



## A new species of *Oxyporus* Fabricius (Coleoptera: Staphylinidae: Oxyporinae) from western Mexico and new record from Aguascalientes for *O. mexicanus* Fauvel

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### Abstract

A new species, *Oxyporus amigo*, is described from Jalisco and Michoacán, Mexico. The new species is diagnosed and illustrated. Additionally, *Oxyporus mexicanus* Fauvel, 1865 is recorded for the first time from the state of Aguascalientes, based on specimens collected in Monte Grande, San José de Gracia.

**Key words:** Oxyporinae, rove beetles, taxonomy, new species, Trans-Mexican Volcanic Belt

### Introduction

The subfamily Oxyporinae Fleming, 1821 currently includes 143 described species worldwide, of which 122 are assigned to the genus *Oxyporus* Fabricius, 1775 (Newton 2022). Species of *Oxyporus* occur in the Palearctic, Nearctic, Oriental and Neotropical regions (Herman 2001; Newton 2022) and are typically associated with fungi in forested environments (Hanley & Goodrich 1995).

In Mexico, eight species of *Oxyporus* have been formally recorded. The most recent taxonomic contributions to the genus in the country are those of Márquez *et al.* (2005), Márquez & Asiain (2006), Navarrete-Heredia & Márquez (2015), and Navarrete-Heredia *et al.* (2021), the latter providing additional evidence supporting the placement of *Oxyporus smithi* Bernhauer within *Oxyporus* s. str. based on the presence and position of stridulatory structures. An additional undescribed species from southern Mexico is known (A. Brunke, pers. comm.), indicating that the Mexican fauna is still being documented.

During field activities conducted in western Mexico, a distinctive species of *Oxyporus* was collected in El Floripondio, Nevado de Colima, Jalisco, during an undergraduate arthropods course at the Universidad de Guadalajara. Comparison with available descriptions and relevant material of related species indicates that this taxon does not correspond to any described species and is therefore described herein as new. Additional specimens were found in the Entomological Collection of the Centro de Estudios en Zoología, Universidad de Guadalajara.

In addition, specimens of *Oxyporus mexicanus* Fauvel, 1865 were collected in Monte Grande, San José de Gracia, Aguascalientes, representing the first record of the species for that state.

### Material and methods

Specimens of the new species were collected in Jalisco and Michoacán and are deposited at the Entomological Collection of the Centro de Estudios en Zoología, Universidad de Guadalajara (CZUG) and the Colección Entomológica del Instituto de Ecología, A. C., Xalapa, México (IEXA). Four specimens were collected in Jalisco and one more in Michoacán.

Specimens of *O. mexicanus* were collected in Monte Grande, San José de Gracia, Aguascalientes (22°16'01.2"N 102°37'00.2"W; 2912 m a.s.l.), by sifting leaf litter associated with fungi.

Specimens were preserved in 70% ethanol and later pinned. Genitalia were dissected after softening specimens in warm water and cleared in 10% KOH overnight. Dissected structures were stored in microvials with glycerin and examined under a trinocular stereomicroscope (Amszoom).

Photographs and measurements were taken using the same stereomicroscope (Amszoom) equipped with an Amszoom 4K 60MP digital camera and processed with HAYEAR software. Body length was measured from the anterior margin of the clypeus to the apex of the abdomen. Terminology follows mainly Márquez & Asiain (2006).

## Taxonomy

### *Oxyporus amigo* sp. nov.

ZooBank registration: <http://zoobank.org/urn:lsid:zoobank.org:act:07611D13-DF66-4F01-9F65-8A9D81B2744E>  
Figures 1 to 6.

#### Type material

Holotype: ♂, MEXICO: Jalisco, San Gabriel, Puerto El Floripondio, bosque de encino-pino, 2,376 m, 19°38'32.2"N, 103°37'20.8"W, 22.X.2025, Yesenia Priscila León Luna & Athziri Pérez Hernández cols. Deposited in CZUG.

