

New Records of some of Iranian Antlions (Insecta, Neuropterida, Neuroptera, Myrmeleontidae)

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Many antlions were collected from different regions of Iran ,between them ,seven species are new records for the locations cited.These species are *Acanthaclisis occitanica* , *Creoleon remanei*, *Cueta lineosa* ,*Cueta luteola* ,*Myrmecealurus trigrammus* ,*Myrmeleon(Mortier)hyalinus* ,*Palpares libelloides* .

Key words: New records, antlions, distribution, taxonomy, Iran.

INTRODUCTION

Antlions belong to the superorder Neuropterida; order Neuroptera, family Myrmeleontidae (Aspöck et al 2001). Iranian Antlion species are estimated to be more than 100 species, while the world fauna of these insects are more than 2000. Neuropterans are a very diverse superorder of Insects ,larvae carnivorous , predators on other insects , and adults use pollen and nectar of plants as their food source.Antlions generally are dwellers of the arid or semi arid regions of the world.The larvae live in the pitfalls ,which they dig in the sand and feed on passing ants,or other insects which fall accidentally into ,their nest .The food of adults are pollens of flowers, which grow in their environments . Study of taxonomy and zoogeography of antlions in Iran, could lead to find, the new habitat, already not reported, identification of not well known species, and determination of new species as well.The importance of antlions is their adaptation to live in dry climates with little water, and their role in control of ants and other insects both in arid and arable lands .Although they are used to be found, in desert conditions, but they should be found also in cereal fields. In the past sixteen years, the author collected many specimens in different provinces of Iran, such as Beluchistan, Fars, Hormozgan, Kerman, Kermanshah, Khorassan, and Mazanderan, and already reported new records for Iran (Mirmoayedi, 2002).

MATERIALS AND METHODS

A hand net was used for the capture of adults. The captured antlions killed by a killing jar ,containing potassium cyanide.The killed specimens ,pinned and put in insect boxes for further investigations .For the identification of genera ,wings and other body characters were used,and, for the species determination male genitalia was used .The male's genitalia cleared with 10% hot potassium ,and investigated under 40x microscope lens. The Species type specimens are preserved dry, pinned, and the male genitalia in glycerine containing small plastic vials .All of the male adult species to be named in this paper is deposited in insect collection of the department of plant protection, college of Agriculture, Razi University, Kermanshah, Iran.

***Accanthaclisis occitanica* (Villers 1789)**

1♂,Almeh(GNP),17.09.1996, 1♂,Guilangharb,9.06.1996, 1♂,Islamabad gharb ,1.06.1999, 1♂,2♀, Kermanshah ,5.08.2001,

Body: Dark gray, covered with short black hairs. Length: 45 mm, forewing: 50mm, Hind wing: 45 mm; Head with two bulged eyes; dark brown Antenna clavate. Pronotum (fig 1): three whitened stripes paralell to each other, spread longitudinally on pronotum and extend to mesonotum and metanotum. Wings: fore and hind wings transparent gray, with black lines and dots .Ptersostigma distinct. Fore wing: 5 cross veins in inner radial field, in right & left fore wing. All cross veins located between Costa and Subcosta, two branched. Legs: length of apical tibial spurs in all three pairs of legs (fig 1), approximately equall to the length of the three first tarsal segments. Male genitalia: consist of gonarcus and paramer. Abdomen: Length of fore wing, longer than the length of abdomen .Epiproct, long.

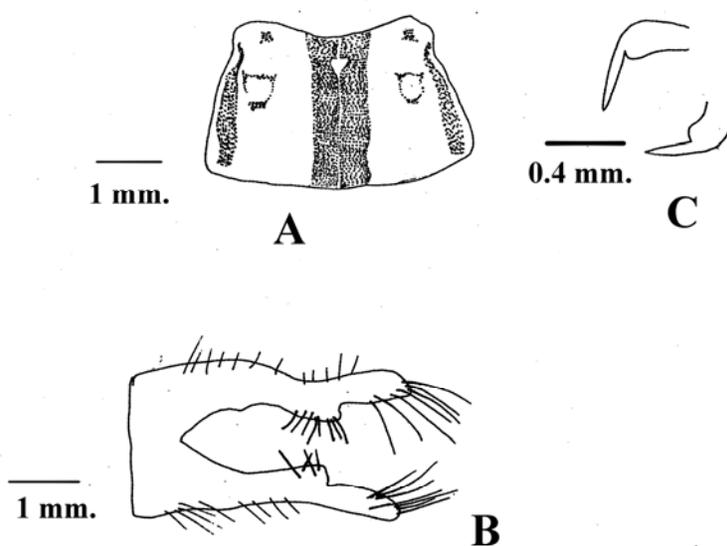


FIG. 1.- *Accanthaclisis occitanica* .A-pronotum , B-Epiproct , C- tibial spur

***Creoleon remanei* Hölzel 1972.**

Materials: 10♂, 15♀ Aminabad Isfahan 5.09.2000, 2♂, 5♀, Islamabad Gharb, 10.08.1999, 20♂, 15♀ Shalinghaleh Machad, 14.08.1999

