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JUN 15 1966

Nr. 84

15. Dezember 1965

HARVARD
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Notes on Neotropical Aradidae XV

(Hemiptera-Heteroptera)

By Nicholas A. Kormilev

Through the kind offices of Dr. Heinz Freude of Zoologische Staatssammlung München, I had a privilege to study a lot of Neotropical *Aradidae*, for which I express him my sincere gratitude. In this lot, among more common species, were two new species, described elsewhere in this paper. One belongs to the small, curious genus *Proxius* Stål, 1873, and another to the genus *Mezira* A. S., 1843. Besides these two species were added descriptions of two new species belonging to the genus *Aneururus* Curtis, 1825, one received some years ago from Rev. Pio Buck, S. J. of Colegio Anchieta, Porto Alegre, Rio Grande do Sul, Brazil, and another from Mr. Fritz Plaumann, of Nova Teutonia, Santa Catarina, Brazil, to whom I also extend my thanks.

Subfam. *Aneurinae* Douglas & Scott, 1865

Genus *Aneururus* Curtis, 1825

1. *Aneururus plaumanni* n. sp. (Figs. 1—3)

Male. Ovate, shiny.

Head shorter than width through the eyes (δ —13.5:15, φ —14:15.5). Anterior process conical, rounded apically, reaches to the tip of antennal segment I; genae in dorsal aspect seen as two (1+1) small lobes. Antenniferous tubercles short, truncate anteriorly, and slightly angular exteriorly. Eyes small, protruding. Postocular tubercles strong, angular, almost reaching to the outer border of the eyes. Vertex transversely rugose; mesad, and a little behind of the eyes are placed two (1+1) elongate ovate callosities. Antennae slender and long, more than twice as long as the head (δ —34:35, φ —34.5:35); antennal segment I barrel-shaped, II and III slightly tapering toward the base, IV elongately fusiform. Proportions of the antennal segments, I to IV, are: δ —5:7:8:14, φ —5:7.5:8:14. Rostrum short, does not reach to the hind border of rostral groove.

Pronotum less than half as long as its maximal width (δ —15:33, φ —16:34). Fore lobe much narrower than the hind lobe (δ —24:33, φ —25:34). Collar slender, sinuate in front. Antero-lateral angles rounded; lateral borders of the fore lobe divergent backward, slightly convex, some times almost straight; lateral borders of the hind lobe convex, strongly converging anteriorly. Hind border sinuate in the middle, convex laterally. Fore disc with a short, shallow, median sulcus, which does not reach to the collar; hind disc transversely

rugose in the middle anteriorly, punctured posteriorly, and glabrous laterally.

Scutellum almost semicircular, half as long as width at the base (δ —10:20, φ —10:20); disc longitudinally striate in the middle, and concentrically along the borders.

Hemelytra reach almost to the fore border of tergum VII (δ), or to 3/4 of tergum VI (φ). Corium is longer than scutellum, its outer border carinate; membrane large and rippled.

Abdomen ovate in both sexes, longer than maximal width (δ —73:50, φ —74:52.5). Connexivum flat, very finely punctured; tergum glabrous. PE-angles of connexiva not protruding. Hypopygium large, pear-shaped; paratergites (δ) small, obliquely truncate posteriorly, reach slightly over the middle of hypopygium. In the female, paratergites small, subtriangular, reach to the tip of a very short, truncate segment IX. Spiracles sublateral on II; ventral, placed far from the border on III to VI; lateral, and visible from above, on VII and VIII.

Color: reddish brown; head laterally dark reddish brown to blackish; antennae, clypeus, tibiae, and tarsi, yellow brown.

Total length: δ —4.64, φ —4.68 mm.; width of pronotum δ —1.32, φ —1.36 mm.; width of abdomen 0—2.0, 0—2.10 mm.

Holotype: δ , Brazil, Santa Catarina, Nova Teutonia — F. Plaumann coll., 2. XI. 1940; deposited in the collection of the author.

Allotype: φ , collected with the holotype; in the same collection.

Paratypes: 1 δ & 2 φ , collected with the holo- and allotype; in the same collection, and Plaumann collection.

It is a pleasure to dedicate this species to its collector Mr. Fritz Plaumann, who has collected many new species and genera of *Aradidae*.

