

Two new Leiodinae (Coleoptera: Leiodidae) from China, and some new distributional data

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Abstract. *Leiodes gracilitarsis* sp. n. and *Zeadolopus foveolatus* sp. n. from China (Yunnan) are described and compared to similar species. Presented are new records for *Agathidium* (*Agathidium*) *indubium* Angelini & De Marzo 1998, *Pseudocolenis strigosa* (Portevin 1905) and *Creagrophorus hongshanicus* Cooter & Hoshina 2002 from Yunnan (China), *Anisotoma pseudobecvari* Angelini & Švec 1995 from Sichuan (China), *L. matthiasi* Švec 1999 from Turkey and Tajikistan, *Leiodes obscura* (Fairmaire & Coquerel 1859) from Turkey, *Leiodes graefi* Švec 1994 from Greece and Italy, and *Leiodes macropus* Rye 1873 from Israel.

Key words. Leiodidae, Leiodinae, *Leiodes*, *Zeadolopus*, *Pseudocolenis*, *Agathidium*, *Creagrophorus*, taxonomy, distribution, Palaearctic region.

Introduction

Thirty-eight species of the genus *Leiodes* Latreille 1796 have been recorded from China (Švec 2008, Cooter & Švec 2010), and a further new species is described here.

Species of the genus *Zeadolopus* Broun 1903 are known to occur in the Palaearctic, Afrotropical, Australasian, Oriental, Neotropical and Nearctic regions, among them nine species in the Palaearctic (Daffner 1983, Švec 1997, 2002). One new species from China described here brings the number of known species of *Zeadolopus* to 62.

Material and methods

Abbreviations:

NKME Naturkunde Museum, Erfurt
FABC Fernando Angelini, Brindisi, private collection
ZSPC Zdeněk Švec, Praha, private collection
MSBC Michael Schülke, Berlin, private collection
JCOC Jon Cooter, Oxford, private collection
KBSC Kai Burgarth, Stelle, private collection
ASOC Aleš Smetana, Ottawa, private collection
JRPC Jan Růžička, Praha, private collection

The present paper is based on small but interesting material collected recently in Greece, Italy, Turkey, Israel, Tajikistan and China. The material is preserved in the collections mentioned above.

If not stated otherwise, the descriptions of the new species are based on holotypes. Specific measurements of the individual body parts were taken from the holotypes only. On the other hand, the measurements of total body length were taken from all the specimens examined and rounded to the first decimal place. Descriptions of variability are based on the paratypes. The terminology adopted to describe and differentiate the mesoventral carina in *Leiodes* Latreille 1796 follows that of Švec (2008).

Dissected male genitalia were mounted in gum Arabic or in Euparal resin on a card or a transparent strip and placed on the pin under the relevant specimen.

Each specimen of the type series is indicated by a red label bearing the name and the status of the specimen (holotype or paratype, respectively) and placed on the pin holding the specimen.

Taxonomy

Leiodes gracilitarsis sp. n.

(Figs. 1, 3)

Type material. Holotype ♂: “China, Yunnan, Baoshan Pref., Gaoligong Shan, 65 km NNE Tengchong 1750 m, 25°35′20″N 98°40′21″E sec. mixed forest, overgrown stone debris, litter & moss sifted, 31.viii.2009, leg. M. Schülke [CH09-10b]” (deposited in MSBC). Paratypes: 3 ♂, 3 ♀, same data as holotype (♂, 2 ♀ in MSBC, 2 ♂, 1 ♀ in ZSPC); 17 ♂, 4 ♀, same locality as holotype but “27.viii.2009 D. W. Wrase [10]” (13 ♂, 3 ♀ in JCOC, 3 ♂, 1 ♀ in ZSPC, 1 ♂ in JRPC); 1 ♀, “China (Yunnan), Baoshan Pref., Gaoligong Shan, W pass 32 km SE Tengchong, 1600 m, 24°51′11″N/98°44′27″E, 1450-1500 m (litter, moss, sifted), 5.vi.2007 D. W. Wrase [14]” (in JCOC); 1 ♀, “China (Yunnan), Nujiang Lisu Aut. Pref., creek valley 3 km SE Gongshan, 27°43′02″N 98°41′27″E, 1450-1500 m (litter, moss sifted), 5.vi.2007, D. W. Wrase [20]” (in JCOC).

