

Concerning new and old species of *Heza* (Hemiptera:Reduviidae)¹

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ABSTRACT

Four new species of *Heza* are described, compared with related taxa, and partial keys are given to separate the new from the old species. New records are added to the known geographical distribution of five species of this Neotropical genus.

INTRODUCTION

Material from various sources sent to me for study included the four new species of *Heza* described below and several new records for Latin American countries. The types of the new species are deposited in the collections of the National Museum of Natural History (NMNH), Washington, D.C., the Museum National d'Histoire Naturelle (Paris), Paris, France, the American Museum of Natural History (AMNH), New York City, and in my collection (JMC). Measurements are given in mm. Length of anterior lobe of head means the distance from the anterior margin of the eye to the anterior end of the head; length of posterior lobe, from the posterior border of the eye to the base of the neck.

RESULTS

Family Reduviidae

Subfamily Harpactorinae

HEZA BINOTATA (Lepelletier & Serville, 1825)

A male from Paraguay, Caaguasú District, Estancia Primera, 17 Jan. 1932, R. F. Hussey collector, taken on *Citrus*; in NMNH. The red appendages and spines of the pronotum identify this species. The male exhibits a pair of clusters of yellowish scale-like hairs laterally on the posterior lobe of the pronotum contiguous to the anterior lobe and 1+1 small spots above. These last six spots are also present in the female. Some details of the genital capsule are illustrated in figures 5 and 6. The spine of the hypopygium is slanted caudad. The spine is also slanted and

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capped in *H. ruber*, a species also with reddish appendages. In *H. ruber* the cap of the spine is flattened and the shaft is longitudinally concave. This specimen measures 17 mm, while females discussed in my monograph measure 21–22 mm.

Heza ephippium (Lichtenstein, 1797)

In my monograph of this genus⁴ the date is erroneously given as 1974. A specimen from Satipo, Peru, July 10, 1941, from the collection of the NMNH represents a new record.

Heza sericans (Stal, 1859)

A specimen from Brazil, the type locality, in my collection. A record from Trinidad, Matura, extends northward the distribution of the species; in JMC. A specimen from Brazil, Brasilia, reported in my paper in 1976 as this species is declared a paratype of *Heza scutellata*, new species described below.

Heza similis Stal, 1859

As mentioned in my paper of 1976 this species is quite close to *H. ephippium*. Examination of additional specimens shows dispersed clusters of yellowish or golden scale-like hairs on the thorax and forewings that give the insect a sparsely freckled appearance and the last two pairs of legs are greenish in many specimens. *H. ephippium* lacks these clusters. Being wider, *Heza ephippium* is a more robust species; besides, its general color is lighter than that of *H. similis*.

Specimens from Honduras, Dept. Morazán, Esc. Agric. Pan., Zamorano, at 2,600, ft. Aug. 23, 1948, T. H. Hubbel collector, in the collection of the Museum of Zoology, University of Michigan (UM). A female from Paraguay, Villa Rica, 1 February 1921, P. Jorgensen collector, a new record for this country; in the NMNH.

Heza multiguttata Champion, 1899

A specimen from Panama, Barro Colorado Island, 25–28 March 1965, SS and WD Duckworth collectors; in NMNH. A new record for Panama.

Heza bahamensis NEW SPECIES

Male—head dark brown; subantennal spine mostly yellowish; antenna light brown, fourth segment turning to dark brown after midlength; beak light brown. Pronotum dorsally brown, spines yellowish; laterally light brown and slightly darkening towards anterior margin. Legs same shade of light brown as pronotum laterally on posterior half; apices of femora

⁴ Maldonado Capriles, J. 1976. The genus *Heza* (Hemiptera:Reduviidae), J. Agric. Univ. P.R. 60 (3):403–33.

