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Research Article

A New record of the genus *Scutellathous* (Coleoptera, Elateridae, Denticollinae) in Iraq

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Abstract

A new record of Genus *Scutellathous* in Iraq which belongs to the family Elateridae in order Coleoptera when studying the diversity of insects in Canaan forests in Diyala governorate, it recorded a high density in months May- April in temperature ranged between (11-23)^{o}C, Humidity of soil (12-7)%, salinity (2-3)ms/cm and pH about to (7.37 - 8.14) while the texture of soil was silty loam.

Keywords: *Scutellathous*, Elateridae, Coleoptera, Canaan forests, Iraq

Introduction

The family Elateridae is a large taxonomic group in the order Coleoptera consisting of 13 subfamilies and includes more than 10,000 described species worldwide. Many new species are continually identified and described. Subfamily Denticollinae is a cosmopolitan, morphologically and taxonomically diverse subfamily of Elateridae(Han *et al*, 2016a)

Denticollinae includes many morphologically similar species, in addition to the fact that many species are not described (Han *et al* (2016b), (Jeffrey and Stibick , 1979) and consist of 11 tribes, including the Hemicrepidiina, to which the genus *Scutellathous* belongs (Kishii ,1987), and it is one of the global agricultural pests of many crops, and it causes damage With cultivated crops such as potatoes, wheat, sorghum, and broadleaf corn, this genus was first recorded in Japan as

Scutellathous Kishii, 1955. It was previously registered as the genus *Athous* Lewis, 1894, but it was converted to the genus *Scutellathous* as a result of differences between them . Ten species of the genus have been described: *S. porrecticollis* (Lewis, 1894), *S. comes* (Lewis, 1894), *S. yakuensis* (Nakane and Kishii, 1958), *S. fujianus* (Ôhira, 1963), and *S. shikokuanus* (Kishii, 1985), *S. ozakii* (Ôhira, 1992), *S. sasajii* (Kishii, 2001), *S. seinoi* (Kishii, 2001, and *S. yamashitai* (Arimoto, 1992), and S. spinosus(Platia and Schimmel, 2007) (Ôhira, H. ,1970); (Arimoto ,1992)

Systematics

Family: Elateridae Leach, 1815

Subfamily: Denticollinae Stein and Weise, 1877

Tribe: Hemicrepidiini Champion, 1894

Genus: *Scutellathous* Kishii, 1955 (Kishii ,2001), (Ôhira,1970)

Distribution**:** Korea, Japan, China, Taiwan, East Asian countries, Panama and Greece. (Han *et al* ,2016a), (Han *et al*, 2013), (Arimoto, 1992)

Material and methods

1-Study area

Samples were collected from the Canaan forests. Which is located in Diyala Governorate, east of Baghdad, Iraq, in the Canaan sub-district, which belongs to Baqubah district, in Longitudes 44.83472E and 44.8875E and latitudes 33.60555N, 33.658333N north of the equator. It is a forested area planted with different types of trees. In addition to a group of short and annual grasses.

2-Sampling

Samples were caught by means of ground traps and nets suspended in trees. About 7 individuals were collected and preserved with alcohol at a concentration of 70% and deposited in the Natural History Museum / University of Baghdad. Photographing models using a high-resolution camera

Measurement: Body length was measured along the midline from the anterior edge of the head capsule to the apex of the elytra; The body width was measured by measuring the widest part of the elytra, and the total length was measured along the midline (Kishii,2001). As for the soil samples, it collected at a depth of (5) cm, according to what was stated in (Labaune, and Magnin , 2001) to study the chemical and physical properties of soil.

Result

General description

The body size is medium in general (11-16) mm, cylindrical and narrow from the bottom with weak luster and luster (Han *et al* , 2013) brown to reddish-brown in color, the head is characterized by sharp lateral edges and the forehead is oval in shape from the front, and the front edge of the forehead is well developed and protruding forward and thick It has a circular shape and its grainy surface is not clearly smooth in the form of pentroof (Kishii ,T. ,1987), (Ôhira,1970), The tentacles are long and serrated. The third segment is longer than the first and the second at a rate of twice. The length of the pronotum is longer than its width (Han *et al* ,2012). The scutellum contains a disc like structure, with a wide longitudinal depression in the middle of the pronotum and widened at the anterior end. The grooves of the posterior edge of the pronotum are small. The groove is missing in the anterior part of the pronotum, the posterior edge of the propleuron is straight and does not contain an edge, the tarsus is weak as the carpal joint from the first piece to the third piece is slightly expanded in the form of plates and the male genital organ Aedeagus is narrow at its top containing a number of External lateral parts, female organ contains 3-4 spiny plates (Han *et al,* 2016a) .