Description. Length of body 1.9-2.4 mm, in holotype 2.0 mm. Length of body parts in holotype: head 0.3 mm, pronotum 0.6 mm, elytra 1.1 mm, antenna 0.7 mm. Maximum width of body parts in holotype: head 0.6 mm, pronotum 1.1 mm, elytra 1.2 mm.

Short oval (Fig. 3), dorsum yellowish red. Venter yellowish red, coxal margins, trochanters and longitudinal mesoventral carina darker. Antennae reddish yellow, unicolorous, legs reddish yellow. Dorsum without microreticulation; punctured, elytra also with transverse scratches laterally.

Head. Dorsal surface with irregularly distributed punctures separated by 2-3 or more of their diameters. Ratio of width of antennomeres X:XI = 1.1.

Pronotum. Widest at base. Sides roundly tapered anteriorly in dorsal and lateral views, posterior angles acute, broadly rounded in dorsal view and obtuse, abruptly rounded in lateral view. Punctuation irregular, sparser and finer than that of head. Punctures separated by about 6-8 or more of their diameters. A small number of sparsely scattered larger punctures behind anterior margin and before base.

Elytra. Broadest at basal fifth. With nine rows of punctures. Row 9 parallel to lateral channel, well distant from lateral margin, evanescent before midlength of elytra. Row punctures distinctly developed, separated by 1-2 their diameters. Starting with 6th elytral row toward lateral margin row punctures with transverse scratches. Scratches detectable from row 7 toward lateral margin connecting lateral puncture neighbours. Punctures of intervals small, fine, separated by about 6-8 their diameters. Large punctures, smaller than those in

rows, scattered in odd intervals. Sutural stria punctured, long, confined to three-quarters of elytral length. Lateral channel without larger punctures or foveae.

Legs. Tarsi not expanded, without specific characters. Hind margin of metafemur with lobe apically in both sexes.

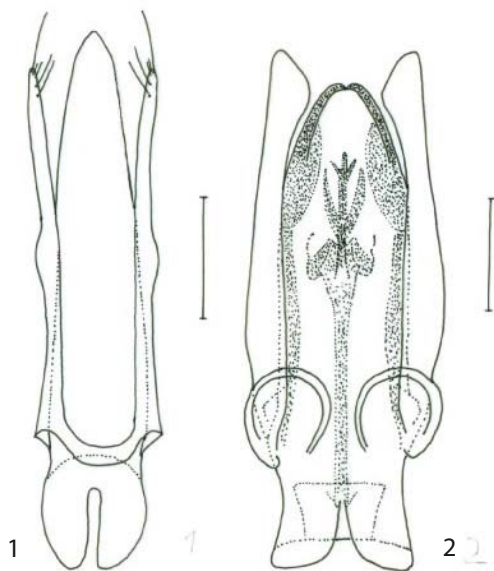
Mesoventrite. Longitudinal carina of type B.

Genitalia. Aedeagus as in Fig. 1.

Variability. The strength and intensity of dorsal sculpture varies in the type series. Pronotal puncturation is very feeble and sparse or even rare in some of the paratypes. Also lateral transverse scratches are less developed in some paratypes. Scratches uniquely feebly developed in one female paratype. In contrast, transverse scratches are developed here and there also on elytral disc in two female paratypes from the type locality. Row 9 very short, consisting of several punctures only in one of the paratypes. Some paratypes vary in dorsal colour from yellowish red to brownish red.

Differential diagnosis. *Leiodes gracilitarsis* sp. n. is similar to Turkish and Russian *L. turcica* Švec 1998 and European *L. hybrida* (Erichson 1845) in having lateral transverse scratches and the ratio of width of antennomeres 10:11. It differs from both species by smaller body size and by the type of mesoventral carina B (type A in the species compared). The median lobe of the aedeagus in the new species gradually narrows apically, the parameres are multisetose and without an appendix at apex, and the internal sac is not noticeable (in contrast to a slightly constricted median lobe before top, parameres equipped besides setae with an appendix, and well detectable internal sac in *L. hybrida* and *L. turcica*).

Etymology. The name of the new species refers to the slender protarsi of both sexes.



Figs. 1, 2. Aedeagus in dorsal view. 1 – *Leiodes gracilitarsis* sp. n.; 2 – *Zeadolopus foveolatus* sp. n. Scale = 0.1 mm.



