

**TWO NEW GENERA OF PENTATOMINI FOR SPECIES PREVIOUSLY
PLACED IN *MORMIDEA* AMYOT & SERVILLE (HEMIPTERA:
HETEROPTERA: PENTATOMIDAE: PENTATOMINAE)**

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Abstract.—*Lattinidea*, new genus, is proposed to accommodate *Mormidea geographica* (Fabricius) and *Lattinellica*, new genus, is proposed for *Mormidea decora* Walker. Diagnoses and a key are provided to separate both new genera from *Mormidea* Amyot & Serville and similar genera. *Lattinellica decora* is described and illustrated; *Lattinidea geographica* is illustrated. New information on a host plant for *L. geographica* is given, and new distribution records are provided for both species.

Key Words: Heteroptera, Pentatomidae, new genera, *Lattinidea*, *Lattinellica*, New World

Rolston (1978) revised the genus *Mormidea* Amyot & Serville, creating the genus *Moromorpha* for *Mormidea tetra* Walker, which was clearly not conspecific with other species of *Mormidea*. He provisionally retained *M. geographica* (Fabricius) in the genus although he noted that it “mars the phyletic homogeneity of the genus.” We reexamined the generic placement of this species after determining that its host plant is *Clidemia* sp., a broadleaf plant in the family Melastomataceae. Species of *Mormidea* typically use grasses as host plants (Bruner et al. 1945, Costa Lima 1940). The male and female genitalia are clearly unlike those of other species of *Mormidea* and, coupled with the host-plant information, leave little doubt that *M. geographica* does not belong in *Mormidea*. It is sufficiently different from other pentatomine genera to require the erection of a new genus to contain it.

Distant (1900a) erroneously transferred one of Walker’s (1867) species, *Mormidea decora*, to the Asopinae; he later (Distant 1900b) gave a short diagnosis of the type specimen, and indicated that it probably represented an undescribed genus in the Asopinae. This is the only treatment this species has received other than appearing in a couple of catalogs (Lethierry and Severin 1893, Kirkaldy 1909).

We were able to study specimens in the L. H. Rolston collection that he had set aside and labeled as a new genus in the Pentatominae. After comparing them with the original description of *Mormidea decora* given by Walker (1867), we have concluded that they are conspecific. Due to Distant’s (1900a, b) transfer of *M. decora* to the Asopinae, all modern workers have overlooked this species, including Rolston (1978) in his monograph of *Mormidea*. We do agree,

however, with Distant's assessment that this species deserves its own genus. Its general size and outline are reminiscent of *Mormidea*, but it has a very different coloration than most *Mormidea* species, and the male genitalia are quite distinct from species of that genus.

Mormidea is a relatively large genus that currently contains 36 species. Rolston (1978) revised the genus, describing seven new species and presented a key for their identification. Rider and Rolston (1989) described two more new species and provided an updated key to the species occurring in Mexico, Belize, and Guatemala. Rolston and McDonald (1984) presented a key to the New World Pentatominae: Pentatomini which included *Mormidea*. The short ostiolar rugae and unarmed abdominal venter may actually ally this genus (and the two new genera described herein) more closely with the Carpocorini. A thorough phylogenetic study is badly needed to confirm the placement of these genera.

All measurements are in millimeters. Total length was measured from the apex of the head to the apex of the abdomen. Total length and width measurements and measurements of the pronotum and scutellum were made with the anterior and posterior margins of the scutellum in the same plane of focus. Measurements of the head were made with the anterior and posterior margins of the head in the same plane of focus; length of the head was measured from the apex of the head to an imaginary line connecting the posterior margins of the ocelli. Acronyms are defined in the acknowledgments.

