

## A new species of *Atractomerus* Duponchel y Chevrolat (Coleoptera: Curculionidae: Anthonomini) from the El Cielo Biosphere Reserve in northeastern Mexico

### Una nueva especie de *Atractomerus* Duponchel y Chevrolat (Coleoptera: Curculionidae: Anthonomini) de la Reserva de la Biosfera El Cielo en el noreste de México

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#### ABSTRACT

A new species, *Atractomerus tlatoani* n. sp. (Coleoptera: Curculionidae: Anthonomini), is described from a series of specimens collected from the El Cielo Biosphere Reserve of northeastern Mexico. Characters that separate the species from members of the rest of the genus are: 1) the profemoral tooth large, simple and the anterior margin straight without a basal prominence; 2) elytral interstria 3 not prominent at the extreme base; 3) well-developed subbasal prominence on interstria 4 equal to or greater in elevation than anteromedian elevation on interstria 2; 4) basal patch of dark fuscous elytral scales that extends across interstria 2 and 3 and reaches subbasal prominence on interstria 4; and 5) penis in dorsal view lanceolate in shape and apex without lateral apicoventral prominences.

**Palabras clave:** Taxonomy, Tamaulipas

#### RESUMEN

Se describe una nueva especie, *Atractomerus tlatoani* n. sp. (Coleoptera: Curculionidae: Anthonomini), (Coleoptera: Curculionidae: Anthonomini) de una serie de especímenes de la Reserva de la Biosfera El Cielo del noreste de México, y se proporcionan caracteres para separar la especie de otras del mismo género. Caracteres que separan la especie del resto del género son: 1) diente profemoral grande y sencillo y el margen anterior derecho sin una prominencia basal; 2) interstria elitral 3 no prominente al extremo de la base; 3) una prominencia subbasal bien desarrollada sobre interstria 4 que es igual o más elevada que la elevación sobre la interstria 2; 4) una mancha de escamas elitrales de color fuscous oscura que se extiende de interstria 2 y 3 y llega hasta la prominencia subbasal sobre la interstria 4; 5) pene en vista dorsal de forma lanceolada sin prominencias laterales apicoventrales.

**Key words:** Taxonomía, Tamaulipas

#### INTRODUCTION

The 44 species assigned to the genus *Atractomerus* Duponchel & Chevrolat (Coleoptera: Curculionidae: Anthonomini) are found almost exclusively within the Neotropical Region (Clark, 1989, Alonso-Zarazaga and Lyal 1999). Although there are questions about the limits of the genus (Clark, 1989), species of the genus are usually distinct from other anthonomine weevils by the elytra usually having a transversal basal patch of black scales, the profemur strongly expanded and the elytra often with elytral prominences on even numbered interstriae, especially interstria 2 and 4 (Clark 1989).

In the present paper, we describe a new species collected from the El Cielo Biosphere Reserve of northeastern Mexico.

#### MATERIAL AND METHODS

Specimens were collected using standard sweep nets during an altitudinal study of insect diversity of the El Cielo Biosphere Reserve during 2004. All specimens were found between 310-350 masl in the semi-deciduous tropical forest near the town of Gómez Farías, Tamaulipas, Mexico at the coordinates 23° 03' 58" N and 99° 10' 06" W. A total four specimens were examined and the species described using the morphological

terminology of Clark (1989) and Burke (1959). Specimens were pinned and genitalia were dissected from individuals, cleared in KOH, and stored in glycerin.

#### *Atractomerus tlatoani* Jones & Niño, new species

(Figures 1 and 2)

**Body** oblong-oval; length 3.1-3.7 mm; width 1.6-1.8 mm (Fig. 1A, B). Integument shining, head and rostrum dark red to brown. Vestiture varying from fine, prostrate straw-colored setae on the ventral portions and legs to a dense uniform distribution of smaller, broad pallid and fuscous scales on the elytra, slightly larger on the prothorax. **Rostrum** evenly curved, the length for both male and female rostra 2x longer than prothorax along midlines (Fig. 1A). The ratio of rostrum length to length from antennal insertion to apex in lateral view, 1.8 and 2.5, respectively for males and females. Pubescence along dorsum of rostrum extending less than width of eye in females, and in a thin line to antennal insertion in males. Median and lateral carinae pronounced and extending to level of antennal insertion in females, and extending slightly beyond in males. Rostrum of male slightly rugose distad of antennal insertion; female rostrum beyond antennal insertion smooth. **Eyes** moderately convex in dorsal view, not free