and tibiae and tarsi slightly darker; coxae brown. Disc of scutellum blackish brown, apex brown, apical spine yellowish. Forewing apical $2/3$ of clavus, inner cell of corium, quadrangular cell, anal area and basal area of first cell of membrane brownish, darker than remaining parts of clavus, corium and pterostigma, which have the same shade of light brown as legs; membrane somewhat opaque, so that reflected light at certain angles makes it look as dark as apical $2/3$ of clavus; in this case the forewings look light brown laterally and broadly dark brown medially. Abdominal sterna brown to about $2/3$ the distance from the midline to the connexival margin, thence light brown to the connexival margin; these contrasting colors result in a pattern similar to that of the forewings; a light brown basal oval spot close to the abdominal suture and before the end of the brown medial area (fig 8).

Head: length 3.8, length of anterior lobe 1.4, length of posterior lobe 1.7, width across eyes 1.9, interocular space 0.8, subantennal spine 0.6. Antenna: I, 6.2; II, 2.5; III, 6.0; IV, 2.1; first antennal segment moderately pilose. Pronotum: length of anterior lobe 1.5, length of posterior lobe 2.1, width of anterior lobe 2.4, width at humeral angles 3.9; sulci of anterior lobe not well defined; posterior lobe transversely corrugate; spine of anterior angle short, sharp, outwardly and slightly anteriorly angled; no discal spines on anterior lobe; spines of posterior lobe not too long, 0.2–0.3 mm longer than subantennal spine; posterior margin shallowly and widely concave above scutellum. Scutellum with the typical V-shaped carina; postscutellar spine short and upcurved. Femora: lengths 6.8:4.8:7.0; anterior femora the thickest. Abdomen: first three connexival segments long spined, others unspined; apex of last abdominal tergum oval. Genital capsule: spine of posterior margin on outer surface of hypopygium, very slightly tapering to a round apex, outside of claspers, and almost reaching upper surface of last tergum (fig. 9). Length 14 mm.

Holotype—Male, Grand Bahama Island, Pine Ridge, May 13, 1954, AMNH Bahama Islands Expedition; E. B. Hayden and G. B. Rabb collectors.

Heza acantharis (L.), *H. ornata* Maldonado, *H. funebris* new species, *H. bahamensis* new species, *H. haitiana* Maldonado, and *H. cañizaresi* Bruner form an Antillean group. They have the anterior angle of the pronotum spined, are ornamented with mostly yellow spines, the disc of the anterior lobe of the pronotum unspined, the posterior angles of the connexival segments long spined; the plica is broad, not sharp (I do not know how the plica is in *cañizaresi*). *H. acantharis* and *H. ornata* key out together as they have five connexival segments spined. The other four have three connexival segments spined, and therefore run to couplet 14 in my key (1976).

Key to the Antillean species of *Heza* with three connexival spines

- 14.0 Head, pronotum, abdomen, and femora blackish brown. Jamaica *H. funebris* new species
 Body much lighter, only some regions brown 14.1
- 14.1 Scutellum with apex rounded, horizontal; connexivum with small dark spot on apical angle of segments 4 and 5, others unspotted. Cuba *H. cañizaresi* Bruner
 Scutellum with apex sharp, upcurved; apical angle of connexival segments broadly marked with brown or unmarked 14.2
- 14.2 Anterior lobe of pronotum much darker than posterior; apex of scutellum long; sutures of connexival segments broadly marked with dark brown. Haiti *H. haitiana* Maldonado
 Anterior lobe of pronotum brownish, posterior slightly lighter; apex of scutellum short; connexivum uniformly yellowish. Bahama Islands *H. bahamensis* new species

