2003 (Chlist), Stange 2004 (Mon, Comb)

Neeles belohensis Navás, 1924 – Navás 1924a (Odescr) **syn. n.**

Neuroleon belohensis (Navás, 1924) – Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon, Comb).

Material examined:

In Coll. SCMK: Prov. Mahajanga, Ankofia riv. Ambodi Manga (Bora) 07.-08.12.2002. 1♀ leg. Mráček.

Comment: Its distribution in the island seems to be overlap with the previous species, spreading not only Madagascar but also in the continent, Mozambique (NAVÁS 1924a) Kenya (unpublished data in coll. USMB). Original combination was *Formicoleo majungalensis* Esben-Petersen, 1916, STANGE (2004) placed it to *Distoleon* Banks, 1910 automatically but it belongs to *Nemoleon majungalensis* (Esben-Petersen, 1916) n. comb.

Legs are slender and rather long. Tibial spurs are as long as tarsal segment 1-2 together on fore and middle legs and its length equal to basitarsus on the hind leg.

Neuroleon belohensis (Navás, 1924) combined by STANGE (2004) was a wrong combination.

Distribution: Prov. Mahajanga, Toliara.

Creoleon mortifer (Walker, 1853)

Myrmeleon mortifer Walker, 1853 – Walker 1853 (Odescr).

Myrmeleon pervigil Walker, 1853 – Walker 1853 (Odescr), Banks 1913a (Syn), Fraser 1951b (Dist).

Creagris mortifer (Walker, 1853) – Banks 1911 (K), Klapálek 1913 (Dist).

Creoleon mortifer (Walker, 1853) – Penny 2003 (Chlist).

Material examined:

In Coll. SCMK: Prov. Toliara, Betroka date? leg.?, Prov. Antsiranana, Djanga env. 13.12.2002. 4♀ 1 – broken abdomen leg. Mráček; Prov. Toamasina Foulpointe, 08.08.1964. 1 leg.?, Prov. Toliara, Isalo NP Amboantrika 19.01.2007. 1♀ leg. Mráček; Prov. Toamasina, Moramanga env. 09.-12.01.2003. 1 – broken abdomen Mráček; Prov. Toliara, Toliara env. 23.-27.11.1996. 1♂ leg. Jiri Stolarczyk, Prov. Fianarantsoa, Volparara env. 17.-18.11.2002. 1♀ leg. Mráček; Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. 3♂ 1♀ leg. Mráček.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Nov 14-16 1995 2♀ leg. J. Stolarczyk (det. V. Krivokhatsky) (USMB 5858/1230; USMB 5858/1381); Prov. Toliara, Toliara env., 23-27.11.1996 1♂ 1♀ leg. J. Stolarczyk (det. V. Krivokhatsky) (USMB 5858/1403; USMB 5858/1369); [Prov. Toamasina], Moramanga env., 14-18.12.1995 1♀ leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/1421); Prov. Antananarivo, Manankazo env., 11-12.11.1995 1♂ leg. Ivo Jeniš (det. V. Krivokhatsky) (USMB 5858/1371).

Comment: It is a common and widely distributed species in the southern part of Africa. All African *Creoleon* species, among them were mentioned in different literatures (eg.

WEELE 1907, NAVÁS 1933, 1934, FRASER 1951a,b, HANDSCHIN 1963) from Madagascar should be revised in the future because of several taxa may be invalid or misidentified.

Creoleon aegyptiacus (Rambur, 1842) resembles to *C. mortifer*, this valid taxon was described from Egypt, cited by WEELE (1907) and BANKS (1911) from Madagascar but we agree with NAVÁS (1912b) who was doubtful concerning the identification.

Creoleon plumbeus (Olivier, 1811) was listed by PENNY (2003), it can not live in the island since it is occurring only in the Western Palearctic region.

Creagris tenuatus Fraser, 1951 – The type material comes from Madagascar (FRASER 1951b) STANGE (2004) combined it to the genus of *Creoleon* but based on the original description (FRASER 1951b) and published drawings of male genitalia that was a wrong combination.

Creoleon interruptus Navás, 1914 – NAVÁS (1914b) described it from Mozambique and later also NAVÁS (1933, 1934) mentioned its recording data from Madagascar. This species resembles to *C. mortifer* morphologically, its status need to be revised.

Creoleon afer Navás, 1931 is listed by PENNY (2003), both taxonomical status and distribution is uncertain.

Creagris litteratus Navás, 1908 – KLAPÁLEK (1913) and *Creoleon litteratus* (Navás, 1908) - WEELE (1909b) NAVÁS (1923, 1933, 1934), FRASER 1951a, WHITTINGTON (2002) cited this species from Madagascar, the taxonomical status is uncertain. ESBEN-PETERSEN (1920) synonymised it to *C. mortifer* while STANGE (2004) mentioned it as a synonym of *C. africanus*.

Creoleon literatus [sic!] (Navás, 1912) – HANDSCHIN (1963) published some recording data of this species. His identification should be checked again since he probably mixed the name with the previous taxon. The original combination, *Formicoleo lituratus* Navás, 1912 is a synonym of *Distoleon diversus* (Navás, 1912) by STANGE (2004).

Distribution: Prov. Antsiranana, Fianarantsoa, Toamasina, Toliara.

***Creoleon nubifer* (Kolbe, 1897)**

Creagris nubifer Kolbe, 1897 - Kolbe, 1897 (Odescr).

Creoleon nubifer (Kolbe, 1897) – Banks 1911 (K), Navás 1924a (Dist), 1933 (Dist), Whittington 2002 (Dist) Penny 2003 (Chlist), 2006 (Chlist, Dist).

Creagris africanus (Rambur, 1842) partim – Fraser 1951a (Chlist, K), 1951b (Dist).

Creoleon africanus (Rambur, 1842) partim – Weele 1907 (Dist), Whittington 2002 (Dist).

