

## A new species of the genus *Leiodes* Latreille, 1797 (Coleoptera: Leiodidae) from Iraq with new faunistic and morphological data

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**Taxonomy, new species, faunistics, Leiodidae, Leiodinae, *Leiodes*, Iraq, Georgia, Lebanon, China**

**Abstract.** *Leiodes punctigera* sp. nov. from Iraq is described and compared to the similar species *L. obscura* (Fairmaire, 1858). The species *Leiodes cinnamomea* (Panzer, 1793) is recorded for Iraq and Georgia, *L. turcica* Švec, 1998 for Georgia, *L. longitarsis* Baranowski, 1993 for Far East of Russia and *L. dashennongjiaensis* Cooter & Švec, 2015 for Chinese province Sichuan for the first time. Remarks on *L. cinnamomea* (Panzer, 1793) and *L. turcica* Švec, 1998 variability are added.

### INTRODUCTION

The genus *Leiodes* Latreille, 1797 comprises altogether 262 species (Švec personal database), not taking into account the new species described in this paper. No of them has been known from Iraq. Generally Iraq is literally “terra incognita” regarding the occurrence, not only the species of the genus *Leiodes*, but also the subfamily Leiodinae. No of the species belonging to Leiodinae was recorded from Iraq up to now. According Perreau (2015) only two representatives of the family Leiodidae (subfamily Cholevinae) are known from Iraq *Cholevinus pallidus pallidus* (Ménétriés, 1832) and *Attumbra praeusta* (Kraatz, 1858).

### MATERIAL AND METHODS

I had a unique opportunity to study leiodid material collected in Iraq by the German entomologist Christoph Reuter recently. Beside it I also studied some other Asian material housed in the NMEC, JVPC and MSBC (the meaning of the abbreviations see below.)

Abbreviations:

JVPC Jiří Vávra, private collection, Ostrava, Czech Republic;  
MSBC Michael Schülke collection, Natural History Museum, Berlin, Germany;  
NMEC Naturkundemuseum, Erfurt, Germany;  
NMPC National Museum, Praha, Czech Republic;  
ZSPC Zdeněk Švec, private collection, Praha, Czech Republic.

The examined material has been compared with the type and other leiodid material deposited in ZSPC and in NMPC.

Collecting data cited in quotation marks are taken from the locality labels accompanying the examined examples. The holotype and the paratypes are indicated by a red label bearing the status of the specimen (holotypus or paratypus respectively) name of the species, the

name of the author and the year of the designation (2023). The holotype label is initialled by the author.

The examined specimens had been relaxed in 4% acetic acid first, then rinsed in water and if appropriate dissected in a drop of water. The male genitalia were mounted in polyvinylpyrrolidone (Lompe 1986) on a transparent label added to the same pin as the dissected specimen.

The description is based on the holotype. Variability is mentioned in the paragraph "Variation" and includes features exhibited by the paratypes. Also the important characters of the sexual dimorphism are included in the mentioned paragraph.

The measurements of the total body length were taken from all specimens examined. Specific measurements of the individual body parts were taken from the holotype only except of the data about the variation. The measurements of morphologic body parts were measured to the first decimal place of millimetre, the measurement of the aedeagus was measured to the second decimal place of millimetre.

The material mentioned in the present paper has been deposited in JVPC, MSBC, NMEC and ZSPC.

Abbreviations of body parts and measurements:

AII-AXI	antennomeres II-XI;
TI-TV	tarsomeres I-V;
L	length;
W	width;
W/L	ratio between measurements.

Terminology:

endophallus =	sclerites or other structures inside tegmen detectable in transmitted light;
mesoventral carina =	longitudinal carina located centrally on mesoventrite;
punctured stria =	longitudinal row of punctures on elytra;
tegmen or median lobe =	median lobe of aedeagus.

The classification of the mesoventral carina in *Leiodes* follows that in Švec (2008).

