

## DESCRIPTION OF SIX NEW SPECIES OF *AMNESTUS* DALLAS (HEMIPTERA-HETEROPTERA: CYDNIIDAE) FROM MEXICO

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*Abstract.*—Six new species of *Amnestus* Dallas from the Mexican states of Campeche, Chiapas, Hidalgo, and Veracruz are described. Illustrations of adults and diagnostic characters of the head, prosternal carina, pronotum, legs, parameres, and methatoracic scent gland are provided. Distribution and notes about their biology are included.

*Key words:* *Amnestus*, Cydnididae, Mexico.

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*Amnestus* Dallas (1851) is the only genus in the subfamily Amnestinae, and are easy to recognize by their small size and the four or five marginal pegs on the juga. Twenty species have been described in the Western Hemisphere, which are distributed from western Ontario in Canada, through the United States of America, Mexico, Central America, West Indies, and South America to Argentina, (Froeschner, 1960; Mayorga and Cervantes, 2001). Until now, *Amnestus* was represented in Mexico by six species: *A. brunneus* Signoret, *A. ficus* (Mayorga & Cervantes), *A. pallidus* Zimmer, *A. pusillus* Uhler, *A. pusio* Stal, and *A. uhleri* Distant (Mayorga, 2002). Here, we described six new species, collected in the States of Campeche, Chiapas, Hidalgo, and Veracruz.

The study is based on material deposited in the Colección Nacional de Insectos, Instituto de Biología, Universidad Nacional Autónoma de México (CNIN), and in the Colección Entomológica of Instituto de Ecología, A.C. (IEXA), where 131 individuals of *Amnestus* were examined. Type and general collections of the American Museum of Natural History (AMNH), National Museum of Natural History (NMNH), and The Natural History Museum in London (BMNH) were checked, although no specimens of these species were found. Identification of species was based on external morphology of males. A diagnosis, geographical records, and a key to separate the 12 known Mexican species, as well as illustrations and a few notes about their biology are included. Measurements are given in mm  $\pm$  SD.

### *Amnestus brailovskyi* new species

Figs. 1A, 2A, 3A, 4A, 5A, 6A

**Description.** (Fig. 1A) Tylus convex, transversely rough, except apical lobe, jugum and anterior half of pronotum with sparse punctures; anterior margin of pronotum concave, delimited by a series of setigerous punctures. Ventral margin of prosternal carina prosternal rounded (Fig. 2A). Head, III, IV, and V antennal segments, pronotum, scutellum, and abdomen dark brown. Hemelytra, legs, and rostrum pale yellow.

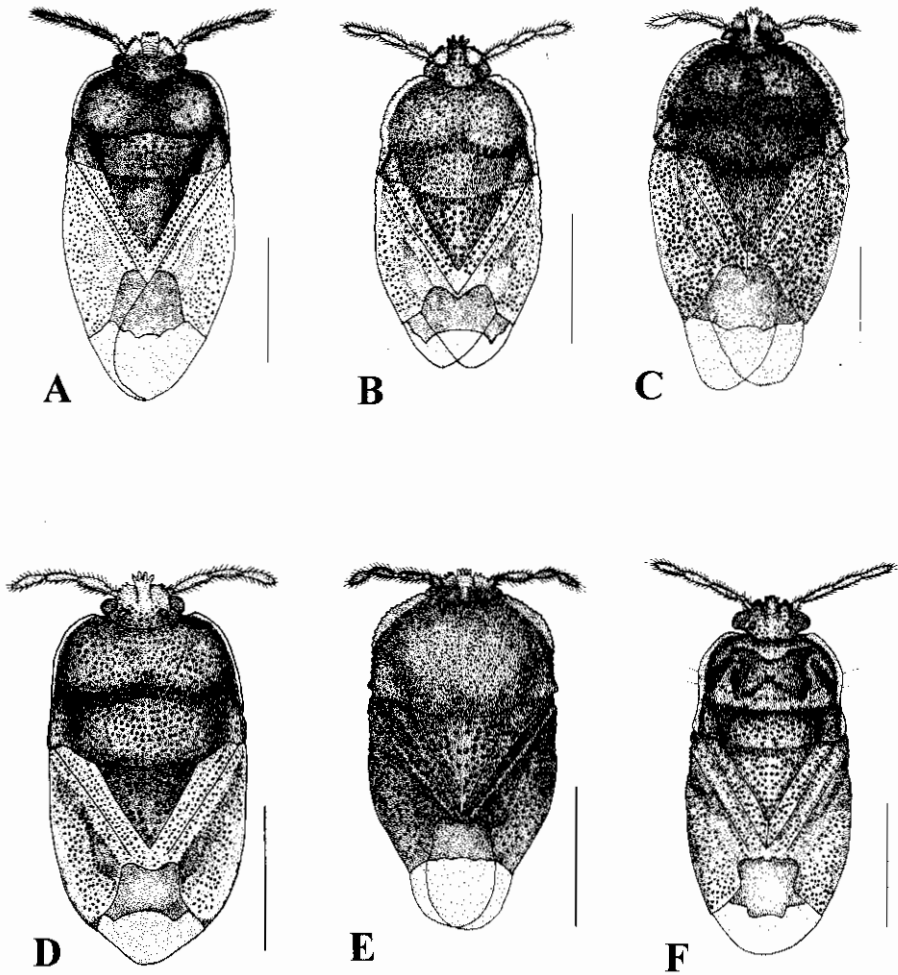


Fig. 1. Dorsal views of adults of *Amnestus* species. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinatus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species. (scale = 1 mm).

*Head.* Anterior half without punctures, tylus transversally rough except apical lobe which has four fine and long spines; rostrum short reaching base of mesosternum.