Material examined:

In Coll. SCMK: Prov. Antsirana 2002.12.20.-26. Ambohitra Env. 2♀ Igt.: Mráček; Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m 2003.11.26.-12.02. 2♀ leg.: S. Murzin, & A. Shamaev; Prov. Toamasina 2003.01.09.-12. Moramanga env. 1♀ Igt.: Mráček.

In Coll. USMB: Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao, 810 m, 26.11.-2.12.2003 1♀ leg. S Murzin & A. Shamaev (USMB 5858/1427); Prov. Antananarivo, Ankazobe Mts., Manankazo env., 29.11.-4.12.1996 1M leg. J. Stolarczyk (det as *C. africanus* V. Krivokhatsky) (USMB 5858/1416); Prov. Mahajanga, Ambodimanga env., Ankofia Riv., 14-15.11.1995 1♀ leg. Ivo Jeniš (det as *C. africanus* V. Krivokhatsky) (USMB 5858/1338).

Comment: Its faunistic data were confused with those of *Creoleon africanus* (Rambur, 1842) in the literature.

Creoleon pretiosa Banks, 1911 – FRASER (1951b) mentioned it from Madagascar but specimens were probably misidentified. This species resembles to *C. africanus* morphologically. Consequently, all *Creoleon* species and specimens need to be revised from Madagascar.

Distribution: Prov. Antananarivo, Antsirana, Fianarantsoa, Mahajanga, Toamasina.

***Visca mutila* Navás, 1927 (Fig. 5.)**

Visca mutila Navás, 1927 - Navás, 1927 (Odescr), Markl 1954 (Morph), Penny 2003 (Chlist), 2006 (Chlist, Dist), Stange 2004 (Mon).

Chabalus ineptus Navás, 1935 - Navás 1935 (Odescr), Stange 2004 (Syn).

Material examined:

In Coll. USMB: [Prov. Toamasina,] Antsahatsaka 5 km of Moramanga 9-11. 12. 1999 1♀ leg. J. Stolarczyk 5858/1182.

Comment: It is an endemic and rare species. STANGE (2004) listed the genus of *Visca* Navás, 1927 in the tribe of *Nemoleontini* Banks, 1911 and in the subtribe of *Neuroleontina* Navás, 1912 but we agree with ASPÖCK et al. (2001) and KRIVOTHATSKY (1998) who assigned that genus for *Glenurini* Banks, 1927. It is an endemic genus with two known species (STANGE 2004) in the island of Madagascar. Genera of *Chabalus* Navás, 1935 and *Belelion* Auber, 1955 are synonymised by STANGE (2004).

The genus of *Visca* is characterized by A2 forked, A3 simple on the fore wing and CuP+A1 almost parallel with hind margin on both wings. The costal area of fore wing is simple, there are 1-3 radial cross-veins in the front of origin of Rs on the hind wing. No pilulla axillaries can be found at the base of male's hind wing. The pronotum is longer than wide. There are no tibial spurs on long legs. Male ectopoct is an oval plate.

Distribution: Prov. Antananarivo, Toamasina.

***Visca magnus* Ábrahám sp. n. (Fig. 6. A)**

Material examined:

Holotype: 1♂ Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. leg. Mráček.

Deposited in the entomological collection of Somogy County Museum, Kaposvár.

Head: Vertex strongly arched, yellow with two transversal brown bands which connected along epicranal suture, hairless. Frons shining brown with small yellow spot between scapes, hairless. Gena shining brown next to frons, yellow next to clypeus, hairless. Clypeus wrinkled transversally, yellow with sparse long and yellow hairs. Labrum yellow with sparse shining and pale hairs curved to mouthpart. Mandible yellow with brown apices and inner side. Maxillar palpi yellow with brown hairs; labial palpi yellow with somewhat brown patterns and brown hairs. Eyes rather large. Scape, pedicel shining brown (flagellar segments broken).

Thorax: Pronotum 2.5 times longer than wide, light brown with one medial and two lateral yellow lines and with sparse moderately long and yellowish brown pubescence (Fig. 6. B). Mesonotum, prescutum brown with two central yellow spots and with short sparse brown hairs. Scutum also brown with distinct yellow pattern; scutellum also brown with central yellow line and distal yellow margin. Metanotum brown with yellow pattern. Meso and metanotum with short sparse and pale hairs, almost bare. Sides yellow with longitudinal interrupted and brown stripe and short pale hairs.

Legs: Very long. Fore coxa yellow with brown half ring on both ends. Middle and hind coxae yellow. Trochanter yellow. Femora yellow with numerous brown dots and short brown hairs. Tibiae slightly shorter than femora, yellow with numerous brown dots and with brown ring on each end and with short sparse and brown hairs. Tibial spurs absent. Length of tarsal segment 1-4 unequal, gradually decreasing. Tarsal segment 1 about as long as segment 5. Tarsi yellow with short brown hairs. Tarsal segment 5 with ventral setal brush. Claws opposable, shining reddish-brown.

Wings: Fore wing 44 mm long and 11 mm wide. Hind wing 45 mm long and 8.5 mm wide.

Fore wing elongated, with rounded apex, its anal area slightly concave and obtuse. Costal area wide. Membrane transparent with brown pattern and with long setae. C, M, A1 yellow, other longitudinal veins yellow interrupted with brown at intersections of cross-veins. Most cross-veins yellow. Pterostigma distinct white with 5-6 cross-veins. 9 radial cross-veins in front of origin of Rs. CuP+A1 parallel with hind margin, A2 forked, A3 simple. Hind wing with small brown marks in apical sector. Pterostigma small and white. 3 radial cross-veins in front of origin of Rs. Most longitudinal and cross-veins yellow.

Abdomen: 52 mm long, longer than wings. Tergites brown with yellow central spot and distal boardened yellow band with very short and brown hairs. Sternites yellow with very short and brown hairs.