Aneurus plaumanni n. sp. is related to *A. subdipterus* Burmeister, 1835, but differs from it by smooth lateral borders of the pronotum (finely serrate in *A. subdipterus*) and by paratergites which in the male are shorter, reaching only slightly behind the middle of hypopygium, and in the female only reaching to the hind border of segment IX.

2. *Aneurus bucki* n. sp. (Figs. 4—5)

Female. Ovate, shiny. Related to *A. plaumanni* n. sp., but a little larger, and more robust. Antenna slightly heavier, but of the same type. Anterior process reaches to the tip of antennal segment I. Genae adherent to the clypeus, and not visible from above as small lobes. Eyes relatively larger, and more protruding. Postocular tubercles much more robust, and rounded, do not reach to the outer border of the eyes. Pronotum with antero-lateral borders rimmed. Two (1+1) short carinae on the propleura are visible from above behind rimmed portion of the borders. Abdomen in both species is similar; paratergites, and segment IX also similar. Scutellum is relatively shorter and wider than in *A. plaumanni*.

Measurements: head shorter than width through the eyes (14:18); proportions of the antennal segments, I to IV, are: 5:7:8:15. Pronotum less than half as long as maximal width (15:39); fore lobe much narrower than the hind lobe of pronotum (27.5:39). Scutellum half as long as width at the base (13:25). Abdomen longer than maximal width (73:53).

Spiracles from II to VI ventral, placed close to the border; VII and VIII lateral, and visible from above.

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Color: dark reddish brown; head laterally, and membrane, are blackish to black.

Total length 4.88 mm.; width of pronotum 1.56 mm.; width of abdomen 2.12 mm.

Holotype: ♀, Brazil, Rio Grande do Sul, Porto Alegre — Rev. Pio Buck, S. J. coll., 4. IV. 1951; deposited in the collection of the author.

It is a pleasure to dedicate this species to its collector, Rev. Pio Buck, S. J., professor of Colegio Anchieta, Porto Alegre.

Subfam. Carventinae Usinger, 1951

Genus *Proxius* Stål, 1873

This small, curious genus is characterized by heavily incrustated areas on the head, pronotum, scutellum, and connexivum. Bizarre shapes of ivory-like incrustation are formed by groups of erect bristles completely immersed into incrustation. The genus is mainly Neotropical, but one subgenus with one species was recorded from Sumatra. In this lot was one specimen representing a new species of the subgenus *Neoproxius* Usinger and Matsuda, 1959, which is described herewith.

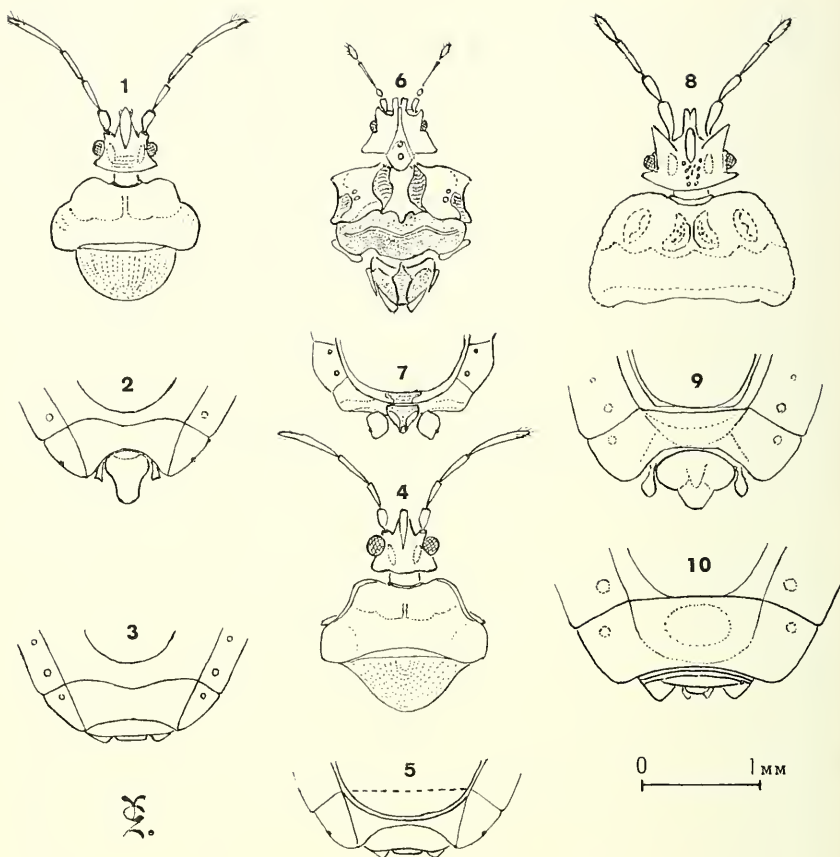
1. *Proxius* (*Neoproxius*) *lindemannae* n. sp. (Figs. 6—7)

Male. Elongate ovate, heavily incrustated.