KEY TO NEOTROPICAL GENERA
RESEMBLING *MORMIDEA*
(modified from Rolston 1978)

- 1 Small flat spine at posterior pronotal angle extending over each corium
..... *Moromorpha* Rolston
- Posterior pronotal margin unarmed 2

- 2(1) Superior surface of each tibia sulcate, at least distally; if sulcation obscure, then dorsal coloration of pronotum, scutellum, and corium metallic blue-green to black, sharply contrasting with pale yellowish head (Fig. 2) *Lattinellica*, new genus
- Superior surface of each tibia rounded, not sulcate; usually not colored as above 3
- 3(2) Apex of first rostral segment not or scarcely surpassing bucculae *Oebalus* Stål
- Apex of first rostral segment clearly surpassing bucculae 4
- 4(3) Rostrum extending onto second visible abdominal sternite; posterior margin of genital cup broadly and deeply emarginate in ventral view (Fig. 5)
..... *Lattinidea*, new genus
- Rostrum not or barely reaching second visible abdominal sternite; emargination in posterior margin of genital cup, if present, never deep or wide
..... *Mormidea* Amyot and Serville

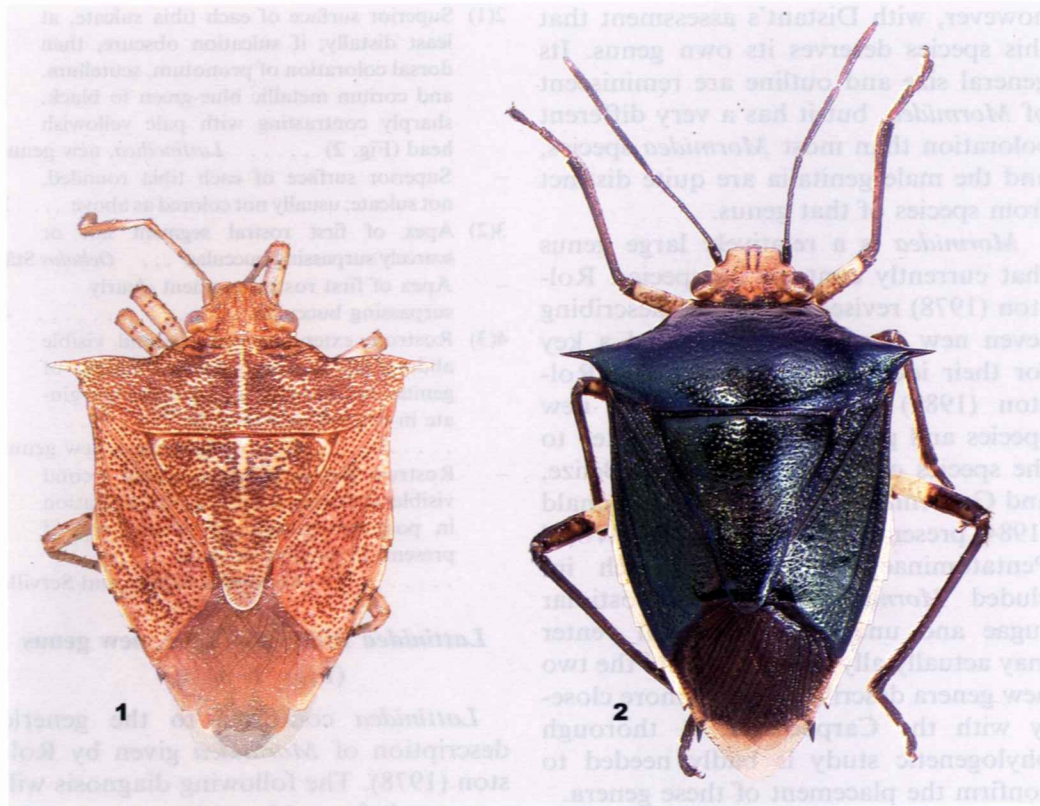
***Lattinidea* Rider and Eger, new genus**
(Figs. 1, 3-10)

Lattinidea conforms to the generic description of *Mormidea* given by Rolston (1978). The following diagnosis will separate it from *Mormidea*.

Diagnosis.—Rostrum extending onto second visible abdominal sternite. Anterolateral pronotal margins provided with large tooth just before anterior angle. Evaporative areas of metapleura impunctate. Genital cup with deep, wide, semicircular emargination from ventral view (Fig. 5); tubercle present on each lateral wall. Theca oblong, with two sclerotized digitiform processes; conjunctiva simple, membranous. Spermathecal pump convoluted (Fig. 10).