Paratypes: one paratype ♀ with the same data as Holotype, deposited in IEXA. One paratype ♀: Jalisco: Mazamitla, camino a las antenas, El Pandito, 2401 m, *ex hongo*, 19°54.72'N, 103°0.09'W, 23.VIII.2011, J.L. Navarrete-Heredia y P. Villegas cols. One paratype ♀: Jalisco: San Gabriel, cerca El Floripondio, bosque de encino pino, *ex Tricholomataceae*, 24.VII.1994, J.L. Navarrete col. One paratype ♀: Michoacán, San José, Los Azufres, bosque de pino encino, 2410 m, M. Villegas col., *ex Tricholoma ustale* P. Kumm. The remaining paratypes are deposited in CZUG.

Diagnosis. *Oxyporus amigo* sp. nov. can be distinguished from all other Mexican species of *Oxyporus* by the following combination of characters: pronotum transverse and trapezoidal; head dorsally glossy, without evident microsculpture; body predominantly reddish yellow; mandibles and mesoscutellum darkened; each elytron with a broad oblique black mark on the apical half; prosternum and mesoventrite largely infuscate; anterior margin of head, including clypeus and labrum, darkened; margins of pronotum narrowly infuscate.

Among Mexican species, it is most similar to *O. flohri* Sharp and *O. lawrencei* Campbell. From *O. flohri*, it differs in head and abdominal coloration, and in the morphology of the aedeagus. In *O. amigo* sp. nov., the head lacks black lateral vittae and abdomen lacks distinctly delimited black areas, with at most tergites VI–VIII slightly and diffusely darkened medially or apically. In contrast, *O. flohri* exhibits a more contrasting abdominal pattern, with at least tergite VI distinctly black or strongly darkened. The aedeagus of *O. amigo* sp. nov. differs in having the apex broadly rounded to subtruncate, bearing a median triangular projection, with the apex slightly curved backwards (Figs. 3–6). In *O. flohri*, the apex is more rounded and slightly emarginate medially (cf. fig. 3 in Márquez & Asiain 2009).

*Oxyporus amigo* sp. nov. resembles *O. lawrencei* in the transverse trapezoidal pronotum and in the general shape of the aedeagus, particularly in parameral view. However, *O. lawrencei* differs by having the head and pronotum entirely black and the forebody finely granulate, resulting in a less glossy appearance. In addition, the median lobe in lateral view projects more abruptly posteriorly in *O. amigo* sp. nov.

Description. Total body length 7.70–8.82 mm.

Coloration. Body predominantly reddish yellow. Anterior margin of head including clypeus and part of labrum distinctly darkened; mandibles dark brown to black. Pronotal disc reddish yellow with margins infuscate. Prosternum dark medially, laterally infuscate or reddish yellow. Mesoscutellum dark. Each elytron with a broad oblique black mark on apical half, the dorsal apex of the mark extending nearly to midlength of the elytron; remainder of elytra reddish yellow. Mesoventrite reddish yellow, slightly darkened laterally and anteriorly. Metaventrite. Legs uniformly reddish yellow. Abdomen almost uniformly reddish yellow; last two or three visible tergites (VI to VIII) slightly and diffusely infuscate apically or medially, without clearly delimited black spots or completely black segments.

Head. Length (from apex of clypeus to a hypothetical line joining the sides of the nuchal ridge) 1.54–1.96 mm; width (at its maximum width, the eyes) 1.9–2.1 mm, width (at its maximum width, behind the eyes) 1.85–1.95 mm;

distinctly transverse, lateral margins rounded. Dorsal surface glossy, with sparse fine punctures; microsculpture absent, except for faint, short transverse lines near the lateral portions of the supra-antennal areas. One seta near anterior third (supra-antennal puncture) of each eye and one near posterior margin (anterior frontal puncture). Eye length 0.57–0.70 mm. Temples (from the anterior margin of the eye to nuchal ridge) 0.74–0.90 mm.

Antennae slightly shorter than head; antennomere 1 slightly longer than or subequal to antennomeres 2 and 3 combined; antennomere 2 longer than to subequal to 3; antennomeres 1–4 elongate, antennomere 5 subequal, antennomeres 6–10 transverse, antennomere 11 elongate; gradually increasing in width apically, slightly flattened; apical antennomere conical, narrower than apex of preceding antennomere. All antennomeres with long setae near apex; antennomeres 6–11 glabrous medially, finely setose laterally.

