

## A new species of *Aleiodes* Wesmael (Hymenoptera: Braconidae, Rogadinae) from Mexico.

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### Abstract

SAAVEDRA AGUILAR M, ROMERO NÁPOLES J. 2010. A new species of *Aleiodes* Wesmael (Hymenoptera: Braconidae, Rogadinae) from Mexico. ENTOMOTROPICA 25(1): 19-23.

*Aleiodes tolteca* Saavedra and Romero sp. n. is described with illustrations of head, mesosomal segments and wing venation. Specimens of *A. tolteca* were captured in malaise tramp in the state of Hidalgo.

**Additional key words:** Geometridae, Hidalgo, Noctuidae, Parasitoids, taxonomy.

### Resumen

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Se presenta la descripción de *Aleiodes tolteca* Saavedra and Romero sp. n. y se proporcionan ilustraciones de la cabeza, el mesosoma y la venación alar. Los especímenes de *A. tolteca* fueron capturados en trampa malaise en el estado de Hidalgo.

**Palabras clave adicionales:** Geometridae, Hidalgo, Noctuidae, Parasitoides, taxonomía.

### Introduction

*Aleiodes* Wesmael 1838, is a cosmopolitan genus of parasitic wasps, but is particularly speciose in the Holarctic Region. *Aleiodes* is well diversified in North America; it includes at least 90 species in the United States and Canada (Shaw et al. 1997). The species of *Aleiodes* are koinobiont endoparasitoids of lepidopteran larvae, especially of Noctuoidea and Geometroidea (Shaw and Huddleston, 1991).

According to Shaw et al. (1997) the method of parasitism is noteworthy: the larva completes its nourishment and pupates within the shrunken and mummified remains of the host caterpillar.

The form of the mummy is caused by a particular *Aleiodes* species, so the mummified remains are of considerable diagnostic value and should be retained when the parasitoid is out.

In México Delfin and Wharton (2000, 2002) carried out a study of the *Aleiodes* species occurring in the country, and reported 21 described and 27 undescribed species, included in eight species groups: apicalis, gastritor, seritus, dispar, praetor, pulchripes, gasterator, and melanopterus. González et al. (2003) mentioned that the genus is recorded in 28 of 31 states of Mexico. The specimens that belong

to scientific collections indicate that this genus is highly diverse, perhaps equivalent to the fauna of Braconidae of America North of Mexico (Delfin and Wharton, 2000).

*A. tolteca* Saavedra and Romero sp. n. belongs to pulchripes species group. This group is small (18 species), distinctive, presumably monophyletic, and restricted to the New World. Members of this group have strongly pectinate tarsal claws, sculpturing of the first metasomal tergum weakly rugulose to faintly rugulocostate; third metasomal tergite rugulose to rugulose-costate anteriorly and punctuate posteriorly; lateral ocelli enormous, from 1.5 to 9.0 × the length of the ocello-ocular distance; malar space shorter than mandibular base (Shaw et al. 1997).

Here we add a new species from Mexico.

## Material and Methods

The specimens of *A. tolteca* Saavedra and Romero sp. n. were captured in malaise tramps and were donated to us by Dr. Atilano Contreras-Ramos of Universidad Autónoma del Estado de Hidalgo, all material is deposited in CEIFIT.

All measurements were made using an image analyzer, UTHSCSA ImageTool<sup>®</sup> version 3.0 and a microscope Olympus SZ61 with digital camera attached, and are given in millimeters. Morphological terminology follows criteria proposed by Sharkey and Wharton (1997) and Goulet and Huber (1993). Terminology of surface sculpturing is based on Harris (1979). Drawings were made using Adobe Photoshop<sup>®</sup> CS.

### *Aleiodes tolteca* Saavedra and Romero, new species.

Female (Figure 1).