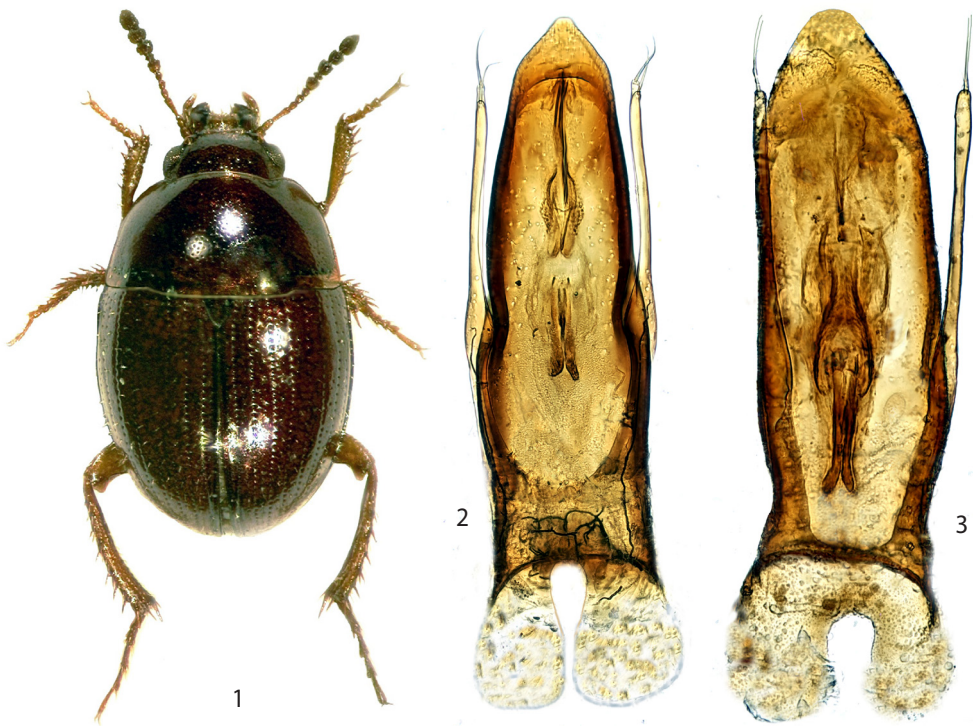
## DESCRIPTION

### *Leiodes punctigera* sp. nov.

(Figs. 1-2)

**Type material.** Holotype (♂): "N-IRAQ, S Rawandoz, Akosian valley, ~1400m, ~36°30'N, 44°36'E, 30.iv.-16.v. 2018, pitfall trap, lgt. Reuter", (NMEC). Paratypes (6 ♂♂, 6 ♀♀): the same data but iv. 2018, (NMEC, ZSPC).

**Description.** Length 2.7 mm. Length of body parts in holotype: head 0.3 mm, pronotum 0.8 mm, elytra 1.6 mm, antenna 0.9 mm, aedeagus 0.64 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.5 mm at base, elytra 1.6 mm far behind base. Without transverse strigosities or micro-sculpture except of puncturation. Oval (Fig. 1), dorsum legs and antenna chestnut, antennal club a little infuscate medially. Venter yellow-red with mesoventral carina and metaventrite a little darker.



Figs. 1-3. *Leiodes punctigera* sp. nov.: 1- Body, dorsal view; 2- aedeagus dorsal view; *L. obscura* (Fairmaire, 1858): 3- aedeagus dorsal view.

Head. Dorsal surface with distinct punctures separated by 2-4 times their own diameters. Vertex with 4 large punctures. Last antennomere longer than wide, as wide as the previous one. AVIII short, well visible between the neighbours. Ratio of length of antennomeres AII-AXI (AII=1.0): 1.0-2.0-0.9-1.0-0.9-1.0-0.4-1.2-1.3-2.3. Ratio of width of antennomeres AII-AXI (AII=1.0): 1.0-0.7-0.9-1.0-1.0-1.9-1.4-2.6-2.6-2.6. W/L of AII-AXI: 0.8-0.3-0.8-0.8-0.9-1.4-2.5-1.6-1.5-0.9.