*Thorax.* Pronotum with anterior margin concave, delimited by a series of setigerous punctures, anterior half elevated with sparse punctures, anterolateral margins slightly carinated, and posterior half densely punctuated. Propleura dull and smooth; prosternal carina low and with ventral margin lobulated (Fig. 2A). Mesopleura with evaporatorium expanded towards posterior and lateral margins. Metapleura flat with evaporatorium reaching middle part of pleura; peritreme elongated with dark brown border; posterior margin of evaporatorium

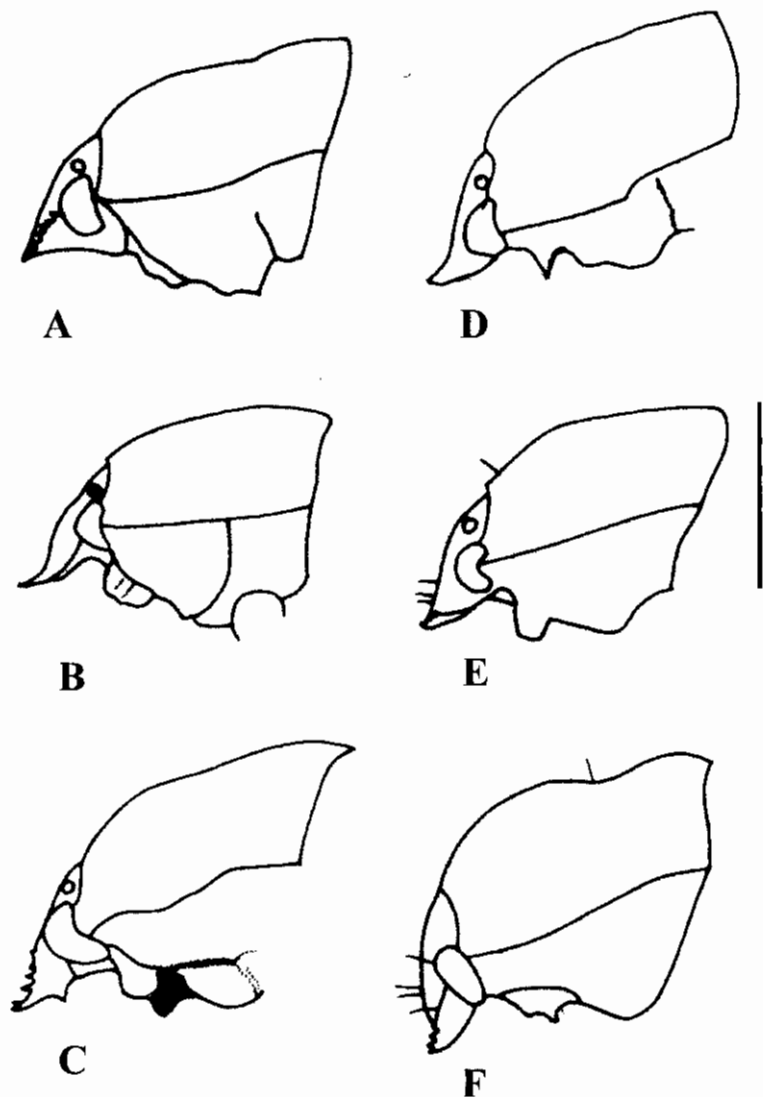


Fig. 2. Lateral view head in *Amnestus* species, showing prosternal carina. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinaus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species. (scale = 1 mm).

with setigerous punctures well defined (Fig. 3A). *Legs*. Fore tibia flat, with five spines on external margin (Fig. 4A); fore femur with a bifid long spine on posterior mesial region of ventral surface; internal and external margins of hind femur smooth, with a simple spine near apex on ventral surface (Fig. 5A). *Scutellum*. Triangular, with acute apex; disc dark brown

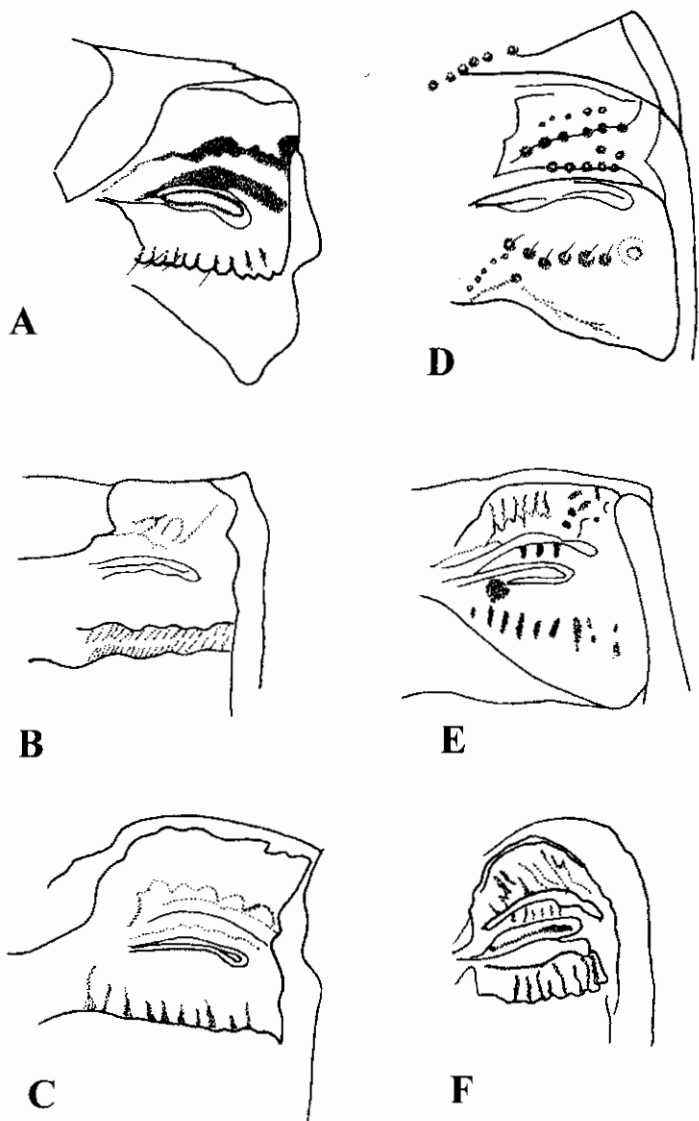


Fig. 3. Mesothoracic scent gland openings of *Amnestus* species. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinatus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species. (scale = 1 mm).