**Body color:** honey yellow except in anterior and posterior margin of mesopleura, escuto-escutellar sulcus, lateral area of metanotum,

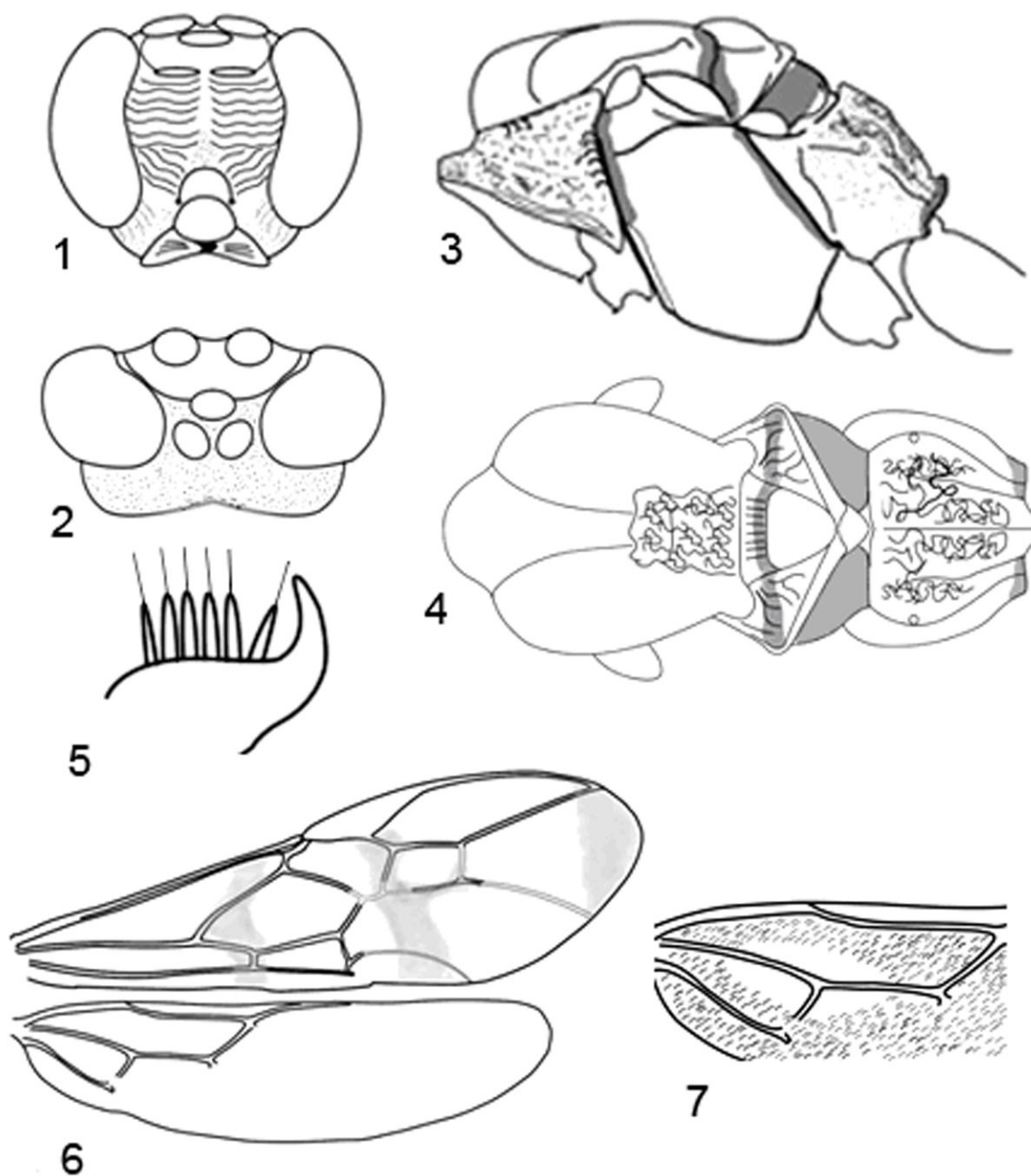
posterior margin on propodeum, inner part of tegula, apical flagellomer and occasionally anterior part of notauli, which are brown or black. Middle and posterior part of pronotum, palpus, apical portion of tibiae, and metatarsi 1-4 whitish, metafemur and apical and basal part of metatibiae orange; wings tinted with yellow with blackish apical and middle patches.

