



## A New Record of Glaphyrid Beetle, *Eulasia nitidicollis* (Reiche, 1862) (Coleoptera, Glaphyridae) From Iraq.

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### ABSTRACT

A new record of glaphyrid beetle, *Eulasia nitidicollis* (Reiche, 1862) was found and described in Iraq. The samples were collected during March to June 2023 from the weeds' flowers in various locations of Erbil governorate, Kurdistan region, Iraq. Distinctive characters of the species were mentioned: Body Oval, head, and thorax shining green. Compound eyes are kidney-shaped, half divided by a canthus. Clypeus black rectangular shaped, posterior margin is slightly convex, angles of anterior acute and of posterior nearly rounded. Labrum rectangular shaped, dark brown, margins of anterior and posterior are straight. Mandible high sclerotized, apical part with three acute denticles. 1<sup>st</sup>-3<sup>rd</sup> segments of maxillary palps cup-shaped with sparse of dark brown setae, 4<sup>th</sup> segment oval prolonged, bare. 2.3 times as long as 3<sup>rd</sup> segment. Antenna dark brown-black, consisting of 10 antennomeres, ending by three clubs shorter than the stem. Outer margin of the fore tibia with three strong spines. Pronotum bright green sub quadrate, 1.3 times as long as head, with dense of long pale-yellow setae. Scutellum bright green. Elytra, thin, brown, and elongated oval, surface densely short, black, and yellow setae and sparsely punctate. Abdomen consists of six visible, ground color segments with light greenish reflections and densely pale-yellow setae, the posterior margin is inverted V-shaped. Pygidium exposed beyond the apices of elytra. Aedeagus yellow- dark yellow, cylindrical shaped, parameres, short, tubular shaped, slightly expanded at the middle part, the basal piece is short and oval-shaped. The important taxonomic parts such as, labrum, mandibles, Maxilla, antennae, protibiae and male genitalia were photographed. Localities, date of collection and plant hosts were mentioned.

**Keywords:** Coleoptera, Glaphyridae, New record, *Eulasia nitidicollis*, Iraq.

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### INTRODUCTION

Glaphyridae Macleay, 1819 is a minor family of Scarabaeoidea, which is Holarctic in distribution. The family Glaphyridae is represented by about 250 species in the New World, Palearctic, and Oriental regions [5,13,14]. There are 215 species in six genera, largely found in the Old World. These numbers exclude the southern South American genera that transferred from Glaphyridae to Melolonthinae [5]. The adults are diurnal fliers and strong. They are predominantly observed hovering near leaves or flowers. Numerous species are located in sandy soils. Larvae are free-living in sandy zones (coastal dunes and riparian) where they nourish on detritus layered in the sand and decaying leaf litter [3,16]. The extant Glaphyridae comprises 200 species in (6) genera [3,6,15]. Genera extant of Glaphyridae are mostly constrained to the Palearctic [10]. *Eulasia* Truqui, 1848 is the most extensive genus of the family including (57) species where are distributed in Turkey and Iran in the north and extend to Israel in the south [2,12]. About 18 species have been listed in Iran. These species result in being the major pollinators of *Papaver rhoeas* L., *Anemone coronaria* L., *Tulipa agenensis* and *Ranunculus asiaticus* L., while the larvae might nourish on roots of the cranberry plants, reducing yield as well as vine density and causing significant economic damage, and two species have been described in Iran in detail, including *Eulasia chrysopyga* (Faldermann) and *E. azerbaijanica* (Petrovitz) [11]. In Iraq, there are not enough taxonomic studies of the family species except; Derwesh [4] indicated five species, and Al-Ali [1] recorded four species. In addition, *Eulasia vitatta* (Fabricius) from Kurdistan region-Iraq was described [17]. *Eulasia nitidicollis* (Reiche, 1862) is one of very important species of the genus which distributed in Iran, Israel, Jordan, Lebanon, Syria and Turkey [13].

The aims of the research are to carry out a thorough survey of various localities of Kurdistan Region – Iraq to obtain the specimens, then describe the new record glaphyrid beetle, *Eulasia nitidicollis* (Reiche, 1862) from Iraq, and photograph the major parts, particularly the male genitalia.

### Materials and Methods

The samples were obtained during March to June - 2023 on flowers of hoary cress, *Lepidium draba* L., and milk thistle, *Silybum marianum* (L.) in various locations of Erbil governorate Kurdistan region- Iraq. The specimen was positioned for about (10-15) minutes. in boiling water to make the insect parts soften. Then, the insect body-parts were separated and put in KOH solution (10%) which was placed for (approximately (10-15) mins. in the water bath. Thereafter, the

samples were placed for (2-3 mins.) in distilled water to equalize the alkali solution. After the neutralization, the parts were put in ethyl alcohol solution (25%) and dissected by a binocular microscope. In addition, proportions of the sample parts were measured by an eyepiece linear micrometre [7,8,9]. The species was identified with the help of Prof. Dr. Nabeel A. Mawlood, College of Agriculture Engineering Sciences, Salahaddin University, according to the taxonomic key of Baraud (1990).