behind; separated in front by distance equal to about 5/8 width of rostrum at base. **Frons** with vestiture of broad flattened setae, less dense than around eyes. **Antennae** attached about 1/3 of rostrum length from base in males and at midpoint in females. Funicle 7-segmented; segment 1 slender, as long as next 2 segments combined; funiculus 1.6 to 2.0 x length of club, segment 7 bearing 2 large setae as long as 1<sup>st</sup> funicular segment. Antennal club with all 4 segments rather loosely joined; anterior margin of segments with dense ring of setae, 1/2 length of respective segments; apex recessed within 3<sup>rd</sup> segment of club. **Prothorax** in dorsal view with sides parallel in basal 2/3, with marked constriction in apical 1/3; width of prothorax at apex 2/3 width at base. Integument shining with confluent dense punctures, slightly striate. Vestiture of flattened spatulate scales, most dense dorsally and laterally at base and on disk, less dense and with finer setae towards apex. **Scutellar shield** about 2x longer than wide, sides in apical 1/2 parallel, expanding gradually from apex to base, clothed with appressed, fine setae concentrated in basal 1/3 and densely clothed at apex. **Elytra** with dorsal line in lateral view almost linear in basal 1/3 (Figure 1A); curving sharply at anteromedian prominence, and more regularly curved to apex, declivity almost vertical. Width of elytral base in dorsal view 1.4 that of prothorax; humeri strongly rounded, prominent; sides parallel in lateral view to 2/3 length, then rounded to apex (Fig. 1B). Intervals strongly convex. Elytral prominences (Fig. 1C) as follows: 1)

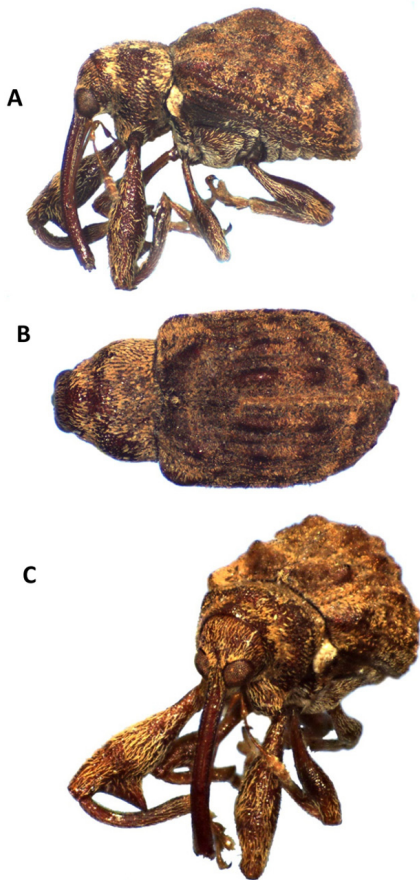


Figure 1. Habitus of *Atractomerus tlatoani* n. sp. A. Lateral view, B. Dorsal view, C. Three-quarter view.

interstria 2 with sub-basal prominence relatively small (length 6 punctures), anteriomedian longer (7-8 punctures) and more elevated than others of same interstria, declivital prominence weakly elevated; 2) interstria 3 with prominence location same as interstria 2, but slightly less elevated; 3) interstria 4 with subbasal prominence sharply elevated with polished, weakly pointed apex, slightly more elevated than anteriomedial prominence on interstria 4, anteromedian and posteromedial prominences shorter than those on interstria 3 and 4; 4) interstria 5 only with distinct median declivital prominence with polished apex; 5) interstria 6 with relatively long (7 punctures), weakly elevated anteromedian prominence, slightly distad of others; 6) interstriae 7-10 without well-developed prominences. Pubescence light yellow, brown or fuscous composed of dense, small (0.02 by 0.04 mm) oval scales. Subbasal patch of dark, fuscous scales extending across 2<sup>nd</sup> and 3<sup>rd</sup> interstriae and reaching subbasal prominence on interstria 4. **Ventral side** of body clothed with fine, elongate setae which do not obscure integument, less dense than dorsally. Procoxae contiguous. Mesocoxae separated by distance equal to ca. 1/5 width of coxae. Length of abdominal sternum 1 slightly less than length of sternum 2. Sternum 3 about 3/4 length of 2 and 4, sternum 4 about 3/4 length of 5. **Legs** moderately stout (Figure 1 A & B). Profemur 2x longer than broad, bearing one large conical tooth, equal in length to profemur width, posterior margin almost forming right angle with femur, and 3/5 length of anterior margin. Meso- and metafemora about equal in size, each bearing a single small tooth approximately equal in size on both. Protibia stout, strongly and evenly curved in basal 1/2 and carinate on inner margin; mesotibia and metatibia not curved. Tarsal claws each bearing a long tooth, apex reaching past middle of claw. **Male genitalia.** Aedeagus with penis length 1.30 mm and width 0.24 mm with apodemes representing 0.4 of total length (Fig. 2B); in lateral view moderately curved in apical 1/2 (Fig. 2C) with tip of apex rounded and upturned; in dorsal view, lanceolate with a gradual narrowing to apex in apical third (Fig. 2B), without projections or other distinguishable structures. Tegmen 0.7 in length and 0.26 in diameter with two narrow, lightly sclerotized extensions apically (parameres) and a single rod basally (Fig. 2A). Sternite IX approximately 1 mm in length, with basal plate 0.24 by 0.33 mm, lightly sclerotized, forked apically (Fig. 2E) and curved in lateral view (Fig 2D).

