



11-28-1959

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## Recommended Citation

Drake, Carl J. and Lauck, David R. (1959) "Descriptions, synonymy, and check-list of American Hydrometridae (Hemiptera: Heteroptera)," *Great Basin Naturalist*: Vol. 19 : No. 2 , Article 1.

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# The Great Basin Naturalist

PUBLISHED BY  
BRIGHAM YOUNG UNIVERSITY, PROVO, UTAH

VOLUME XIX

November 28, 1959

Nos. 2 and 3

## DESCRIPTIONS, SYNONYMY, AND CHECK-LIST OF AMERICAN HYDROMETRIDAE

(Hemiptera: Heteroptera).

Carl J. Drake<sup>1</sup> and David R. Lauck<sup>2</sup>

The present paper describes four new species of Neotropical Hydrometridae, and attempts to straighten out the synonymy and confusion in the literature relative to the identification of *Hydrometa caraiba* Guérin-Méneville of Cuba, *H. agenor* Kirkaldy of Ecuador, and *H. championiana* Torre-Bueno of Panama. It also enumerates the species known to inhabit the Western Hemisphere, including their synonymy and distribution. The Mexican and Central American species were collected by the junior author and Wilson Wheatcroft of Bethesda, Md. The types of the new species are in the Drake Collection (USNM).

### *Hydrometra intonsa* Drake & Hottes

Figs. 1, 2, & 13

*Hydrometra intonsa* Drake & Hottes, 1952, Kansas Ent. Soc., Vol. 25, p. 106

*Brachypterous female*.—Slightly more robust than male, the color, markings, pronotal, propleural, and acetabular pits practically the same in both sexes. Antennal measurements: I, 0.57 mm.; II, 0.87 mm.; III, 2.50 mm.; IV, 0.76 mm. Wing-pads grayish brown with veins fuscous-brown, reaching a little beyond metanotum. Exterior edge of the apical third and all of seventh connexival segments furnished with moderately long, brownish fuscous, erect hairs (fig. 1). Length 10 mm.

*Allotype* (female) and two other females. Costa Rica (San Jose), 16. v. 1957. One apterous male was also taken with the allotype. The male (fig. 2) differs slightly from the holotype (brachypterous male, Ciudad Victoria, Mexico) in having the second antennal segment slightly longer (36:31) and the tuft of long hairs on each side (near the hind margin) of the seventh tergite missing. These differences seem to be varietal rather than specific.

1. Smithsonian Institution, Washington, D. C.

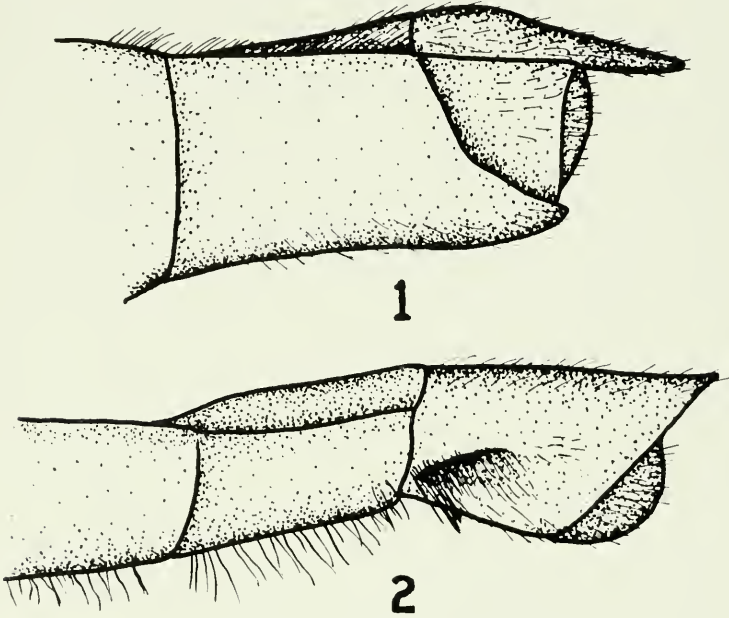
2. University of Illinois, Urbana, Illinois. Completed while holding a National Science Foundation fellowship.