## Results and discussion

### Description

#### *Eulasia nitidicollis* (Reiche, 1862)

**Body:** Oval, head, and thorax shining green. Elytra brown. Length, 8.4 – 10.6 mm.

**Head:** Shining green, nearly as wide as long, sparsely long pale-yellow setae. Compound eyes are kidney-shaped, half divided by a canthus, and dark brown. Canthus densely long, visible, dark brown setae. Clypeus rectangular shape, black, margin of anterior barely concave, prominent in the middle, margin of posterior somewhat convex, angles of anterior acute and posterior nearly rounded. Labrum (Fig.1a) rectangular shaped, dark brown, margins of anterior and posterior straight, surface with sparse dark brown setae, lateral margins densely brown setae, anterior margin sparsely setae. Mandible (Fig.1b) high sclerotized, three acute denticles in apical part, inner denticle is shorter, median denticle somewhat longer than the outer, margin of upper mandibles with densely long dark brown setae, molar area with densely yellow setae. Maxilla (Fig.1c) dark brown, cardo triangular in shape, with sparsely very long dark brown setae, stipes black triangular, covered with densely very long black setae, galea yellow color, with densely long yellow setae, 1<sup>st</sup>-3<sup>rd</sup> segments of maxillary palps cup-shaped sparsely covered with dark brown setae, 3<sup>rd</sup> segment 1.2 longer than the 2<sup>nd</sup> segment, 4<sup>th</sup> segment oval prolonged, bare 2.3 times as long as 3<sup>rd</sup> segment. Labial palps (Fig.1d) dark brown color, densely with long, dark brown setae. 1<sup>st</sup> and 2<sup>nd</sup> segments of labial palps similar in length and cup-shaped, 3<sup>rd</sup> segment elongate oval, 1.2 times longer than 2<sup>nd</sup> segment. Antenna (Fig. 1e) dark brown-black, length 2.1-2.6 mm, and consists of 10 antennomeres, the longest is 1<sup>st</sup> antennomere, 3.4 longer than the 2<sup>nd</sup> and covered with densely black-long setae, 2<sup>nd</sup> antennomere densely, with black setae, the club (8-9) antennomeres cup-shaped and sub equal in long, 10<sup>th</sup> antennomeres somewhat longer than 9<sup>th</sup> and oval.

**Thorax:** Pronotum is bright green subquadratic, 1.3 times longer than the head, densely covered with long pale yellow setae. Scutellum bright green, its shape triangular, with long yellow- setae. Elytra (Fig.1g) thin, brown, elongate oval, without striae, anterior margin and angle densely long yellow setae, surface densely short, black and yellow setae and sparsely punctate, lateral margins of elytra with rough black setae. Hind wing yellow, well-developed, tegula oval, densely long and pale-yellow setae, veins dark- yellow, upper margin of the veins with a row of short-black setae expand to the center, the veins r2 and r4 are missed. Legs; fore legs, dark brown-black (Fig. 1f) brown-dark brown color, procoxae elongated oval, fore femur thick and somewhat shorter than tibia, densely of fine, pale-yellow setae, exterior margin of fore tibia with three strong spines and a row of light hairs on the dorsal surface, inner margin with row (15-16) spines, apical with one spur. Protarsal segment pectinate is shorter than meso and metatarsal, 1<sup>st</sup> segment 1.5 times longer than 2<sup>nd</sup> segment, 5<sup>th</sup> segment is slightly longer than 1<sup>st</sup> segment, inner margin of each pectinate (11, 8, 7, 4, 2) respectively. Fore claws short and strongly curved. Mesocoxae conical, mesofemur cylinder. mesotibia densely long yellow setose, apically with two long spurs. Metacoxae plate shaped, femur slender, Metatibia nearly similar to the mesotibia. Claws of meso- and meta-legs similar to that of fore legs, but slightly slender.

**Abdomen:** Consists of six visible, ground color segments with light greenish reflections and densely pale-yellow setae. 1<sup>st</sup> -5<sup>th</sup> abdominal sternites transverse nearly equal in length, anterior margin of 3<sup>rd</sup> segment slightly convex, posterior margin invert V-shaped, 6<sup>th</sup> sternite oval. Pygidium uncovered behind the elytra apices, yellow setae and surface sparsely. 1<sup>st</sup> -5<sup>th</sup> abdominal tergites are transverse, and the anterior and posterior margins are straight; the longest is the 5<sup>th</sup> abdominal tergite. Surface of tergites sparsely yellow setae.