Genitalia: male genitalia in lateral view as Fig. 7. A. Tergite 9 subtriangular-shaped with sparse short and brown hairs. Ectoproct oval-shaped with short moderately long brown hairs on caudal margin and with some stiff brown bristles on ventro-caudal margin. Sternite 9 sub-rhomboid-shaped with long brown hairs (Fig. 7. B). Gonarcus, parameres and mediuncus in posterior view as in Fig. 7. C, in ventral view as in Fig. 7. D.

Female: Unknown.

Comment: The habitus of the new species resembles to *Paraglenurus pinnula* (Auber, 1955) especially markings of the wings but these markings are smaller than those of *Visca magnus* sp. n. The new species has 3 radial cross-veins in front of origin of Rs and no tibial spurs.

Visca murzini Ábrahám sp. n. (Fig. 8)

Material examined:

Holotype: 1♂ Prov. Toliara, Ifaty 26 km N Tulear 30m, 10.-17.12.2003. leg. S. Murzin & A. Shamaev. Paratypes 1♂ 1♀ as holotype.

Deposited in the entomological collection of Somogy County Museum, Kaposvár.

Head: Vertex strongly arched, yellow with transverse irregular black pattern right above scapes and with two transversal interrupted black bands. Anterior band with five more or less rounded spots, central spot dark brown to black. Posterior band with four-square-shaped black spots. Somewhat larger central square-shaped black spot along epicranial suture on caudal part of vertex, hairless. Frons shining yellow with shining semicircular-shaped black spots right under each scape, hairless. Gena, clypeus and labrum shining yellow. Clypeus and labrum with sparse short and pale hairs. Mandible yellow with shining black apices and inner side. Maxillar and labial palpi yellow with pale hairs. Eye rather large. Scape, pedicel shining yellow with each black spot on dorsal side. Each flagellar segment yellow with anterior wide black ring and short black setae.

Thorax: Pronotum 1.5 times longer than wide, yellow with two broken black brands and one lateral line each side, which connect with medial brands on caudal margin (Fig. 8. B). Short sparse and pale pubescence and sporadic long black bristles on margin. Mesonotum, prescutum black with central yellow line, oval yellow spots on each side and caudal yellow margin and with short sparse and black bristles; scutum and scutellum yellow dominated with distinct black pattern. Metanotum yellow with black pattern. Meso and metanotum with short sparse and pale hairs, almost bare. Sides yellow with longitudinal interrupted and black stripe and short pale hairs.



Fig. 5: Habitus of *Visca venustulus* (Auber, 1955)

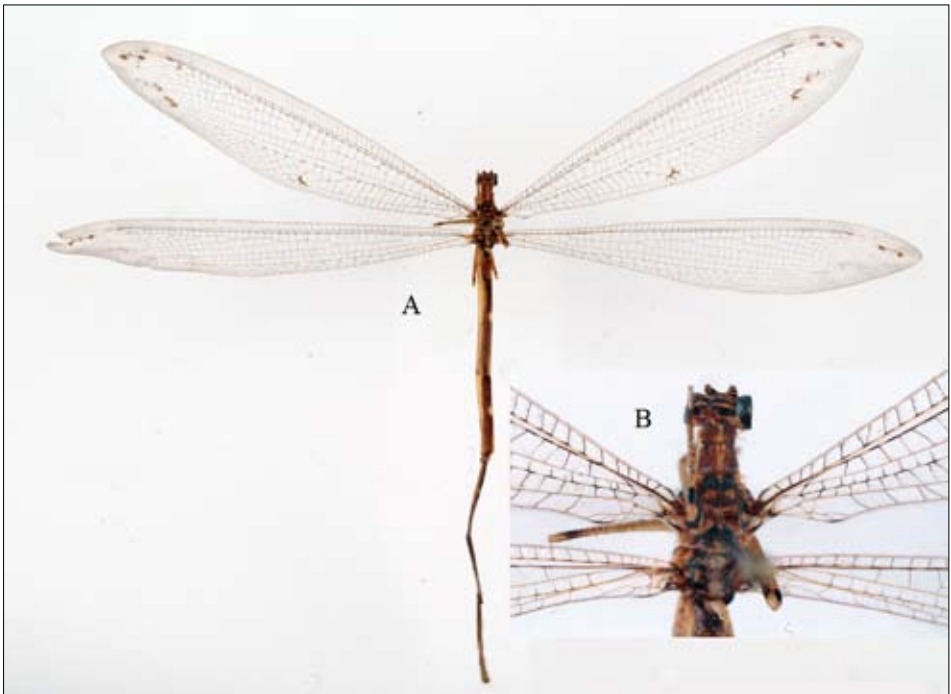


Fig. 6: Habitus of holotype male of *Visca magnus* Ábrahám sp. n. (A); vertex and pronotum (B)

Legs: Moderately long. Coxae, trochanters yellow. Femora yellow with numerous black dots and black hairs. Tibiae slightly shorter than femora, yellow with numerous black dots and with black ring on distal parts. Black pubescence shorter on femora than tibiae. Tibial spurs missing. Tarsal segment 1 about as long as segment 5. Tarsi yellow with short black hairs. Tarsal segment 5 with ventral setal brush. Claws slightly opposable, shining reddish-brown.

Wings: Fore wing 20 mm long and 4.5 mm wide. Hind wing 20 mm long and 4 mm wide.