Pronotum. Widest at base. Sides almost straight tapered anteriorly in dorsal view; almost straight, very feebly emarginate before posterior angles in lateral view. Posterior angles feebly acute in dorsal view; obtuse acutely rounded in lateral view. Basal margin of pronotum almost straight, in middle half projecting backwards. Both lateral parts of pronotal base flatly emarginate, therefore located a little forward compared to the central part (Fig. 1). Punctuation distinct; punctures similar to those on head, separated predominantly by about 2-4 times their own diameter. With several large punctures behind anterior margin and with sparse pre-basal large punctures aligned transversally. Some micro-punctures interposed between basic punctuation.

Elytra. With nine distinct densely punctured striae. Strial punctures well expressed, separated predominantly by about 0.5 times their own diameter longitudinally in median three

rows, becoming sparser in lateral striae. Stria 9 first parallel, well distant from lateral margin by about 3 times puncture diameter, then obliquely joining lateral channel approximately in basal third of elytral length. Interval punctures fine and small, separated by about 3-4 times their diameters. Beside them sparse punctures as large as those in rows equipped by short erect light seta present in each interval. Large interval punctures separated by about 10 times their own diameter on basal half of elytra become denser apically. Sutural stria deepened all along its length, reaching approximately anterior third of elytral length continuing as row of punctures toward base. Lateral channels of elytra narrow, simultaneously visible in dorsal view on along their entire length; without larger punctures or foveae. Epipleura with short adjacent light setae detectable in ventral view only.

Legs. Anterior tibiae slim, approximately 2.5 as wide at apex as at their base. Inner terminal thorn of anterior tibia almost straight with simple tip, longer than lateral one. Tarsomeres TI-TIV of anterior and mid-legs very feebly widened with long but sparse tennent setae. Meso-tibiae of usual size and shape, slightly simply bent, a little wider than anterior tibiae. Hind margin of metafemur with distinct lob on dorsal and unobtrusive lob on ventral side of apex. Hind tibiae feebly bent. TI-TIII of posterior tarsi conically widened apically.

Mesoventrite. Longitudinal carina of type A.

Membranous wings developed.

Genitalia. Aedeagus as in Fig. 2. Paramere bisetose apically. Root of proximal seta is bordered apically by oblique wrinkle from root of distal seta. Roots of both setae are well distant.

Variation. Female tarsomeres slimmer than those in males; female hind tibiae very slightly bent. Length of body varies between 2.6-3.0 mm in the type series.

**Differential diagnosis.** *Leiodes punctigera* sp. nov. is most similar to *L. obscura* (Fairmaire, 1858) in its morphological characters and also in the shape of the aedeagus and endophallus. The body size of both species reaches 3.0 mm, the shape of the body is oval in both compared species, the antennal club is partly infusate in *L. punctigera*, infusate in *L. obscura*, last antennomere approximately as wide as the previous one in both species, the head bears four large punctures at vertex, pronotum is broadest at base. Both species possess shortened humeral punctured stria well distant from elytral lateral channel, regularly developed elytral punctured striae; elytra lack transverse wrinkles or scratches.

Both species can best be distinguished by the large interval punctures that are present in all the elytral intervals in *L. punctigera* while the same large punctures are present in the odd intervals only in *L. obscura* and in other species of the genus. The shape of the median lobe of the aedeagus also the shape of endophallus and location of roots of parameral setae a little differ. The median lobe is distinctly almost triangularly narrowed toward shortly rounded apex in *L. punctigera* while the same is roundly narrowed to broader apex in *L. obscura*. The endophallus is simpler in *L. punctigera* possessing pair of the basal, bar-shaped, longitudinal very long parallelly oriented sclerites and with two proximal feebly developed bar-shaped sclerites (Fig. 2) while the median lobe in *L. obscura* contains more endophallic sclerites; roots of both parameral setae are approximated located on apex of paramere (Fig. 3).