**Meal genitalia:** Aedeagus (Fig.1 h, i) cylindrical shaped, yellow- dark yellow color, length 2.8 - 3.6 mm, moderately curved. Paramerse, dark yellow, short, tubular shaped, slightly expanded at the middle part, length 0.9- 1.2 mm. Basal piece is short and oval-shaped.

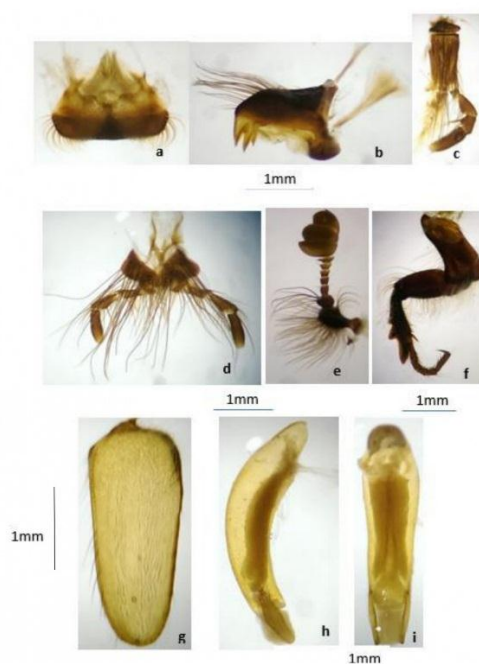


Figure (1): *Eulasia nitidicollis* (Reiche, 1862) a. Labrum b. Mandible c. Maxilla d. Labial palps e. Antennae f. Fore leg g. Elytra h. Aedeagus (Lateral view) i. Aedeagus (Dorsal view)

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## تسجيل جديد لخنفساء الجلافيريد، (*Eulasia nitidicollis* (Reiche, 1862) (Coleoptera, Glaphyridae) من العراق.

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### الخلاصة

سجل نوع جديد لخنفساء الجلافيريد (*Eulasia nitidicollis* (Reiche, 1862) في العراق. تم جمع العينات خلال الفترة من مارس إلى يونيو عام 2023 من أزهار الادغال وفي مواقع مختلفة من محافظة أربيل من إقليم كردستان - العراق. تم ذكر الصفات المميزة للنوع، الجسم بيضاوي، الرأس والصدر أخضر لامع. العيون المركبة كلوية الشكل، مقسم من المنتصف بواسطة موق العين. الدرق مستطيلة الشكل سوداء اللون، حافظتها الخلفية محدبة قليلاً، وزواياها الأمامية حادة والخلفية مستديرة تقريباً. الشفة العليا مستطيلة الشكل، بنية داكنة، حوافها الأمامية والخلفية مستقيمة. الفك العلوي متصلب، يحمل جزءه القمي ثلاثة أسنان حادة. العقلة 1-3 من الملمس الفكي فنجانية الشكل عليها شعيرات مبعثرة بنية داكنة، العقلة 4 بيضوية متطاولة خالية من الشعيرات، طولها 2.3 بقدر طول العقلة 3. اللامس بني داكن -سوداء، تتكون من 10 عقل، تنتهي بثلاثة عقل مضربية الشكل أقصر من بقية العقل معا. الصدر، أخضر لامع، شبه مربع الشكل، طوله بقدر 1.3 مرة من طول الرأس، عليه شعيرات كثيفة طويلة صفراء شاحبة اللون. الدرع أخضر لامع. الغمد رفيع، بني اللون، بيضاوية الشكل، على سطحه شعيرات قصيرة سوداء وصفراء اللون مع قليل من النقر. يتكون البطن من ستة حلقات واضحة ترابية اللون مع انعكاسات خضراء فاتحة اللون وشعيرات صفراء شاحبة كثيفة، وحافته الخلفية على شكل حرف V مقلوب. السوء الذكورية صفراء- صفراء داكنة، أسطوانية الشكل، القضيب، قصير، أنبوبي الشكل، ممتدة قليلاً جزءه الوسطي. القطعة القاعدية قصيرة وبيضاوية الشكل. تم تصوير الأجزاء التصنيفية المهمة مثل الشفة الفك العلوي، الفك السفلي، اللامس، ساق الأرجل الأمامية والسوء الذكورية. تم ذكر مواقع وتاريخ الجمع والعوائل النباتية للنوع.

الكلمات المفتاحية: عمديات الاجنحة، خنفساء جالفيريدي، سجل جديد، *Eulasia nitidicollis*، العراق.