Fore wing long elongated, with pointed apex, its anal area obtuse with slightly concave depression. Membrane transparent with three rounded black spots. C yellow, other lon-

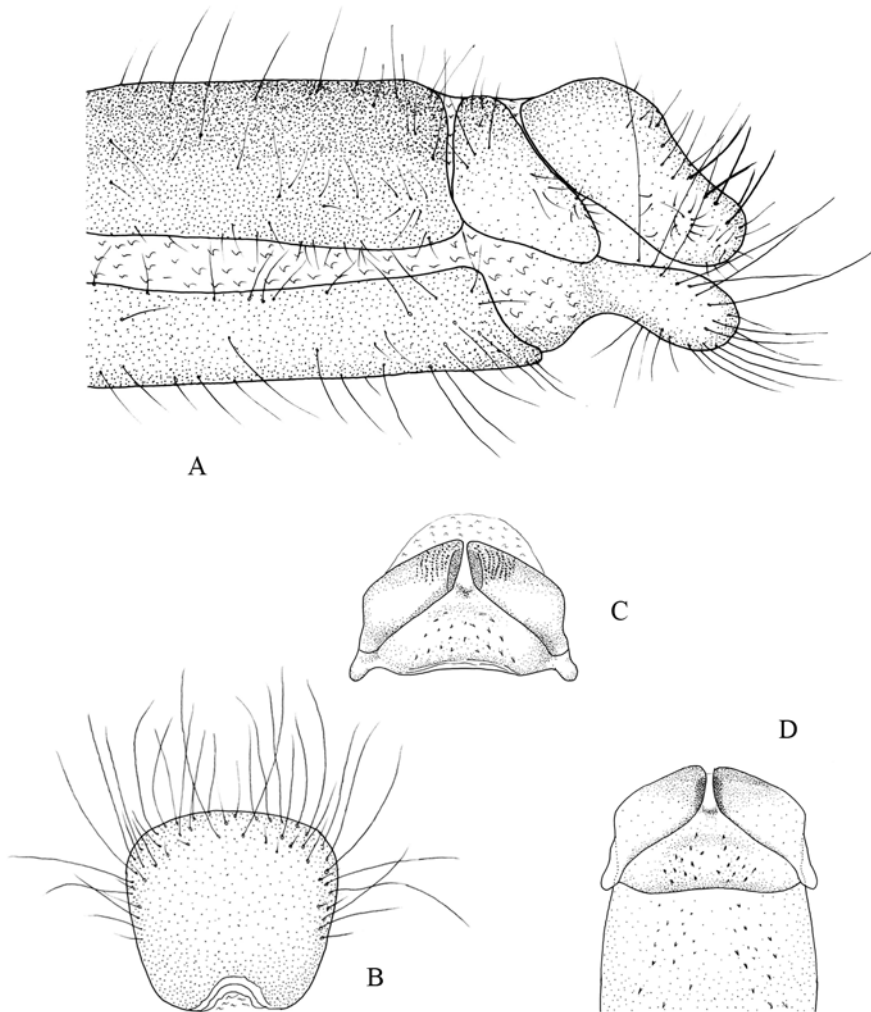


Fig. 7: *Visca magnus* Ábrahám sp. n. male genitalia in lateral view (A); sternite 9 in ventral view (B); gonarcus, parameres and mediuncus in posterior view (C); in the same in ventral view (D)

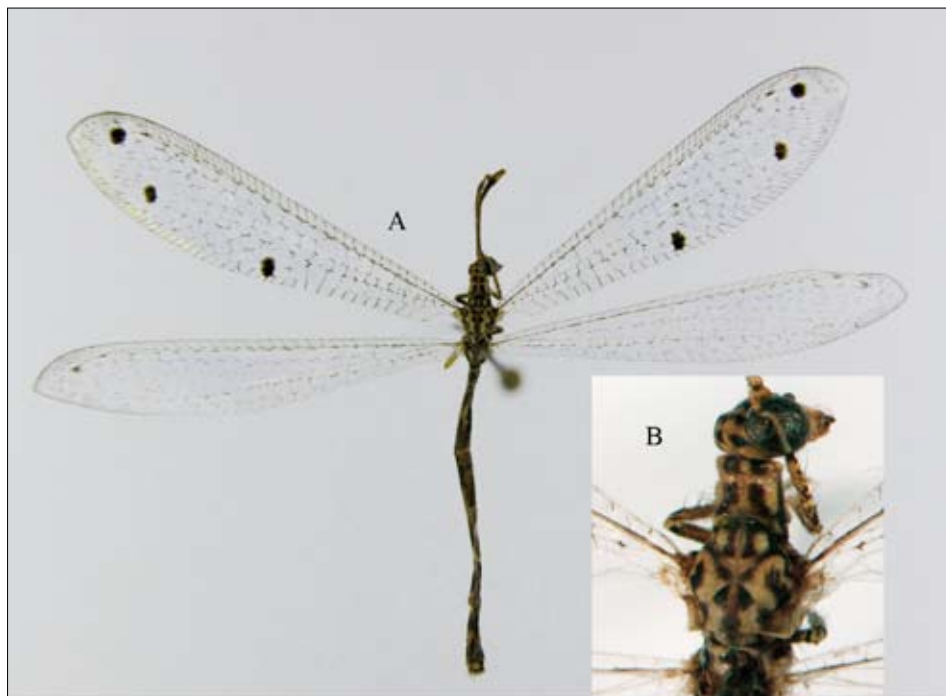


Fig. 8: Habitus of holotype male of *Visca murzini* Ábrahám sp. n. (A); vertex and pronotum (B)

itudinal veins yellow interrupted with dark brown at intersections of cross-veins. Medial part of most cross-veins yellow both ends dark brown. Pterostigma indistinct white with 3-4 cross-veins. 7 radial cross-veins in front of origin of Rs. CuP+A1 almost parallel with hind margin, A2 forked, A3 simple, yellow. Hind wing transparent with small faintly brown mark at the end of hypostigmatic cell. Pterostigma indistinct. 1 radial cross-vein in front of origin of Rs. Colouration of longitudinal and cross-veins similar to fore wing.

Abdomen: 14 mm long. Tergites brown with yellow central spot and caudal yellow margin; sternites brown with yellow pattern. Pubescence with rather dense pale hairs.