Clypeus narrowed anteriorly, emarginate medially, without frontoclypeal punctures. Labrum strongly narrowed anteriorly, with subapical row of short setae, lateral setae longer and darker; anterior margin with brush of yellow setae. Mandibles shorter than head, with lateral channel at about two thirds of length; right mandible with medial margin smooth; left mandible serrate medially; ventral surface of right mandible with small lateral tooth; left mandible with two acute ventral teeth, lateral tooth slightly longer.

Maxillary palpi with palpomere 1 shortest; 2 longer than 3; palpomeres 3 and 4 subequal; apical palpomere elongate and rod-like in dorsal view, slightly dorsolaterally flattened toward apex in lateral view. Apical palpomere of labial palpi distinctly narrower than eye length, its maximum width about 0.77 times the length of the eye. Mentum elongate, apically narrowed into two acute points, with longitudinal median carina; lateral margins sinuate. With a pair of prelabial macrosetae. Ventral surface of head smooth; gular sutures separated. Neck without evident microsculpture.

Thorax. Pronotum distinctly transverse, trapezoidal, narrowing posteriorly; length 1.39–1.56 mm; maximum width at anterior third 1.80–1.83 mm. Lateral margins curved; anterior margin slightly narrowed; three punctures present near each anterior and lateral margin; posterior margin weakly carinate.

Scutellum short, apex rounded. Elytra 2.0–2.1 mm long from humeral angle to posterior margin; width at humeral level 1.80–1.94 mm. Elytral surface smooth and shining; punctation arranged in two longitudinal rows, lateral row slightly impressed, medial row not impressed; additional sparse punctures laterally and medially; punctures absent on dark apical marking, anterior and lateral margins cariniform. Metaventricle with sparse brown setae on lateral areas of posterior half.

Legs. Tibiae with spiny outer surface; two apical spurs, one slightly shorter and one slightly longer than first tarsomere. Protarsomeres: first as long as third; second slightly longer than first and third; fourth shortest; apical tarsomere as long as preceding three combined. Meso- and metatarsi with first tarsomere as long as fourth; second longer than first, third and fourth; apical tarsomere slightly shorter than preceding three combined.

Abdomen. Tergites with fine short transverse to isodiametric microsculpture. First five visible tergites (III to VII) with anterolateral curved impression and each with a short black seta near posterior corners (near the spiracles); tergites III–VII each with two short black macrosetae per side, one medial and one posteromarginal; tergite IV with a pair of pruinose patches. No tergite completely black; apical infuscation diffuse, not forming distinct spots. Sternites with sparse black setae, slightly denser than on tergites. Sternite VIII concave in males, convex in females.