HEZA FUNEBRIS NEW SPECIES

Male—mostly blackish brown and ornamented with yellowish spines. Head blackish brown, a dorsal median brownish line from base of head to slightly beyond interocular sulcus; beak with first two segments orange, third brownish red; antenna brown, with two yellowish annuli, these forming three brown bands, the brown band at midlength, the longest; last three segments brown, the third with a short yellowish basal annulus; apical half of subantennal spine yellowish. Pronotum blackish brown, the spine at the anterior angles and the four spines of posterior lobe with apical half yellow. Legs: coxae shiny blackish brown; trochanters orange-red; femora polished blackish brown, mesofemur with preapical yellowish brown annulus, hind femur with midlength and preapical annulus; tibiae: same shade of brown as antenna, first with a basal and about midlength yellowish annulus, middle with similar annuli and with apical half lighter brown, hind with same color pattern of midtibia but with apical half light brown and dark brown at apex; tarsi brown. Mesopleura, metapleura, forewings, and abdomen blackish brown; connexival segments yellow except basally and apically, thus with the base of the spines of connexivum blackish brown.

Head: width across eyes 2.15, interocular space 0.9, anteocular space 1.6, postocular space 1.6, length of head 4.0; subantennal spine 1.0, vertical. Antenna: I, 7.4; II, 3.1; III, 5.8; IV, 3.3; I and II with semivertical fine hairs slightly longer than or about as long as thickness of segment, last two with abundant very short microsetae. Beak: I, 1.9; II, 2.9; III, 0.8. Pronotum: spine of anterior angle pointing sidewise and approxi-

mately at 45° , 1.4 long; anterior lobe with halves semiglobular, ornamented with sulci, median sulcus barely visible anteriorly and very deep where it meets the posterior lobe; a carina on each side of median line well defined and extending to about basal third of posterior lobe; posterior lobe: transversely finely corrugate, the four spines shorter than anterior spines (fig 2); length 4.1, greatest width of anterior lobe 2.7, width of posterior lobe at humeral angles 4.4, length of posterior lobe 2.5, length of anterior lobe 1.4. Mesoscutum exposed; scutellum with elevated V-shaped carina, postscutellum produced into a sharp spine that is slightly longer than the anterior pronotal spine (fig 3). Abdomen: connexival margin of first three segments long spined apically, fourth with a triangular apical projection, fifth very slightly projected; greatest abdominal width before spine of fourth segment, 4.7; sterna finely transversely corrugate. Legs: femora 6.9:6.3:7.5; forefemur slightly thickened basally, second and third thinner than fore and slightly swollen preapically. Pilosity: head, thorax and abdomen with relatively abundant fine hairs about 2.0 mm long; silvery short hairs on mesoscutum and non-membranous parts of hemelytra, on the latter some silvery scales in small inconspicuous groups; femora and tibiae abundantly long pilose, under-surface of foretibia and forefemur with short tightly packed sensory hairs; apical fourth of foretibia expanded and with a transverse row of sensory elements near the apex of the segment. Overall length 16.5 mm. Hypopygium as in figures 1 and 4.

Female—coloration as in male. Head: width across eyes 2.15; interocular space 1.0, anteocular space 1.4, postocular space 1.6, length of head 3.8; subantennal spine 1.0, vertical, slightly curved. Antenna: I, 8.0; II, 3.4; III, 6.1; IV, 3.3. Beak: I, 1.8; II, 2.0; III, 0.8. Pronotum ornamented as in male; greatest width of anterior lobe 2.7, length of anterior lobe 1.4, length of posterior lobe 2.8, width of posterior lobe at humeral angles 4.0. Abdominal spines and sterna as in male. Femora: 7.5:6.0:8.5. Pilosity as in male. Seventh tergum: margins rounded, with apical margin straight above eighth tergum. Overall length 16.5 mm.

Holotype—male, Jamaica, W. I., St. Thomas, Morant Bay Rd., 14.5 mi E of Kingston, 19 Nov 1961, Th.H. Farr collector; in NMNH, Cat. No. 100302. Allotype—female, Jamaica, W. I., St. Thomas, Morant Point, 8 May 1964, Th. H. Farr collector. Paratypes—Jamaica: female St. Thomas, 15 mi E. of Morant Bay, June 1959, Th. H. Farr coll.; female, St. James, Montego Bay, 15 Dec. 1951, H. B. Southby coll; in JMC; male, St. Thomas, Oct. 1960, Th. H. Farr collector; in AMNH. Closer to the also blackish *H. ornata* from Puerto Rico. See under *H. bahamensis* new species about how to separate *H. funebris* from allied species.