Type species.—*Cimex geographicus* Fabricius, 1803.

Material examined.—Brazil: Rondonia, 62 km SE Ariquemes nr. Fzda. Rancho Grande, 6-15-XII-1990, D. A. Rider & J. E. Eger (2 ♂♂ 1 ♀, DAR); Rondonia, 62 km SE Ariquemes, 13-25 Apr 1992, W. J. Hanson (1 ♀, JEE); Teffe, Dec. 8, 1919, H.S. Parish Collector (1 ♀, DAR). Colombia: Amazonas, W a

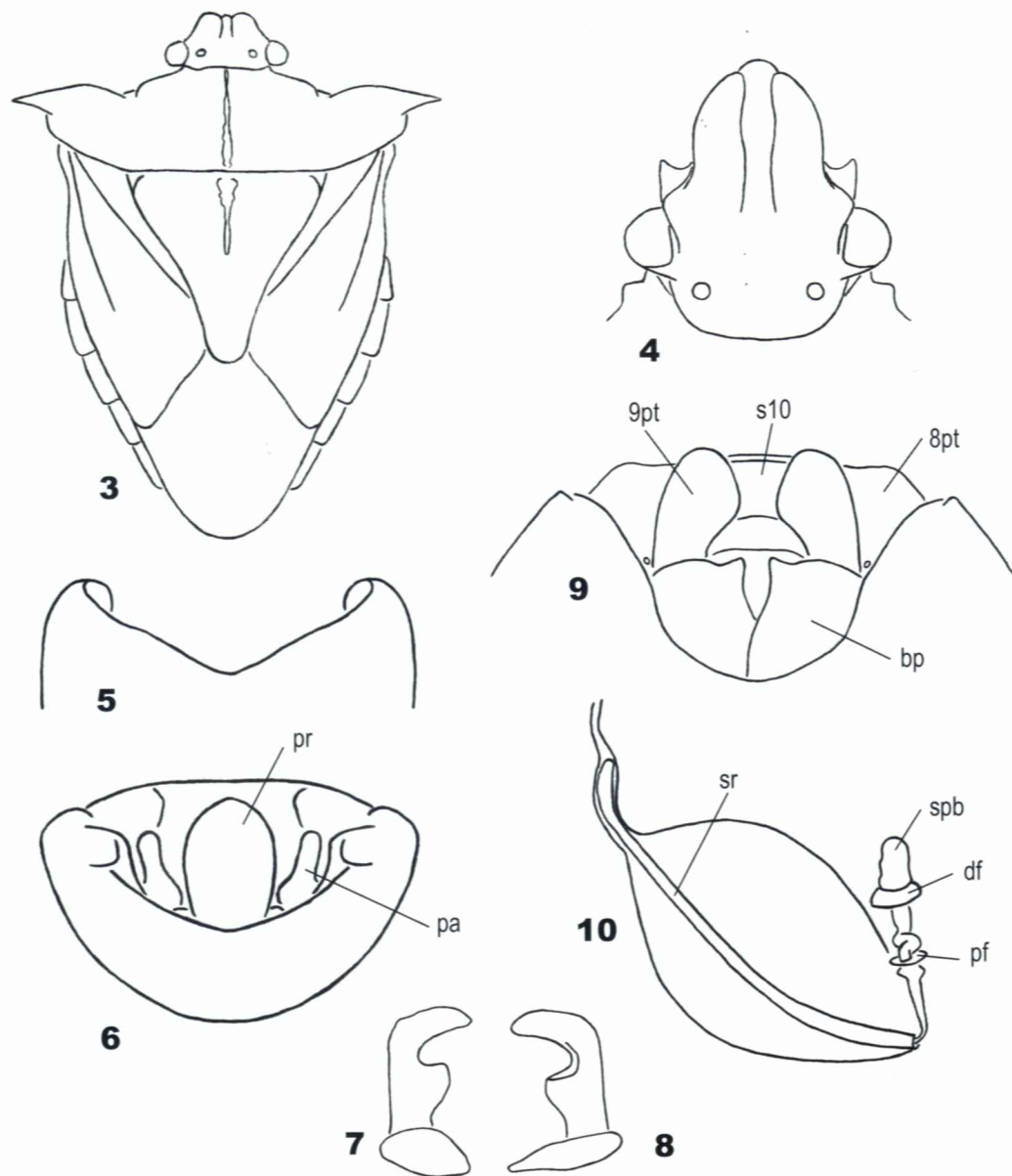


Figs. 1-2. 1, *Lattinidea geographica*. 2, *Lattinella decora*.

los lagos Vereda San Sebastian, Leticia, 10-V-1992, A. Saenz (1 ♂ 1 ♀, JEE); Amazonas, Amacayacu Nat. Pk., San Martin, Malaise Trap, III.8-12.2000, M. Sharkey (1 ♂, JEE). Costa Rica: Golfito, VII.26.1981, B. K. Dozier, collector (2 ♂♂, FSCA). Ecuador: Prov. Napo, vic. Puerto Misahuali, 1,650-1,900 ft., 6-19-IX-1998, J. E. Eger, coll. 1°2'4.2"S lat., 77°39'49.2"W long., Coll. on *Clidemia* sp. (16 ♂♂ 4 ♀♀, JEE). French Guiana: Amazone Nature Lodge, 30 km SE Roura on Kaw Rd., 10-18-IV-2007, D. G. Hall & J. E. Eger, coll. (1 ♂ 1 ♀, JEE). Panama: Bocas del Toro, Pr. 2 km WSW Chiriqui Grande, 6.viii.1999, 08°56'45"N, 82°08'13"W, J.C. Schaffner (1 ♂ 1 ♀, JEE); Pan., Cerro Jefe, 7-18-1995, C. W. & L. B. O'Brien (1 ♂ 2 ♀♀, JEE). Peru: Loreto Dept., Exploronapo Camp on R. Sucusari nr. R. Napo, 12-

19-III-1988, J. E. Eger, coll., Coll. on *Clidemia* sp. (1 ♂ 2 ♀♀, DAR; 18 ♂♂ 13 ♀♀, JEE). Venezuela: Exp. Territ. Amazonas Puerto Ayacucho, Mar. 12-23, 1950, J. Maldonado Capriles Coll. (1 ♂, DAR).