Head with exception of antennae, and rostrum, heavily incrustated; shorter than width through the eyes (13:15), or across postocular projections (13:19). Anterior process with parallel sides, truncate, and deeply cleft anteriorly, genae being much longer than clypeus, reaching to the tip of antennal segment I. Clypeus narrow and high, posteriorly continued into median elevation of the vertex, which is dilated backward, and reaches to the hind border of the head. This elevation is excavated medially, and raised laterally. Antenniferous tubercles small, dentiform, and parallel, reach to the middle of antennal segment I. Eyes small, protruding. Postocular tubercles transformed into large, triangular lobes, produced far beyond the outer border of the eyes. Antennae slender, and short, less than one and a half times as long as the head (17.5:13). Proportions of the antennal segments, I to IV, are: 4:2.5:6:5. Rostrum short, does not reach to the hind border of the rostral groove.

Pronotum shorter than maximal width (23:33), divided into two lobes; fore lobe is heavily incrustated, hind lobe not, with exception of three transverse carinae. Fore lobe in general shape resembles that of *Proxius gypsatus* Bergroth, 1898, only the median elevation is much higher and more deeply excavated in the middle; antero-lateral angles are more angular, and more produced sideways; postero-lateral portions of incrustated fore lobe are more raised, and provided with two (1+1) lateral excavations, lacking in *P. gypsatus*. Hind lobe has incrustation similar to that of *P. personatus* Champion, 1898: one long, transverse, sinuous carina running between humeri, and two (1+1) short, sinuate, oblique carinae running along postero-lateral borders, laterad of scutellum.

Scutellum is shorter than width at the base (11:18); disc with two (1+1) large, oblique, glabrous spots laterad of the median elevation, and a glabrous tip. Incrustated areas are similar to those of *P. personatus*: a high "Y"-shaped median elevation, and two (1+1)



EXPLANATION of DRAWINGS

Aneurus plaumanni n. sp., ♂, Fig. 1 — head, pronotum, and scutellum.; Fig. 2 — tip of abdomen; ♀, Fig. 3 — tip of abdomen.

Aneurus bucki n. sp., ♀, Fig. 4 — head, pronotum, and scutellum, Fig. 5 — tip of abdomen.

Proxius lindemannae n. sp., ♂, Fig. 6 — head, pronotum, and scutellum; Fig. 7 — tip of abdomen.

Mezira andina n. sp., ♂, Fig. 8 — head, and pronotum; Fig. 9 — tip of abdomen; ♀, Fig. 10 — tip of abdomen.

carinae along lateral borders. The former has median portion much narrower, and shorter than in *P. personatus*, but its basal "wings" are higher. Lateral carinae are similar in both species.

Hemelytra reach to the middle of tergum VII; the baso-lateral borders of the corium are expanded beyond connexivum II, and slightly reflexed. Corium reaches to fore border of connexivum IV, its limit with membrane is ill defined.

Abdomen is longer than maximal width across segment IV (50:40), ovate in shape, with connexivum, and lateral portions of tergum VII heavily incrustated. Connexiva II and III fused together, other separated from each other. Lateral borders of connexiva are

double, longitudinally depressed between upper and lower border, and slightly convex, so that whole lateral border looks slightly festooned. Paratergites are large, heavily incrustated, and produced far beyond the tip of hypopygium. The latter is small, pointed posteriorly, and much less incrustated than paratergites, or connexivum. Spiracles II placed in an elongate ovate excavation on the dorsal side of connexivum II. Spiracles II to VII dorsal; VIII lateral and visible from above.

Color : dark reddish brown; incrustation greyish-ivory.

Total length 3.92 mm.; width of pronotum 1.32 mm.; width of abdomen 1.60 mm.