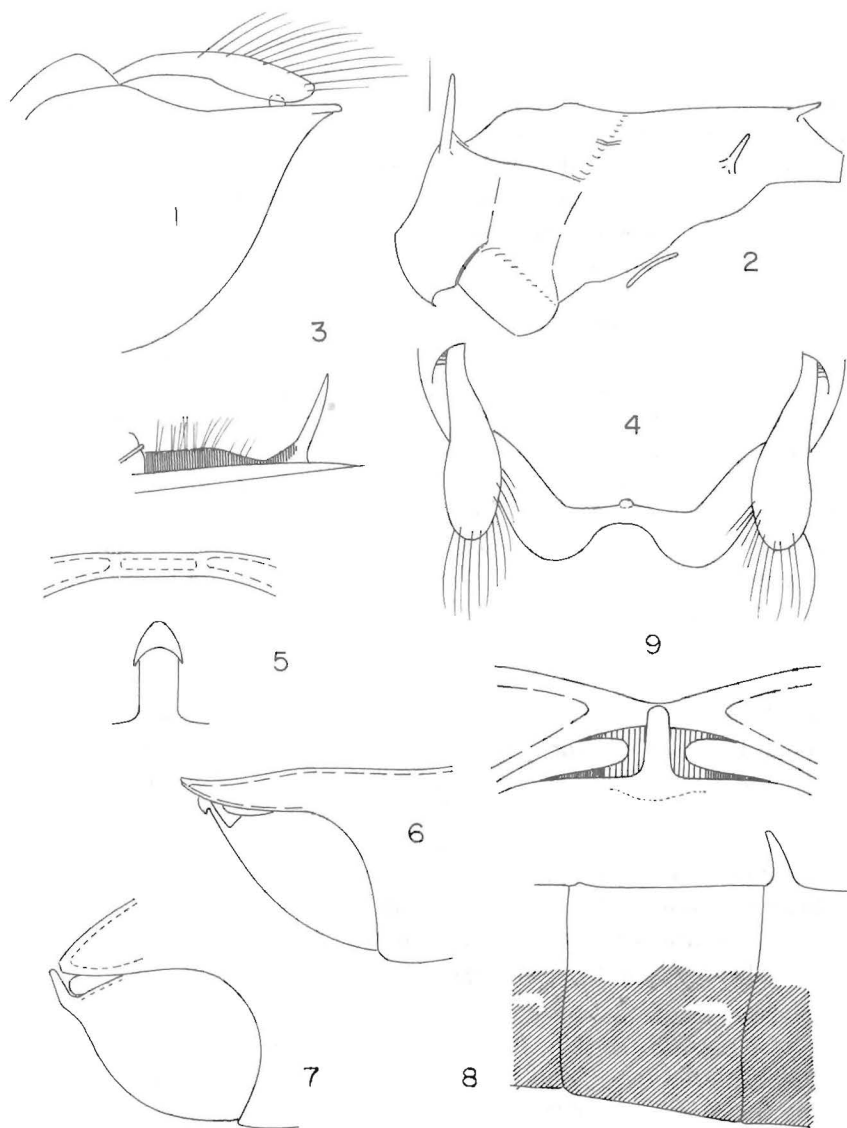


PLATE I.—*Heza funebris* new species, male. 1. genital capsule, apex, lateral; 2. pronotum, lateral; 3. scutellum, lateral; 4. genital capsule, dorsal.—*Heza binotata* (Lepelletier & Serville), male. 5. detail of apex of hypopygium, caudal; 6. genital capsule, lateral.—*Heza bahamensis* new species, male. 7. hypopygium, lateral; 8. 3-5 abdominal segments, lateral; 9. apex of hypopygium, caudal.