Comments.—*Lattinidea* appears to be more closely related to *Sibaria* Stål, *Ladeaschistus* Rolston and some species of *Euschistus*, subgenus *Mitripus* Rolston, based on the structure of the genital cup, theca and associated structures, and the convoluted spermathecal pump. It is easily separated from these genera by the rounded superior surfaces of the tibiae (sulcate in the other genera) and by the lack of preapical femoral spines (present in *Ladeaschistus* and *Sibaria*). In addition, the rostrum rarely reaches the second visible abdominal sternite in the other genera.



Figs. 3–10. *Lattinidea geographica*. 3, Dorsal habitus. 4, Head, dorsal view. 5, Pygophore, ventral view. 6, Pygophore, caudal view. 7, Right paramere, lateral view. 8, Right paramere, mesial view. 9, Genital plates, caudoventral view. 10, Spermatheca. Symbols: bp, basal plate; df, distal flange; pa, paramere; pf, proximal flange; pr, proctiger; spb, spermathecal bulb; sr, sclerotized rod; s10, sternite 10; 8pt, eighth paratergite; 9pt, ninth paratergite.

In addition to the characters given in the key, *Mormidea* differs from *Lattinidea* by the following characters: tooth on anterolateral pronotal margins, if present,

located at angle, not before it; lateral walls of genital cup lacking tubercle; theca short, compressed, lacking sclerotized digitiform thecal lobes, conjunctiva vari-

ously modified and sclerotized; spermathecal pump lacking convolutions.

One of us (JEE) collected adults and immatures of *Lattinidea geographica* along the Sucusari River near Iquitos, Peru, and in the vicinity of Puerto Misahuali, Ecuador, on *Clidemia* sp., family Melastomataceae, a broadleaf plant. They were observed feeding on this plant and could not be found on any other plants in the area, including numerous species of grasses. This is almost certainly a host plant for *L. geographica*.

