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A New Species of Histerid Beetles, *Saprinus* Erichson, 1834 (Coleoptera: Histeridae: Saprininae) From Iraq

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Abstract

A new species of *Saprinu erbilensis* sp. nov. is described from Iraq. Distinctive characters of the species are mentioned. Labrum dark brown, bilobed. Mandibles a symmetrical, bidenticated, apical tooth very long and acute. Antennae elbowed, composed of 11-antennomeres ending in three semi-rounded clubs without visible articulation. Outer margin of protibia bears nine teeth. Elytra short rounded-oval, metallic black. Two abdominal tergites are exposed. Parameres sword shaped, gradually curved to a sharp tip, expanded as basal part, apical part with fine and short yellow setae. Median lobe tube shaped and shorter than parameres.

Keywords: Coleoptera, Histeridae, New Species, *Saprinus erbiliensis*, sp. nov., Iraq

Introduction

Histeridae Gyllenhal is a family of beetles commonly known as hister beetles or clown beetles (Catts and Goff, 1992).The family is a rather homogeneous and widely distributed group of beetles, counting about 391 genera and 4252 species (Mazur, 2011). They can be easily identified by their oval, seed-like body, strongly shining black or dark metallic in color, the head retract into their prothorax, the two terminal abdomen tergites, the propygidium and pygidium are mostly exposed by shortened elytra and their elbowed antennae with clubbed ends (Rees, 2004; Lackner, 2010). Many species of this family are associated with dead or dying trees, and other decomposing vegetable matter. Some of the most interesting histerids live in various symbioses, some species live in vertebrate nests and burrows, and many in the colonies of social insects (Kovarik and Caterino, 2001). Histerids are scavengers and predators that inhabit animal dung and carrion where they feed on other insects (Daria et al., 2011). Histerids are predacious beetles, both as adults and as larvae, feeding on mites, and also other insects, especially the immature stages of Diptera and

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Coleoptera. They live in a wide variety of habitats, including dung, carrion, leaf litter, bird and mammal nests, under bark, in the galleries of wood-boring insects, and sometimes in stored products. Other histerids are myrmecophiles or termitophiles (Booth et al., 1990; Brundage, 2009).

Saprininae is the second largest subfamily of the family Histeridae, after the Histerinae with more than 620 described species worldwide. This subfamily is fairly species-rich in the Palearctic Region with more than 270 species estimated to occur in the area. Throughout the Palaearctic region there are many endemic genera, especially in the desert regions of the Sahara and Central Asia (Mazur, 1997; 2004). The Saprininae of the Palaearctic region includes 357 species (Lobl and Smetana,2015). *Saprinus* Erichson is important genus of the family consist of 164 species in the world (Lackner et al., 2015). More species are found frequently on carrion, some are predator found on carcasses, rotting vegetable substances (Rozner, 2010; Shayya et al., 2018). There are major publications have been supplemented by numerous papers describing several new genera (Olexa, 1992; Kanaar, 2008; Lackner, 2009). Abdul-Rassoul (1976) recorded one species in Iraq, *Atholus* (*Hister*) *scutellaris* Erichson.

The objective of this paper is a detail description of the new species of the histerid beetles**,** *Saprinu erbilensis* sp. nov. which associated with decaying carcasses of sheep.

Type Material: 1(♂) (Holotype) Iraq - Kurdistan region: Erbil; Kalic350km NW Baghdad, 5. September. 2020, collected from decaying carcasses of sheep ; Banaz S. Abdulla leg.; Paratype (4 ♂♂ 4 ♀♀): Same data of Holotype. All descriptions and measurements were made under an dissecting binocular microscope (Huma Scope stereo microscope), the measurements taken by using ocular micrometer. Photographing of the important parts were made using microscope digital camera (AmScope,18megapixel). The types are Deposited in the Insect Museum of Plant protection Department, College of Agricultural Engineering Science, Salahaddin University, Kurdistan region-Iraq.

Results

Saprinus erbilensis sp. nov.

Description

Body (Fig.1 a)

Broadly oval, convex, cuticle shining black. Length 4.5 mm and width 3.2mm.