Body; yellow, length; 41.3 mm, forewing; 32mm, hind wing; 29.6 mm .Clypeus and gena yellow. Head, with two bulged eyes; yellowish, with metallic glow. Vertex; two symmetrical brown spots located on each side. Antenna, clavate, an (X) formed brown spot, located between two antennae. Pronotum; equal length and width, Wings; fore and hind wings transparent yellow, without any spots.Ptersostigma distinct (fig 2).Fore wings; 7 cross veins in inner radial.Hind wings; only with 1 of such cross veins. Legs; length of apical tibial spurs ,more than the length of the three first tarsal segments, in all three pairs of legs, hyaline hairs on femura of legs. Male genitalia; consist of gonarcus and paramer (fig 3).Abdomen: Length of fore wing, shorter than the length of abdomen .Epiproct short.

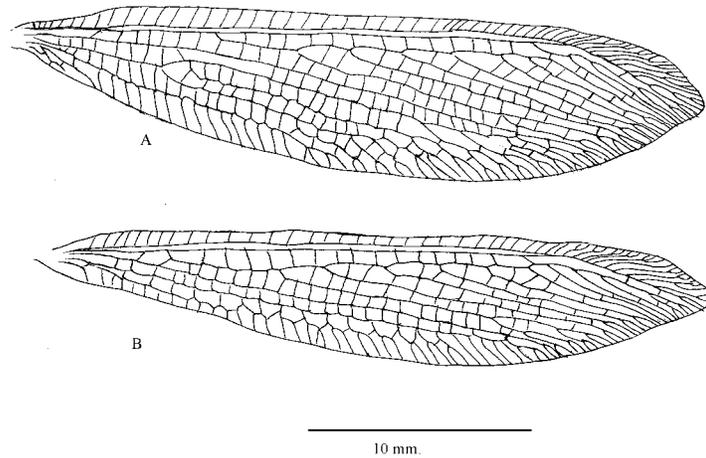


FIG. 2.- *Creoleon remanei*. A; fore , B; hind wings.

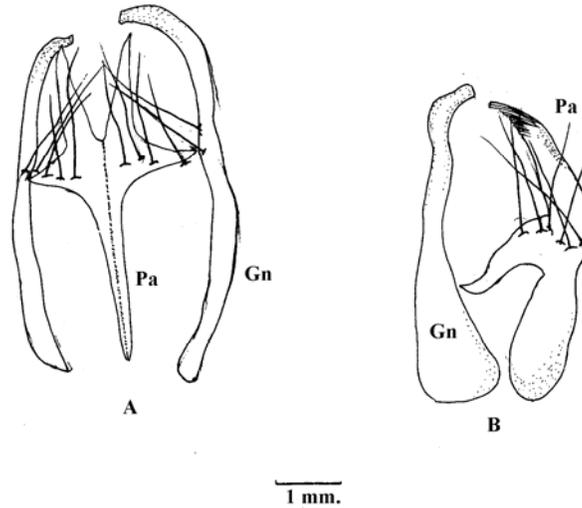


FIG. 3.-Male genitalia of *Creoleon remanei* . A; ventral view, B; lateral view. Gn; gonarcus, Pa; paramer.

***Cueta lineosa* (Rambur 1842)**

1♂, Hojatabad Shiraz (MRC) 25.08.985, ♂, 2♀, Khatounabad Jiruft, 23.08.98.