Rolston (1978) reported the distribution of *L. geographica* as "much of the drainage area of the Amazon River and its tributaries." Specimens examined from Panama and Costa Rica indicate that the distribution of this species extends at least into Costa Rica.

It is with great pleasure that we name this and the following new genus in honor of John Lattin, in recognition of all the encouragement and training he has provided for many young heteropterists, and for the contributions he has made towards heteropteran systematics. The genus is feminine.

This species was described and illustrated by Rolston (1978) in his monograph of the genus *Mormidea*; a redescription is not presented here, but additional illustrations are provided.

Lattinellica Rider and Eger, new genus

Lattinellica also conforms very well with the generic description of *Mormidea* given by Rolston (1978), the only distinct difference being that the superior surface of each tibia is at least weakly sulcate, especially distally. The following diagnosis will help separate *Lattinellica* from *Mormidea*.

Diagnosis.—Dorsal surface of pronotum, scutellum, and coria dark metallic blue-green to black, distinctly contrasting with pale yellowish-orange head (Fig. 2). Juga impunctate or nearly so

(Fig. 12). Ventral surfaces noticeably shiny, glossy, abdominal venter with very small, weak vermiculate lines laterally, impunctate, or with punctures extremely small and shallow. Superior surface of each tibia weakly sulcate, especially distally. Male with lateral margins of genital cup produced into a posteriorly directed recurved spine on each side (Figs. 13–15). Female eighth paratergites distinctly spinose laterally (Fig. 18). Female spermatheca with sclerotized rod distinctly swollen apically (Fig. 19), spermathecal bulb digitiform (Fig. 19).

Type species.—*Mormidea decora* Walker, 1867.

Comments.—This genus appears to be closely related to *Mormidea*, but can be separated from species of that genus by the general coloration, the sulcate tibial surfaces, and the differences in male and female genitalia. Species of *Mormidea* are usually brown to dark brown, often with white markings, but never metallic blue to green with head contrastingly pale. They also have the juga distinctly punctate, and the superior surfaces of the tibiae are rounded, asulcate. The male genital capsule may be variously formed, but never with large, posteriorly directed spines, and the spermathecal bulb is not digitiform, at least in the two species we examined—*M. lugens* (Fabricius) and *M. ypsilon* (Linnaeus).

