

A new *Creoleon* sp. n. (Neuroptera: Myrmeleontidae) from Socotra (Yemen)

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ÁBRAHÁM, L.: *A new Creoleon sp. n. (Neuroptera: Myrmeleontidae) from Socotra (Yemen).*

Abstract: *Creoleon prolongaveruntus* sp. nov. is described, figured from the island of Socotra (Yemen) and compared to *Creoleon aegyptiacus* (Rambur, 1842), *Creoleon elegans* Hölzel, 1968 and *Creoleon mortifer* (Walker, 1853).

Keywords: ant-lion, new species, Socotra

Introduction

Socotra is one of the best preserved semi-arid tropical islands in the world, and characterized by a high diversity of plant and animal species as well as a high degree of endemism (WRANIK 2003). The insect fauna of Socotra was recently summarized by BEZDĚK & HÁJEK (2018) in this paper one *Creoleon* species was included, namely: *Creoleon mortifer* (Walker, 1853). Based on the papers published by WHITTINGTON (2002) and ÁBRAHÁM (2010, 2011), they 13 Myrmeleontidae species enumerated and additionally 2 species indentified till genus level.

At first, KIRBY (1903) documented the occurrence of *Creoleon* species as *Craebris mortifer* (Walker, 1853) in the fauna of Socotra. Approximately half century later, KIMMINS (1960) reported *Craebris mortifer* (Walker, 1853) from this island. Furthermore WHITTINGTON (2002) published additional faunistic data on this species.

In two short publications (ÁBRAHÁM 2010, 2011) I described two new antlion species from this island and recorded further Myrmeleontidae species. During a thorough study of *Creoleon* species described from Africa and the Arabian Peninsula, I noticed the faunistic data reported from Socotra island (ÁBRAHÁM 2011) represent a new species similar to *Creoleon mortifer* (Walker, 1853). I wasn't able to check the material determined by previous authors (KIRBY 1903, KIMMINS 1960, WHITTINGTON 2002), however, I suppose, the earlier published data also refer to this newly described species.

Material and methods

During the revision of *Creoleon* material from Africa, the Arabien Peninsula and Socotra preserved in two museum collections (SCMK - Rippl-Rónai Museum, Kaposvár, Hungary; NMP - National Museum, Praha, Czech Republic), one new species was recognised.

The type material was collected by light trapping.

Photographs were taken by Canon EOS 400 digital camera equipped with flash light system (Sigma EM140 DM). The other photos were taken using SZX9 Olympus stereomicroscope equipped with a ScopeTek DCM 800 digital camera. The layers of photos were processed with stacking and Adobe Photoshop software.

Abbreviations: C- Costal vein, Rs - Radius sector, A2, A3 - Anal veins.

Results and discussion

Creoleon prolongaveruntus sp. nov.

Holotype male: pinned. Original label: „YEMEN Island C. Sokotra, Haghier Mt Ayhft valley 2009.03.20. Leg. Saldaitis” Preserved in the entomological collection of Rippl-Rónai Museum (SCMK), Kaposvár, Hungary.

Paratypes: pinned, preserved in the entomological collection of SCMK, 1♂ 1♀ YEMEN Island N. Sokotra, Hills near Hadibu 2009.03.21. Leg. Saldaitis; 2♂ YEMEN Island C. Sokotra, top of Diksam valley 2009.03.22. Leg. Saldaitis; 1♂ YEMEN Island C. Sokotra, top of Diksam cayon 2009.03.23. Leg. Saldaitis; 2♂ 4♀ YEMEN Island N. Sokotra, Haghier Mt. Quadab loc. 2009.03.25. Leg. Saldaitis.

in alcohol, preserved in the Department of Entomology of National Museum Prague (NMP), Czech Republic, 2♂ 1♀ YEMEN Socotra Island Noged plain (sand dunes) Sharet Halma vill. env. N12°21.9', E54°05.3' 20m Jiří Hájek leg. 10-11.xi.2010; 8♂ 1♀ YEMEN Socotra Island wadi Ayhaft N12°35.5' E53°58.9' 200m Jiří Hájek leg. 7-8.xi.2010; 1♂ 1♀ YEMEN Socotra Island Kesa env. 220-300m at light Hassan vill. env. 12°39' 37", 52°26'42" E 28-29.i.2010. L. Purchart lgt.; 1♀ YEMEN Socotra Island Firmihin 400-500m N12°28'27", E54°0'54" 6-7.ii.2010. at light L. Purchart & L. Vybíral lgt.; 8♂ 3♀ YEMEN Socotra Island Zemhon area 270-350m N12°30'58" E54°06'39" 3-4.ii.2010. at light L. Purchart & L. Vybíral lgt.

Description: Medium sized species. Frons separate oval spots under antennae. Labial palp yellow. Thorax and abdomen dominantly dark brown. Abdomen of males longer than wings at rest. Venation dominantly yellow, and longitudinal veins interrupted with dark brown at intersections of cross-veins. Forewing membrane slightly shaded. Hindwing completely transparent without pigmentation. (Fig. 1).

Head: Vertex arched, yellow with dull black marks in two rows on top of vertex; six rounded black spots anteriorly, and irregular shaped and dull black marks posteriorly. Hairless except for minute sparse brown setae on lateral top of vertex. Frons yellow with separated oval shaped shiny and black spots and sparse tiny white hairs right under scapes. (Fig. 2). Gena, clypeus and labrum bright yellow. Mandible yellow but brown to black apically. Maxillary palp yellow. Labial palp yellow with long oval-shaped ochraceous sensory pit. Eye large and shiny bronze. Antenna 7 mm long. Scape yellow with ventro-basal black spot, pedicel yellow with narrow black ring ventrally, flagellar segments and club yellow with basal black rings and with short dark black setose besides somewhat longer sparse white setose on 1-5 basal segments. Tip of club shiny black.