*Hydrometra ciliosa*, n. sp.

Figs. 4, 6, &amp; 14

Long, rather slender, testaceous-brown, beneath with a pale spot at the base of each connexival segment, the first and second antennal segments darkened at apex. Length 10.5 mm.

Head with antecular part 1.95 mm. long, postocular 0.75 mm. long; ventral interocular groove shallow, not longer than an eye; clypeus brown, longer than wide, slightly narrowed on lateral sides in front. Labium nearly reaching to the middle of postocular space. Length of antennal segments: I, 0.65 mm.; II, 1.05 mm.; III very



1. *Hydrometra intonsa* Drake & Hottes, ♀ lateral aspect.  
2. *Hydrometra intonsa* Drake & Hottes, ♂ lateral aspect.

long and curled; IV, 1.65 mm. Forelegs with apex of femur slightly surpassing tip of clypeus; hind femur barely extending beyond genital segments.

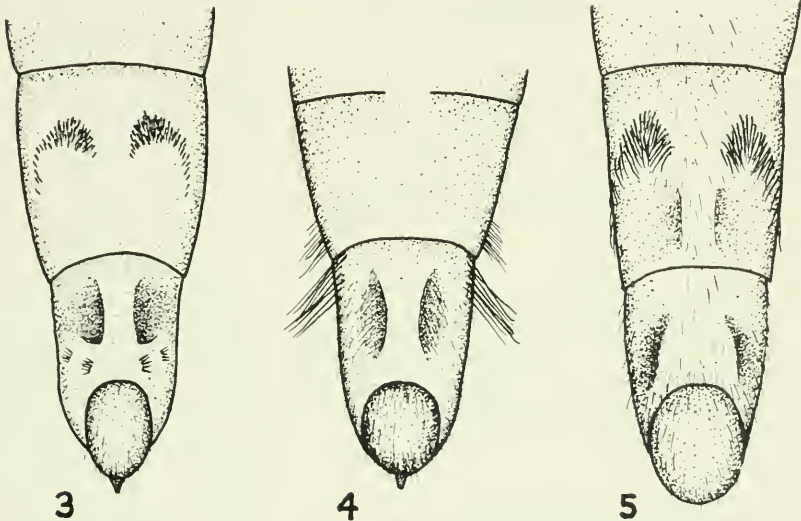
Pronotum 1:80 mm. long, with hind tobe twice as long as fore lobe, with median longitudinal pale line extending entire length of pronotum and scarcely impressed; front lobe impunctate, the collar set-off by an encircling row of moderately large pits; hind lobe with a row of pits on median line, with a very large number of pits on each side of median line. All acetabula with numerous pits, which are only feebly larger than those on the hind lobe of pronotum; fore acetabulum with 6 pits in front of cleft and 9 behind it. mid-

dle acetabulum with 6 pits in front of cleft and 10 behind it. hind acetabulum with 10 pits; propleuron with 13 pits; pits arranged as in illustration (fig. 14).

Hemelytra 4.00 mm. long, extending to base of seventh tergite; abdomen 5.50 mm. long, seventh tergite with tuft of very long hairs on each side near hind margin, the genital segment impressed on each side (figs. 4 & 6). Female and brachypterous forms unknown.

*Holotype* (male, La Union, El Salvador, 24. vii. 1957).

Separated from *H. intonsa* by the more numerous acetabular pits (figs. 13 & 14) and the arrangement of hairy vestiture on the



3. *Hydrometra caraiba* Guérin-Méneville, ♂ ventral aspect.  
 4. *Hydrometra ciliosa* n. sp., ♂ ventral aspect.  
 5. *Hydrometra exalla* n. sp., ♂ ventral aspect.

seventh ventrite and sides of first genital segment (figs. 4 & 6). The second antennal segment and body are also longer than in *H. intonsa*.