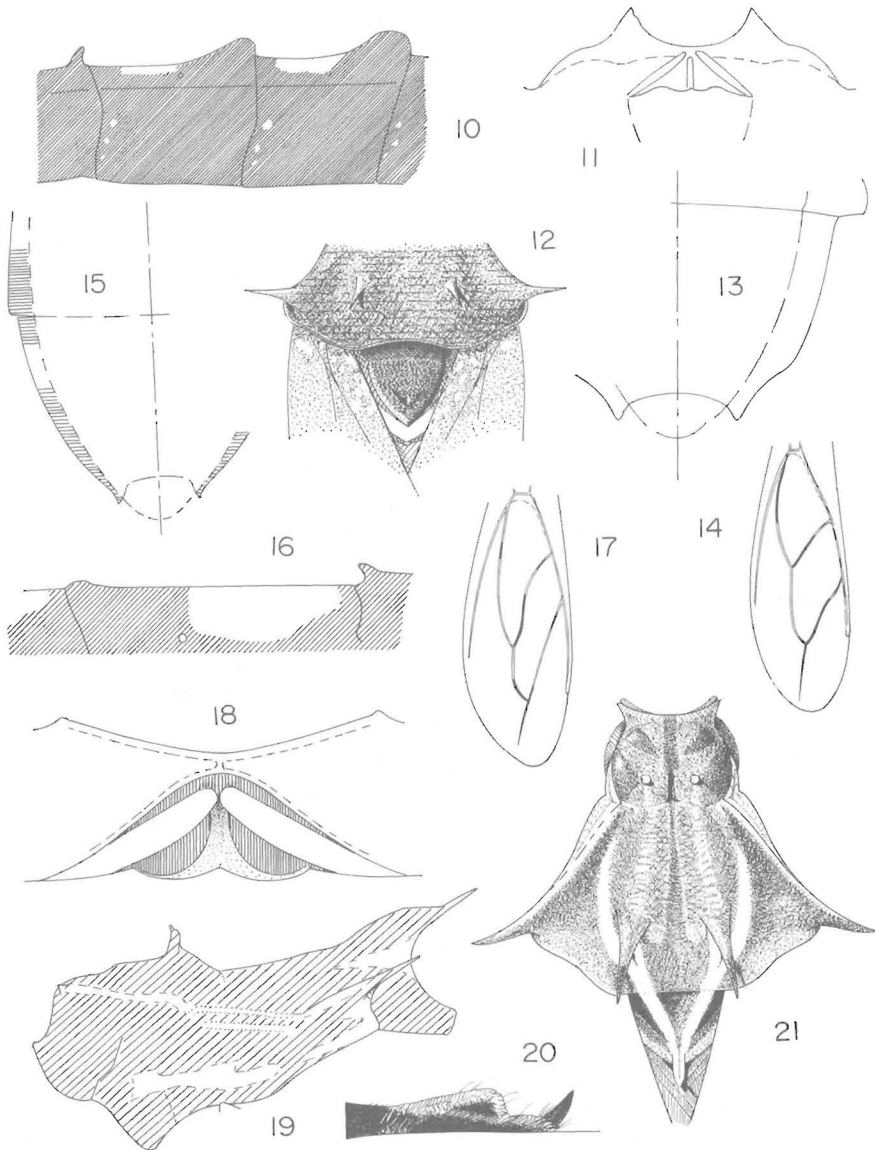


PLATE II.—*Heza undulata* new species, male, 10. 4-6 abdominal segments, lateral; 11. abdominal apex, caudal; 12. base of pronotum and scutellum, dorsal; 13. seventh tergum, dorsal; 14. cells of membrane.—*Heza scutellata* new species, male, 15. apex of abdomen, dorsal; 16. 3-4 connexival margins, lateral; 17. cells of membrane; 18. genital capsule, apex, caudal; 19. pronotum, lateral; 20. detail of apex of scutellum, lateral; 21. pronotum and scutellum, dorsal.