Genitalia: male genitalia as in Fig. 9. A in lateral view. Tergite 9 semicircle-shaped, brown with yellow caudal margin and sparse pale hairs. Ectoproct oval, yellow with dark brown caudal margin and long black hairs on caudal and ventro-caudal margins. Sternite 9 tongue-shaped, yellow with long black hairs on caudal margin as in Fig. 9. B. Gonarcus, parameres and mediuncus in ventral view as in Fig. 7. C.

Female genitalia in lateral view as in Fig. 9. D. A row of black bristles on caudal margin of sternite 7. Bristle-like pregenitalia plate, posterior gonapophysis finger-like, lateral gonapophysis only small lobe-like, spermatecha bent.

Comment: The new species can be easily distinguished with three rounded black spots on the fore wing.

Etymology: The new species is dedicated to Dr. Sergey Murzin, Russian entomologist for donating material from Madagascar.

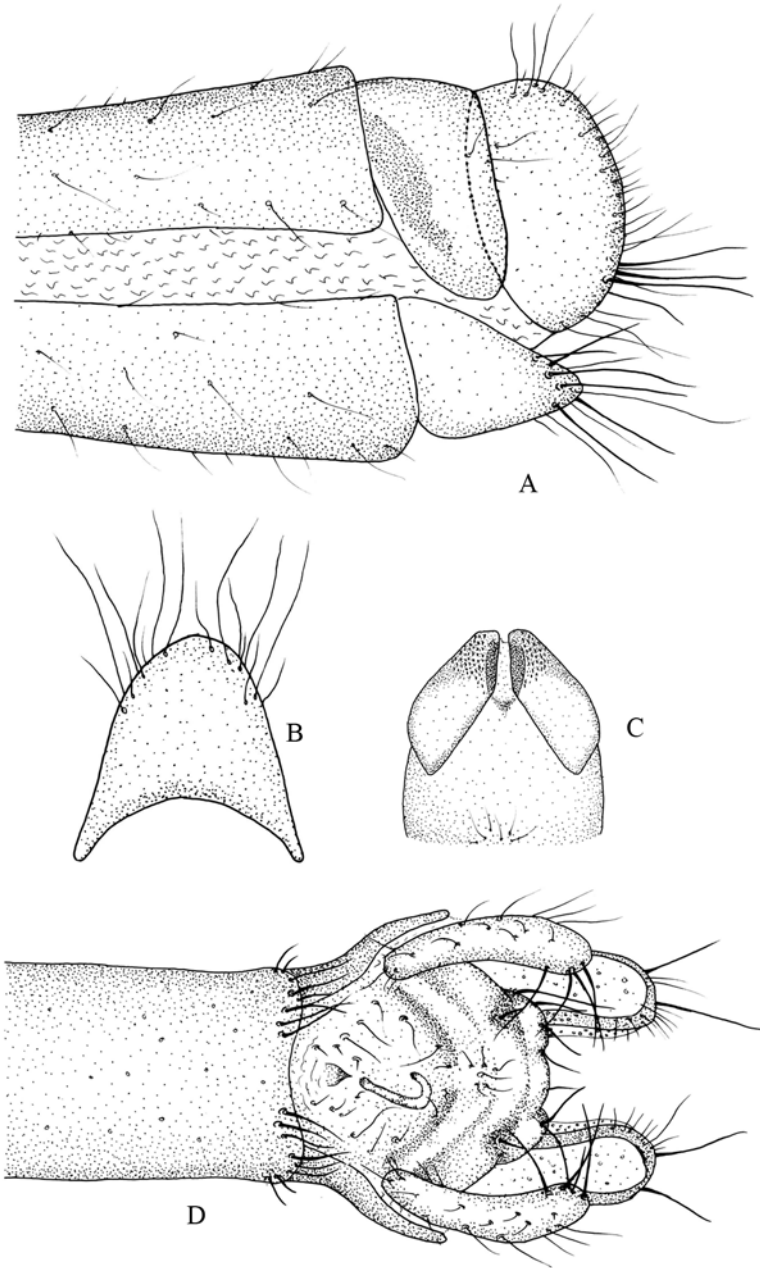


Fig. 9: *Visca murzini* Ábrahám sp. n. male genitalia in lateral view (A); sternite 9 in ventral view (B); gonarcus, parameres and mediuncus in ventral view (C); female genitalia in ventral view (D)

Ascalaphidae Rambur, 1842

***Balanopteryx locuples* Karsch, 1889**

Balanopteryx locuples Karsch, 1889 – Karsch 1889 (Odescr), Klapalek 1913 (Dist), Tjeder 1992 (Mon), Weele 1909a (Mon), 1909b (Dist), 1913 (Mon), Navás 1935 (Morph, Dist), Tjeder 1992 (Mon), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Laidlawiella pulchra Esben-Petersen, 1927 – Esben-Petersen 1927 (Odescr), Tjeder 1992 (Syn).

Balanopteryx mellisi Navás, 1935 – Navás 1935 (Odescr), Tjeder 1992 (Syn).

Balanopteryx umbraticus Fraser, 1957 – Fraser, 1957 (Odescr), Tjeder 1992 (Syn).

Material examined:

In Coll. SCMK: Prov. Toliara, Kirindi 60 km Morondava 100m, 13.-17.01.2004. 2♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Ifaty 20 km N Tulear 30m, 10.-27.12.2003. 1♀ leg. S. Murzin & A. Shamaev.

In Coll. USMB: [Prov. Toamasina], Moramanga env., 13-17.12.1995, 1♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1590).

Comment: In this species a distinctive sexual dimorphism is present. The morphological variability (colouration) is considerable among specimens thus three synonyms were found (Tjeder 1992). It is a diurnal endemic and one of the most common species in the island.

Distribution: Prov. Antsiranana, Toamasina, Toliara.

***Paramoeridops navasi* (van der Weele, 1909)**

Balanopteryx navasi van der Weele, 1909 – Weele 1909a (Odescr), 1910 (Dist), 1913 (Mon), Navás 1935 (Dist), Fraser 1951a (Chlist, K), 1951b (Dist).