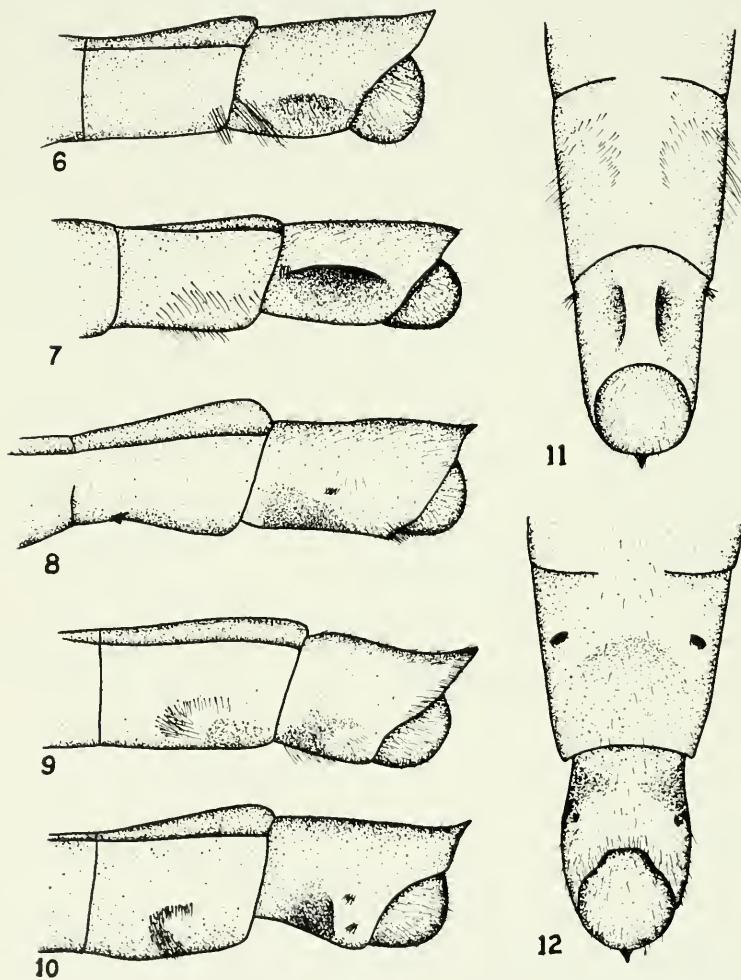
*Hydrometra crossa*, n. sp.

Figs. 7, 11, & 15

Brownish fuscous with head and apices of first two antennal segments dark fuscous; body grayish beneath with a wide, long, brown stripe on each side of abdomen and thorax. Length, 12.80 mm.