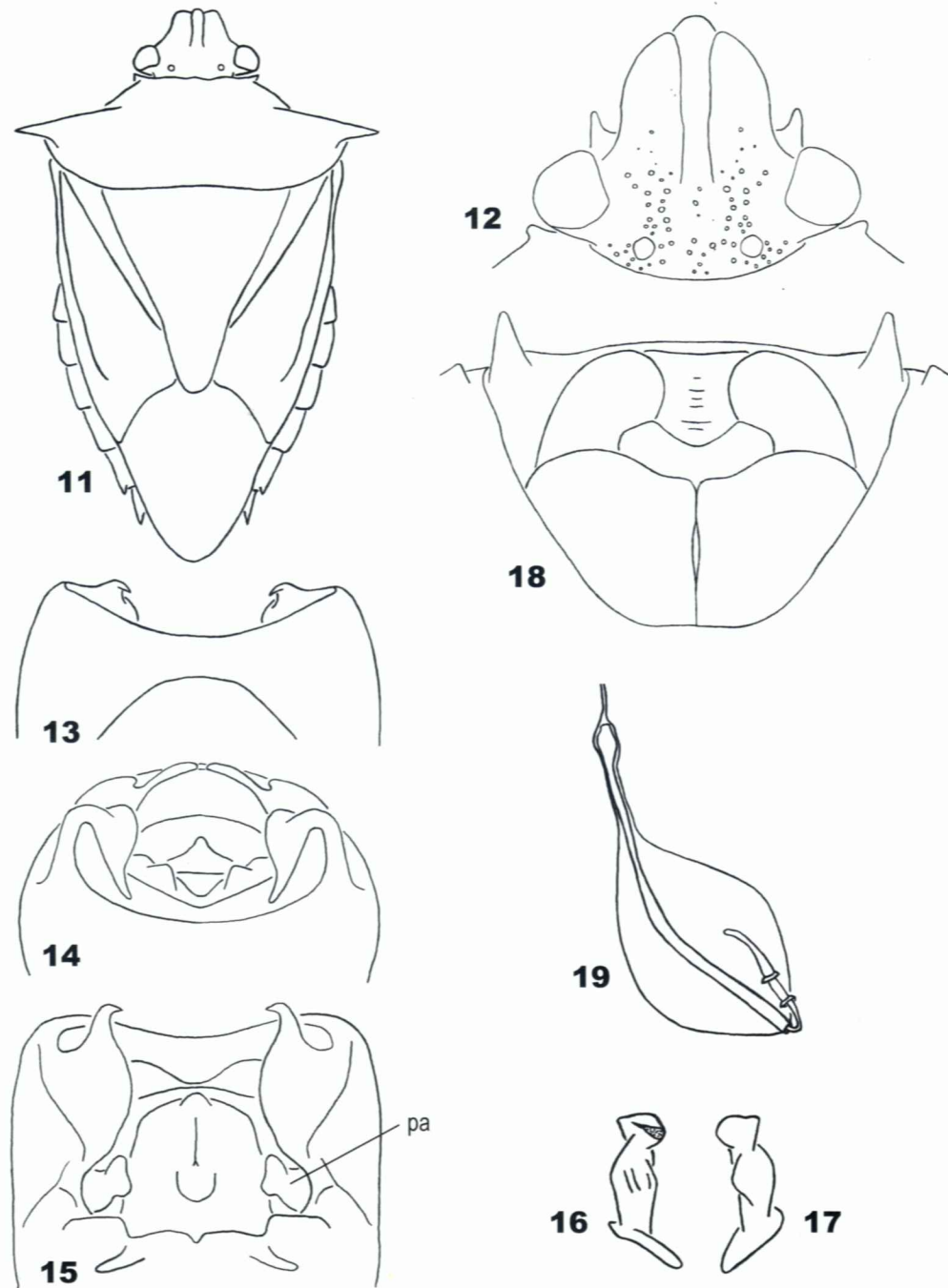
The genus is feminine.

Because this species has not been studied taxonomically since its original description, we have provided a detailed species description below.

Lattinellica decora (Walker, 1867), **new combination**
(Figs. 2, 11–19)

Mormidea decora Walker, 1867: 256.

Description.—Overall dorsal coloration dark blue to green metallic to nearly black, head contrastingly pale yellow to



Figs. 11–19. *Lattinellica decora*. 11, Dorsal habitus. 12, Head, dorsal view. 13, Pygophore, ventral view. 14, Pygophore, caudal view. 15, Pygophore, dorsal view. 16, Right paramere, lateral view. 17, Right paramere, mesial view. 18, Genital plates, caudoventral view. 19, Spermatheca. Symbol: pa, paramere.

yellow-orange (Fig. 2); ventral coloration yellow to yellow-orange with black markings. Punctures relatively weak and shallow, relatively dense on dorsal surface (absent on juga), nearly impunctate ventrally.

Dorsal surface of head yellow to yellow-orange, often with base of vertex and apex of tylus blackish, with a few dark punctures near ocelli, occasionally a few punctures extending forward onto bases of juga (Fig. 12). Juga and distal area of vertex with obliquely transverse wrinkles. Lateral margins of head distinctly sinuous, parallel and somewhat reflexed for middle third; tylus distinctly longer than juga, and somewhat enlarged apically (Fig. 12). Antennae black, segment I relatively short, not reaching apex of head; segment II longer than III.