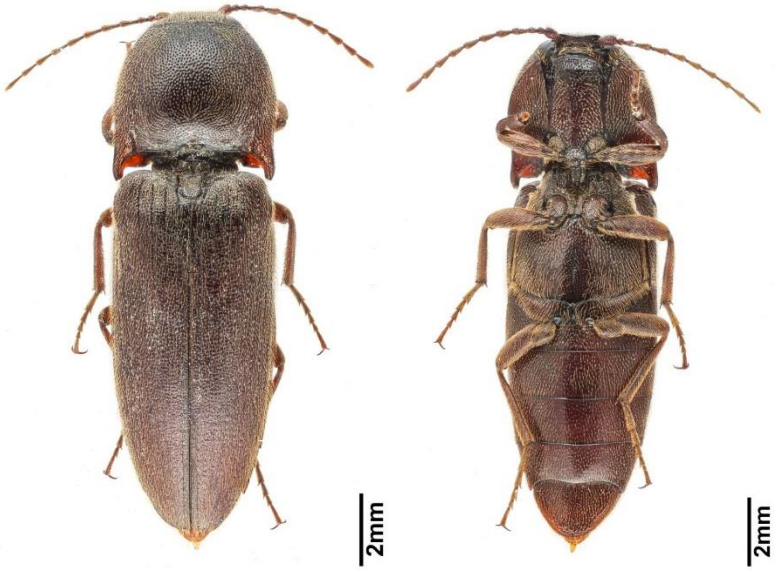

Fig.1. *Scutellathous* . dorsal view and ventral view

Discussion

The results showed (fig.3) that the population density of *Scutellathous* is high in the spring months when the temperature(fig.2) ranges (11-23)^{o}C and its density decreases in the summer months when a temperature ranges (35-43)^{o}C, because the density is affected by high temperatures, and it decrease, as a result of increased deaths among the population, Most of the individuals were found dead, a few of which It was alive especially in July and August under the leaves of Eucalyptus trees (*Eucalyptus* sp), *Lmperata cylindrical* and other jungles in the summer season to protect themselves from high temperatures, because their nutrition is vegetarian on plant sap and leaves, and as a result of the drying of the plant leaves and thus their food decreases, leading to a reduce the density of *Scutellathous* and this is what was recorded by (Shblawy and Al-Jorany, 2018).

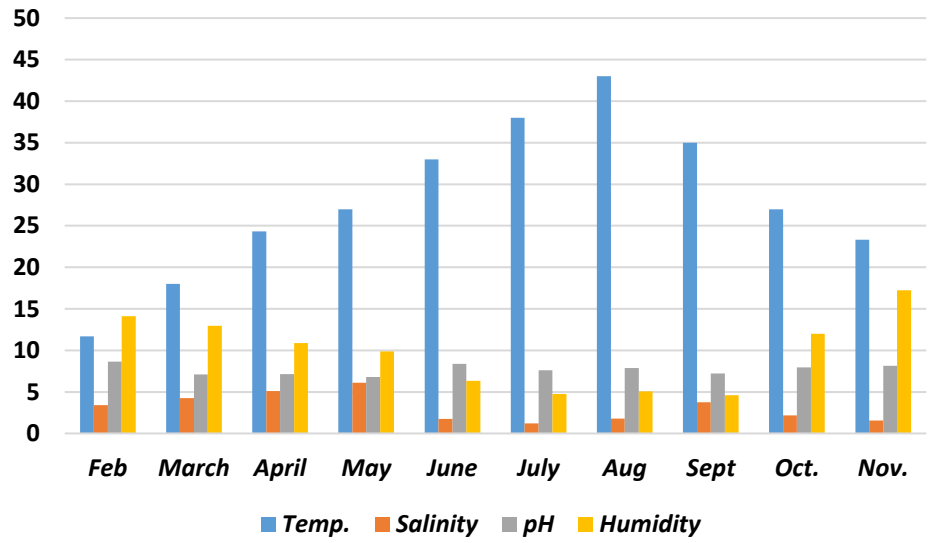

Figure 2. Variation in environmental factors through study months'

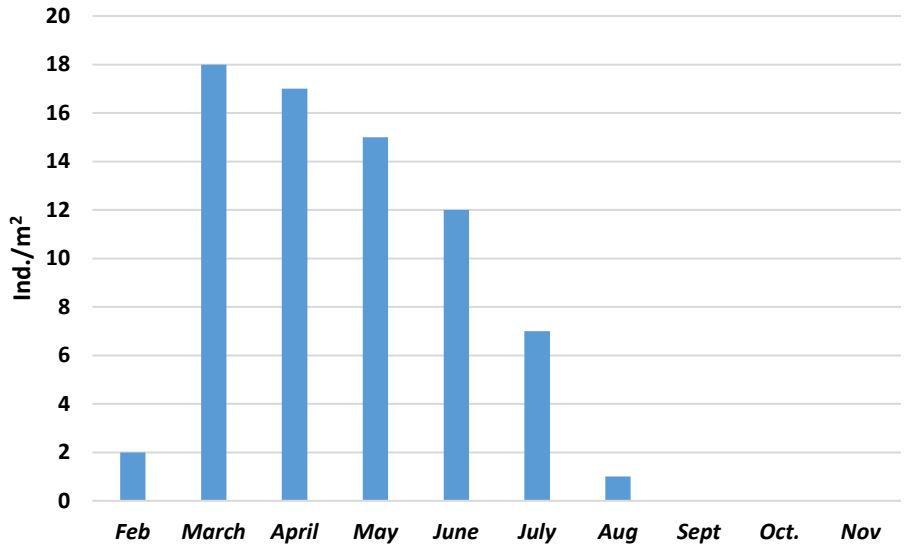

Figure 3. Density of *Scutellathous* (ind/ $m^{2)}$ in the study site through the study months'

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