

## Discovery and description of the male *Echthromyrmex sehitlerolmez* Koçak & Kemal (Neuroptera: Myrmeleontidae) from Iran

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### Abstract

The male sex of *Echthromyrmex sehitlerolmez* Koçak & Kemal, 2008 is here described for the first time from Iran. The species was previously known based on the description of the female specimen from Turkey. This is also the first record of this species in Iran. The species was compared with *Echthromyrmex platypterus*, the other species of this genus. The illustration of male and female habitus and male genitalia of both species is provided.

**Key words:** Neuroptera, *Echthromyrmex sehitlerolmez*, new record, Iran

## کشف و توصیف جنس نر گونه *Echthromyrmex sehitlerolmez* Koçak & Kemal, 2008 (Neuroptera: Myrmeleontidae) از ایران

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### چکیده

برای اولین بار جنس نر گونه *Echthromyrmex sehitlerolmez* Koçak & Kemal, 2008 از ایران توصیف می‌شود. این گونه پیش از این، بر اساس توصیف ویژگی‌های ریخت‌شناسی جنس ماده، از ترکیه جمع‌آوری و شناسایی شده بود. همچنین، این گونه گزارش جدیدی برای فون حشرات ایران محسوب می‌شود. این گونه با گونه *Echthromyrmex platypterus* که پیش از این از ایران گزارش شده بود، مقایسه شد. تصاویری از جنس نر و ماده و همچنین اندام زادآوری جنس نر هر دو گونه یاد شده، ارائه شده است.

واژه‌های کلیدی: بال‌توری، *Echthromyrmex sehitlerolmez*، گزارش جدید، ایران

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## Introduction

The earliest study on the Iranian myrmeleontid was conducted by Navás (1910). Since then, most Iranian species have been recorded by Hölzel (1968, 1969, 1972). The family Myrmeleontidae, commonly known as antlions, is considered as one of the largest and most widely distributed families in the order Neuroptera (McEwen *et al.*, 2001). The family consists of approximately 190 genera and more than 1500 species, of which more than 200 species have been reported in the Palaearctic region (Aspöck *et al.*, 2001; Stange, 2004). A total of 97 species of this family are believed to occur in Iran (Mirmoayedi *et al.*, 2015). *Echthromyrmex* McLachlan, 1868 is a relatively small genus with only a few described species in Southern Palaearctic and Oriental biogeographical regions. Prior to the current study, one species of *Echthromyrmex* namely *E. platypterus* had been recorded from Kermanshah, Fars and Yazd provinces, Iran (Mirmoayedi, 1998; Mirmoayedi *et al.*, 2015). Here, the second species of the genus, *E. sehitlerolmez* is recorded from this country. This is also the first description of male for the species.

## Material and methods

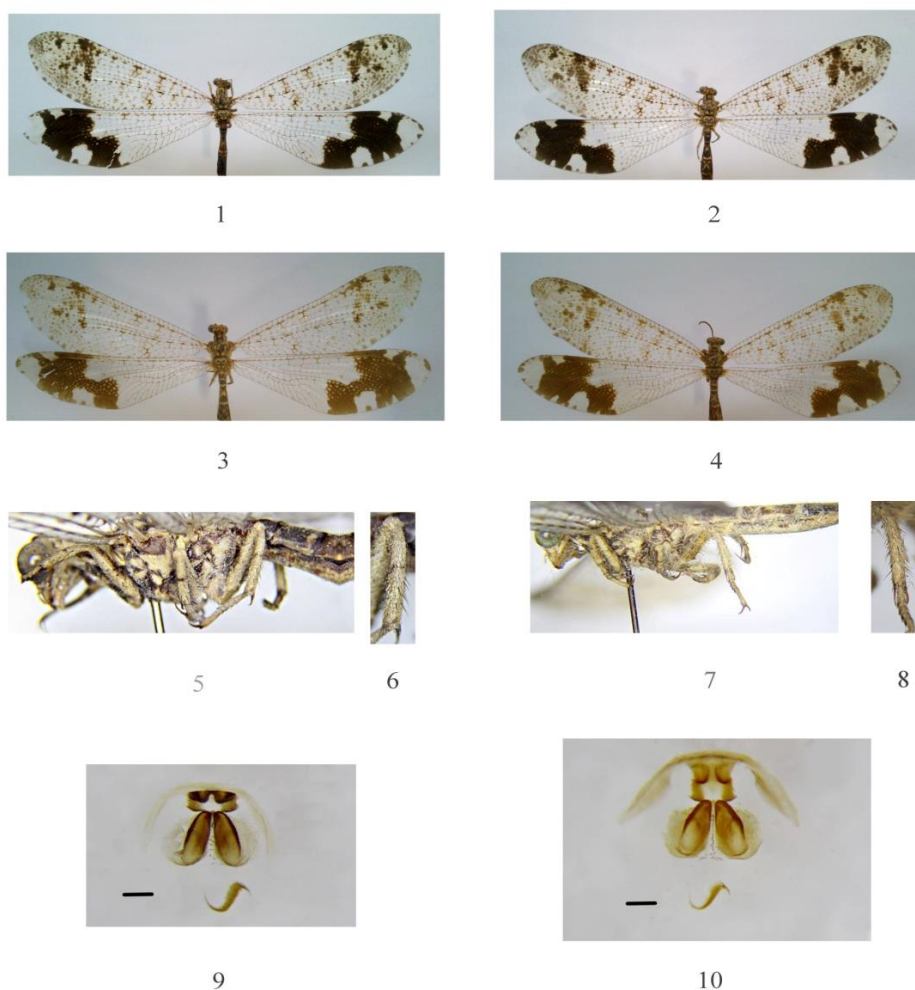
The specimens of *Echthromyrmex sehitlerolmez* Koçak & Kemal and *E. platypterus* McLachlan, 1868 were collected from Kerman and Fars provinces, Iran, respectively. The identity of former species was confirmed by one of the authors of the species, Prof. Koçak, at the Centre for Entomological Studies Ankara (CESA). Male genitalia were prepared for examination after heating the terminalia in Potassium hydroxide (KOH) 10%. They were later washed in distilled water before being processed through 75%, 96% and 100% ethanol alcohol. The genitalia are preserved in microvials containing glycerin. Photographs of the habitus and male genitalia were taken using Sony Digital Still Camera model MPEG MOVIE HQX DSC-F717 and Dino-Eye (Microscope Eye-Piece Camera) model AM-7023, respectively. The studied materials are deposited at the Hayk Mirzayans Insect Museum (HMIM), Iranian Research Institute of Plant Protection (IRIPP), Tehran, Iran.