Figs. 3-6. Habitus. 3 – *Leiodes gracilitarsis* sp. n., dorsal view; 4, 5, 6 – *Zeadolopus foveolatus* sp. n. (4 – dorsal view, 5 – ventral view, 6 – lateral view).



***Zeadolopus foveolatus* sp. n.**
(Figs. 2, 4-6)

Type material. Holotype ♂: “China, Yunnan, Baoshan Pref., Gaoligong Shan, nr. Xiaoheishan N.R. 35 km SE, Tengchong, 2100 m, 54°50'16''N 98° 45'43''E, (prim. decid. forest. litter, sifted)/ 30.v.4.vi.2007, D. W. Wrase [11]” (deposited in NKME).

Paratypes: 3 ♀, same data as holotype (in NKME, ZSPC).

Description. Length of body 1.5-1.8 mm, in holotype 1.8 mm. Length of body parts of holotype: head 0.3 mm, pronotum 0.5 mm, elytra 1.0 mm, antenna 0.5 mm. Maximum width of body parts in holotype: head 0.6 mm, pronotum 1.0 mm, elytra 1.3 mm.

Very short oval (Fig. 4), dorsum yellowish red, base of pronotum and irregular, poorly defined strips along elytral rows of punctures somewhat darker. Venter yellowish red with darker metaventrite. Antennomeres I-VI yellowish, antennomeres VII-XI yellowish red, legs yellow, meso- and metatarsi lightly chestnut. Dorsum with traces of microsculpture on elytra; punctuate, punctures partly setiferous.

Head. Dorsal surface with punctures separated by 1-3 their diameters. Along anterior margin of head impunctate. Ratio of width of antennomeres X:XI = 1.3.

Pronotum. Widest at base. Base slightly flatly concave before posterior angles. Lateral sides roundly tapered anteriorly in dorsal and lateral view, posterior angles acutely pointed in dorsal view, obtuse, very broadly rounded in lateral view. Punctuation distinctly finer and sparser than that of head. Punctures separated by about 4-6 or more of their diameters.

Elytra. Broadest in basal third. With distinct simple rows of punctures reaching base. Punctures in rows separated by about 1-2 of their diameters on disc, anteriorly, posteriorly and also laterally punctures becoming smaller and sparser. Punctures of intervals small, distinctly smaller and finer than those in rows. Punctures separated by about 4-5 of their diameters. Several punctures almost as large as those in rows scattered in odd intervals. Sutural stria shallow, confined approximately to apical third. Microreticulation in faint traces. Lateral channel with seven foveae becoming smaller posteriorly (Fig. 6).

Legs. Hind margin of metafemur with strong, long, bent tooth at apex in male, broadly rounded in female; mesofemur without striking characters.

Metaventrite. With one row of large foveae behind anterior margin becoming larger laterally, with one row of foveae just before posterior margin, and with one fovea between both foveal rows (as in Fig. 5).

Abdomen. First visible abdominal ventrite with a row of large foveae close to its anterior margin (as in Fig. 5).

Genitalia. Aedeagus as in Fig. 2. Female genitalia not figured, as we find the shape of the spermatheca to be of no taxonomic importance.

Variability. Microreticulation not detected in two of the paratypes. Number of elytral lateral foveae varies between seven to nine.

Differential diagnosis. *Zeadolopus foveolatus* sp. n. is most similar to *Z. fulvus* Daffner 1983 by size of body (1.5-1.8 mm in *Z. foveolatus*, 1.7-1.9 in *Z. fulvus*), antennomere XI distinctly smaller than antennomere X, strongly punctured head and finer-punctured pronotum, elytral rows reaching base, and presence of foveae in elytral lateral channel, on metaventrite and on 1st visible abdominal ventrite. It differs from *Z. fulvus* by presence of a fovea between both foveal rows on metaventrite, and by a rounded paramere apex (truncate in *Z. fulvus*).

Etymology. The name of the new species refers to the foveate condition of the metaventrite.

Faunistic records

***Agathidium (Agathidium) indubium* Angelini & De Marzo 1998**

Angelini & De Marzo 1998: 367.

Material examined. ♂, China, N-Yunnan, Dali Bai Nat. Aut. Pref. Diancang Shan, 3 km W Dali, 25°41.1'N 100°06.8'E, 2750 m, 1.ix.2003, A. Smetana [C144] (in ZSPC); 1 specimen, same data; 1 specimen, same data but 2650-2750 m, 30.viii.2003 [C141] (in ASOC).