Fig. 1: Habitus of *Creoleon prolongaveruntus* sp. n.

Thorax: Pronotum at least 1.5 times longer than wide, dominantly dark brown with yellow pattern as in Fig. 3. Lateral margin with medium long stiff and white bristles forwarded anteriorly. Mesonotum and metanotum dominantly dark brown to black with yellow indistinct small yellow spots, bare. Oval-shaped black velvet spots on metascutum. Sides dominantly dark brown with moderately long sparse and white hairs.

Legs: Coxae dark brown dorsally, yellow ventrally with moderately long and white hairs. Fore femur significantly longer than tibia. Middle femur somewhat shorter than tibia. Hind femur as long as tibia. Femora yellow with dark brown marks and dots covered with short white hairs and long rigid white bristles in two rows ventrally. Tibiae yellow with numerous black dots and black ring proximally. Pubescence short white hairs and rigid dominantly black bristles. Basi tarsi 1.5 longer than segment 2. Segment 2-4 equal. Segment 5 as long as segment 1-4 together. Tarsi yellow with wide shiny black rings distally. Tibial spurs on fore and middle legs as long as segment 1-3 and on hind leg as long as segment 1-2 combined. Each segment with dominantly black setae. Tibial spurs and claws shiny reddish brown. (Fig. 4).

Wings: Forewing: 29-30 mm long, 6.5 mm wide. Hindwing: 27 mm long, 6 mm wide. Hind margin straight before acute apices. Apical area with a row of cross-veins, 8 radial cross-veins before origin of Rs. 10 braches in Rs. Membrane transparent with some brownish shadows on forewing as in Fig. 5. C yellow, others longitudinal veins yellow interrupted with dark brown at intersections of cross-veins. Pterostigma indistinct dark basally, yellowish-white distally with 7 cross-veins. Hindwing membrane without spots and shadows and with indistinct white pterostigma. Apical area slightly concave.



Fig. 2: Head in frontal view



Fig. 3: Pronotum in dorsal view



Fig. 4: Side and legs in lateral view

Abdomen: 30 mm, longer than wings (in males), dark brown with short black hairs. Indistinct small lateral yellow spots on segments caudally.

Genitalia: Male. In lateral view, tergite 9 subrhomboid-shaped dark brown dorsally, yellow ventro-caudally. Ectoproct oval shaped, yellow with oval shaped brown spot centrally and brown margins. Moderately long upstanding black bristles dorsally and stiff long black bristles directed caudally on ventro-caudal corner. Sternite 8 lobe-like dark brown with yellow caudal margin and long black hairs. (Fig. 6).



Fig. 5: Wings in dorsal view



Fig. 6: Male genitalia in lateral view (scale - 1 mm)

Paratype female: There are not any considerable morphological differences between the genders except length of the abdomen. Genitalia as in Fig. 7.



Fig. 7: Female genitalia in lateral view (scale - 1 mm)

Diagnosis: Based on habitus (size, wing shape, and sex-different abdomen length), the new species most closely resembles *Creoleon aegyptiacus* (Rambur, 1842). *C. aegyptiacus* has also dark marks on frons just under antennae. Between the antennae a thin longitudinal line extends towards the mouth on the frons but this line is missing on the frons of the new species. For the both species, the forewing right below the apex is not concave and the abdomen of males is longer than wings at rest. In the forewing of *C. aegyptiacus*, between A2 and A3, a small cross-vein can be found while that of the new species is lacking.

During the identification of East African and Malagasy materials, I have not found a specimen of *C. aegyptiacus* yet, although its occurrence was mentioned (van der WEELE 1907: Madagascar, BANKS 1911: Tanzania, BANKS 1938: Kenya). The distribution of the species is limited to the southwestern and central parts of the Palearctic from Morocco to western China (ÁBRAHÁM 2017).

The new species is somewhat similar to *Creoleon elegans* Hölzel, 1968 but the species is smaller in size than that of new sp. There are no dark spots on scapus and frons of *C. elegans*. It occurs only in the Middle East.

Creoleon mortifer (Walker, 1853) is considered widespread in southern and eastern Africa and this species was mentioned in previous literature (KIRBY 1903, KIMMINS 1960, WHITTINGTON 2002, ÁBRAHÁM 2011) from the island of Socotra. Recently, I studied African *Creoleon* species, the distribution of *C. mortifer* is limited to the south of Africa. Those specimens similar to *C. mortifer* from eastern Africa require further taxonomic revision, their size being significantly smaller than that of *C. mortifer*. Each of taxa differs from the new taxon in that the abdomen of the males does not reach wing length in resting position. Forewing is concave just below the apex.

Etymology: prolongaverunt means elongated and refers to the long abdomen of male.

Biology: Based on the collected material, the new species spreads throughout the island from the sandy coastal plain to the higher rocky mountains and dry valleys (wadi). Imagoes are in flying from November to April. It is active at night, the artificial lights attract the imagoes.

Acknowledgments

The author express their sincere thanks to Dr. Pavel Chvojka National Museum, Praha for loaning materials and to Mr. Bálint Csernák for taking excellent photos.

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