

## A new tiger beetle species (Coleoptera: Cicindelidae) from French Guiana

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### Abstract

*Iresia (Palaeoiresia) matitiensis* sp.n. from French Guiana is described. It is distinguished from the other members of the subgenus *Palaeoiresia* SUMLIN, 1994 by the testaceous metasternum, testaceous frons, testaceous ventral third of proepisternum, proepimeron, and mesepisternum, as well as the head and pronotum lacking metallic lustre.

**Key words.** *Iresia (Palaeoiresia) matitiensis*, new species, diagnosis, key, French Guiana.

### Zusammenfassung

*Iresia (Palaeoiresia) matitiensis* sp.n. aus Französisch-Guayana wird beschrieben. Sie unterscheidet sich von den anderen Mitgliedern der Untergattung *Palaeoiresia* SUMLIN, 1994 durch das hellbraune Metasternum, die hellbraune Frons, das hellbraune ventrale Drittel von Proepisternum, Proepimeron und Mesepisternum sowie durch den fehlenden Metallglanz von Kopf und Pronotum.

### Introduction

Fifteen species of the genus *Iresia*, belonging to the tiger beetle family Cicindelidae, have been previously documented (WIESNER 2020, MATALIN 2023: 152). Recently, a specimen of this genus was received by the first author in a consignment from the Hungarian National History Museum, and recognized as a new species described below. An updated identification key for all the known species of the genus is provided.

### Material and methods

All measurements were made with an ocular micrometer on a Motic SMZ 171 stereomicroscope as follows:

- AL length of aedeagus (from base to apex)
- EL length of elytra (from base of scutellum to apex, along suture)
- EW width of elytra (in widest place)
- HW width of head (in widest place)
- LL length of labrum with apical teeth (along midline)
- LW width of labrum (in widest place)
- OW width of orbital plates (in widest place)
- PL length of pronotum (along midline)

PW width of pronotum (in widest place)

TL total body length without labrum (from anterior margin of clypeus to elytral apex, along suture)

The label data of the type specimen are reported from pinhead to pinpoint in quotation marks, with label sides divided by a single slash and separate labels indicated by a double slash.

## Taxonomy

### *Iresia (Palaeioresia) matitiensis* sp.n. (Figs 1–7)

**Type material.** Holotype (male, Hungarian National History Museum, Budapest), labelled: “MATITI French Guayne / 2014.07. 15. / leg.: J.L. Giuglaris // HOLOTYPE / *Iresia (Palaeioresia) / matitiensis* / design. Wiesner & Sággy 2024 [printed, red]”.