Head

Black retracted deep into the prothorax. Front black, with densely moderate punctures, which become sparser on the basal half; Frontal stria weakly craniate and complete. Eyes convex, black, oval shaped, visible from above. The supraorbital stria

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well impressed and complete. Clypeus flat, lateral margins rounded, surface with coarse and dense punctures. Epistoma dark brown, nearly cup shaped, medioapical edge slightly curved and more densely punctate than the disk. Labrum (Fig.1b) dark brown, bilobed, densely punctate, labral pits deep, each with two long setae. Mandibles heavily sclerotized, a symmetrical, bidenticated, apical tooth of right mandible (Fig.1c) very long and acute, subapical tooth very small, rather obtuse, inconspicuous, prostheca nearly elongated oval, bears densely yellow brush, mandible surface sparsely and finely punctate. Left mandible (Fig.1d) resembles to the right except, apical tooth is very short. Maxillae (Fig.1e) dark yellow- brown, cardo nearly trapezoid with few short setae; stipes triangular, with three longer setae; galea oval, outer margin densely, long curved setae; lacinia triangular outer margin densely, short wrinkle setae, lacinal hook short,1st and 2nd maxillary palpomeres cup shaped, sparsely dark brown setose, 2nd palpomeres 3 times as long as 1st palpomere, 3rd palpomere rectangular, 0.9 times as long as 2nd, terminal maxillary palpomere long, tubular,bare, 2.4 times as long as 3rd palpomere. Labium (Fig.1f) dark brown, labial palps dark brown, three segmented with pale brown setose. 1st and 2nd segments cup shaped, 2nd segment 2.5 times as long as 1st segment, 3rd segment cylindrical, 1.7 as long as 2nd segment. Antennae (Fig.1g) dark yellow–brown, elbowed, the length 0.5mm, composed of 11-antennomeres ending in three semi-rounded clubs without visible articulation, less than 1/3 of stem long, the scape is longest antennomere nearly cylindrical, imbricate-punctate, pedicel rectangular larger than any of the following six antennomeres,3rd antennomere 1.2 times as long as 4th- 7th antennomeres nearly same sized, the apical part of 8th antennomere concealed by antennal club.

Thorax

Pronotum black, nearly rectangular, widest at base and narrowing apically marginal pronotal stria, the stria is continuous around the anterior pronotal margin, lateral pronotal stria moderately length and curved. Surface of Pronotum with moderately dense of coarse punctures. Prosternum is truncate. Prosternal process keel shaped, glabrous, imbricate-punctate, surface with moderately dense of setae and coarse punctures. Elytra (Fig.2a) Elytra rounded-oval, metallic black shorter than the abdomen with typically two of the seven tergites exposed, length 1.5 mm. Humeri prominent, impunctate; epipleura of elytra sparsely with moderate punctures, which become denser on the apical third. Marginal epipleural stria complete and finely impressed. Marginal elytral stria slightly carinate and complete. Hind wings membranous, yellow, vein m1 strait, slightly curved near the outer margin; vein m+cu shorter than vein m, not reaching to the outer margin; veins r3,r4 and r5 present at 1/3 of the apical region. Fore legs (Fig.2b) brown-dark brown, fore coxae elongated oval, trochanter rectangular shaped, fore femur cylindrical shaped, shorter than tibia. Protibia nearly triangular, slightly dilated, outer margin with nine spines, the apical

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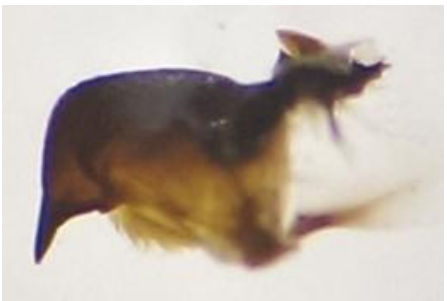
three and basal two are small; setae of outer row regular, short. Tarsal formula is 5-5-5, protarsal groove deep,1^{st} – 4^{th} segments protarsus nearly equal in length, 5^{th} segment 2.3 times as long as 4^{th} once. Each tarsomeres bears three setae. Fore claws simple moderately curved. Midleg resemble to the forelegs except, mesocoxae conical, mesotibia slender, nearly tubular, gradually expanded forward apical, outer margins bears two rows of spines, posterior surface bears two rows of setae, often scattered in an irregular row. Hind legs (Fig.2c) resemble to the midlegs except, coxae boat shaped; mesotibia, slender, nearly tubular, gradually expanded forward apical, outer margins bears two rows of spines, posterior surface bears two rows of setae.