Balanopteryx lacroixi Navás, 1914 – Navás 1914b (Odescr), Tjeder 1992 (Syn).

Balanopteryx incerta Lacroix, 1921 – Lacroix 1921 (Odescr), Tjeder 1992 (Syn).

Paramoeridops navasi (van der Weele, 1909) – Tjeder 1992 (Mon, Comb), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Toamasina, Analamazaotra env. E of Moramanga 05.-11.12.1996. 1♂ 1♀ leg. Jiri Stolarczyk; Prov. Antsiranana, Djanga env. 13.12.2002. 1♂ leg. Mráček.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., 14-16.11.1995, 2♂ leg. J. Stolarczyk (det. R. Dobosz) (USMB 5858/1584; USMB 5858/1579); Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995, 2♂ 1♀ leg. Ivo Jeniš (det. L. Ábrahám & R. Dobosz) (USMB 5858/1585; USMB 5858/1588; USMB 5858/1586); [Prov. Toamasina], Moramanga env., 14-18.12.1995, 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1573); Prov. Antananarivo, Manankazo env., 28-30.11.1997, 1♂ leg. J. Stolarczyk (det. R. Dobosz) (USMB 5858/1575); Prov. Antsiranana, Analamazaotra, 3-8.12.1997, 1♀ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1576); Prov. Fianarantsoa, Ranomafana N.P. main entr. 21°15'22.6"S/47°25'17.8"E, 958 m alt., 11-18.11.2010, at light, 3♂ 1♀ leg. M. Trýzna, P. Baňaf, O. Šafránek (det. L. Ábrahám & R. Dobosz); Prov. Antsiranana Mt. d'Ambre Nat. Park 12°30'51.5"S/49°11'00.7"E, 964 m alt., 27-30.10.2010, at light, 1♀ leg. M. Trýzna, P. Baňaf, O. Šafránek (det. L. Ábrahám & R. Dobosz).

Comment: It is an endemic species living in the eastern coast of the island where the natural vegetation is tropical rainforest (TJEDER 1992).

Distribution: Prov. Antananarivo, Antsiranana, Fianarantsoa, Mahajanga, Toamasina.

***Cormodophlebia pulchra* van der Weele, 1909 (Fig. 10.)**

Cormodophlebia pulchra Weele, 1909 – Weele, 1909a (Odescr), Klapalek 1913 (Dist), Navás 1913 (Mon), 1935 (Dist), Fraser 1951a (Chlist, K), 1951b (Dist), Tjeder 1992 (Mon), Whittington 2002 (Dist)

Material examined:

In Coll. USMB: Tamatave distr., Moramanga env., 24.02.-1.03.1995, 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1577).

Comment: It is a rare and endemic species living in the eastern part of the island.

Distribution: Prov. Antsiranana, Toamasina, Toliara.

***Neocampylophlebia sparsa* van der Weele, 1909 (Fig. 11.)**

Neocampylophlebia sparsa van der Weele, 1909 – Weele 1909a (Odescr), Navás 1913 (Mon), Lacroix 1925 (Dist), Fraser 1951a (Chlist, K), 1951b (Dist) Tjeder 1992 (Mon).

Material examined:

In Coll: MIZ Warszawa 1 ♀ “Madagasc.” “Co-type” (yellow paper) “*Neocampylophlebia sparsa* n. sp. type” with Weele’s handwriting “Mus. Zool. Polonicum Warszawa 12/45”.

Comment: Its distribution is similar to the previous species. Above mentioned type specimen was not listed by TJEDER (1992) in his excellent monograph.

Distribution: Prov. Fianarantsoa, Toamasina.

***Ascalaphus festivus* (Rambur, 1842)**

Bubo festivus Rambur, 1842 – Rambur 1842 (Odescr).

Encyoposis festivus (Rambur, 1842) – MacLachlan 1871 (Comb).

Helicomitus festivus (Rambur, 1842) – Weele 1909a (Mon, Comb), 1909b (Dist), Klapalek 1913 (Dist), Navás 1913 (Mon), 1933 (Dist), 1934 (Dist), 1935 (Dist), Fraser 1951b (Dist), Handschin 1963 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Helicomitus festiva (Rambur, 1842) – Fraser 1951a (Chlist, K).

Helicomitus festivus (Rambur, 1842) subsp. *africanus* MacLachlan, 1871 – Weele 1909a (Mon, Syn).

Suphalacsa [sic!] *africana* MacLachlan, 1873 – MacLachlan 1873 (Odescr), Kimmins 1949 (Syn).

Ascalaphus festivus (Rambur, 1842) – Walker 1953 (Comb), Tjeder 1972 (Comb), Penny 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Fianarantsoa, Camp Catta 40 km S Ambalavao 810m, 02.12.-26.11.2003. 6 ♂ leg. S. Murzin & A. Shamaev; Prov. Antsiranana Djanga env. 13.12.2002. 1 ♂ leg. Mráček; Prov. Toliara, Isalo NP Amboantrika, 19.01.2007. 1 ♂ 2 ♀ leg. Mráček; Prov. Toliara, Kirindí 60 km Morondava 100m, 13.-17.01.2004. 1 ♂ leg. S. Murzin & A. Shamaev

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., Ankofia Riv., 14-15.11.1995, 1 ♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1490); Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995, 3 ♂ leg. Ivo Jeniš det. L. Ábrahám) (USMB 5858/1484; USMB 5858/1485; USMB 5858/1558); Prov. Antananarivo, Manankazo env., 9-13.12.1995, 1 ♂ 1 ♀ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1521; USMB 5858/1550); Prov. Toliara, Toliara env., 23-27.11.1996, 1 ♀ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1516)

Comment: It is a common species not only in Madagascar but also in Africa. According to WEELE (1909a) *Helicomitus festivus* (Rambur, 1842.) subsp. *africanus* MacLachlan, 1871 is not a valid taxon. PENNY (2003) listed a collection name as *Ascalaphus madegassicus* Tjeder, without any date but it has never been described from Madagascar consequently it is a nomen nudum. Comparing the examined material to the material come from the continent we have not found any morphological characters to separate a new *Ascalaphus* taxon from the island. However, the species known in this genus from Africa, Asia and Sardinia (Europe) need to be revised in the future as they belong at least to three different genera.