HEZA ONDULATA NEW SPECIES

Male—overall color: head, thorax and abdominal sterna brown; forewings contrastingly light brown. Beak: dorsally and last segment dark shiny brown. First antennal segment brown with a somewhat poorly defined yellow annulus each at fourth- and at three-fourth lengths; II lighter due to the presence of abundant yellowish microsetae; III and IV missing. Pronotum: anterior lobe mostly darker brown than posterior, lighter brown bands in an irregular pattern densely covered with golden appressed short scale-like hairs; posterior lobe and pleurae with abundant scale-like golden hairs, mesopleura with an inverted U-shaped bare area below humeral angle of forewing. Scutellum: elevated V-shaped discal area brown, with abundant whitish scale-like hairs along the margins of the scutellum and over the postscutellar spine. Hemelytra: extensive clusters of whitish scale-like hairs on basal half of clavus and less extensively and not clustered on base of corium; veins of corium concolorous; vein along inner side of pterostigma with alternating dashes of dark and light brown; membrane transparent, veins concolorous and brownish as illustrated (fig 14), finely corrugate. Abdomen: sterna with abundant short appressed pilosity leaving irregularly arranged, small, round bare areas: contiguous to sutures with 3 + 3 or 4 + 4 small whitish spots formed by scale-like hairs. Legs: femora brown with three yellowish annuli; tibiae with same coloration, in a bent leg the corresponding annuli do not face each other; forelegs with long vertical and shorter inclined pilosity except in areas with the typical sensory pilosity.

Head: length 4.5, anterior lobe 1.7 long, posterior lobe 2.0, width of head across eyes 2.7, interocular space 1.1; subantennal spine long and sharp, longer than height of eye (1.7:1.2). First segment of beak surpassing eye by about 0.05. Ocelli well elevated. Antennal segments: I, 10.0; II, 2.2; III and IV missing; I and II with microsetae only. Pronotum: length of anterior lobe 1.8, length of posterior lobe 3.2, greatest width of anterior lobe 2.8, width of humeral angles 5.2, spines on disc of anterior lobe long, sharp; anterior angle of pronotum sharp but not produced; posterior margin concave about scutellum. Anterior femur the thickest; length of femora 10.8: 8.4:12.5. Forewing with apex slightly surpassing tip of abdomen; venation as in figure 14, angle of A and Cu cephalad to insertion of M. Connexival margin: first three segments short spined, next two slightly foliate, last tergum as in figure 13. Genital capsule: apical spine of hypopygium receded from apical margin, partially hidden by the apices of claspers, long, sharp, straight, narrow, and slightly inclined cephalad; upper margin of hypopygium bisinuous, claspers resting on the outer sinuosity and consequently raised at an obtuse angle and both meeting at almost 90°, apically with long whitish hairs and shaft with few similar hairs. Overall length 23.5 mm.

Holotype—male, Brazil, Corumba, Matto Grosso, H. G. Barber collector, 1950; in the NMNH, Cat. No. 100303. Paratype—Surinam, Moloko Imené, 1 Dec. 1975, Sauffret and Pompanon colls; in Paris.

Having three-spined connexival segments, two long sharp spines on disc of anterior lobe of pronotum, and the last tergum narrowly concave runs to the second part of couplet 11 of key to the species (1976) together with *H. sericans*. The latter lacks the white scales on the scutellum and the apical half of the connexival margin is straight, not undulate. *H. scutellata* new species, described below, also runs to this part of the key. A partial key to separate these three species is given under *H. scutellata*. The trivial name makes reference to the undulate margin of the apical half of the abdomen.