Abdomen

Black, short and broad with seven visible segments tergites and five visible sternites. First visible abdominal sternite rectangular longer and larger than the remaining four, surface is punctate at the basal and apical margins. Propygidium and pygidium completely exposed. Propygidium transverse and trapezoidal covered with small, moderately dense of coarser and densely punctures. Pygidium with sparser punctures (Fig.2d).

Male genitalia

Eighth tergite (Fig.2e) straight, moderately emarginate medially, Posteriorly end tailed laterally. Eighth sternite nearly cup shaped, with tailed at Posterior end. Spiculum gastrale (Fig.2h) pale brown, long and slender dilated apically, the basal end spoon like. Tenth tergite (Fig.2g) trapezoidal shaped. Aedeagus (Fig.2 i&j) moderately sclerotized and short, length 0.6mm. Parameres nearly cylindrical shaped, parallel and straight, fused proximally until two –thirds of basal, then strongly curved ventrally along their apical one-fifth. Medial lob is tube-shaped shorter than the parameres. Phallobase short, oval, 0.25mm long.



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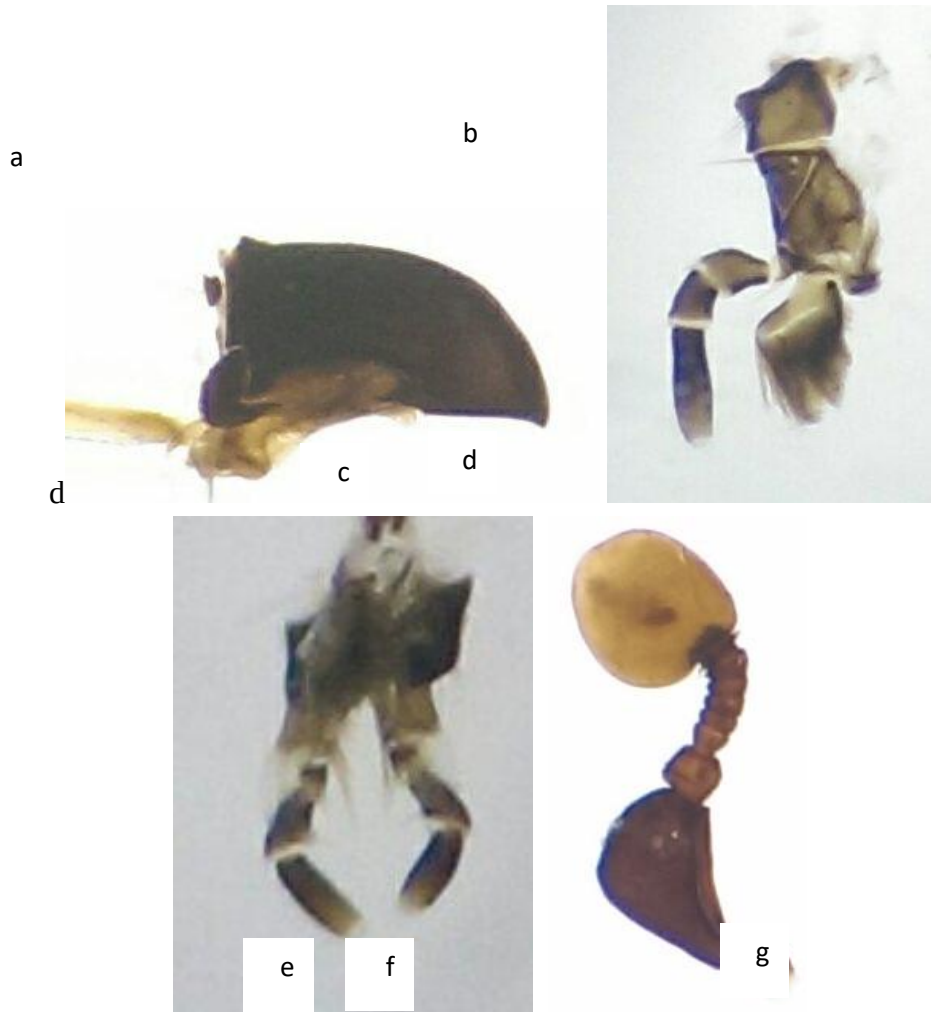

Fig. 1. *Saprinu erbilensis* sp. nov.

a. Habitus (Male) in dorsal view (15X) b. Labrum c. Mandible (Right)
d. Mandible (Left) e. Maxilla f. Labium g. Antenna