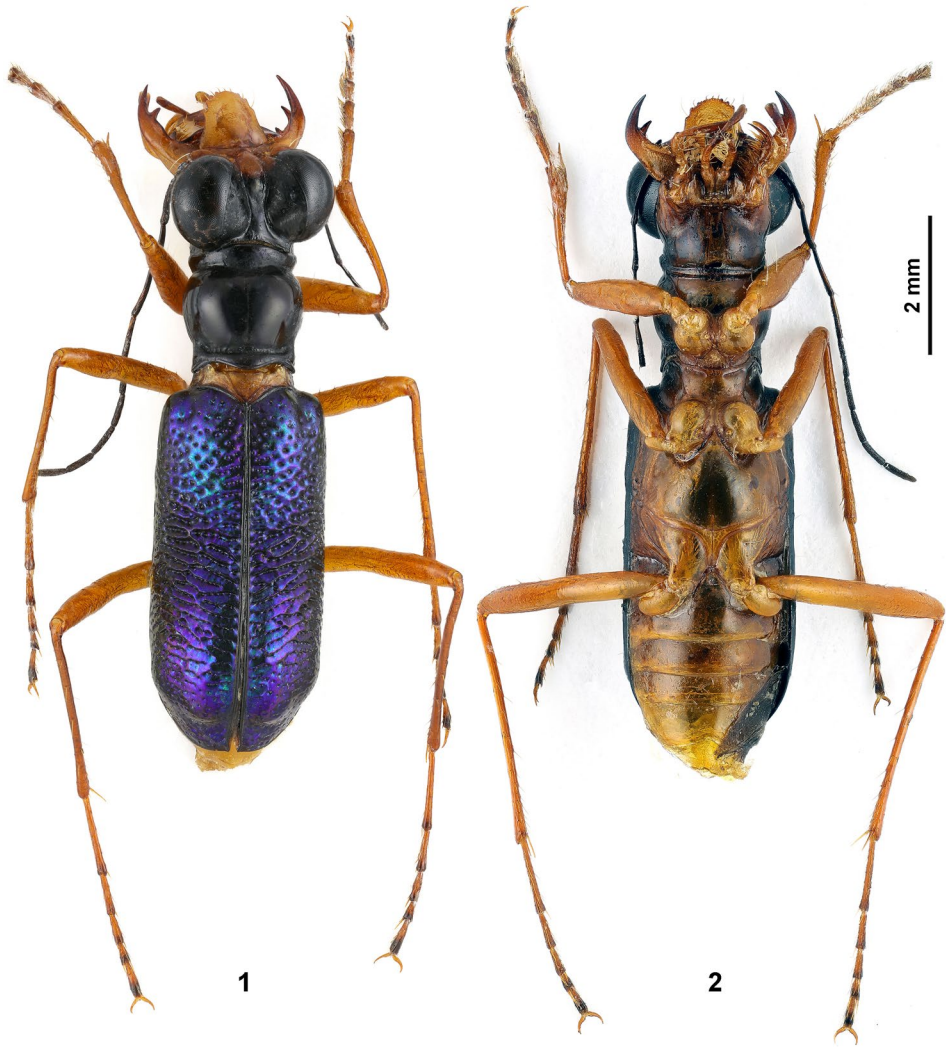
**Diagnosis.** The new species is closely related to *I. petrovi* MATALIN, 2023, *I. surinamensis* CHAUDOIR, 1862, *I. phaedra* SUMLIN, 1999, *I. psyche* SUMLIN, 1994, and *I. opalescens* SUMLIN, 1999. As in *I. petrovi* (MATALIN 2023: 152), the labrum is wider than long (LW/LL = 1.20), while in the other species it is of equal length and width (SUMLIN 1994, 1999). As in *I. opalescens* (SUMLIN 1999: 47), the pronotum is entirely black in color, while in the others it has a shiny metallic surface (SUMLIN 1994, 1999, MATALIN 2023). The mesepisternum is bicolored, testaceous in the ventral third and otherwise black without transition, in *I. surinamensis* and *I. psyche* it is completely testaceous in color (SUMLIN 1994), in *I. petrovi*, *I. opalescens* and *I. phaedra* it is completely black or metallic in color (SUMLIN 1999, MATALIN 2023).

**Description.** Size. TL = 8.8 mm; HW = 2.5 mm; OW = 1.4 mm; LL = 0.9 mm; LW = 1.1 mm; PL = 1.9 mm; PW = 1.8 mm; EL = 5.2 mm; EW = 2.9 mm; AL = 2.7 mm.

Head (Fig. 3) smooth and glabrous, black; clypeus, area just above antennae, gula and ventral two-thirds of genae testaceous. Clypeus and genae smooth and glabrous; frons with shallow cavity. Eyes medium-sized, globose. Orbital plates smooth, with a long seta just before maximum width; interocular furrows deep and semicircular. Labrum (Fig. 4) completely testaceous, transverse, with eight apical teeth, two lateral teeth and nine marginal setae; left three apical teeth and right two apical teeth larger than three apical teeth in the center. Mentum (Fig. 5) with tiny tooth. Mandibles testaceous, with brown inner teeth and brown apical molar. Labial and maxillary palps testaceous, apical segment of maxillary palps brown. Antennae extend to basal third of elytra (of right antenna, segments 7–11 are missing); scape testaceous above, underside dark, with a long subapical seta; antennomeres 2–11 black, 4–5 browned apically, 6 browned basically; 2–5 shiny and glabrous, 6–11 finely and evenly pubescent.

Pronotum (Fig. 6) smooth and glabrous, slightly longer than broad, black, ventral third testaceous; anterior and posterior transverse grooves deep; midline thin and shallow. Proepisternum and remaining thoracic segments glabrous; proepisternum, proepimeron and mesepisternum black, ventral third testaceous. Metepisternum and metasternum testaceous.