HEZA SCUTELLATA NEW SPECIES

Male—mostly light brown above, slightly darker below. Head: anterior lobe, posterior lobe below, first two segments of beak light brown; posterior lobe above and third segment of beak darker brown. Antenna: I segment brownish, with two short yellowish annuli; II mostly yellowish, light brown basally, brownish apically; III yellowish basally, thence light brown and gradually darkening to brown apically; IV brownish, basal half slightly lighter. Subantennal spine dark brown on middle third, apex yellowish, basal third as anterior lobe of head. Pronotum brownish, the spines of the posterior lobe brownish, spine on humeral angle with apical third yellowish; an inconspicuous yellowish band extending from the vicinity of the spine on disc of anterior lobe to the base of the corresponding discal spine of the posterior lobe; similarly formed band laterad to this yellowish band, extends from near base of the posterior lobe lateral to discal spine, along carina of scutellum, and dorsally over apical spine of postscutellum; lateral margins densely covered with ivory-white scale-like hairs from anterior angle to base of humeral spine (fig. 21); a shorter similar band from discal spines of posterior lobe to the posterior margin and mesad to the long whitish band; pronotum laterally with another similar whitish band under the band of the upper lateral margin, lowermost submargin banded from under the humeral spine to the acetabulum (fig. 19), margin blackish brown. Scutellum brownish, with an ivory band on the carina that basally meets the whitish bands on the pronotum. Anterior leg: coxa brown posteriorly, light brown anteriorly; trochanter brown; femur brownish with three inconspicuous yellowish annuli, the very short microsetae leaving abundant small round bare spaces easily discernible against the brownish areas of the segment; tibia similarly colored, the three yellow annuli well defined on the anterior face of the segment. Middle and hind legs similarly colored; coxae with the inner

surface brownish, slightly lighter than the brownish areas of pronotum. Hemelytra light brown, same shade as anterior lobe of head, white scale-like hairs along the inner vein of the quadrangular cell; membrane with a golden hue; veins mostly concolorous, brown as follows: dash at mid-length of A, apical half of Cu, apical half of Cu+A, apical half and short dash near base of M (fig 17). Abdomen mostly light brown; median ventral line brownish, bare; on lateral view blackish brown to about midheight; the golden microsetae leaving round bare areas as in the femora, these bare areas light on dark; contiguous to first four sutures with 2 + 2 small patches of whitish scale-like hairs; connexival margins yellowish, blackish brown basally and apically. Abundant golden appressed microsetae on body, legs, and forewings (except membrane); moderately abundant long and vertical pilosity on legs, shorter and less abundant on body.

Head: length 3.8, anterior lobe 1.3 long, posterior lobe 1.7 long, width across eyes 2.0, interocular space 0.9; subantennal spine 1.0, vertical; ocelli well elevated; first segment of beak almost reaching posterior margin of eye. Pronotum: anterior lobe greatest width 2.5, length 1.5; posterior lobe 3.0 long, width at humeral angles 4.7; spines of disc of anterior lobe of pronotum moderately long, apex somewhat sharp and pointing cephalad (fig 19); spines of posterior lobe: discs inclined backward, heavy set basally and spines near humeral angles sharp, slightly curved as seen from above. Plica sharp, well developed (fig 19). Scutellum with V-shaped discal carina; postscutellar spine relatively short, apex round, horizontal. Forefemur the thickest; lengths 8.5:7.0:9.5, their apex shortly bispinous. Fore and mid tibiae apically with an elevated ridge ending in a small transverse row of fine sensory elements. Forewings with apex slightly surpassing tip of abdomen; venation as in figure 17; angle of A and Cu caudad to the insertion of M. Connexival margin: first three segments spined, fifth and sixth with conical apical expansions, seventh as in figure 15. Claspers elongate, cylindrical, almost meeting medially; spine of hypopygium receded from apical margin, slender, sharp, apex hidden by claspers; upper margin of hypopygium bisinuous, claspers resting on outer sinuosity, thus angled upward and meeting almost at 90°; claspers and upper border of hypopygium with white and black setae, margin of connexivum with black hairs.