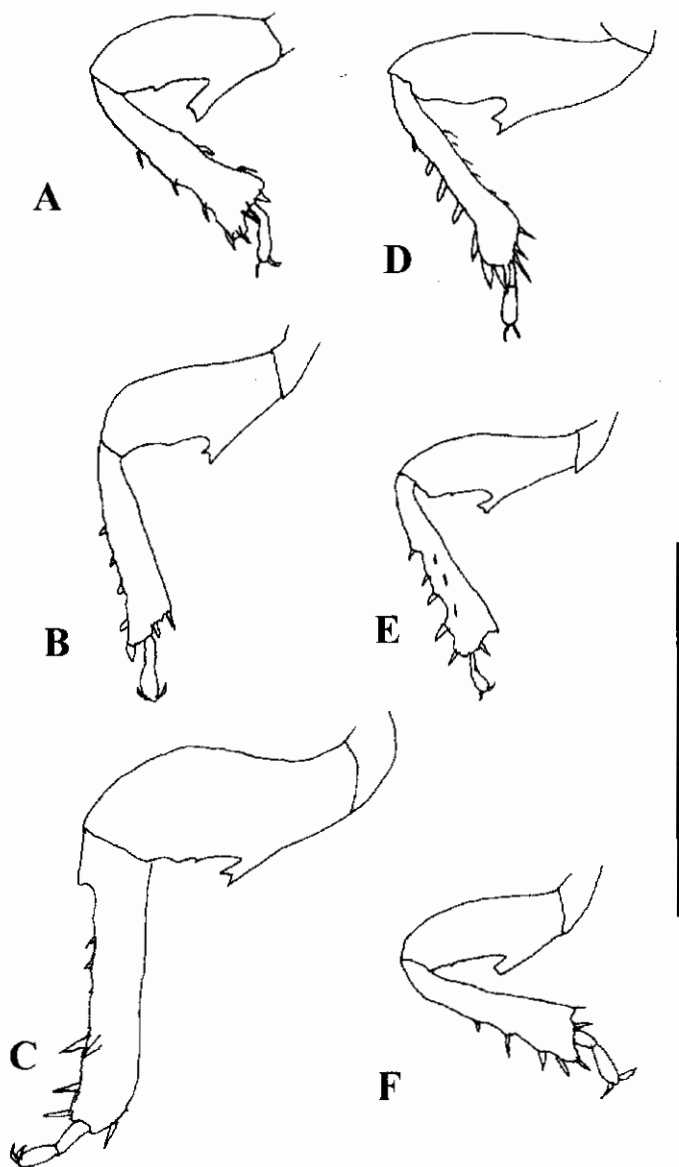


Fig. 4. Male fore tibiae of *Amnestus* species. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinatus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species. (scale = 1 mm).

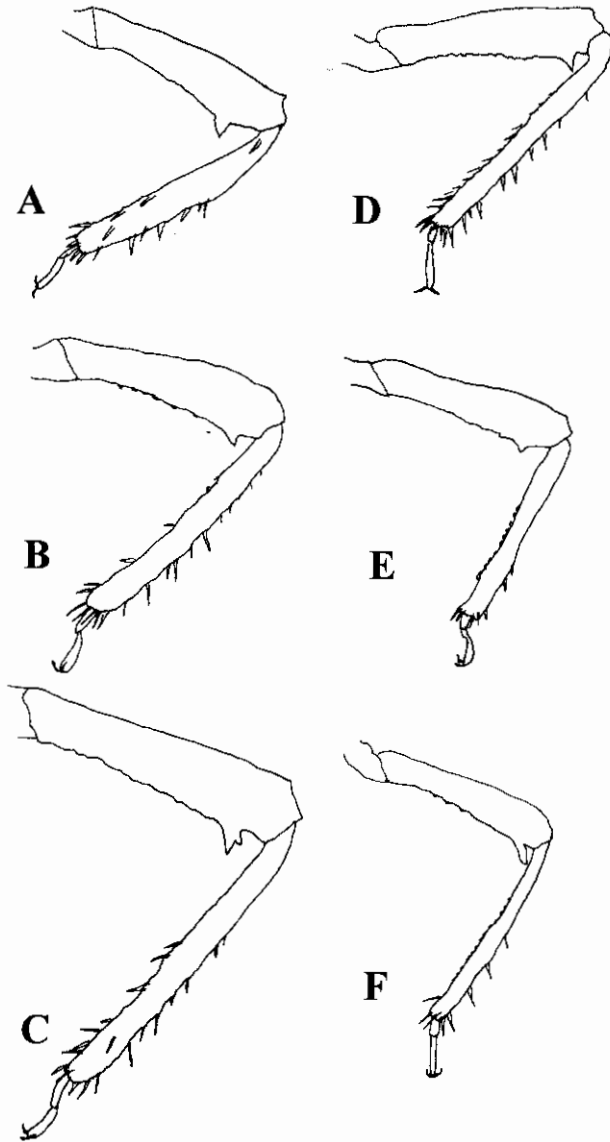


Fig. 5. Male fore femora of *Amnestus* species. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinatus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species. (scale = 1 mm).

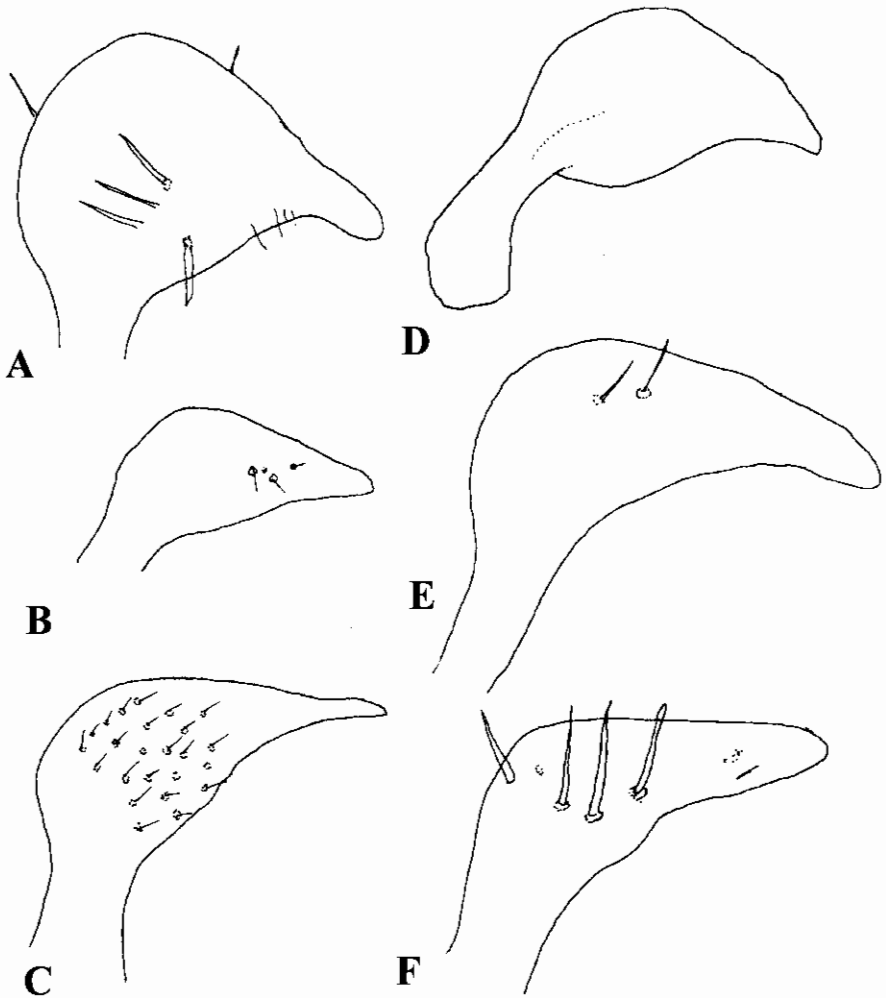


Fig. 6. Lateral view of parameres in *Amnestus* species. A. *A. brailovskyi* new species; B. *A. calakmulensis* new species; C. *A. carinatus* new species; D. *A. obscurus* new species; E. *A. rugosus* new species; F. *A. sinuosus* new species.

with sparse punctures. *Hemelytra*. Corium with regularly distributed punctures; clavus with three rows of punctures; membrane hyaline, slightly passing apex of abdomen.