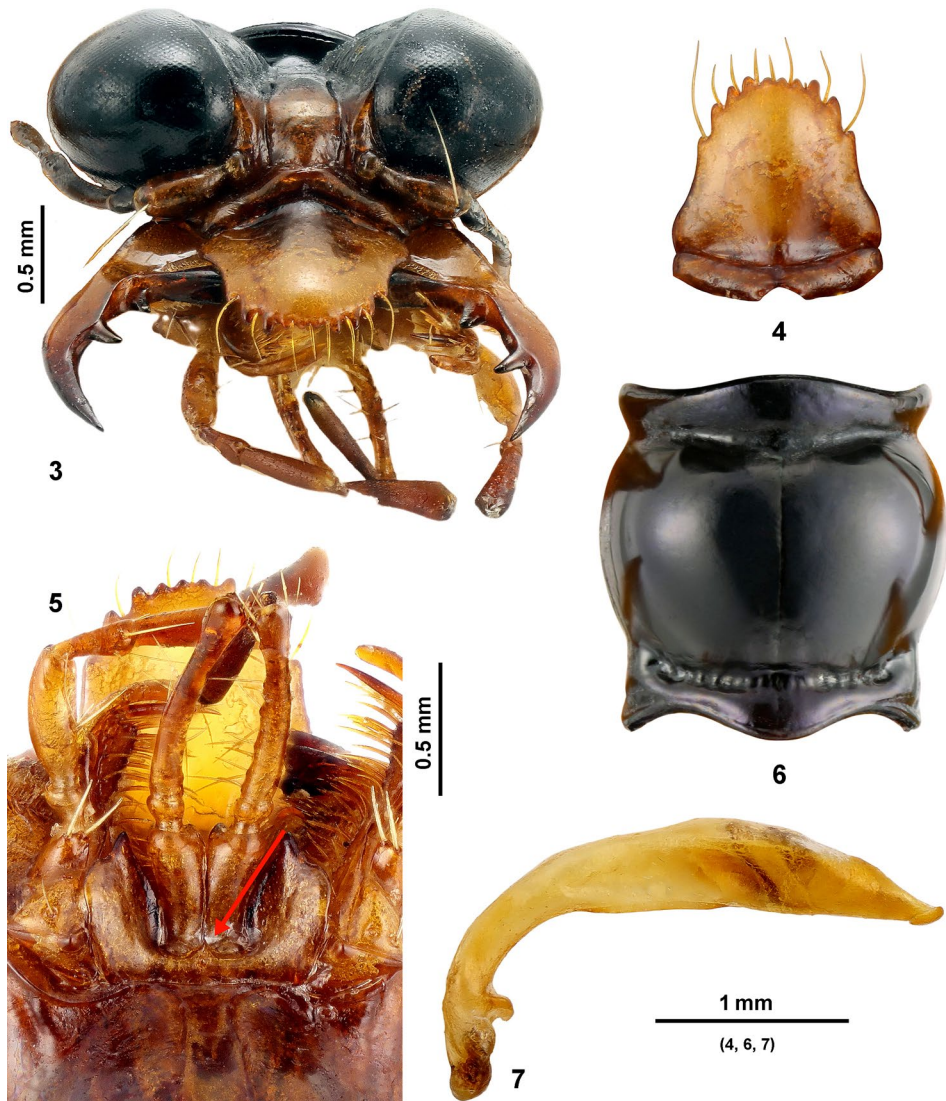
Elytra elongate, indistinctly widened towards the apex, with a small, shallow basal hump and a large, shallow apical hump; blue with violet or greenish tinge, depending on incidence of light; apex without microserration; sutural spine blunt and small. Scutellum



Figs 1–2. *Iresia (Palaeoiresia) matitiensis* sp.n., holotype, male. (1) Habitus, dorsal view. (2) Habitus, ventral view.

testaceous. Epipleura black. Elytra with large deep pits in anterior third, the edges of which are bulgingly raised and converge. In middle third, two to a maximum of seven deep pits bordered by a sharply raised ridge; these fringed groups of pits forming irregular rows of ridges. In posterior third, pore dots less dense and much shallower; shallow ridges running diagonally outwards along the edge of pits. Lateral edge of elytra covered with fine pits along a narrow circumferential up to apex behind apical humps.