Body; grayish brown,length;25.7mm,fore wing ;14mm,hind wing ; 12 mm. Eyes; grayish green ,with metallic glow.Antenna; club Wings ; hyaline ,with short brown lines and dots(fig 4).Pterostigma distinct, 7 cross veins in inner radial field in both pairs of fore & hind wings . Abdomen; yellowish, with longitudinal brown stripes on terga and sterna of each segment, length of abdomen, longer than the length of each wing. Legs; length of apical tibial spurs, in each leg, longer than the length of the first tarsal segment. Male genitalia; consist of gonarcus (Gn), paramer (Pa), and mediuncus (Mu) (fig 5)

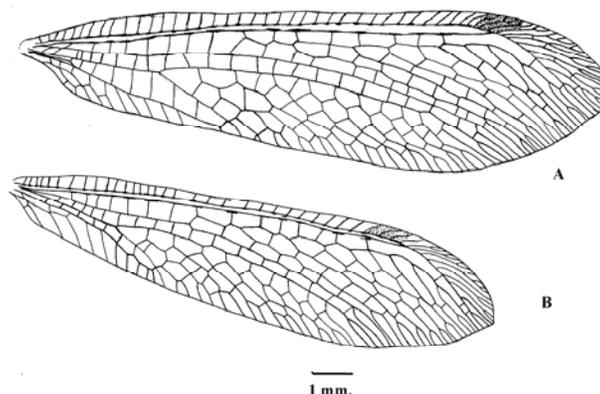


FIG. 4.- wings of *Cueta lineosa*. A-fore wing, B-hind wing

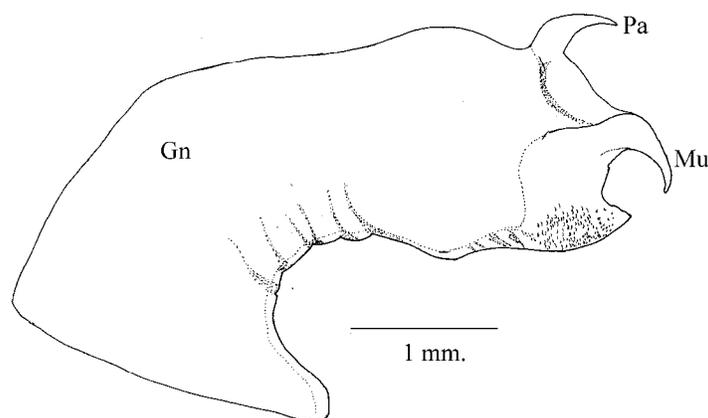


FIG. 5.-Male genitalia of *Cueta lineosa* .Gn; gonarcus,Pa: paramer ,Mu; mediuncus.

***Cueta luteola* Hölzel 1972**

4♂6♀, Hassanabad Sananadaj 21.06.2001,

Body; light brown tending to yellow. length ; 26.5 mm, fore wing; 22mm, hind wing 18 mm. Head; Clypeus and gena yellow, Antennae, clavate, eyes ;light brown with metallic glow, an (X) like brown spot located between two antennae . Pronotum; with three longitudinal brown stripes, one located median and two laterally, the lateral stripes symmetrical, and continuous, and not interrupted as mentioned by Hoelzel (1972.Length of pronotum, more than it's width. Wings (fig 6): fore wing; transparent, with two small brown spots, pterostigma distinct, hind wing transparent, no spots. 8 cross veins in inner radial field in both pairs of fore & hind wings. Abdomen: light brown, with sparse transparent hairs, longitudinal dark brown stripes covers dorsal and ventral part of abdomen.Epiproct in apical segment, short. Legs; length of apical tibial spurs, in each leg, shorter than the length of the first tarsal segment.Tarsi; consist of 5 segments, the 5th segment bears two claws. Male genitalia (fig 7): consist of gonarcus, paramer and mdiuncus.

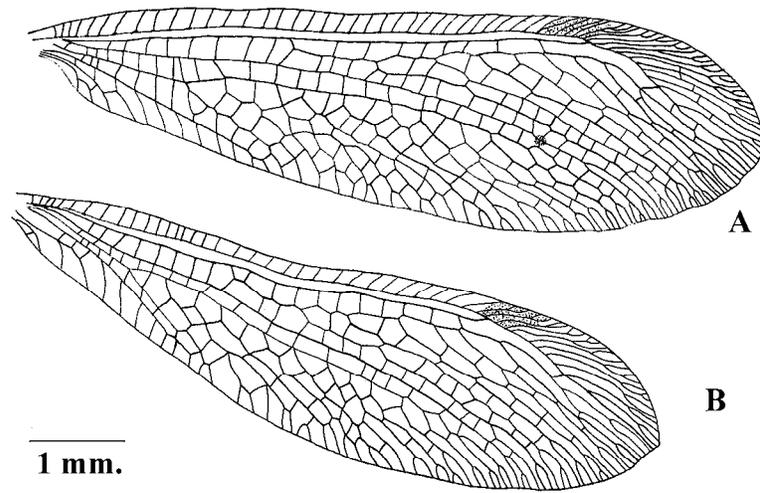


FIG. 6.-Wings of *Cueta luteola* ,A;fore wing,B: hind wing.