*Abdomen*. Ventrally convex, and covered by fine hairs.

*Male genitalia*. Parameres large and broad with acute apex, and three long setigerous punctures on central area (Fig. 6A).

*Male measurements*. (n = 7) Body length  $2.8 \pm 0.06$ ; head length  $0.37 \pm 0.06$ ; width across eyes  $0.55 \pm 0$ ; interocular distance  $0.32 \pm 0.05$ ; interocellar distance  $0.15 \pm 0.05$ ; antennal segments: I  $0.14 \pm 0.03$ , II  $0.04 \pm 0.02$ , III  $0.24 \pm 0.04$ , IV  $0.23 \pm 0.02$ ,

V  $0.27 \pm 0.02$ ; rostral segments: I  $0.12 \pm 0.02$ , II  $0.230 \pm 0.02$ , III  $0.26 \pm 0.04$ , IV  $0.21 \pm 0.03$ ; pronotum length  $0.84 \pm 0.1$ , width across anterior margin  $0.58 \pm 0.08$ ; width across humeral angles  $1.2 \pm 0.1$ ; scutellum: length  $0.65 \pm 0.1$ , width  $0.75 \pm 0.09$ ; length fore femur  $0.45 \pm 0.05$ ; fore tibia  $0.48 \pm 0.09$ ; fore tarsi I  $0.04 \pm 0$ , II  $0.06 \pm 0$ .

*Female measurements.* (n = 8) Body length,  $2.8 \pm 0.02$ ; head length  $0.38 \pm 0.03$ ; width across eyes  $0.57 \pm 0.04$ ; interocular distance  $0.31 \pm 0.05$ ; interocellar distance  $0.16 \pm 0.02$ ; antennal segments: I  $0.13 \pm 0$ , II  $0.04 \pm 0$ , III  $0.21 \pm 0.03$ , IV  $0.25 \pm 0$ , V  $0.27 \pm 0$ ; rostral segments: I  $0.12 \pm 0.02$ , II  $0.23 \pm 0.02$ , III  $0.29 \pm 0$ , IV  $0.23 \pm 0$ ; pronotum length  $0.83 \pm 0.1$ ; width across anterior margin  $0.59 \pm 0.03$ ; width across humeral angles  $1.3 \pm 0.2$ ; scutellum: length  $0.63 \pm 0.1$ , width  $0.75 \pm 0.09$ ; length fore femur  $0.46 \pm 0.05$ ; fore tibia  $0.48 \pm 0.04$ ; fore tarsi: I  $0.04 \pm 0$ , II  $0.06 \pm 0$ , III  $0.09 \pm 0$ ; length hind femur  $0.65 \pm 0.1$ , hind tibia  $0.77 \pm 0.05$ ; hind tarsi: I  $0.04 \pm 0$ , II  $0.06 \pm 0$ , III  $0.09 \pm 0$ .

**Types.** Holotype, male: MEXICO. **Hidalgo**, Zimapan, 26 March 1997, H. Brailovsky (CNIN). Paratypes: MEXICO, **Hidalgo**: 6 males, 2 females, same data as holotype; 5 females, Tasquillo, 4 June 1983, H. Brailovsky; 1 female, Tasquillo, 27 December 1981, H. Brailovsky (CNIN, IEXA).

**Distribution.** Mexico, Hidalgo.

**Etymology.** This species is dedicated to Harry Brailovsky, our mentor, and collector of the type series.

**Discussion.** Species with tylus transversely wrinkled; pronotum with anterior half elevated, with sparse setigerous punctures; prosternal carina low, with ventral margin lobulated. (Fig. 2A). Mesopleura, with evaporitrum extended to posterior and lateral margins, peritreme elongated with anterior margin dark brown, and posterior margin of evaporitrum with setigerous punctures (Fig. 3A). Parameres swollen with three setigerous punctures on central area (Fig. 6A).

#### ***Amnestus calakmulensis* new species**

Figs. 1B, 2B, 3B, 4B, 5B, 6B

**Description.** (Fig 1B). Tylus longer than juga, ventral margin of prosternal carina slightly toothed, (Fig. 2B), fore tibia flat with five spines on external margin (Fig. 4B); head, pronotum, scutellum, abdomen, and costal margin dark brown; antenna, rostrum, marginal carina of pronotum, and legs pale yellow.

*Head.* Anterior half without punctures: tylus longer than jugum, rostrum reaching middle part of metasternum.

*Thorax.* Pronotum with transverse impression strongly marked with setigerous punctures, anterior margin concave, anterolateral margins carinated and toothy, posterior margin rounded. Propleura shiny; prosternal carina high with its anterior margin slightly toothy, and with ventral margin rounded (Fig. 2B). Mesopleura with evaroratorium flat, extended along pleura, on metapleura it reaches only middle part of pleura, peritreme elongate, slightly curved, and posterior margin with a rough surface area well defined (Fig. 3B). *Legs.* Fore tibia flattened with five robust spines on external margin (Fig. 4B) fore femur with a bifid spine on middle part of internal margin, hind femur with a simple spine on internal margin, near apex (Fig. 5B). *Scutellum.* Wider than long, with punctures arranged on lines over anterolateral margins and punctures uniformly arranged on disc. *Hemelytra.* Clavus, and corium with punctures arranged on longitudinal rows, middle part of apical region of mesocorium with punctures, distal margin sinuate, hemelytral membrane hyaline, longer than apex of abdomen.



*Abdomen.* Shinny, without lateral setae.

*Male genitalia.* Parameres small with an apical triangular peg elevated apically in lateral view. With three setigerous punctures (Fig. 6B).