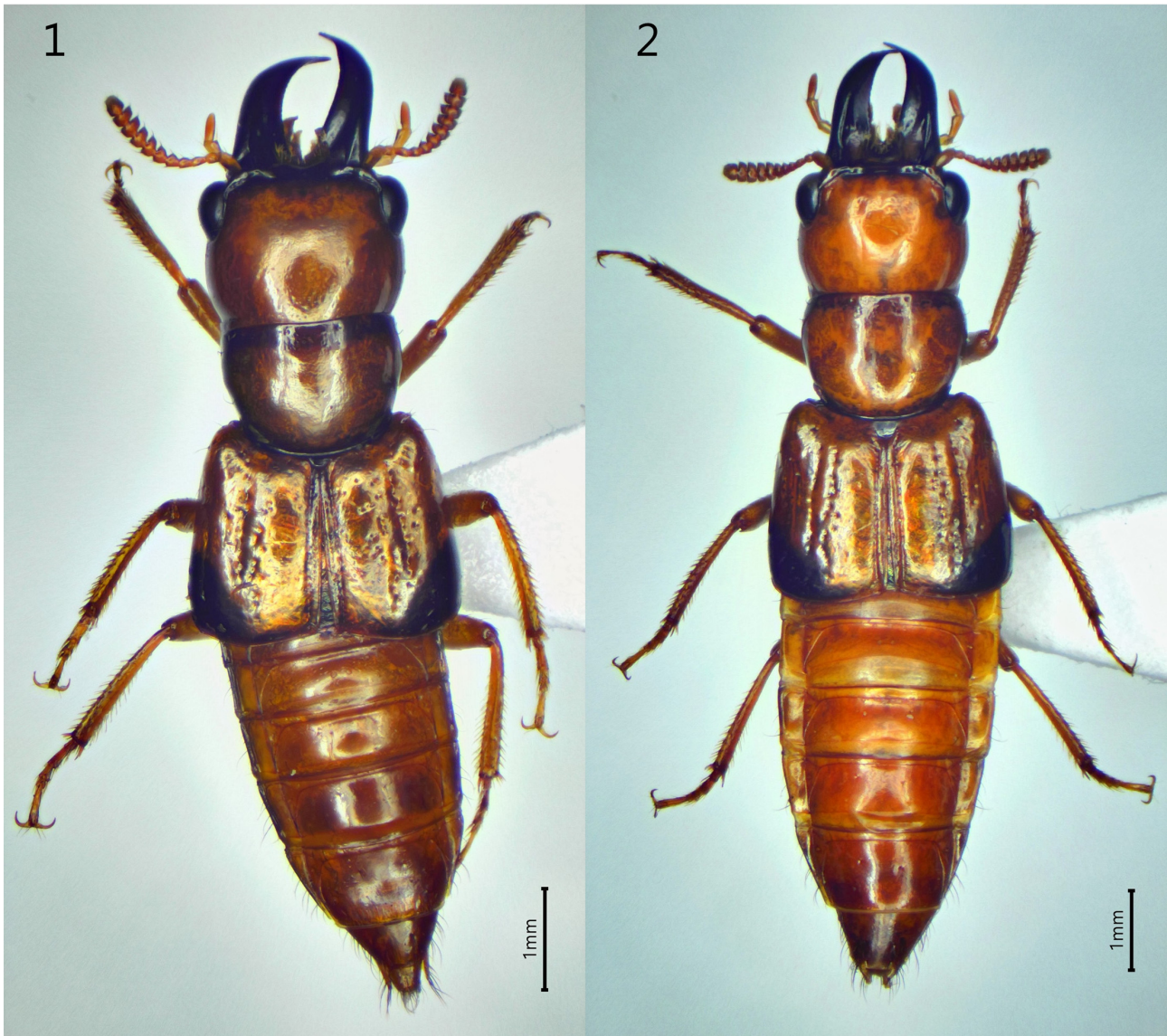
Aedeagus (Figs. 3 to 6). Total length 0.75 mm; with median lobe with apex broadly rounded, almost truncated with medial part protected acutely and backfold; parameres short. Endophallus with a hook like sclerite, membranous sac weakly sclerotized.

**Etymology.** The specific epithet *amigo* (Spanish for “friend”) is proposed as an indeclinable noun in apposition. As intended by the first author, the name primarily refers to the students Yesenia Priscila León Luna & Athziri Pérez Hernández who collected two specimens of this species from El Floripondio, acknowledging their enthusiasm and valuable contribution to fieldwork.

In addition, the term reflects a familiar expression used among the authors and close colleagues, particularly between Alexey Solodovnikov, Qinghao Zhao, and the corresponding author, who commonly used the Spanish word “amigo” as a sign of camaraderie in their academic interactions.

**Distribution.** The new species is known from Western Mexico in localities of the Trans-Mexican Volcanic Belt, in the States of Jalisco and Michoacán.

**Natural history.** All the specimens were collected in mushrooms as is usual in the species of *Oxyporus*. At least for the known data, they feed on mushrooms of the Tricholomataceae, of which several species are known to associate with pines. They were found in pine and oak forests in localities above 2000 m. Adults were collected between July and October.



**FIGURES 1–2.** Habitus of *Oxyporus amigo* sp. nov.; 1) holotype, male, dorsal view; 2) paratype, female, dorsal view. Scale bars: 1 mm.

Remarks. *Oxyporus amigo* sp. nov. shares with *O. flohri* a similar general coloration pattern, particularly the oblique dark marking on the apical half of each elytron. However, the two species differ consistently in head and abdominal coloration and in the structure of the aedeagus, as detailed above.