Legs (two apical tarsomeres missing on left foreleg) testaceous; tarsomeres browned apically; fore and mid trochanter with a single apical seta; posterior coxa with one basal and one apical seta.



Figs 3–7. *Iresia (Palaeoiresia) matitiensis* sp.n., holotype, male. (3) Frontal view of head. (4) Labrum. (5) Mentum (at position of red arrow). (6) Pronotum. (7) Left lateral view of aedeagus.

Sternites (Fig. 2) of abdomen testaceous, glabrous; sternites 3–5 each with two setae on anterior margin.

Aedeagus (Fig 7) slender, slightly elongate; apex drawn out to a slightly curved, oval, set-off tip. Female unknown.

Comparative notes. The female of “*Iresia mnischechii* CHAUDOIR, 1862”, that is shown at the “Carabidae of the World” web project (ANICHTCHENKO et al. 2007–2024) is

most probably *I. matitiensis* sp.n. It has not been possible to verify this, as there has been no recent contact with the owner of the specimen, Angel Montes from Spain.

The new species is integrated into the identification key given by SUMLIN (1964: 3), modified and extended to include subsequent species described by SUMLIN (1999) and MATALIN (2023).

- 1 Mentum tooth small or absent. First segment of labial palpus twice as wide as apex of third segment. Subgenus *Palaeioresia* SUMLIN, 1994. .... 2
- Mentum tooth moderate to large; first segment of labial palpus less than twice as wide as apex of third segment. Subgenus *Iresia* s.str. .... 14
- 2 Metasternum pigmented. Pronotum dark; both single-colored. .... 3
- Metasternum testaceous or light-testaceous. Pronotum striped or single-colored. .... 5
- 3 Metasternum and pronotum vitreous black. Abdomen light testaceous. Brazil. ....  
..... *I. latens* SUMLIN, 1964
- Metasternum and pronotum with metallic reflections. Abdomen metallic or red testaceous. .... 4
- 4 Abdomen metallic. Antennal scape black. Elytra blue, green, or purple. Brazil, French Guiana. .... *I. besckii* MANNERHEIM, 1837
- Abdomen reddish-testaceous. Antennal scape testaceous. Elytra with strong rose-cupreous pigment. Brazil. .... *I. aureorufa* HORN, 1909
- 5 Head and pronotum metallic. .... 6
- Head and pronotum not metallic. .... 9
- 6 Elytra slightly rufescent in basal portion. .... 7
- Elytra without rufescent base. .... 8
- 7 Labrum wider than long. Body size > 10 mm. Peru. .... *I. petrovi* MATALIN, 2023
- Labrum as wide as long. Body size < 8 mm. Venezuela, Guyana, Suriname, French Guiana. .... *I. surinamensis* CHAUDOIR, 1862
- 8 Head oddly compressed. Body size > 7.5 mm. Ecuador. .... *I. phaedra* SUMLIN, 1999
- Head not oddly compressed. Body size < 7.5 mm. Peru. .... *I. psyche* SUMLIN, 1994
- 9 Frons testaceous; remainder of head vitreous black. .... 10
- Frons and majority of head testaceous. .... 11
- 10 Proepisternum, proepimeron, and mesepisternum vitreous black. Bolivia. ....  
..... *I. opalescens* SUMLIN, 1999
- Ventral third of proepisternum, proepimeron, and mesepisternum testaceous. French Guiana. .... *I. matitiensis* sp.n.
- 11 Abdomen dark brown. Tooth of mentum usually absent. Brazil. ... *I. bimaculata* KLUG, 1834
- Abdomen testaceous or light-testaceous. Tooth of mentum present. .... 12
- 12 Dorsal edges of femora markedly darker than ventral edge. Elytral color always with some green reflections. Apical segment of maxillary palp always darker than third segment. Pronotum always with two longitudinal stripes. Peru, Brazil, Suriname. ....  
..... *I. binotata* KLUG, 1834
- Dorsal edges of femora not markedly darker than ventral edge. Elytral color blue or violet. Apical segment of maxillary palp always the same color as the third segment. Pronotum striped or solid in color. .... 13