*Male measurements.* (n = 8) Body length  $2.58 \pm 0.02$ ; head length  $0.46 \pm 0.05$ ; width across eyes  $0.55 \pm 0.02$ ; interocular distance  $0.32 \pm 0.02$ ; interocellar distance  $0.18 \pm 0.008$ ; antennal segments: I  $0.11 \pm 0.008$ , II  $0.04 \pm 0$ , III  $0.25 \pm 0.01$ , IV  $0.23 \pm 0.01$ , V,  $0.26 \pm 0.04$ ; rostral segments: I  $0.21 \pm 0.01$ , II  $0.22 \pm 0.02$ , III  $0.24 \pm 0.04$ , IV  $0.20 \pm 0.01$ ; pronotum length  $0.92 \pm 0.09$ ; width across anterior margin  $0.59 \pm 0.01$ ; width across humeral angles  $1.33 \pm 0.04$ ; scutellum length  $0.56 \pm 0.07$ ; fore femur  $0.45 \pm 0.03$ ; fore tibia  $0.57 \pm 0.01$ ; hind femur  $0.66 \pm 0.02$ ; hind tibia  $0.75 \pm 0.04$ ; hind tarsi: I  $0.06 \pm 0$ , II  $0.04 \pm 0$ , III  $0.10 \pm 0$ .

*Female measurements.* (n = 5) Body length  $2.8 \pm 0.22$ ; head length  $0.55 \pm 0.05$ ; width across eyes  $0.63 \pm 0.05$ ; interocular distance  $0.35 \pm 0.03$ ; interocellar distance  $0.21 \pm 0.03$ ; antennal segments: I  $0.13 \pm 0.01$ , II  $0.04 \pm 0$ , III  $0.26 \pm 0.03$ , IV  $0.24 \pm 0.04$ , V  $0.26 \pm 0.02$ ; rostral segments: I  $0.23 \pm 0.05$ , II  $0.25 \pm 0.01$ , III  $0.20 \pm 0$ , IV  $0.18 \pm 0$ ; pronotum length  $0.9 \pm 0.03$ ; width across anterior margin  $0.66 \pm 0.06$ ; width across humeral angles  $1.54 \pm 0.1$ ; width across humeral angles  $0.65 \pm 0.08$ ; scutellum width  $0.84 \pm 0.04$ ; fore femur  $0.46 \pm 0.01$ ; fore tibia  $0.59 \pm 0.04$ ; hind femur  $0.84 \pm 0.04$ ; tibia  $0.90 \pm 0.05$ ; hind tarsi: I  $0.07 \pm 0.01$ , II  $0.03 \pm 0$ , III  $0.08 \pm 0$ .

**Types.** Holotype, male: MEXICO, **Campeche**, Calakmul, Balamku, 31 May 2001 C. Mayorga, L. Cervantes (CNIN). Paratypes: MEXICO, **Campeche**: 7 males, 5 females, same data as holotype, litter of *Ficus cotinifolia* H.B.K. (CNIN, IEXA).

**Distribution.** Mexico, Campeche.

**Etymology.** Named for the the Mayan area of Calakmul, in which this species was collected.

**Discussion.** Pronotum with transverse impression strongly marked with a series of setigerous punctures (Fig. 1B) a character that the other five species lack; prosternal carina high, with anterior margin slightly toothy, and ventral margin rounded (Fig. 2B). Peritreme elongated and slightly curved, posterior margin of metapleura with a band of wrinkles well defined (Fig. 3B). Parameres small with a triangular peg elevated apically, with three setigerous punctures (Fig. 6B) Fore tibia flattened, with five robust spines on external margin (Fig. 4B); hind femur with a single spine near apex of internal margin (Fig. 5B).

#### ***Amnestus carinatus* new species**

Figs. 1C, 2C, 3C, 4C, 5C, 6C

**Description.** (Fig. 1C). Jugum with five spines; anterior half of head without punctures; prosternal carina elevated with a small groove on ventral margin, (Fig. 2C); pronotum with lateral margins widely carinated. Head, prosternal carina, pronotum, and scutellum dark brown. Antennae, rostrum, marginal carina of pronotum, hemelytra, and legs pale yellow.

*Head.* Anterior half smooth; tylus longer than jugum; rostrum short reaching mesosternum, *Thorax.* Anterior half of pronotum slightly elevated, anterior and posterior border concave, anterolateral margins strongly carinate, base truncate, (Fig. 1C), and posterior margin rounded. Propleura shiny and smooth; prosternal carina elevated with a small groove on ventral margin; mesopleura with evaporatorium extended, and a small groove on posterior margin and reaching posterior and lateral margins of pleura. Osteolar peritreme of metapleura elongate, slightly curved with a dark brown mesial line; posterior margin serrated with transverse rough surface (Fig. 3C). *Legs.* Fore tibia flat with six robust spines on external margin and one on

middle of apex (Fig. 4C); femur with a bifid spine on ventral middle area; and a bifid spine near apex of internal margin (Fig. 5C). *Scutellum*. Triangular, with regularly distributed punctures on disc. *Hemelytra*. Weakly punctured; basal margin toothed, clavus with three rows of punctures, apical margin entire; hemelytral membrane hyaline, and extending beyond apex of abdomen.

*Abdomen*. Shiny, ventrally convex, with short setae laterally.

*Male genitalia*. Paramere small, rounded with apex pointed and setigerous punctures arranged along middle area (Fig. 6C).

*Male measurements*. (n = 6). Body length  $3.7 \pm 0.3$ ; head length  $0.65 \pm 0.07$ ; width across eyes  $0.70 \pm 0.03$ ; interocular distance  $0.37 \pm 0.02$ ; interocellar distance  $0.20 \pm 0.01$ ; antennal segments: I  $0.14 \pm 0.01$ , II  $0.04 \pm 0$ , III  $0.30 \pm 0.02$ , IV  $0.30 \pm 0.02$ , V  $0.32 \pm 0.02$ ; rostral segments: I  $0.24 \pm 0.02$ , II  $0.30 \pm 0.02$ , III  $0.24 \pm 0.01$ , IV  $0.25 \pm 0.05$ ; pronotum length  $1.21 \pm 0.1$ ; width across anterior margin  $0.72 \pm 0.05$ ; width across humeral angles  $1.7 \pm 0.07$ ; scutellum: length  $0.81 \pm 0.03$ , width  $0.83 \pm 0.1$ ; fore femur  $0.67 \pm 0.02$ ; fore tibia  $0.74 \pm 0.04$ ; hind femur  $1.0 \pm 0.05$ ; hind tibia  $1.15 \pm 0.05$ ; hind tarsi: I  $0.1 \pm 0.02$ , II  $0.04 \pm 0.002$ , III  $0.09 \pm 0.01$ .