Distribution: Prov. Antananarivo, Antsiranana, Fianarantsoa, Mahajanga, Toliara.



Fig. 10: Habitus of *Cormodophlebia pulchra* van der Weele, 1909

***Botjederinus* Ábrahám gen. n.**

Type species: *Suhalacsa cephalotes* McLachlan, 1871 (Fig. 12.).

Suhalomitus cephalotes (McLachlan, 1871) Weele 1909 (Mon, Comb).

Medium sized species.

Head: wider than thorax. Vertex narrow with soft dense hairs. Frons, especially on its margins with dense hairs. Soft and long tufts of hairs between scapes. Gena and clypeus hairless. Labrum with marginal silky hairs curved to mouthpart. Postorbital sclerite and occiput hairless. Eye very large, divided equally with transverse furrow. Antenna somewhat shorter than distance between wingbase and pterostigma. Space and pedicel with long silky and dense hairs. Flagellum hairless. Distal part of flagellar segments nodulated (only male). Club large, subglobular with flattened apex and with sparse and short setae.



Fig. 11: Habitus of *Neocampylophlebia sparsa* van der Weele, 1909



Fig. 12: Habitus of *Botjederinus cephalotes* (McLachlan, 1871)

Thorax: Pronotum narrow with long marginal hairs. Mesonotum with rather sparse soft hairs. Metanotum and sides with long soft hairs. Leg short. Femora as long as tibiae. Tarsus longer than tibiae. Segment 1-4 subequal together as long as segment 5 on fore and middle legs. Segment 1 longer than segment 2 or 3; segment 5 shorter than segment 1-4 combined on hind leg. Spurs of fore and middle legs as long as tarsal segment 1-2 together, spur on hind leg as long as basal tarsus.

Wing: Elongate oval with rounded apices. Fore wing considerably longer than hind wing. Membrane transparent, pterostigma distinct. Apical area with two rows of cells. Anal area of fore wing with rounded apex. Venation not dense. Cu2 and A1 fused beyond anal angle in fore wing. 5 radial cross-veins before origin of Rs in fore wing, 2-3 in hind wing. Hind wing with long and soft anal hairs basally.

Abdomen: Somewhat shorter than wings. Tergite 1 split with long soft hairs otherwise pubescence sparse and short.

Male: Ectoproct with strong elongated and inwardly bent processus with stiff setae (Fig. 13. A). Gonarcus hood-like, parameres fused to gonarcus, pelta present, pulvini bag-like with long setae (Fig. 13. B, C).

Female: ectoproct oval, ventrovalve rather large, interdens present (Fig. 13. D).

Sexual dimorphism present. Male slightly larger than female, with nodulated distal flagellar segments.

Distribution: The new genus is known from Madagascar.

Etymology: The generic name is dedicated to Dr. Bo Tjeder who was one of the greatest neuropterologist in the 20th century and wrote the first comprehensive monograph on African Ascalaphidae (TJEDER 1992, TJEDER & HANSSON 1992).