Distribution. China (Sichuan, Yunnan). New to Yunnan.

***Anisotoma pseudobecvari* Angelini & Švec 1995**

Angelini & Švec 1995: 508.

Material examined. ♂, ♀, China, Sichuan, Gongga Shan, Hailuoguo, above Camp 3, 29°35'N 102°00'E, 2800-3300 m, 6.-8.vii.1998, J. Schneider (in ZSPC).

Distribution. China (Yunnan, Sichuan). New to Sichuan.

***Pseudocolenis strigosa* (Portevin 1905)**

Portevin 1905: 423.

Material examined. ♂, ♀, China, N Yunnan, Nujiang Lisu Aut. Pr., Gongshan, Gaoligongshan, valley at 3000-3050 m, 27°47.90'N 98°30.19'E, 21.vi. 2005, A. Smetana [C169] (in ZSPC).

Distribution. China (Shaanxi, Sichuan, Yunnan), India (Sikkim), Nepal, Thailand. New for Yunnan.

***Leiodes matthiasi* Švec 1999**

Švec 1999: 163.

Material examined. ♂, S Tadzhikistan, Kurgan Tube reg., 25 km SW Dzilikul vill., 5.6.2000; 2♀, same data but 8.ix.2000; (in ZSPC, KBSC); ♂, ♀, Turkey, Adana Cumhuriyeti, 710 m, 37°53.11' N 35°59.37'E, 11 km NE Feke, 24.iv. 2011, Brachart & Meybohm (21) (in KBSC).

Distribution. Turkey, Uzbekistan, Kazakhstan, Tajikistan, China (Quinhai). New to Turkey and Tajikistan.

***Leiodes obscura* (Fairmaire & Coquerel 1859)**

Fairmaire & Coquerel 1859: 792.

Material examined. ♂, Turkey, Kahramanmaraş, Andirin-Cokak, 1150 m, 10 km N Andirin (43), *Carpinus*, Quellen, 1.-2.v.2005, Brachart & Meybohm (in KBSC).

Distribution. France, Greece, Italy, Algeria, Morocco, Tunisia, Israel, Turkey. New for Turkey.

***Leiodes graefi* Švec 1994**

Švec 1994: 296.

Material examined. 1 specimen, Italy, Lucania, Bosco di Policoro, 9.ii.1992, F. Montemurro lgt. (in FABC); 1 specimen, Italy, Calabria, Crotone Fiume Esaro, 26.x. 2003, F. Motemurro lgt. (in FABC); 1 specimen, Italy, Puglia, Daunian, Celenza Valforte, Ponte 3 Archi, 200 m, 15.v.2001, Angelini lgt. (in FABC); 9 specimens, Italy, Bosca Policoro, 17.ix.2000, F. Motemurro lgt. (4 spec. in FABC, 5 spec. in ZSPC); 1 specimen, Greece, Ilia str. Pargos – Kivaparrissia lagoon c/o Kaipas, 14.iii.1995, Sabella lgt. (in FABC).

Distribution. Montenegro, Greece, Italy. New for Greece and Italy.

***Leiodes macropus* Rye 1873**

Rye 1873: 133.

Material examined. ♂, Israel, Nahal keziv, upper Galilee, close Montfort, 27.iv.2010, trap 3, C. Drees lgt. (in KBSC); 2 ♂, Israel, 33°02.21'N 35°25.26'E, upper Galilee, Ya'ar Bar'am 683 m, 23.iii.2011, Meybohm lgt. (in KBSC, ZSPC).

Distribution. Austria, Czech Republic, France, Great Britain, Germany, Hungary, Italy, the Netherlands, Poland, Romania, Slovakia, Spain, Israel. New for Israel. The Israel record is the first occurrence of this species in Asia.

Scotocryptini Reitter 1884

Creagrophorus A. Matthews 1888***Creagrophorus hongshanicus* Cooter & Hoshina 2002**

Cooter & Hoshina 2002: 81.

Material examined. ♂, China, Yunnan, Baoshan Pref., Gaoligong Shan, 65 km NNE Tengchong 1750 m, 25°35'20"N 98°40'21"E sec. mixed forest, overgrown stone debris, litter & moss sifted, 31.viii.2009, leg. M. Schülke [CH09-10b] (in MSBC).

Distribution. China (Hongkong, Yunnan). New for Yunnan.

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