*Female measurements*. (n = 8) Body length  $3.3 \pm 0.3$ ; head length  $0.61 \pm 0.01$ ; width across eyes  $0.67 \pm 0.05$ ; interocular distance  $0.36 \pm 0.01$ ; interocellar distance  $0.21 \pm 0.01$ ; antennal segments: I  $0.12 \pm 0.008$ , II  $0.04 \pm 0$ , III  $0.28 \pm 0.02$ , IV  $0.25 \pm 0.05$ , V  $0.29 \pm 0.04$ ; rostral segments: I  $0.23 \pm 0.03$ , II  $0.29 \pm 0.02$ , III  $0.24 \pm 0.02$ , IV  $0.25 \pm 0.006$ ; pronotum length  $1.08 \pm 0.1$ ; width across anterior margin  $0.69 \pm 0.07$ ; width across humeral angles  $1.7 \pm 0.1$ ; scutellum: length  $0.77 \pm 0.1$ , width  $0.79 \pm 0.07$ ; fore femur  $0.58 \pm 0.07$ ; fore tibia  $0.67 \pm 0.07$ ; hind femur  $0.93 \pm 0.1$ ; hind tibia  $1.0 \pm 0.1$ ; hind tarsi: I  $0.08 \pm 0.01$ , II  $0.04 \pm 0.01$ , III  $0.1 \pm 0.01$ .

**Types**. Holotype, male. MEXICO, Chiapas, Reserva del Ocote, 30 May 1995, E. Barrera, (CNIN). Paratypes: MEXICO, Chiapas: 5 males, 8 females, same data as holotype.

**Etymology**. Named for the wide carina on the anterolateral margin of pronotum.

**Distribution**. Mexico, Chiapas.

**Discussion**. Species distinguished by the wide carinate anterolateral margins of pronotum, with base of posterior margin truncate (Fig. 1C); prosternal carina high with a mesial groove on ventral margin (Fig. 2C); evaporitrum expanded, peritreme elongate, slightly curved with a dark brown mesial line, posterior margin with transverse rough surface. (Fig. 3C). Parameres elongate with a series of setigerous punctures arrange in mesial lines (Fig. 6C). Fore tibia wide, with six robust spines on outer margin, and a single spine on mesial apical region (Fig. 4C). Fore femur with a bifid spine near apex of inner margin (Fig. 5C).

#### ***Amnestus obscurus* new species**

Figs. 1D, 2D, 3D, 4D, 5D, 6D

**Description**. (Fig. 1D). Jugum with five spines; anterior half of pronotum elevated; ventral margin of prosternal carina distinctly concave mesially, and elevated apically (Fig. 2D); head, antennal segments III, IV, and V, pronotum, prosternal carina, and abdominal venter pale brown; scutellum dark brown; antennal segments I, and II, rostrum, marginal carina of pronotum, clavus, corion, and legs pale yellow.

*Head*. Anterior half without punctures; tylus with four robust spines on its apex, slightly longer than jugum; antennae with five segments, segment II the smallest; rostrum reaching base of metasternum.

**Thorax.** Pronotum with anterior margin concave, and anterior half elevated and with dense punctures; anterolateral margins carinated; posterior margin wide, convex, and laterally sinuate. Propleurae shiny and smooth; prosternal carina raised with a concave mesial and a half elevated anterior area (Fig. 2D). Mesopleurae with evaporatorium expanded to the posterior and lateral margins of pleurae. Metapleurae smooth, evaporatorium extending toward middle of pleurae; osteolar peritreme elongate slightly bent, with the apex shiny; posterior margin of evaporatorium serrate with long setae (Fig. 3D). **Legs.** Fore tibia slightly flattened with seven spines on internal margin; fore femur with a bifid spine on anterior mesial ventral surface (Fig. 4D). Internal and external margins of hind femur serrate, with small tubercle on external margin and small, simple spine near apex of inner margin (Fig. 5D). **Scutellum.** Triangular, wider than long, acute apex; disc dark brown and densely punctuated. **Hemelytra.** With numerous punctures uniformly distributed; clavus with three rows of punctures, apical margin bisinuated; hemelytral membrane hyaline and slightly extending beyond the apex of abdomen.

**Abdomen.** Ventrally convex, dark brown, with numerous long setae in lateral view. **Male genitalia:** Parameres small; in lateral view leaf shaped, without setigerous punctures (Fig. 6A).

**Male measurements.** (n = 4) Body length  $2.81 \pm 0.06$ ; head length  $0.52 \pm 0.06$ ; width across eyes  $0.60 \pm 0.03$ ; interocular distance  $0.34 \pm 0.01$ ; interocellar distance  $0.17 \pm 0.02$ ; antennal segments: I  $0.14 \pm 0.005$ , II  $0.04 \pm 0$ , III  $0.24 \pm 0.02$ , IV  $0.25 \pm 0.01$ , V  $0.22 \pm 0.005$ ; pronotum length  $1.04 \pm 0.1$ ; width across anterior margin  $0.7 \pm 0.04$ ; width across humeral angles  $1.48 \pm 0.03$ ; scutellum: length  $0.64 \pm 0.05$ , width  $0.69 \pm 0.02$ ; length fore femur  $0.55 \pm 0.04$ , fore tibia  $0.63 \pm 0.04$ ; length hind femur  $0.81 \pm 0.02$ , hind tibia  $0.92 \pm 0.04$ , hind tarsi: I  $0.07 \pm 0.01$ , II  $0.06 \pm 0.01$ , III  $0.09 \pm 0.01$ .

**Types.** Holotype, male: MEXICO, Veracruz, San Andres Tuxtla, Estacion de Biologia Los Tuxtlas, 26 March 1999; feeding on fruits of *Ficus colubrinae*, L. Cervantes. (CNIN). Paratypes: MEXICO, Veracruz: 3 males, same locality as holotype (CNIN; IEXA).

**Etymology.** Named for the dark brown coloration of the scutellum.

**Distribution.** Mexico, Veracruz.

**Discussion.** This species is easy to recognize due to the dark brown color of scutellum; anterior half of pronotum with dense punctures (Fig. 1D), prosternal carina elevated with a mesial depression; evaporatorium extended through posterior and lateral margins of pleura and posterior margin serrate with a few long setae; and peritreme elongated and slightly curved, with shiny apex (Fig. 3D). Parameres small, leaf shaped in lateral view, without setigerous punctures (Fig. 3D). Fore tibia slightly flattened with seven spines on external margin. Femora with a simple spine near apex of inner margin. (Fig. 5D).

### *Amnestus rugosus* new species

Figs. 1E, 2E, 3E, 4E, 5E, 6E

**Description.** (Fig. 1E). Tylus and jugum transversely wrinkled, anterior margin without punctures, lateral margin of pronotum toothed, with a wide marginal carina uniformly punctate, prosternal carina high with ventral margin straight (Fig. 2E). Head, antennal segments, pronotum, scutellum, hemelytra, and abdomen dark brown, marginal carina of pronotum, legs, and rostrum pale brown.