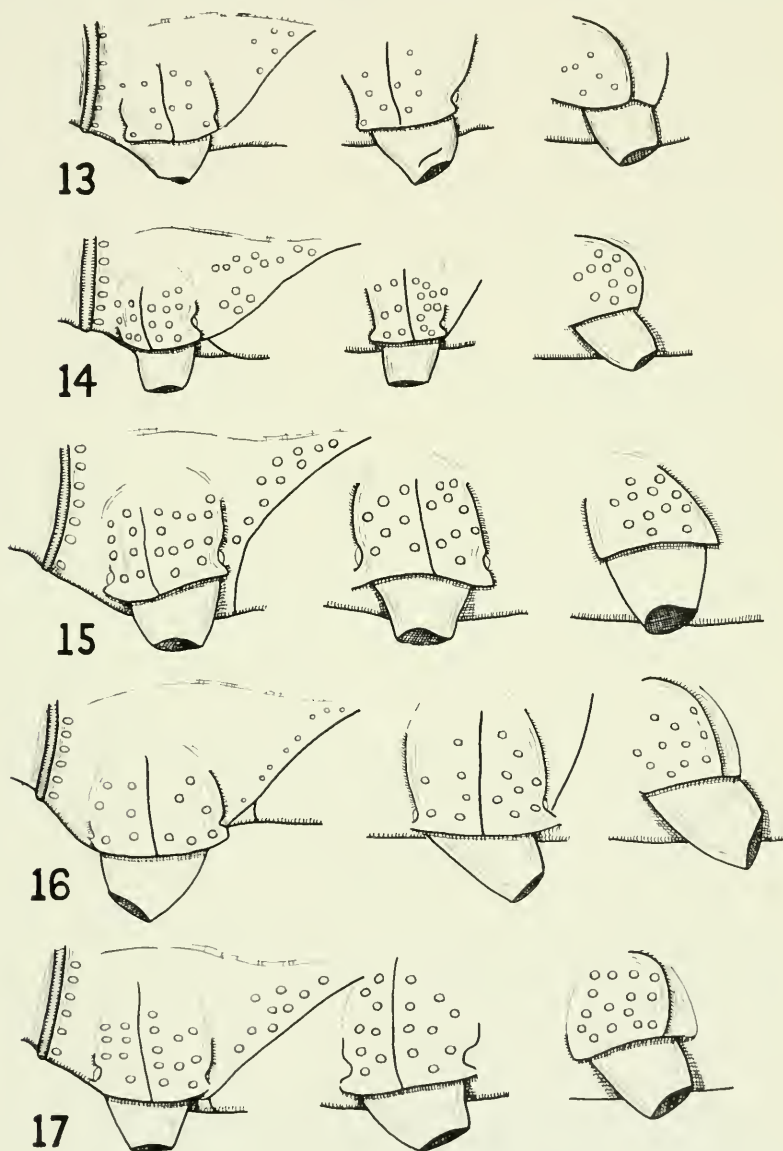
Head with anteocular length 2.50 mm. and postocular 1.05 mm.; ventral interocular sulcus short, not longer than eye; clypeus

blackish fuscous, longer than wide. Labium extending between the eyes. Antennal measurements: I, 0.55 mm.; II, 1.15 mm.; III very long and curled; IV, 2.00 mm. Anterior femur reaching to antenniferous tubercles, the hind femur barely surpassing last genital segment. Acetabular pits (fig. 15) large, sharply defined; anterior acetabulum with 6-8 pits in front of cleft and 9-11 behind it, middle acetabulum with 6-7 pits before cleft and 9-11 behind it, hind acetabulum with 12-13 pits.



6. *Hydrometra ciliosa* n. sp., ♂ lateral aspect.
7. *Hydrometra crossa* n. sp., ♂ lateral aspect.
8. *Hydrometra alloiona* n. sp., ♂ lateral aspect.
9. *Hydrometra exalla* n. sp., ♂ lateral aspect.
10. *Hydrometra caraiba* Guérin-Méneville, ♂ lateral aspect.
11. *Hydrometra crossa* n. sp., ♂ ventral aspect.
12. *Hydrometra alloiona* n. sp., ♂ ventral aspect.

Pronotum with front lobe nearly one-third the length of hind lobe, with the frosted median, longitudinal line extending its entire length; fore lobe impunctate, with collar demarcated by an encircling row of pits which are slightly larger than those on hind lobe:



13. *Hydrometra intonsa* Drake & Hottes, acetabular and propleural pits.  
 14. *Hydrometra ciliosa* n. sp., acetabular and propleural pits.  
 15. *Hydrometra crossa* n. sp., acetabular and propleural pits.  
 16. *Hydrometra alloiona* n. sp., acetabular and propleural pits.  
 17. *Hydrometra exalla* n. sp., acetabular and propleural pits.

propleural pits ranging from 6-10, feebly larger than those on hind pronotal lobe; hind lobe with the median frosted line impressed and provided with a row of pits, dark fuscous on each side of impressed line, with a very large number of pits on each side of median line. Abdomen 6.75 mm. long; elytra 5.25 mm. long, extending almost to middle of sixth dorsal tergite. First abdominal tergite provided beneath with very long hairs (figs. 7 & 11), the second segment impressed on each side. Female and apterous forms unknown.