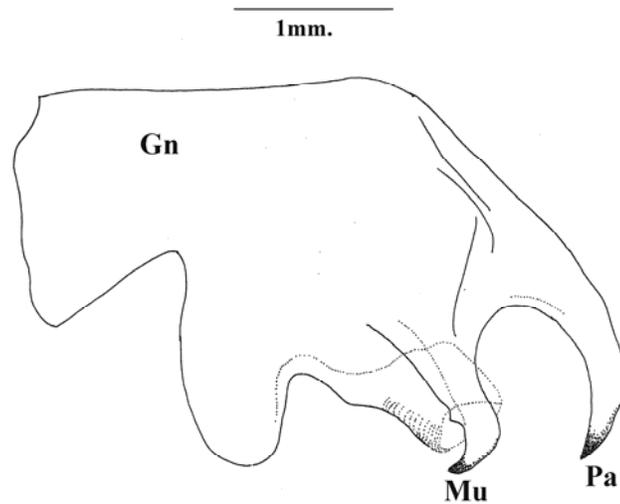


FIG. 7.- Male genitalia of *Cueta luteola* .Gn; gonarcus,Pa: paramer ,Mu; mediuncus

***Myrmeleo (Morter) hyalinus* Olivier 1811.**

5♂, 7♀, Aminabad Isfahan; 8.09.200, 12♂, 1♀, Barmashur Shiraz; 23.08.96, 5♂,15♀,Khatounabad Jiruft

Body: light brown. Length; 24 mm. Head: light brown, antennae; clavate .Vertex; with two median and two lateral brown spots . Pronotum; square, with a median and two laterally located longitudinal interrupted brown spots. Wings: Fore wing ;19.5mm, hind wing 18mm, wings hyaline transparent , without spots, pair of fore wing ,with 9 veins in inner radial field; hindwings ; with 5 such cross veins. Legs; length of apical tibial spurs, in all legs, shorter than the length of the first tarsal segment. Male genitalia (fig 8); consist of gonarcus and paramer Abdomen: long , light brown, longitudinal dark brown stripes , on dorsal and ventral parts.Epiproct short.

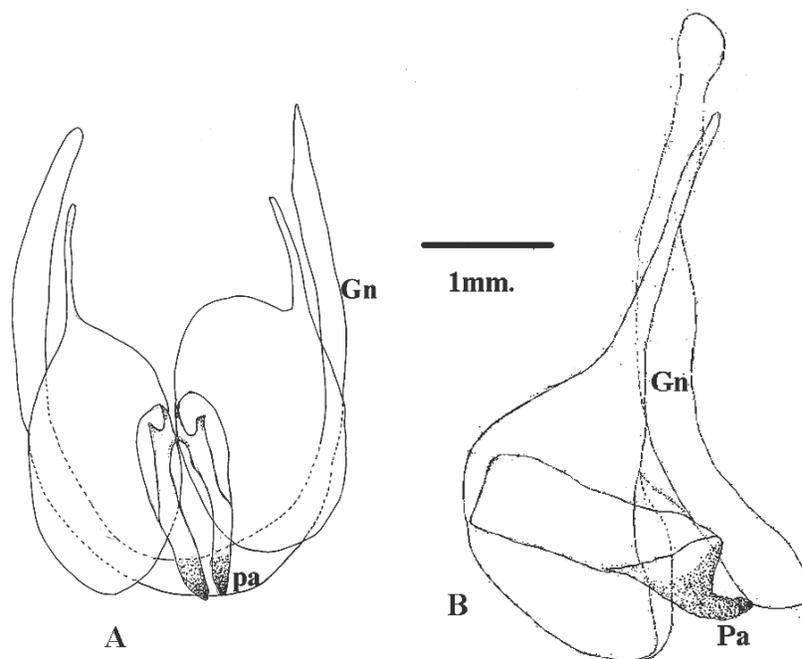


FIG. 8.- Male genitalia of *Myrmeleon (M)hyalinus* .A; ventral view ,B-lateral view.Gn;gonarcus,Pa;paramer.

***Myrmecaelurus trigrammus* (Pallas 1771)**

2♂, Khatounabad Jiruft, 3.08.2001.