**Type Material– Holotype.** MEXICO: female [MEXICO: Tamaulipas, Mpio: Gomez Farias, El Cielo Bios. Res., Entroque, 23° 03' 58"; 99° 10' 06", v-2004, S. Niño M. 312-356 m]. Deposited in the Colección Nacional de Insectos (CNIN), of the Instituto de Biología de la Universidad Nacional Autónoma de México. **Paratypes.** MEXICO, 1 male, 2 females [MEXICO: Tamaulipas, Mpio: Gomez Farias, El Cielo Bios. Res., Entroque, 23° 03' 58"; 99° 10' 06", v-2004, S. Niño M. 312-356 m]; CNIN (1 male), and the Colección de Entomología, Universidad Autónoma de Querétaro, Querétaro, México, UAQE (2 females).

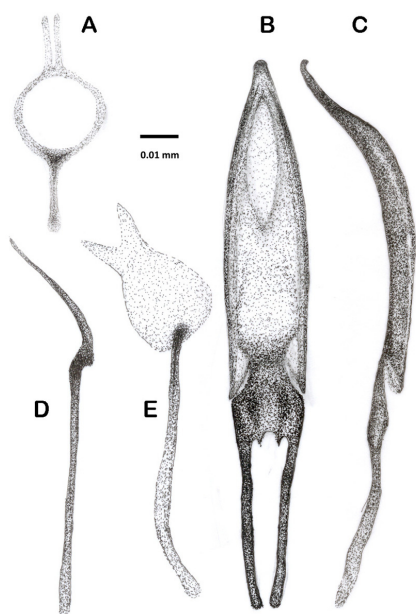


Figure 2. Male genitalia of *Atractomerus tlatoani* n. sp. A. Tegmen, B. Penis, dorsal view, C. Penis, lateral view, D. Sternite IX, basal plate and apodeme, lateral view, E. Sternite IX, basal plate and apodeme, dorsal view.

#### DISCUSSION

**Diagnosis and variation.** Soto *et al.* (2013) provide a key for distinguishing the genus *Atractomerus* within the tribe Anthonomini. Within the genus, the species clearly belongs to the *Atractomerus nigrocalcaratus* group of Clark (1989) based on the following characters: 1) profemoral tooth large and simple, without basal prominence, 2) elytral interstria 3 is not prominent at extreme base, and 3) possession of basal patch of dark fuscous elytral scales that extends across interstria 2 and 3 and reaches well-developed subbasal prominence on interstria 4. Within the *A. nigrocalcaratus* group, the described species is closest to *A. caligatus* in having a large conical profemoral tooth with the anterior margin straight, and a well-developed subbasal prominence on interstria 4 which is equal or greater in elevation than the anteromedian elevation on interstria 2. These characters separate these two species from the rest of the *A. nigrocalcaratus* group and both species key to couplet 8 (p. 327) in the key of Clark (1989). This couplet is modified in the following to include the new species.

8. Subbasal prominence on elytral interstria 4 higher than anteroemidian elevation on interstria 2 .....8a  
 8'. Subbasal prominence on elytral interstria 4 lower than anteroemidian elevation on interstria 2 .....9  
 8a. Penis in dorsal view with sides slightly broadly rounded, abruptly narrowing at apex; penis apex with lateral apicoventral prominences (Fig. 108, Clark 1989); prothorax with fulvous to ferruginous scales; with dense maculae at the confluence of interstriae 3 and 9 ..... *A. caligatus* 8a'. Penis in dorsal view with sides subparallel to apical third then gradually narrowing to apex, lanceolate in shape (Fig. 2B); penis apex without lateral apicoventral prominences; prothorax with fulvous scales only; lacking dense maculae at the confluence of interstriae 3 and 9 ...  
 ..... *A. tlatoani*

**Host plants.** The host plant of this species is unknown, but all specimens were collected in the semi-deciduous tropical forest between 300 and 400 masl.

**Derivation of Name.** This species name is from the Náhuatl word for “king” in honor of the Mexican coleopterist, Dr. Pedro Reyes Castillo.

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#### LITERATURE CITED

- Alonso-Zarazaga, M.A. & C.H.C. Lyal. 1999. *A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera), (Excepting Scolytidae and Platypodidae)*. Entomopraxis, Barcelona.
- Burke, H. R. 1959. Morphology of the reproductive systems of the cotton boll weevil (Coleoptera: Curculionidae). *Annals of the Entomological Society of America* 52: 287-294.
- Clark, W. K. 1989. Revision of the Neotropical weevil genus *Atractomerus* Duponchel and Chevrolat (Coleoptera: Curculionidae). *Transactions of the American Entomological Society* 114 : 313-413.
- Soto Hernández, M., R. W. Jones, P. Reyes Castillo. 2013. Key to the Mexican and Central America Genera of Anthonomini (Curculionidae, Curculioninae, Anthonomini). *ZooKeys* 260: 31-47.

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