- 13 Elytra purple or violet. Peru. .... *I. egregia peruviana* MANDL, 1967  
 – Elytra blue or bluish purple. Ecuador, Brazil, Venezuela, French Guiana. ....  
 ..... *I. egregia egregia* CHAUDOIR, 1860
- 14 Abdomen vitreous black or dark brown. .... 15  
 – Abdomen testaceous or light testaceous. .... 16
- 15 Metasternum metallic. Apical third of femora darker than basal two thirds. Pronotum strongly arched. Venezuela, Suriname, French Guiana. .... *I. mniszecii* CHAUDOIR, 1862  
 – Metasternum vitreous black or dark brown. apical third of femora not darker than basal two thirds. Pronotum not strongly arched. Costa Rica, Nicaragua, Panama. ....  
 ..... *I. pulchra* BATES, 1881
- 16 Vertex vitreous black. Antennal segments 7–11 black or dark brown. Pronotum never striped. Argentina, Brazil, Paraguay, Venezuela. .... *I. lacordairei* DEJEAN, 1831  
 – Vertex light testaceous or dark brown. Antennal segments 7–11 light testaceous. Pronotum usually with some longitudinal striping. Costa Rica, Mexico, Panama. ....  
 ..... *I. boucardii* CHEVROLAT, 1856

**Distribution.** French Guiana (Matiti). Matiti (N 5°02'57.0", W 52°36'15.4") is a small settlement, located some 30 km to the south-east of Kourou.

**Etymology.** The new species is named for the site where it was found.

#### Remarks

Only a few data are available on the morphological variation within the various species (see Tab. 1). Of the 16 species of this arboreal genus, which is distributed in South and Central America, only three species (*I. besckii*, *I. binotata* and *I. lacordairei*) are represented in collections with more than ten specimens.

Tab. 1: Total length (TL), elytral width (EW), head ratio (OW/HW), and pronotal ratio (PW/HW) of the members of the genus *Iresia*. Ranges and means (Ø) given in case of multiple specimens. Data according to <sup>1)</sup> SUMLIN (1994), <sup>2)</sup> SUMLIN (1999), and <sup>3)</sup> MATALIN (2023).

Genus <i>Iresia</i> DEJEAN, 1829	TL (mm)	EW (mm)	OW/HW	PW/HW
<b>Subgenus <i>Palaeioresia</i> SUMLIN, 1994</b>				
<i>aureorufa</i> HORN, 1909 <sup>1)</sup> 4 ♂♂, 3 ♀♀	8.9–9.9 Ø = 9.2	2.5–2.8 Ø = 2.6	0.54–0.58 Ø = 0.56	0.75–0.77 Ø = 0.76
<i>besckii</i> MANNERHEIM, 1837 <sup>1)</sup> 9 ♂♂, 11 ♀♀	9.3–12.0 Ø = 10.2	2.5–3.3 Ø = 2.8	0.53–0.66 Ø = 0.57	0.74–0.79 Ø = 0.77
<i>bimaculata</i> KLUG, 1834 <sup>1)</sup> 4 ♂♂, 4 ♀♀	6.5–9.0 Ø = 8.0	2.1–2.9 Ø = 2.5	0.58–0.64 Ø = 0.62	0.61–0.70 Ø = 0.65
<i>binotata</i> KLUG, 1834 <sup>1)</sup> 10 ♂♂, 10 ♀♀	7.3–9.3 Ø = 8.2	2.1–2.7 Ø = 2.4	0.48–0.60 Ø = 0.55	0.68–0.74 Ø = 0.70
<i>egregia egregia</i> CHAUDOIR, 1860 <sup>1)</sup> 2 ♂♂, 4 ♀♀	8.3–9.5 Ø = 8.7	2.4–3.0 Ø = 2.6	0.54–0.58 Ø = 0.55	0.67–0.75 Ø = 0.72
<i>egregia peruviana</i> MANDL, 1967 <sup>1)</sup> 1 ♂	8.2	2.4	0.56	0.76
<i>latens</i> SUMLIN, 1994 <sup>1)</sup> 2 ♀♀	7.9–8.3 Ø = 8.1	2.6 Ø = 2.6	0.57–0.50 Ø = 0.58	0.68–0.69 Ø = 0.69