Body; golden yellow, length 27mm, fore wing; 26.8, hind wing; 23.5 mm, abdomen 18.7mm. Head; Clypeus and gena; yellow. Vertex; with a mid longitudinal, and two lateral small round brown spots .Antenna; yellow, clavate. Pronotum (fig 9) ; yellow,square, with a median short line and two thin dark brown lines laterally. Wings; transparent , without spots, Fore wings ,7 cross veins of inner radial field in right wing, 9 cross veins in left wing.Hind wings; 7 cross veins of inner radial field in right wing ,6 cross veins in left wing.pterostigma ;distinct . Abdomen: On lateral sides of 6th and 7th abdominal segments, one long process, with tufts of long hairs (fig 9). Legs; length of apical tibial spur, in all legs, shorter than the length of the 1st tarsal segment. Male genitalia; consist of gonarcus and paramer (fig 10).

***Palpares libelloides* (Linnaeus)**

Syn: *Hemerobius libelloides* Linnaeus 1764, *Myrmeleon libelloides* Linnaeus 1767. 5♂,15♀, Tang Kenesht 1.06.1994, 3♂, 5♀,Kermanshah ;15.08.2000.

Body ; yellow,length 45mm,fore wing; 50-65mm, hind wing; 45-60 mm,abdomen 18.7mm. Head; Clypeus and gena; yellow, Antenna; yellow, clavate, a longitudinal brown stripe spreads from vertex , to the prothorax ,and continues on abdominal terga. Pronotum; yellow, quadrangular, with a brown longitudinal stripe in mid part. Wings; transparent, with brown patchy spots, very polymorphic characteristics, in specimens. Abdomen; yellow,with a long brown stripe on dorsal mid line of each segment .epiproct long(fig 11) Male genitalia; consist of gonarcus and paramer(fig 12).

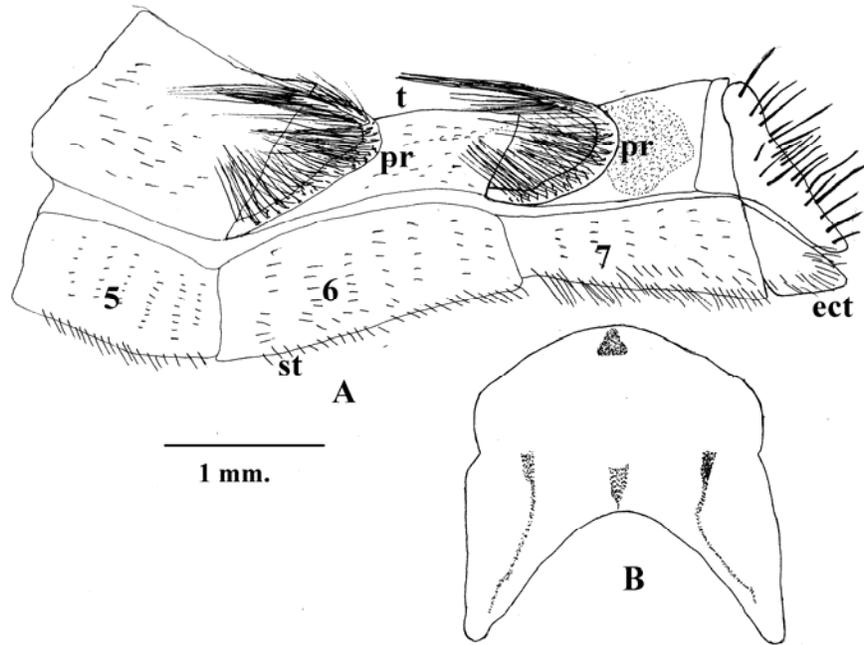


FIG. 9.-*Myrmecaelurus trigrammus* . A; abdomen, 6,7,8;abdominal segments 5,6,7. pr; abdominal processes with long tufts of hair,t; tergum, st; sternum.epi; epiproct.