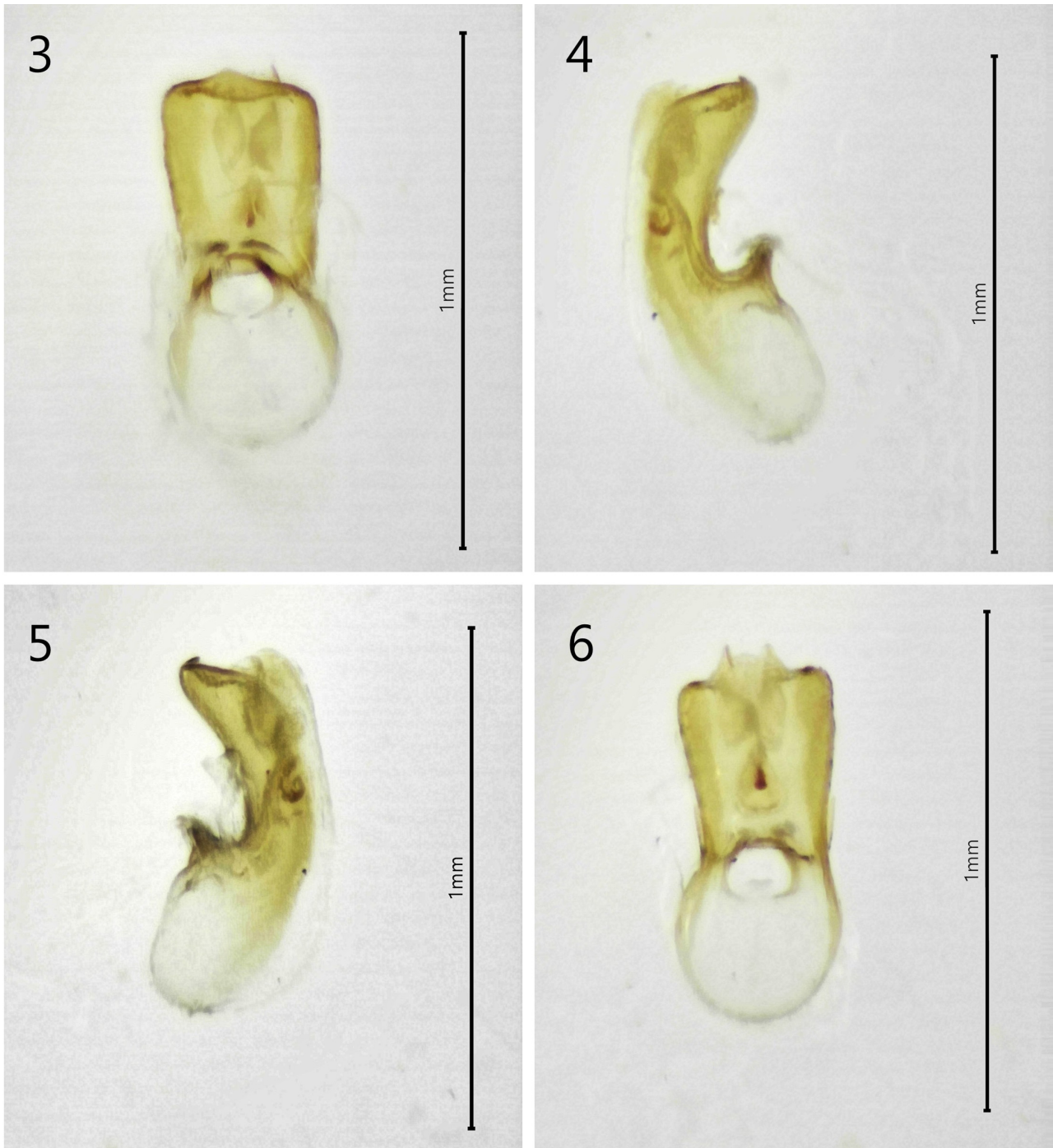
The new species is also similar to *O. lawrencei* Campbell in the general shape of the aedeagus, especially in parameral view, and by the trapezoidal pronotum. However, *O. amigo* differs by its predominantly reddish yellow coloration, less extensive dark markings, and the absence of evident forebody microsculpture, resulting in a more strongly shining appearance. In contrast, *O. lawrencei* has the head and pronotum entirely black and the forebody finely granulate.