*Holotype* (macropterous male) and 1 male *paratype*. Choluteca, Honduras, 20. vii. 1957.

Allied to *H. ciliata*, and easily separated from it by the position of the long hairs on the inferior side of the seventh abdominal tergite and the slightly shorter fore and hind femora.

*Hydrometra alloiona*, n. sp.

Figs. 8, 12, & 16

*Brachypterous form*.—Very long, brownish, grayish brown beneath, wing-pads with veins dark, appendages brownish testaceous. Length, 15.00 mm.

Head with anteocular part 1.75 mm. long, postocular part 1.10 mm. long; labium fuscous, reaching to the eyes. Antennae missing. Pronotum 2.30 mm. long with frosted, median, longitudinal front; fore lobe impunctate, one-half as long as hind lobe; hind lobe punctate on median line, with numerous pits on each side of it. Acetabula (fig. 16) with large pits; anterior acetabulum with six pits in front of cleft and eight behind it, middle acetabulum with 6 pits in front of cleft and 8 behind it, hind acetabulum with 11 pits. Propleuron with one row of eight pits, the pits a little smaller than those of the acetabula.

Abdomen 5.03 mm. long, the metathoracic wing pads barely reaching to base of the abdomen. Fore femora reaching considerably beyond the tip of the head, the hind femora extending much beyond last genital segments. Male genital segments with process as in illustrations (figs. 8 & 12).

*Holotype* (brachypterous male) from Estelli, Nicaragua, 9. vii. 1957. Female and alate forms unknown.

The mammiform processes of the male (fig. 8) are prominent and situated near the basal third on the inferior side of the sixth ventrite. The form and location of these structures will distinguish *H. alloiona* from related species.

*Hydrometra exalla*, n. sp.

Figs. 5, 9, & 17

*Macropterous form*.—Very long, brownish with posterior lobe of pronotum slightly testaceous, hemelytra mostly dark fuscous, and the sternum and head (except apex and base) black. Appendages brown. Length 15.00 mm.

Head with anteocular length 3.10 mm., the postocular length

1.20 mm.; ventral interocular groove not longer than eyes; labium extending between eyes. Antennal segments: I, 0.70 mm. long; II, 1.55 mm. long; III very long, twisted; IV, 2.35 mm. long. Anterior femur reaching apex of clypeus; hind femur extending slightly beyond apex of last genital segment.

Pronotum 2.40 mm. long, with an encircling row of fairly large pits near front margin; the median, pale, longitudinal line extending entire pronotal length; fore lobe impunctate, one-half as long as hind lobe; hind lobe with a row of pits in median, frosted line, with many pits on each side this line. Abdomen 7.75 mm. long; hemelytra 6.00 mm. long, with apices resting on basal part of sixth dorsal tergite. Propleura with 9 pits. All acetabula pitted; anterior acetabulum with 7 pits in front of cleft and 10 behind it, middle acetabulum with 10 pits in front of cleft and 9 behind it, hind acetabulum with 15 pits (fig. 17). Male genital segments with brushes and other structures as in illustrations (figs. 5 & 9). Female unknown.

*Holotype* (macropterous male) Shapajilla, Peru, vi. 1939.

The male genital structures separates this species from *H. caraiba*. The acetabular pits are more sharply defined in *H. exalla*.

### *Hydrometra caraiba* Guérin-Ménéville

Figs. 3 & 10

*Hydrometra caraiba* Guérin-Ménéville, 1856, in Sagra: Hist. phys. polit. et natur. de Cuba, p. 173.

*Hydrometra caraiba* Walker, 1873, Cat. Hem. Het., 8:152.