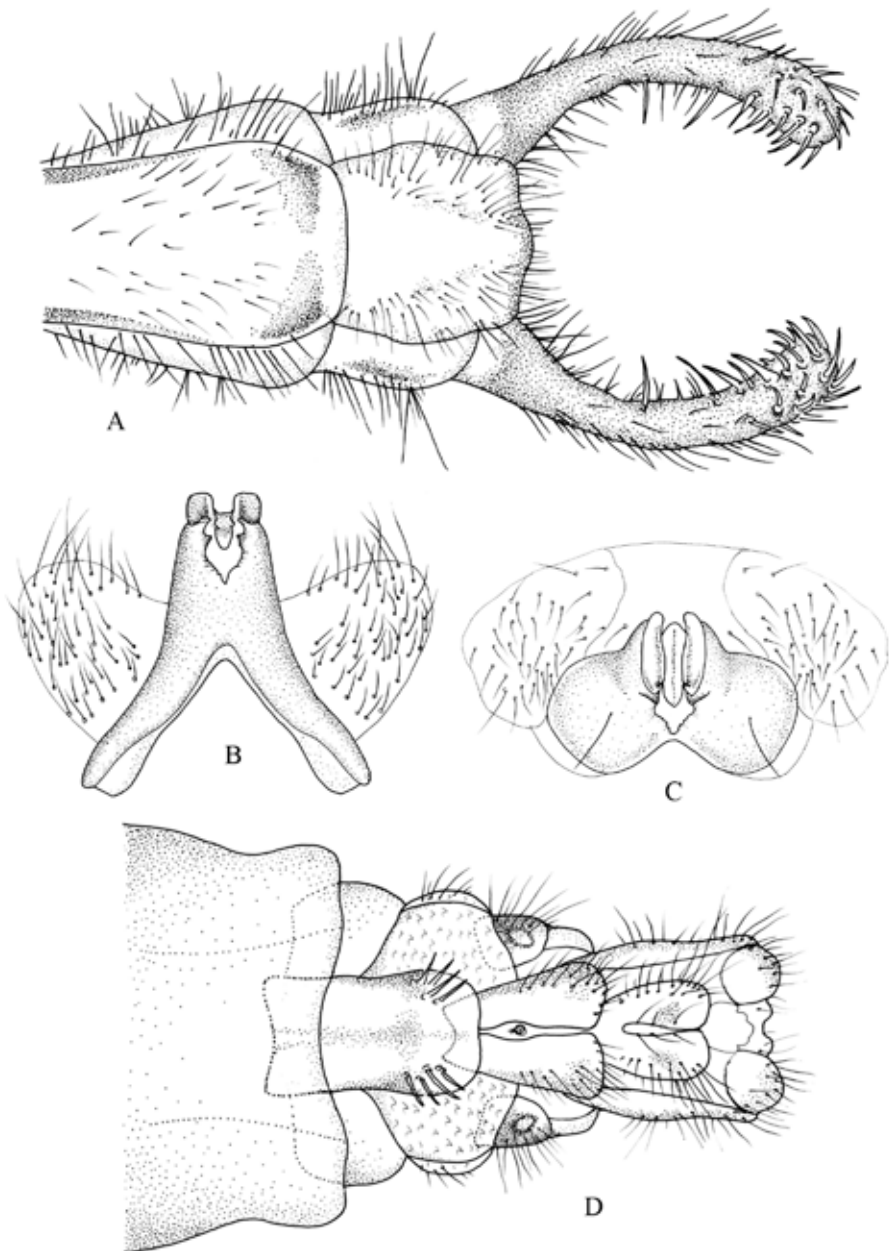


Fig. 13: *Botjederinus cephalotes* (McLachlan, 1871) male genitalia in ventral view (A); gonarcus, parameres and pulvini complex in ventral view (B); in the same in posterior view (C); female genitalia in ventral view (D)

***Botjederinus cephalotes* (McLachlan, 1871)**

Suphalacsa [sic!] *cephalotes* McLachlan, 1871 – McLachlan 1871 (Odescr), Weele 1909b (Dist), Fraser 1951a (Chlist, K).

Suphalomitus cephalotes (McLachlan, 1871) – Weele 1909a (Mon), Navás 1912b (Dist), 1913 (Mon), 1925 (Dist), 1935 (Dist), Klapálek 1913 (Dist), Handschin 1963 (Dist), Whittington 2002 (Dist), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Toliara, Ifaty 20 km N Tulear 30m 10.-27.12.2003. 1♀ leg. S. Murzin & A. Shamaev; Prov. Toliara, Isalo NP Amboantrika 19.01.2007. 1♂ leg. Mráček; Prov. Toliara, Kirindi 60 km Morondava 100m, 13.-17.01.2004. 1♀ leg. S. Murzin & A. Shamaev; Prov. Fianarantsoa, Ranomafana 40 km NE Fianarantsoa 900m 30.12.2003.-03.01.2004. 1♂ 1♀ leg. S. Murzin & A. Shamaev.

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., 14-16.11.1995, 1♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1528); Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995, 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1507); Prov. Toliara, Marofandilia, 5-6.12.1995, 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1552); Prov. Toliara, Toliara env., 23-27.11.1996, 1♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1551); Prov. Fianarantsoa, Ranomafana N.P. main entr. 21°15'22.6"S/47°25'17.8"E, 958 m alt., 11-18.11.2010, at light, 3♂ leg. M. Trýzna, P. Baňaf, O. Šafránek (det. L. Ábrahám & R. Dobosz).

Comment: Endemic.

Distribution: Prov. Fianarantsoa, Mahajanga, Toliara.

***Ululomyia sylvatica* (Fraser, 1957)**

Phalacscusa sylvaticus Fraser, 1957 – Fraser, 1957 (Odescr).

Ululomyia sylvatica (Fraser, 1957) – Tjeder 1992 (Mon, Comb), Penny 2003 (Chlist), 2006 (Chlist, Dist).

Material examined:

In Coll. SCMK: Prov. Antsiranana, Ambohitra env. 20.-26.12.2002. 3♂ 1♀ leg. Mráček; Prov. Toliara, Ifaty 25 km N Tulear 30m, 10.-27.12.2003. 1♂ leg. S. Murzin & A. Shamaev .

In Coll. USMB: Prov. Mahajanga, Ambodimanga env., 14-16.11.1995, 2♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1569; USMB 5858/1567); Prov. Mahajanga, Ampatika env., Mahajambra Riv., 17-19.11.1995, 1♂ 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1570; USMB 5858/1571); [Prov. Toamasina], Moramanga env., 13-17.12.1995, 1♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1568); Prov. Mahajanga, Mahajanga distr., 1-10.12. 1996, ad lucem, 1♀ leg. Ivo Jeniš (det. L. Ábrahám) (USMB 5858/1572); Prov. Antananarivo Manankazo, 28-30.11.1997, 1♂ leg. J. Stolarczyk (det. L. Ábrahám) (USMB 5858/1561).

Comment: Tjeder (1992) designed a new genus and a new tribe for this only one endemic species.

Distribution: Prov. Antananarivo, Antsiranana, Mahajanga, Toamasina, Toliara.

According to PENNY (2003) a total of 168 taxa (Ascalaphidae: 11, Myrmeleontidae: 72) are known from the island. However, the number of valid species is undoubtedly lower. Being high species diversity in the island the taxonomists (GOODMAN & BENSTEAD 2005) indicated as one the diversity hot spot with a large number of endemic taxa all over the Earth. That is also true for the fauna of owl-fly and ant-lion, more than 60% of the species are endemic. There are also several endemic genera: *Doblina* Navás, 1927, *Visca* Navás, 1927, *Voltor* Navás, 1935, *Balanopteryx* Karsch, 1889, *Cormodophlebia* van der Weele, 1909, *Neocampylophlebia* van der Weele 1909, *Paramoeridops* Tjeder, 1992, *Ululomyia* Tjeder, 1992 and *Botjederinus* Ábrahám gen. n.

However, those species which described from Madagascar and also occur in the continent can not be identified reliable without their revision (eg. *Centroclisis*, *Creoleon*, *Syngenes* and *Cueta*), moreover there is doubtful taxonomical status of *Palpares* species

known from Madagascar. Not only the type specimens are required to examine but a significant amount of material should be collected by modern equipments to clear taxonomical problems. Therefore, further changes are expected in the number of species from Madagascar.

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