**Head.** Basal three quarters with dense punctures, apical margin of tylus, and jugum smooth; prosternal carina slightly passing rostral segment II.

**Thorax.** Pronotum wide, with anterior margin concave, dorsally elevated with dense punctures, anterolateral margins toothed and carinate. Propleura dark shiny brown; prosternal

carina with straight margin (Fig. 2E). Mesopleura with evaporatorium expanded towards anterolateral and posterior margins of pleura; metapleura flat, evaporatorium reaching middle part of pleura, posterior margin toothed and with a series of setigerous punctures; peritreme elongate, with dark brown base; posterior margin of evaporatorium reaching base of pleura, middle region with well-defined wrinkles (Fig. 3E). *Legs*. Fore tibia flat with five spines on external margin (Fig. 4E); hind femur thin, with bifid spine on anterior half on ventral surface, external margin of hind femur smooth and internal margin serrate, with a small spine near apex on ventral surface (Fig. 5E). *Scutellum*. Triangular with dense setigerous punctures. *Hemelytra*. Corium with uniformly distributed punctures; clavus with three longitudinal rows of punctures; hemelytral membrane hyaline and passing apex of abdomen.

*Abdomen*. Ventrally convex with a few sparse setae. *Male genitalia*. Parameres large, half-moon shaped, with two setigerous punctures on middle area (Fig. 6E).

*Male measurements* (n = 10). Body length  $2.30 \pm .3$ ; head length  $0.32 \pm 0$ ; width across eyes  $0.50 \pm 0.04$ ; interocular distance  $0.32 \pm 0$ ; interocellar distance  $0.13 \pm 0.03$ ; antennal segments: I  $0.16 \pm 0$ , II  $0.04 \pm 0$ , III  $0.23 \pm 0$ , IV  $0.22 \pm 0.05$ , V  $0.25 \pm 0.02$ ; rostral segments: I  $0.13 \pm 0$ , II  $0.21 \pm 0.03$ , III  $0.25 \pm 0$ , IV  $0.23 \pm 0$ ; pronotum length  $0.73 \pm 0.1$ ; width across anterior margin  $0.54 \pm 0.05$ ; width across humeral angles  $1.28 \pm 0.07$ ; scutellum: length  $0.60 \pm 0.03$ , width  $0.70 \pm 0.04$ ; length fore femur  $0.42 \pm 0.04$ ; fore tibia  $0.46 \pm 0.03$ ; fore tarsi: I  $0.04 \pm 0$ , II  $0.04 \pm 0.02$ , III  $0.09 \pm 0$ ; hind femur  $0.56 \pm 0.04$ , hind tibia  $0.66 \pm 0.07$ ; hind tarsi: I  $0.04 \pm 0$ , II  $0.04 \pm 0$ , III  $0.06 \pm 0.03$ .

*Female measurements*. (n = 10) Body length  $2.45 \pm 0.4$ ; head length  $0.31 \pm 0.05$ ; width across eyes  $0.51 \pm 0.02$ ; interocular distance  $0.32 \pm 0.02$ ; interocellar distance  $0.14 \pm 0.02$ ; antennal segments: I  $0.12 \pm .02$ , II  $0.04 \pm 0$ , III  $0.21 \pm 0.03$ , IV  $0.21 \pm 0.03$ , V  $0.26 \pm 0.02$ ; rostral segments: I  $0.13 \pm 0$ , II  $0.21 \pm 0.03$ , III  $0.26 \pm 0.02$ , IV  $0.23 \pm 0$ ; pronotum length  $0.75 \pm 0.09$ ; width across anterior margin  $0.56 \pm 0.02$ ; width across humeral angles  $1.32 \pm 0.1$ ; scutellum: length  $0.59 \pm .09$ , width  $0.71 \pm 0.04$ ; length fore femur  $0.43 \pm 0$ ; fore tibia  $0.46 \pm$ ; fore tarsi: I  $0.04 \pm$ , II  $0.04 \pm 0$ , III  $0.06 \pm 0$ ; hind femur  $0.58 \pm 0.05$ ; hind tibia  $0.68 \pm 0.09$ ; hind tarsi: I  $0.04 \pm 0$ , II  $0.04 \pm 0$ , III  $0.06 \pm 0$ .

**Types.** Holotype, male: MEXICO, **Chiapas**, Tenejapa, Paraje Yashanal, 20 August 1991, R.W.Jones- D.Bravo (CNIN). Paratypes: MEXICO, **Chiapas**: 10 males, 5 females, same data as holotype (CNIN, IEXA); 5 males, 9 females, Tenejapa, Ojo de Yashanal, 4 March 1994, R.Gomez R.W. Jones (CNIN, IEXA).

**Etymology.** From Latin *rugosus* = wrinkled, after the wrinkled surface of tylus and jugum.

**Distribution.** Mexico, Chiapas.

**Discussion.** This species differs from others by the wrinkled surface of tylus and jugum, prosternal carina high with straight margin (Fig. 2E); evaporatorium expanded onto anterolateral and posterior margins of pleura, peritreme elongated, with a dark area on its base and a rough surface near the middle region (Fig. 3E); parameres large, half-moon shaped, with two setigerous punctures on middle part (Fig. 6E); fore tibia with five spines on external margin (Fig. 4E); and hind femur with external margin smooth, internal margin serrate with a small spine near apex (Fig. 5E).

#### ***Amnestus sinuosus* new species**

Figs. 1F, 2F, 3F, 4F, 5F, 6F

**Description.** (Fig. 1F). Jugum with four spines, pronotum mesially smooth, anterior half with dark brown macules and with sparse setigerous punctures. Prosternal carina low, with sinuated

margin and slightly elevated posteriorly (Fig. 2F). Head, posterior half of pronotum, clavus, and corium pale brown, anterior half of pronotum, scutellum, and prosternal carina dark brown; antennal segments I–V, rostral segments, and legs pale yellow.

**Head.** Dorsal surface with punctures, tylus longer than jugum, rostrum reaching base of abdomen.

**Thorax.** Anterior margin of pronotum concave, delimited by a series of setigerous punctures, mesially trimmed, anterior half strongly elevated with dark brown macules, anterolateral margins slightly carinated. Propleura smooth, prosternal carina low with margin sinuated, slightly elevated posteriorly (Fig. 2F) Mesopleura. Evaporatorium rough, covering half of pleura. Metapleura elevated, evaporatorium reaching middle of pleura, posterior margin toothed; peritreme elongate and curved apically (Fig. 3F). **Legs.** Fore tibia flat with five spines on external margin, with median angulation (Fig. 4F); internal and external margins of hind femur smooth, with one single spine near apex (Fig. 5F). **Scutellum.** Triangular, disc with punctures uniformly distributed. **Hemelytra.** With fine punctures; clavus with three rows of setigerous punctures; hemelytral membrane hyaline slightly passing apex of abdomen.