Pronotum metallic green or blue, sometimes nearly black, often yellowish on each anterior tooth (behind compound eyes); punctuation very small, but evident, rather uniformly distributed, except more sparse near humeral angles. Anterior pronotal margin concave, distinctly reflexed behind vertex of head; anterolateral margins nearly straight, not reflexed; posterior margin anterior to scutellum nearly straight; humeral angles spinose, each spine directed laterally, and slightly posteriorly (Figs. 2, 11). Pronotal cicatrices obscure, but visible. Scutellum subtriangular, slightly inflated basally, entirely metallic blue-green to black; punctures similar to those on pronotum, becoming more sparse apically; apex narrowly rounded, nearly angulate. Coria entirely metallic blue-green to black; punctures larger, coarser than on pronotum and scutellum, nearly impunctate near apex of R + M vein. Distal margin of each corium nearly straight to slightly concave, apex somewhat obtusely produced (Fig. 11). Hemelytral membranes fumose, veins parallel. Connexiva contrastingly pale yellow to yellow-orange; posterolateral angles rectilinear, except last pregenital segment slightly

spinose in female, and strongly spinose in male specimens.

Ventral surface of head yellow to yellow-orange with some black markings on antennifers, and a few black punctures near base of head. Each buccula obtusely toothed anteriorly, evanescent posteriorly, ending distad from base of head. Rostrum dark brown to black, segment I reaching base of head, clearly surpassing posterior apices of bucculae; segment IV reaching at most to middle of metacoxae, usually reaching only anterior margins of metacoxae.

Propleura yellow to yellow-orange, with brown to black markings near front coxae, sometimes extending along anterior and lateral margins; nearly impunctate except for strong band of punctures along anterior margin, and a few weak punctures posteriorly. Prosternum slightly elevated, provided with numerous short whitish hairs. Mesopleura yellow to yellow orange, with brown to blackish areas medially, usually spilling onto central disk as large, black rectangular spot, and another smaller black spot sublaterally; with a few weak punctures along anterior margin, and a somewhat more dense patch of punctures just posterior to sublateral black spot. Mesosternum distinctly carinate, carina provided with many small, whitish hairs. Metapleura yellow to yellow-orange, except for large, round black spot laterad of evaporative areas, and much of evaporative area black (lateral marginal band and margins of ostiolar rugae always pale); punctures relatively coarse along posterior margin and on black lateral spot. Evaporative areas not overly extensive, reaching about half way to lateral metapleural margin and spilling onto posterior margin of mesopleura, rugulose, not punctate; ostiolar ruga short, auriculate, somewhat elevated distally. Front legs brown to black with superior surfaces of femora often becoming somewhat yellowish. Middle legs with coxae yellowish,

sometimes with slight dark infuscation; trochanters usually brown to black; femora usually yellowish with dark markings distally, the markings sometimes becoming more extensive throughout length of femur; tibiae and tarsi dark brown to black. Hind legs colored similarly to middle legs, except femora more distinctly marked: basal two-thirds to three-fourths yellow, distal one-third to one-fourth dark brown to black, boundary between colors rather sharp.

Abdominal venter yellow to yellow-orange, often with a large, broad black band on each side of middle on abdominal segments III–VI, the black markings often bleeding into median along abdominal sutures; abdominal segment II (first visible) always entirely pale, last nongenital segment usually pale. Abdominal venter impunctate, occasionally a few small, weak punctures visible laterally; usually with numerous, weak, vermiculate lines laterally. Third abdominal segment not produced medially.

Male genital capsule rather large, black, lateral margins of genital cup folded inward, and then produced posteriorly into a rather large spine on each side, apex of each spine curved mesad (Figs. 14, 15); inferior ridge with small U-shaped emargination, with a small, obtuse projection on each side of emargination (Fig. 14); superior ridge with broad, shallow emargination, slightly V-shaped medially (Fig. 15). Ventral margin of pygophore, in ventral view, arcuately concave (Fig. 13). Parameres rather small, slightly swollen in middle, narrowing, and then swollen again distally, anterior margin rounded, posterior margin more angulate (Figs. 16, 17). Proctiger complex, basal area granulate, inflated, U-shaped, with deep pit medially between arms of U; with large, obtuse projection just posterior to pit; posterior half somewhat saddle-shaped with distal margin produced upwards, angulate to somewhat spinose.