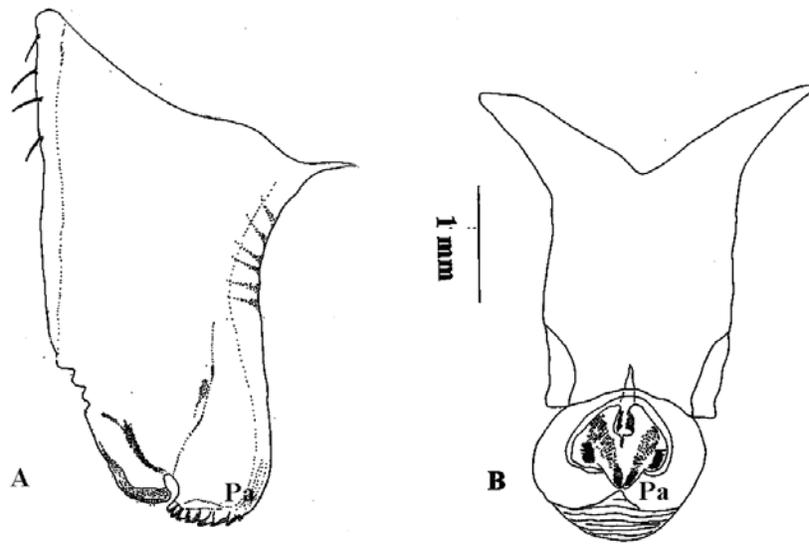


FIG. 10.- *Myrmecaelurus trigrammus*.male genitalia ,A-lateral view, B-ventral view, pa; paramer.

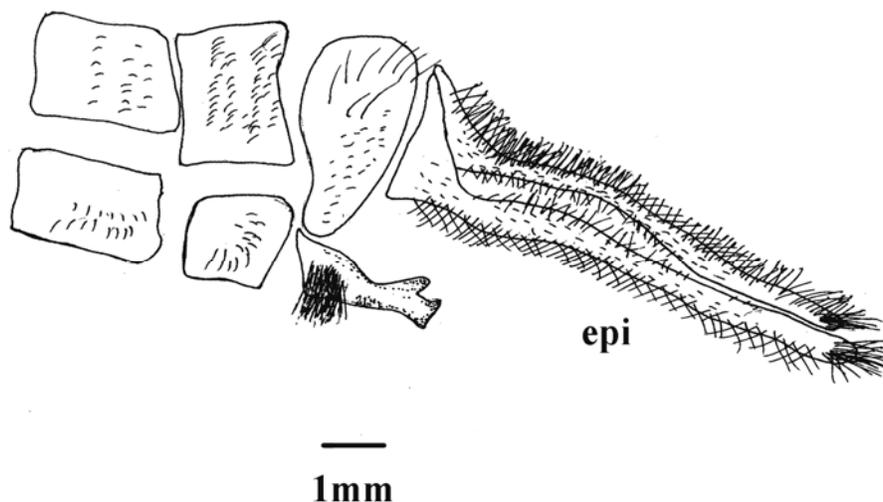


FIG. 11.-*Palpares libelloides* .apex of abdomen,epi; epiproct.

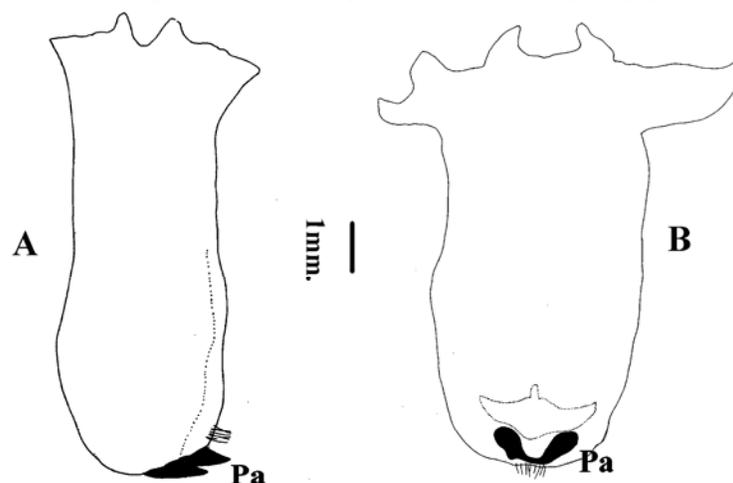


FIG. 12.- *Palpares libelloides*.Male genitalia .A; lateral view, B; ventral view,Pa ; paramer.

DISCUSSION

The polymorphism of color and or spots of body ,generally are seen among the antlions.Concerning the species ,found as new records in different locations of Iran,some of the differences of morphological characters between my findings , and those described by other authors are mentioned.Special attention was paid , to the form of male genitalia,and they have been compared ,with older litteratures , to find similiarities or differences . Abreviations; MRC-Mehran Racing Club in Shiraz, GNP-Golestan National Park ,in Golestan province north of Iran.

ACKNOWLEDGEMENTS

The author thanks Professor Hoelzel of Austria for confirmation of my original determination of species cited in this paper, and vice presidency for research affairs, Razi university of Kermanshah, for financial support, and anonymous reviewers for their help in betterness of the original manuscript.

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