**Etymology.** The name of the new species attracts the attention to the unusual presence of large punctures in each of the elytral intervals. It is adjective derived from two Latin words - punctum (= puncture) and gero (= to wear).

## FAUNISTICS

### *Leiodes cinnamomea* (Panzer, 1793)

**Material examined:** (1 ♂), Georgia, Guria, NE Bakhmaro, 41°53'23''N, 42°21'47''E, 1570 m, forest margin, litter sifted, 4.viii. 2022, leg. M. Schülke [GE2022/66], (MSBC); (1 ♂), N Iraq, S Rawandoz, xi. 2007- iii.2008, 36°30'N, 44°36'E, 1400 m, leg. C Reuter, (NMEC); (3 ♂♂), Lebanon - Raynfoun, 33°59'N 35°42'E, mix. oak forest, ~900 m, ii. 2019, pitfall trap, leg. Reuter, (NMEC, ZSPC).

**Distribution.** The European and Middle Eastern species widely distributed from Spain in the West to Syria in the East. New for Georgia and Iraq.

**Remark.** All three examined males from Lebanon possess short but well developed 9th elytral stria parallel to lateral margin well separated from the elytral margin. The stria is developed approximately on the basal quarter of the elytral length. This morphological character is quite unusual as *L. cinnamomea* belongs to the species lacking 9th elytral stria or having instead the stria only several confusedly gathered punctures adjacent to lateral elytral margin.

### *Leiodes turcica* Švec, 1998

**Material examined:** (1 ♀), Georgia, Racha Umgebung, Sori, Rioni river valley, car net, 42°32'41''N, 43°13'15''E to 42°34'21''N, 43°22'46''E, 610-770 m, 17.v. 2022, M. Schülke [GE2022-08], (MSBC); (1 ♀, 1 ♂), Georgia: Racha: Abari-Sori-Zemo Bari, car net, 42°32'13'' to 42° 36'51''N, 43°13'16'' to 43°16'35''E, 18.v.2022, M. Schülke [GE2022-10], (MSBC, ZSPC).

**Distribution.** Turkey. New to Georgia.

**Remark.** Antennal club brown-black in two of three examined specimens, remaining specimen possess unicolorous chest-nut antenna. The specimens in the type series possess unicolorous reddish to reddish-brown antenna, with club at most lightly infusate.

### *Leiodes longitarsis* Baranowski, 1993

**Material examined:** (2 ♂♂, 1 ♀), Far East of Russia, Komsomolsk na Amure, Silinka river, 10.vii. 1997, (JVOC, ZSPC).

**Distribution.** Canada (Alberta; British Columbia; Manitoba), USA (Arizona; Colorado), Japan (Hokkaido), Russia (Kuril Islands, Far East). New to Far East of Russia.

## *Leiodes dashennongjiaensis* Cooter & Švec, 2015

**Material examined:** (1 ♂), China Sichuan, NW Heishui, 2400 m, 32°06'55.6''N, 102°56.21'.5'', 14.-20.vi. 2018, leg. C. Reuter, (NMEC).

**Distribution.** China (Hubei). New to Sichuan.

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### REFERENCES

- LOMPE A. 1986: Ein neues Einbettungsmittel für Insectenpräparate. In: Puhtz V.: Kleine Mitteilungen. *Entomologische Blätter* 82: 119.
- PERREAU M. 2015: Leiodidae. Pp. 180-290. In: LÖBL I. & LÖBL D. (eds): *Catalogue of Palaearctic Coleoptera. Volumes 2/1, 2/2. Hydrophiloidea - Staphyloidea, Revised and Updated Edition*. Leiden & Boston: Brill, xxvi + 1702 pp.
- ŠVEC Z. 2008: New Chinese and Nepalese *Leiodes* Latreille (Coleoptera: Leiodidae: Leiodinae). *Studies and Reports of District Museum Prague-East, Taxonomical Series* 4: 241-258.

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