<b>Genus <i>Iresia</i> DEJEAN, 1829</b>	<b>TL (mm)</b>	<b>EW (mm)</b>	<b>OW/HW</b>	<b>PW/HW</b>
<i>matitiensis</i> sp.n. 1 ♀	8.8	2.7	0.56	0.73
<i>opalescens</i> SUMLIN, 1999 <sup>2)</sup> 1 ♀	8.1	2.4	0.64	0.73
<i>petrovi</i> MATALIN, 2023 <sup>3)</sup> 1 ♀	10.2	3.2	0.63	0.73
<i>phaedra</i> SUMLIN, 1999 <sup>2)</sup> 1 ♂	7.8	2.3	0.32	0.74
<i>psyche</i> SUMLIN, 1994 <sup>1)</sup> 1 ♀	7.3	2.2	0.58	0.68
<i>surinamensis</i> CHAUDOIR, 1862 <sup>1)</sup> 3 ♀♀	7.7–7.8 ø = 7.7	2.5 ø = 2.5	0.50–0.52 ø = 0.51	0.61–0.65 ø = 0.63
<b>Subgenus <i>Iresia</i> DEJEAN, 1831</b>				
<i>boucardii</i> CHEVROLAT, 1856 <sup>1)</sup> 4 ♂♂, 5 ♀♀	7.8–9.3 ø = 8.6	2.4–3.0 ø = 2.6	0.56–0.62 ø = 0.59	0.67–0.72 ø = 0.70
<i>lacordairei</i> DEJEAN, 1831 <sup>1)</sup> 10 ♂♂, 10 ♀♀	8.1–9.5 ø = 8.7	2.1–2.8 ø = 2.5	0.57–0.62 ø = 0.59	0.68–0.77 ø = 0.74
<i>mniszechii</i> CHAUDOIR, 1862 <sup>1)</sup> 1 ♂, 2 ♀♀	8.0–8.8 ø = 8.2	2.3–2.6 ø = 2.4	0.53–0.54 ø = 0.53	0.62–0.69 ø = 0.66
<i>pulchra</i> BATES, 1881 <sup>1)</sup> 3 ♂♂, 4 ♀♀	8.1–10.1 ø = 9.3	2.3–3.2 ø = 2.6	0.59–0.63 ø = 0.61	0.66–0.70 ø = 0.67

It is still unclear how the members of the genus can be recorded in the field other than by hand collecting. ZIKAN (1929: 297–300) reports numerous occurrences of the species on trees. In more recent times, such occurrences are little known. One specimen of *I. phaedra* and one specimen of *I. egregia peruviana* were caught during insecticide fogging of tree crowns (SUMLIN 1999: 50).

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#### References

- ANICHTCHENKO A. et al. (editorial team), 2007–2024: Carabidae of the world. – Available from <https://carabidae.org> [accessed 3 July 2024]
- MATALIN A.V., 2023: New species and new records of South and North American tiger beetles (Coleoptera: Cicindelidae). – Russian Entomological Journal 32 (2): 149–154.
- SUMLIN W.D. III., 1994: Studies on the Neotropical Cicindelidae V: A review of the genus *Iresia* (Coleoptera). – Cicindelidae: Bulletin of Worldwide Research 3 (1): 1–32.
- SUMLIN W.D. III., 1999: Studies on the Neotropical Cicindelidae VI: Two new species of *Iresia* from Bolivia and Ecuador (Coleoptera). – Cicindela 31 (1–2): 45–50.
- WIESNER J., 2020: Checklist of the tiger beetles of the world, 2<sup>nd</sup> edition. – Winterwork, Borsdorf, 540 pp.
- ZIKAN J.F., 1929: Zur Biologie der Cicindeliden Brasiliens. – Zoologischer Anzeiger 82: 269–414.

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