**Abdomen.** Covered by fine setae on lateral areas, middle part without setae.

**Male genitalia.** Parameres large, apically elongated, with four setigerous punctures on central part. (Fig. 6F).

**Male measurements.** (n = 10) Body length  $2.6 \pm 0.3$ ; head length  $0.39 \pm 0.07$ ; width across eyes  $0.58 \pm 0.07$ ; interocular distance  $0.31 \pm 0.05$ ; interocellar distance  $0.16 \pm 0$ ; antennal segments: I  $0.10 \pm 0.02$ , II  $0.04 \pm 0$ , III  $0.25 \pm 0.02$ , IV  $0.22 \pm 0.03$ , V  $0.25 \pm 0$ ; rostral segments: I  $0.17 \pm 0.04$ , II  $0.25 \pm 0$ , III  $0.28 \pm 0.02$ , IV  $0.23 \pm 0$ ; pronotum length  $0.82 \pm 0.1$ ; width across anterior margin  $0.68 \pm 0.05$ ; width across humeral angles  $1.2 \pm 0.09$ ; scutellum: length  $0.57 \pm 0.1$ , width  $0.71 \pm 0.04$ ; length fore femur  $0.44 \pm 0.05$ ; fore tibia  $0.48 \pm 0.04$ ; fore tarsi: I  $0.04 \pm 0$ , II  $0.06 \pm 0$ , III  $0.09 \pm 0$ .

**Female measurements.** (n = 10) Body length  $2.9 \pm 0.2$ ; head length  $0.40 \pm 0.04$ ; width across eyes  $0.64 \pm 0$ ; interocular distance  $0.33 \pm 0.07$ ; interocellar distance  $0.18 \pm 0$ ; antennal segments: I  $0.11 \pm 0$ , II  $0.04 \pm 0$ , III  $0.24 \pm 0.02$ , IV  $0.23 \pm 0.02$ , V  $0.25 \pm 0$ ; rostral segments: I  $0.20 \pm 0$ , II  $0.24 \pm 0.02$ , III  $0.31 \pm 0.07$ , IV  $0.23 \pm 0$ ; pronotum length  $0.79 \pm 0.05$ ; width across anterior margin  $0.69 \pm 0.02$ ; width across humeral angles  $1.3 \pm 0$ ; scutellum length  $0.63 \pm 0.05$ ; width  $0.70 \pm 0.04$ ; length fore femur  $0.44 \pm 0.03$ , fore tibia  $0.48 \pm 0.02$ , fore tarsi: I  $0.04 \pm 0$ , II  $0.06 \pm 0$ , III  $0.09 \pm 0$ ; hind femur  $0.70 \pm 0.08$ ; hind tibia  $0.77 \pm 0.09$ ; hind tarsi I  $0.04 \pm 0$ , II  $0.04 \pm 0$  III  $0.11 \pm 0$ .

**Types.** Holotype, male: MEXICO, **Veracruz**, San Andres Tuxtla, Estacion de Biolog'a Los Tuxtlas, 31 July 1989, S. Zaragoza. (CNIN). Paratypes: MEXICO, **Veracruz**: 25 males, 28 females, same locality and date as holotype (IEXA, NMNH; BMNH).

**Etymology.** From the Latin *sinuosus*, for the sinuate lateral margin of pronotum.

**Distribution.** Mexico, Veracruz.

**Discussion.** This is the only species with four jugal spines, pronotum mesially smooth, prosternal carina low, margin sinuate and slightly elevated posteriorly (Fig. 2F) Evaporatorium rough, peritreme elongate and slightly curved apically (Fig. 3F), and fore tibia flat with five spines on external margin and angulate mesially (Fig. 4F).

#### KEY TO THE MEXICAN SPECIES OF *AMNESTUS*

1. Jugum with 5 marginal spines (Fig. 1C) . . . . . 2
- 1' Jugum with 4 marginal spines (Fig. 1A, 1B, 1C, 1E, 1F) . . . . . 3

2. Tylus longer than jugum, usually as long as wide; prosternal carina longer than high . . . . . *A. uhleri* Distant
- 2' Tylus just slightly longer than jugum; prosternal carina higher than long . . . . . *A. obscurus* n. sp.
3. Fore tibia flattened, with 6 spines on external margin (Fig. 5C) . . . . . *A. carinatus* n. sp.
- 3' Fore tibia flattened, with 5 spines on external margin (Figs. 5A, 5B, 5E, 5F) . . . . . 4
4. Male fore tibia without subbasal ventral spine . . . . . *A. pusio* (Stål)
- 4' Male fore tibia with a subbasal ventral spine . . . . . 5
5. Fore femur with a bifid spine on posterior mesial area of ventral surface . . . . .
- . . . . . *A. ficus* Mayorga & Cervantes
- 5' Fore femur without bifid spine . . . . . 6
6. Rostral segment II covered by prosternal carina, with margin strongly elevated anteriorly, but straight posteriorly (Fig. 2E) . . . . . *A. rugosus* n. sp.
- 6' Rostral segment II not covered by prosternal carina, with margin slightly concave mesially (Fig. 2A, 2B, 2F) . . . . . 7
7. Fore tibia flattened, external margin with mesial area of internal margin angulated (Fig. 5F) . . . . . *A. sinuosus* n. sp.
- 7' Fore tibia flattened, external margin not angulated (Figs 5A, B) . . . . . 8
8. Male ventral subapical spine of hind femur 1/3 the length of tibia . . . . . *A. pusillus* Uhler
- 8' Male ventral subapical spine of hind femur shorter . . . . . 9
9. Tylus convex, transverse impressions present, except on apical lobe . . . . . *A. brailovskiyi* n. sp.
- 9' Tylus without transverse impressions . . . . . 10
10. Pronotum with transverse impression delimited by a series of setigerous punctures (Fig. 1B) . . . . . *A. calakmulensis* n. sp.
- 10' Pronotum with transverse impression just slightly marked, without series of punctures. . . . . 11
11. Lateral margin of pronotum slightly concave on basal fourth; corium brown on apical third . . . . . *A. brunneus* Signoret
- 11' Lateral margin of pronotum straight on basal fourth; corium pale yellow . . . . . *A. pallidus* Zimmer

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