Female genital plates rather large, more or less brown to black, sometimes invaded with yellow; posterior margins of basal plates sinuous, mesial margins nearly straight, contiguous for most of their length (Fig. 18); ninth paratergites rounded apically; eighth paratergites each provided with large, black, lateral spine (Fig. 18). Spermatheca rather small, typically sclerotized parts only weakly sclerotized; sclerotized rod long, slender, becoming distinctly swollen apically (Fig. 19); spermathecal bulb digitiform (Fig. 19); spermathecal duct relatively short, not convoluted.

Measurements.—Total length 6.73–7.84; total width across humeri 5.11–5.79; medial length of pronotum 1.51–1.76. Medial length of scutellum 2.90–3.11, basal width 2.50–2.85, width at distal end of frena 1.11–1.23. Head length 1.37–1.47, width 1.83–1.92, width between ocelli 0.47–0.52, width between eyes 1.01–1.13, distance from ocellus to adjacent eye 0.21–0.24, diameter of ocellus 0.10–0.12. Length of antennal segments: I 0.31–0.34, II 0.71–0.80, III 0.58–0.69, IV 1.17–1.25, and V 1.10–1.18. Length of rostral segments: I 0.78–0.85, II 1.13–1.24, III 0.48–0.52, and IV 0.57–0.60.

Type material.—Walker (1867) described *Mormidea decora* from a single specimen from Ega, Brazil. The type was not examined, but it is clear from Walker's original description, and from Distant's (1900b) notes, that this is the species Walker described. The holotype is deposited in the British Museum of Natural History, London.

Distribution.—Brazil, Colombia, Ecuador, Peru.

Material examined.—Brazil: Est. Aleixo, Pomar, Manaus, Amazonas, 29-V-1968, E. V. Silya (1 ♀, DAR); Santa Julia, Croisière du Mercator, 23-I-1936, W. Adam (1 ♂ 1 ♀, ISNB). Colombia: Prov. Amazonas, Leticia, April 2–7, 1975, D. Engleman (1 ♀, DAR). Ecuador: Napo Prov., Puerto Napo, along Rio

Napo, 465 m, IV-17-1984, R. S. Zack (3 ♂♂ 1 ♀, WSUC; 1 ♂, DAR); Napo Province, Puerto Napo, island nr bank of Rio Napo, elev. 464 m, 7 April 1984, R. W. Sites (1 ♀, WSUC); Pastaza Prov., Coca on Rio Napo, V-1965, L. E. Pena (3 ♂♂ 1 ♀, AMNH; 1 ♂, DAR); Zam.-Chin. Prov., Zamora, 6 June 1976, A. Langley et al. (1 ♂, USNM); Cumbaratza, III-31-65 (1 ♀, CASC). Peru: Contamana, IV-14-63, L. Pena (1 ♀, AMNH); Iquitos, Amazonia, 11-II-77, Heiss (2 ♀♀, DAR); Madre de Dios, Puerto Maldonado, 1-I-1984, L. Huggert (1 ♀, MZLU); Madre de Dios, Rio Tambopata, Agua Negra, Primary rain forest, 19-I-1981 (1 ♀, MZLU); Rio Santiago, IX-5-30 (1 ♂, AMNH).

Comments.—The size, shape, coloration, and pattern of punctuation of this species are unique among New World pentatomines. There are several other pentatomine species that are somewhat metallic, but they tend to be much larger (e.g., *Rhyssocephala* Rider, *Runibia* Stål, *Vulsirea* Spinola). Several asopine species (e.g., *Zicrona* Amyot & Serville) are metallic and approximately the same size as this species, but they have the enlarged rostrum characteristic of predatory species. The pentatomine genus *Senectius* Rolston is about the same size, and does have some metallic coloration, but it is more variably colored with distinct white markings, and the ostiolar rugae are elongate, acuminate apically. At least one species of *Mormidea* (*Mormidea speciosa* Haglund) tends to have a metallic sheen, but it also has white markings on the scutellum, the juga are distinctly punctate, and the male genitalia are distinctly different.

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