(Scale bars; the figures b-f = 0.1mm)

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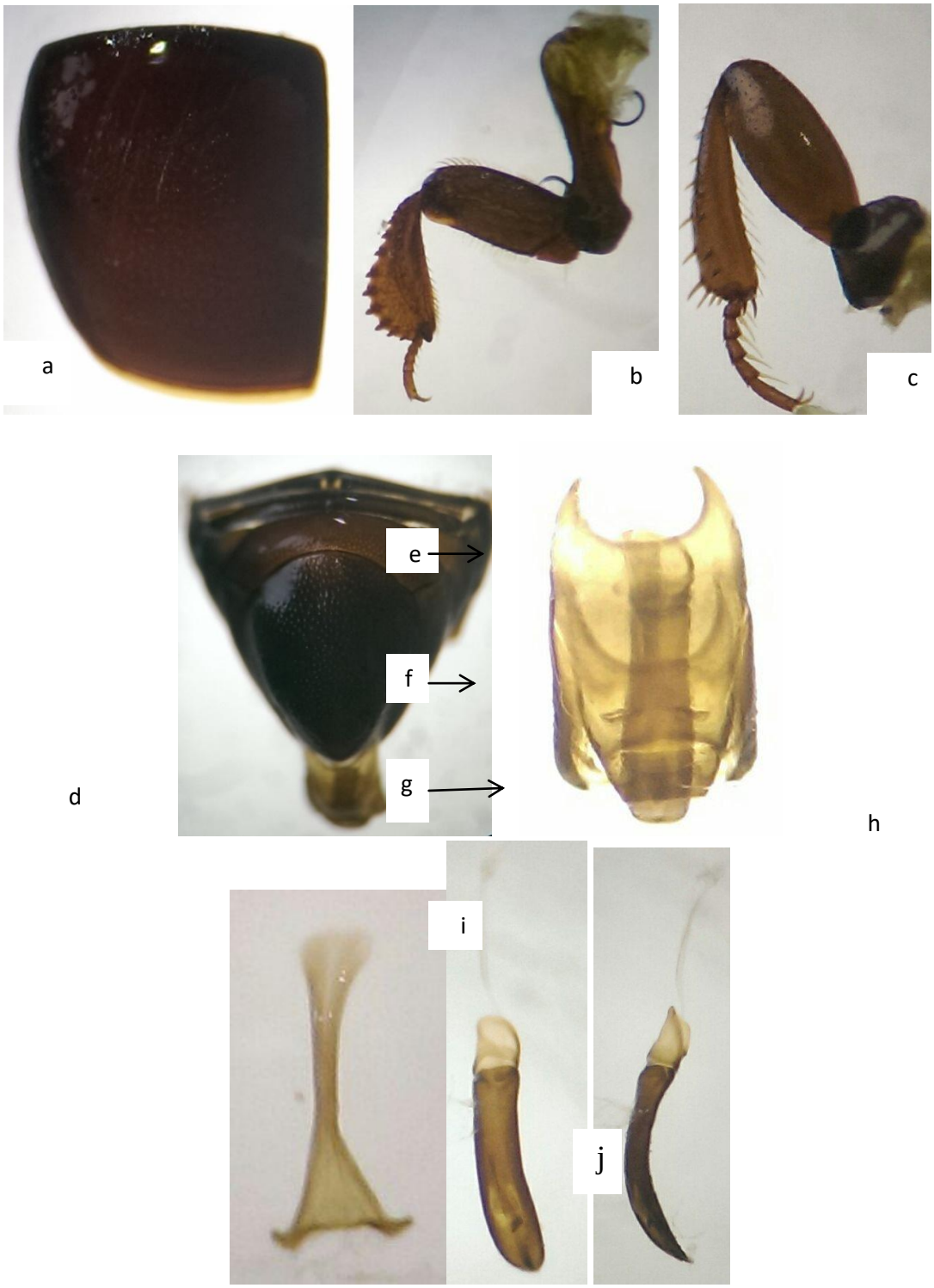

Fig. 2. *Saprinu erbilensis* sp. nov.

a. Elytra b. Fore leg c. Hind leg d. Pygidium e. 8th Tergite

f. 9th tergite g. 10th tergite h. Spiculum gastrale i. Aedeagus (Dorsal

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view) j. Aedeagus (Lateral view) (Scale bars = 0.1 mm)

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