### *Echthromyrmex sehitlerolmez* Koçak & Kemal, 2008.

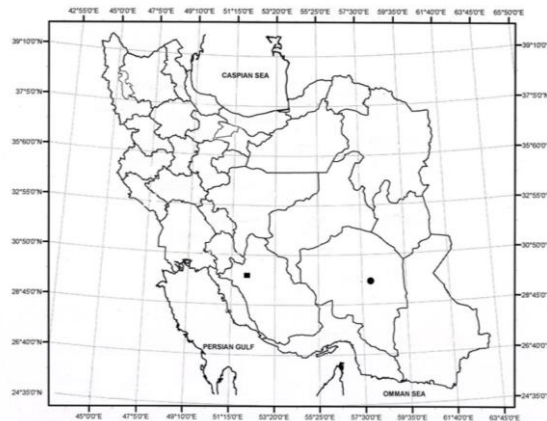
**Material examined** – 1♂ 1♀: Kerman province, Jiroft, Dahbakri, Zaryab, N: 29 04 34.3, E: 57 50 09.3, 2325m, 9.vi.2017, leg. Alipanah, Afsarian & Mozhdehi (HMIM).

**Description of male** – Dark colored insects (Fig.1). Head generally yellow with dark marks; antenna broken. Prothorax yellow, longer than width, with H-shaped dark pattern; meso- and metathorax yellow with dark marks. Forewing about 40 mm, hyaline, venation brown with darker stain, pterostigma white between two dark patches, cubital vein with dark brown joint spots, lighter spots below cubital vein, a few large milky spots in outer half of the posterior edge to apex, pale spots on central area; hind- and forewing almost equal in length, hyaline, with a dark brown area on apical half between anterior and posterior edges, apically milky with a few recognizable spots, central and basal areas spotless. Abdomen dark brown, length 21 mm; tergites with yellowish X-shaped markings, fading gradually towards apex, a yellowish band at the end of segments; legs yellow, middle of all tibiae with a dark brown semicircle band (Figs 5, 6), tibial spurs and tarsal claws dark brown, first tarsal segment equal to 2<sup>nd</sup> and 3<sup>rd</sup> segments together, fifth tarsal segment the longest, as long as tarsal segments 1-4 combined; ectoproct short and oval, male genitalia typical of the genus, myrmeleontini type (Fig. 9), gonarcus and parameres distinct, gonarcus distinctly horseshoe-like, parameres elongated, curved in apical third and broadened near apex; hypandrium internum hook-shaped, almost 2/3 as long as the paramere.

**Remarks** – *Echthromyrmex sehitlerolmez* is recognized by the external morphological characters such as dark body color, dark brown (almost black) wings pattern, especially hind wings (Figs 1-2), and a dark brown semicircle band in middle of all tibiae. It has closest distribution to *E. platypterus* (Fig. 11) and is distinguished from the latter species (Figs. 3, 4, 7, 8, 10) by its relatively small size, dark (almost black) body and black wing pattern comparing to body and wing pattern being brown in *E. platypterus*. Furthermore, the semicircle bands are remarkably lighter and occur only on fore- and mid-tibiae in *E. platypterus*.



**Figs 1-10.** *Echthromyrmex sehitlerolmez* (1, 2, 5, 6, 9): 1- male habitus , 2- female habitus, 5- male, lateral view, 6- hind leg of male, 9- gonarcus-parameres complex with hypandrium internum, posterior view (scale: 0.5 mm); *Echthromyrmex platypterus* (3, 4, 7, 8, 10): 3- male habitus, 4- female habitus, 7- male, lateral view, 8- hind leg of male, 10- gonarcus-parameres complex with hypandrium internum, posterior view (Scale: 0.5 mm).



**Fig. 11.** Dot distribution map of *Echthromyrmex sehtilerolmez* (●) and *E. platypterus* (■) in Iran.

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