*Oxyporus flohri* is currently known from the Sierra Madre Oriental and Veracruzian biogeographic provinces in Mexico, and also from Guatemala, whereas *O. amigo* sp. nov. was collected in the Trans-Mexican Volcanic Belt, in Jalisco and Michoacán. This geographic separation, together with the stable morphological differences observed, supports the recognition of *O. amigo* as a distinct species.

*Oxyporus mexicanus* Fauvel, 1865

Material examined: MEXICO: Aguascalientes, San José de Gracia, Monte Grande, 22.267011, -102.616716, 2912 m, 20.vii.2024, sifted leaf litter with fungi, leg. A. Fernández Prado & M. Rosales Sánchez, 3 specimens. Two specimens deposited in the Zoological Collection of the Universidad Autónoma de Aguascalientes (CZUAA) and one specimen deposited in IEXA.

Distribution. Previously recorded from the USA (Arizona) and Mexico (Durango, Guerrero, Jalisco, Morelos, Estado de México, Nayarit, Oaxaca) (Navarrete-Heredia & Márquez-Luna 1995; Navarrete-Heredia *et al.* 2002). Here recorded for the first time from Aguascalientes.



**FIGURES 3–6.** Aedeagus of *Oxyporus amigo* sp. nov. (holotype, male); 3) Parameral view; 4) Left lateral view; 5) Right lateral view; 6) Antiparameral view. Scale bars: 1 mm.

Remarks. The examined specimens agree with the diagnostic characters provided by Campbell (1969) for *O. mexicanus*, including orange coloration, with head, pronotum, a broad oblique vitta on the apical fourth of the elytra, and the penultimate two abdominal segments black. The aedeagus conforms to that illustrated in figure 30 of Campbell (1969). The only observed difference from Campbell's redescription is that, although described as "surface smooth, shining", the examined specimens exhibit fine, short transverse microsculpture. This record extends the known distribution of the species within central Mexico.

### Key to the Mexican species of *Oxyporus* after Navarrete-Heredia & Novelo-Gutiérrez (1990) and Márquez & Asiain (2006)

1. Temples at least 2.5 times longer than eye length ..... *O. smithi*
- Temples less than 2.5 times longer than eye length ..... 2
2. Body black; elytra bright yellow except extreme outer apical angles; labrum and tarsi light yellow; surface smooth and shining; mandibles subequal to head in length ..... *O. balli*
- Coloration not as above ..... 3
3. Head black, with two red spots between eyes; pronotum reddish yellow; abdomen largely reddish yellow, with tergites V–VII partly to largely black ..... *O. delgadoi*
- Coloration different ..... 4
4. Abdomen with segment VIII and at least part of segment VII black ..... 5
- Abdomen with segments VII and VIII reddish yellow; other abdominal segments variably darkened or entirely reddish yellow ..... 6
5. Body orange; head and pronotum black; each elytron with broad oblique black vitta on apical fourth; abdominal segments VII and VIII black; head and pronotum with fine transverse microsculpture, moderately shining ..... *O. mexicanus*
- Body light orange; elytra with narrow apical dark marking; abdominal segment VIII and at least apical half of VII black; head and pronotum finely granulate, not shining ..... *O. guerreroanus*
6. Abdomen with distinct, well-delimited oval black spots on tergite VI, or on tergites VI and VII; legs bicolored, coxae to femora black, tibiae and tarsi orange; mandibles longer than head ..... *O. bautistae*
- Abdomen without distinct oval black spots on tergites VI–VII; legs not bicolored as above; mandibles shorter than or subequal to head length ..... 7
7. Head and pronotum entirely black; abdomen uniformly reddish yellow, without black markings ..... *O. lawrencei*
- Head and pronotum predominantly reddish yellow, variably marked with dark areas ..... 8
8. Abdomen with at least tergite VI distinctly black or strongly darkened; aedeagus with apex rounded, slightly emarginate medially ..... *O. flohri*
- Abdomen uniformly reddish yellow, without completely black segments; aedeagus with apex broadly rounded to subtruncate, bearing a median triangular projection ..... *O. amigo* sp. nov.

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