Holotype : ♂, Brazil, Amazonas, Tapurucuará on Rio Negro — C. Lindemann coll., 22. XI. 1962; deposited in the collections of Zoologische Sammlung des Bayerischen Staates, München, Germany.

It is a pleasure to dedicate this curious species to its collector Dr. C. Lindemann of Zoologische Staatssammlung, München.

Proxius lindemannae n. sp. is related to *P. personatus* Champion, but its head and pronotum more resemble those of *P. gypsatus* Bergroth.

Subfam. Mezirinae Oshanin, 1908

Genus *Miorrhynchus* Champion, 1898

1. *Miorrhynchus championi* Kormilev

Miorrhynchus longipes Kormilev, 1953, (nec Champion); Pan Pac. Ent.; 23:119.

Miorrhynchus championi Kormilev, 1959, Proc. Ent. Soc. Washington; 61:65.

1 ♂ & 1 ♀, Bolivia, Chaparé — Zischka coll., 2. X. 1950.

Genus *Placogenis* Usinger & Matsuda, 1959

1. *Placogenis cockerelli* Usinger & Matsuda

Placogenis cockerelli Usinger & Matsuda, Class. Aradidae; Brit. Mus., London; p. 353.

1 ♂, Brazil, Pará, Litinga near Belem — C. Lindemann coll., 2. II. 1960.

Genus *Lobocara* Bergroth, 1892

1. *Lobocara oblonga* Bergroth

Lobocara oblonga Bergroth, 1892, Rev. d'Ent.; 11:259.

5 ♂ & 6 ♀, Brazil, Amazonas, Tapurucuará on Rio Negro — C. Lindemann coll., 19. XII. 1962 and 29. I. 1963.

Genus *Neuroctenus* Fieber, 1861

1. *Neuroctenus punctulatus* (Burmeister)

Brachyrhynchus punctulatus Burmeister, 1835, Handb. Ent.; 2 (1):254.

Brachyrhynchus bimaculatus Stål, 1860, K. Vet.-Akad. Handl.; 2 (7):66.

Neuroctenus brasiliensis Mayr, 1866, Verh. Zool. Bot. Ges., Wien; 15:365.

Neuroctenus punctulatus Bergroth, 1887, Oef. Finska Vet.-Soc. Forh.; 29:185.

1 ♂, Brazil, S. Catarina, Nova Teutonia — F. Plaumann coll.

Genus *Hesus* Stål, 1862

1. *Hesus cordatus* (F.)

Aradus cordatus Fabricius, 1803, Syst. Rhyng.; p. 117.

Hesus annuliger Stål, 1862, Stett. ent. Zeit.; 23:438.

Hesus cordatus Stål, 1868, Hem. Fabriciana, 1:95.

3 ♀, Bolivia, Chaparé — Zischka coll.

2. *Hesus flaviventris* (Burmeister)

Dysodius flaviventris Burmeister, 1835, Hand. Ent.; 2 (1):255.

Hesus flaviventris Stål, 1862, Stett. ent. Zeit.; 23:438.

1 ♀, Brazil, Amazonas, Mission Canaburi, Canal Maturach — C. Lindemann coll., 27. I. 1963; 18 ♂ & 24 ♀, Bolivia, Chaparé — Zischka coll.

Genus *Dysodius* Lepeletier & Serville, 1825

1. *Dysodius lunatus* (F.)

Acanthia lunata Fabricius, 1794, Ent. Syst.; 4:72.

Aradus lunatus Fabricius, 1803, Syst. Rhyng.; p. 117.

Dysodius lunatus Burmeister, 1835, Hand. Ent.; 2 (1):255.

3 ♂, 2 ♀ & 2 nymphae, Brazil, Amazonas, Mission Canaburi, Canal Maturach — C. Lindemann coll., 19. XII. 1962; 12 ♂ & 17 ♀, Bolivia, Chaparé — Zischka coll.

Genus *Mazira* A. S., 1843

1. *Mezira boliviana* Kormilev

Mezira boliviana Kormilev, 1962, Ark. Zool.; (2) 15:272.

10 ♂ & 12 ♀, Bolivia, Chaparé — Zischka coll.

2. *Mezira neonigripennis* Kormilev

Mezira neonigripennis Kormilev, 1955 (1953), Ac. Zool. Lilloana, 13:238.

26 ♂ & 33 ♀, Bolivia, Chaparé — Zischka coll.; 1 ♂, Brazil, Amazonas, Tapurucuará on Rio Negro — C. Lindemann coll., 26. XI. 1962.