**Body length:** 8.8 mm.

**Head** (Figures 1 and 2): antenna with 55-58 flagellomeres, all flagellomeres slightly longer than wide; basal and apical flagellomeres 1.4 times as long as wide, middle flagellomeres 1.1 times as long as wide; malar space short, less than basal width of mandible, near 0.6 times; mandibles weakly striate longitudinally; oral space small, diameter less than basal width of mandible; face slightly costulate; clypeus 0.55 times higher than wide; temple narrow, about 0.4 times eye width in dorsal view, occipital carina not reaching hypostomal carina and weak on vertex; frons smooth; some weak costae in gena; ocelli large, ocellocular distance 0.25-0.3 times diameter of lateral ocellus; surface of gena, temple, vertex and area above clypeus microgranulate.

**Mesosoma** (Figures 3 and 4): Anterior area of pronotum microgranulate, with some rugae dorsally and granulate posteriorly; mesonotum and scutellum granulated, notauli weakly rugulose, meeting posteriorly in a rugose area before scutellar sulcus; scutellum with lateral carinae, slightly convex, scutellar sulcus wide with seven ridges, lateral areas of scutellum carinate; surface of mesopleuron shiny-punctate, without sternauli, middle area of mesosternum with some carinae back of epicnemial suture. Metapleuron microgranulated. Propodeum microgranulated with longitudinal median carina complete and some dorsal and lateral irregular carinae.

**Wings** (Figure 6): Forewing length: 8.9-9.2 mm. Forewing length/width: 3.17 times, with



Figures 1-7. *Aleiodes tolteca* sp. n. 1, anterior view of head. 2, dorsal view of head. 3, lateral view of mesosoma. 4, dorsal view of mesosoma. 5, claw with pecten. 7, forewing with infumated bands. 8, detail of hindwing.

apical and medial bands infumated, vein 2RS not parallel with r-m, vein 3RSa 2.1 times as long as vein r, vein 1Cua 0.66 times longer than 1Cub, 1cu-a beyond 1M by 3.4 times 1cu-a

length, the first subdiscal cell wide posteriorly, bottom part of basal cell and middle part of subbasal cell without setae. Hindwing (Figure 7): marginal cell gradually widening beyond

of the first third of RS, 1M and M+CU equal length, r 0.74 times length of 1M, 2M only pigmented, area around the intersection of 1M, M+CU and Cua without setae.

**Legs** (Figure 5): Tarsal claws with a pecten of 5-6 teeth, the first toward the claw; all teeth with a seta at the tip, tibial spur 0.45 times length of basitarsus, coxae microgranulated.

**Metasoma.** Terga 1-8 visible; first tergum 1.25 times as long as apical width, weakly costate and with a complete median carina, second tergum costate in basal portion and median carina not reaching the apical portion, terga 3-8 imbricated, ovipositor shorter than hipopygium, ovipositor valves without setae in the basal upper part.

**Material Examined:** HOLOTYPE, 1 ♀, first label: México, Hidalgo, Huasca de Ocampo, Rancho Santa Elena, Col. Contreras-Meléndez. 17/VI/2005; second label: 20° 07' 52" N, 98° 31' 39" W, 2480 msnm, Malaise Trap, Manantial "Las Vegas"; third label: *Aleiodes tolteca* Saavedra and Romero

PARATYPES: 1 ♂, same dates as holotype; 2 ♂, same dates as holotype but from 3/VII/2005 and 5/IX/2005; 2 ♀, México, Hidalgo, Huasca de Ocampo, Rancho Santa Elena, Col. Contreras-Meléndez. 3-17/VI/2005, 20° 08' 04" N, 98° 30' 50" W, 2430 msnm, Malaise Trap, Presa San Carlos.

**Distribution:** Know only from the type locality in the state of Hidalgo, Mexico

**Biology:** The host is unknown.

**Etymology:** the specific epithet refers to the Tolteca civilization, it was an ancient civilization from state of Hidalgo, México.

**Comments:** this species has infuscated bands in forewing similar to *A. flavidus* y *A. pedalis*, but the form and position of middle bands are different, scutellar sulcus is smaller than in those; the ocellocular distance is shorter than in *A. flavidus* and *A. pedalis*; and it has less flagellomeres, the coloration of mesonotum,

mesopleura, metanotum and propodeum is characteristic of this species.

## Acknowledgments

Thanks to Dr. Atilano Contreras Ramos, for the donation of type material and Dr. Victor López Martínez for his comments to the manuscript.

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