Female—coloration much as in male. Differences as follows: the fore and posterior lobes of head of same color, brownish; pronotum without the longitudinal yellow band from anterior lobe to discal spines of posterior lobe; spine of postscutellum with scales laterally, not dorsally; pronotum laterally more extensively covered with white scale-like hairs. Suture of abdominal sterna uniformly brownish, with 3 + 3 contiguous whitish spots; last sternum with abundant whitish scale-like hairs.

Head: length 3.7, anterior lobe 1.2, posterior lobe 1.5 long, width across eyes 2.0, interocular space 0.9, subantennal spine vertical, 1.1; first segment of beak as in male. Pronotum: length of anterior lobe 1.3, greatest width of anterior lobe 2.3, length of posterior lobe 2.8, width at humeral angles 4.8; discal spines 0.7, sharper than in male; discal spines of posterior lobe slender and vertical, humeral spines as in male. Scutellum shaped as in male; postscutellar spine upcurved. Plica, connexival margin, distribution of microsetae as in male. Apex of last abdominal tergum shallowly bilobed. Length 23.5 mm.

Holotype—male, Peru, Hacienda María, Prov. Paucartambo, Dept. Cuzco, shores of River Cosnipata, Feb. 27, 1952, F. Woytkowski collector; in the NMNH, Cat. No. 100304. Allotype—female, Trinidad, Simla, Feb. 9–11, 1966; in the NMNH. Paratype—male, Venezuela, Qda. Camburi, Caracas, 21 Dec. 1975, J. M. Ayala collector; in JMC. Paratype—Brazil, Brasilia; in JMC.

The discal spines of the posterior lobe of the pronotum are vertical in the female and inclined in the male, this is a secondary sexual character not present in the other species of the genus. As both sexes have first three connexival segments spined, this species runs to couplet 11 of my key to the species. This puts it close to *H. undulata* new species, *H. sericans*, and *H. fuscineris*. The conspicuous white band on the posterior lobe of the pronotum and the scutellum characterizes this species. The presence of long black fine hairs along the border of the connexival margin, the upper margin of the hypopygium, and the claspers also separates it from *H. undulata*. The conspicuously white scutellum is the reason for the trivial name.

Key to *H. scutellata* and allied species

- 11.0 Last tergum of male broadly concave apically, body thickly griseo-pubescent; females with veins of membrane blackish to midlength. Mexico-Panama *H. fuscineris*
 Last tergum of male narrowly concave apically, body moderately short pilose; both sexes with all or most veins of membrane whitish basally 11.1
- 11.1 Pronotum and scutellum or scutellum with dense lines of whitish scale-like hairs; posterior margin of hypopygium bisinuous . . . 11.2
 Pronotum and scutellum without dense lines of whitish hairs; posterior margin of hypopygium straight 22–24 mm, Brazil
H. sericans
- 11.2 Posterior lobe of pronotum without whitish lines of scale-like hairs; margins of scutellum densely clothed with scale-like hairs; apical angles of last two connexival segments of male expanded . . .
H. undulata new species

Posterior lobe of pronotum with whitish lines of scale-like hairs that extend into scutellum; scutellum with discal carina densely covered with whitish scale-like hairs; apical angles of last two connexival segments not expanded *H. scutellata* new species

RESUMEN

Cuatro nuevas especies de *Heza* (Hemiptera:Reduviidae) se describen, ilustran y se comparan con las respectivas especies afines mediante el uso de claves parciales. Se señalan nuevos registros zoogeográficos para otras cinco especies. El material tipo de las nuevas especies está depositado en el National Museum of Natural History, en Washington, D. C., Museum National d'Histoire Naturelle, en París, American Museum of Natural History, en Nueva York y en la colección del autor.