3. *Mezira nigripennis* Usinger

Mezira nigripennis Usinger, 1936, Ann. Ent. Soc. Am.; 29:511.

3 ♀, Brazil, S. Catarina, Nova Teutonia — F. Plaumann coll.

4. *Mezira andina* n. sp. (Figs. 8—10)

Male. Elongate ovate; roughly granulate on the head, pronotum, scutellum, and corium; connexivum is scabrous.

Head shorter than width through the eyes (♂—19:22, ♀—21:24). Anterior process long, with parallel sides, rounded and slightly notched apically, reaches to 4/5 of antennal segment I. Antenniferous tubercles dentiform, acute, divergent, reach almost to the middle of antennal segment I. Eyes moderate in size. Postocular tubercles dentiform, reaching slightly over the outer margin of the eyes. Infraocular carinae roughly crenulate. Vertex with "M"-shaped granulation. Antennae moderately long, less than twice as long as the head (♂—34.5:5:19, ♀—35:21); proportions of the antennal segments, I to IV, are: ♂—10:7:9.5:8, ♀—10:7:10:8. Antennal segment IV is ovate. Rostrum short, does not reach to the hind border of rostral groove.

Pronotum much shorter than maximal width (σ —24:45, φ —26:50). Collar slightly sinuate in front, granulate. Antero-lateral angles rounded; lateral borders convex; lateral notch completely absent. Hind border almost straight, very slightly sinuate. Fore disc with four (2+2) low, granulate ridges; hind disc less roughly, but more densely granulate. Interlobal depression moderate.

Scutellum rather short, shorter than width at the base (σ —19:25, φ —23:27.5). Lateral borders sinuate, apex rather widely rounded; disc roughly granulate; median ridge low, "T"-shaped, and roughly granulate.

Hemelytra reach to the hind border of tergum VI (σ), or to 4/5 of tergum VI (φ). Apical border of corium convex, rounded; apical angle rounded.

Abdomen ovate, longer than maximal width across segment IV (σ —72:60, φ —80:67). Midlateral areas rather wide, granulate; discs of connexiva scabrous. Lateral borders evenly convex in both sexes. PE-angles of connexiva not protruding; PE-VII angularly rounded in the male, rounded in the female. Paratergites (σ) rather large, reaching to 3/4 of hypopygium; the latter is small, cordate, roughly granulate. Paratergites (φ) triangular, produced as far as the tip of segment IX; the latter is very short, incised apically. Spiracles II to VII ventral and not visible from above; VIII lateral and visible.

Color: Brown, partially black, or blackish, particularly scutellum and corium; connexiva with black discs, and yellow-brown borders; round callous spots on connexiva are reddish.

Total length: σ —5.36, φ —6.08 mm.; width of pronotum: σ —1.8, φ —2.0 mm.; width of abdomen: σ —2.4, φ —2.68 mm.

Holotype: σ , Bolivia, Cochabamba, Liriuni, 3100 m. — leg. ignotus; deposited in the Zoologische Sammlung des Bayerischen Staates, München.

Allotype: φ , collected with the holotype; in the same collection.

Paratype: 1 φ , collected with the holo- and allotype; in the collection of the author.

Mezira andina n. sp. runs in my key for Neotropical species of the genus *Mezira* A. S. (1962: 260) to *Mezira peruviana* Kormilev, 1960, but at first sight looks more as *Mezira reuteri* Bergroth, 1886. From the first it can be separated by slightly larger size, rounded apical angle of corium, not angulate; larger, triangular paratergites in the female, reaching to the tip of segment IX (smaller, rounded, reaching to the middle of IX in *M. peruviana*). From the second it may be distinguished by four (2+2) ridges on the fore disc of pronotum (completely blurred in *M. reuteri*), and by shorter paratergites in the female (in *M. reuteri* they are produced far beyond the tip of extremely short segment IX).

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Address of the author:

365 Lincoln Pl., Ap. 2 F

Brooklyn, N.Y., U.S.A., 11238

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Zeitschrift/Journal: [Opuscula zoologica](#)

Jahr/Year: 1965

Band/Volume: [84](#)

Autor(en)/Author(s): Kormilev Nicholas Alexander

Artikel/Article: [Notes on Neotropical Aradidae XV 1-7](#)