*Limnobates caraiba* Uhler, 1886, Check-List. Hem., p. 26.

*Gerris caraiba* Lethierry et Servin, 1898, Cat. Gen. Hem., 3:60.

*Hydrometra caraiba* Champion, 1898, Biol. Centr.-Amer. Rhyn., 2:124-125.

*Hydrometra agenor* Kirkaldy, 1902, Ent., 35:280-281.

*Hydrometra agenor* Kirkaldy & Torre-Bueno, 1909, Prov. Ent. Soc. Wash. 10(3-4):213.

*Hydrometra caraiba* Kirkaldy & Torre-Bueno, 1926, Ent. Amer. 7(1):102, 119-121.

*Hydrometra caraiba* Torre-Bueno, 1926, op. cit. 7(2):101, 113-114.

*Hydrometra agenor* Torre-Bueno, 1926, op. cit. 7(2):102, 124-125.

*Hydrometra caraiba* Hungerford & Evans, 1934, Ann. Mus. Nat. Hung. 28:90.

*Hydrometra championiana* Hungerford & Evans, 1934, op. cit. 28:91, 94, pl. X.

*Hydrometra agenor* Hungerford & Evans, 1934, op. cit. 28: 91, 101, pl. XI.

*Hydrometra caraiba* Drake, 1954, Great Basin Nat. 14(3-4):63-34.

This species was described from a single specimen collected in Cuba (Signoret Collection). As the type specimen of *caraiba* cannot be found in the Naturhistorisches Museum (Wien) nor in the Museum National d'Historie Naturelle (Paris), it is presumably lost. The writers are here designating a macropterous male from Cuba as the neotype, which is deposited in the U. S. National Museum.

Certain characters used in the original description have been quite helpful in identifying *caraiba*. These are as follows: 1), median longitudinal line with darkened area on each side of it; 2), very long body; 3), compound eyes placed at basal third of head; 4), and the comparative notes with the Old World *H. stagnalis* (Linnaeus). The length of *caraiba*, stated by Guérin-Ménéville to



be 22 mm., would be longer than that of any species of the genus known to occur in the West Indies or even Central America, and probably this is a typographical error. In examining more than 300 specimens of *caraiba* from the Neotropical Region, our largest specimen is a female from Mexico, which is 18.6 mm. long. Males and females measuring from 16 to 18 mm. in length are not uncommon.

After examining the types of *H. championiana* Torre-Bueno in the British Museum, Drake (1934) synonymized *championiana* with *caraiba*. There appears to be no question about this synonymy.

*H. agenor* Kirkaldy (1902) has not been recognized in the literature since it was originally described. According to the description, the type is a male, collected at Guayaquil, Ecuador, and is in Montadon's collection. The only example of *agenor* in the latter collection is a female bearing the locality label "Guayaquil, Ecuador" and specific label "*Hydrometra agenor* Kirk." in Kirkaldy's handwriting. In the Kirkaldy Collection (University of Kansas), there is also another female (badly mutilated), which bears the same labels plus a "type" label. These specimens were both collected at the same time by Dr. Francisco Camposo K. of Guayaquil. The female specimen of *agenor* in the collection of Montadon is inseparable from *H. caraiba* and thus are synonyms. Since *caraiba* has priority by many years, it is the valid specific name of the species. We also have other specimens of *caraiba* from Guayaquil, which were collected a few years ago by Dr. Camposo K.

Specimens of *H. caraiba* have been examined from Cuba, Puerto Rico, Jamaica, Panama, Costa Rica, Guatemala, Mexico, Venezuela, Brazil, Peru, and Ecuador.

#### AMERICAN SPECIES OF HYDREMETRIDAE BILLBERG, 1820

##### Genus *Bacillometra* Esaki, 1927

Type species, *Bacillometra ventralis* Esaki, 1927

1. *fualagana* Drake, 1946 ..... Peru
2. *mulfordi* (Hungerford), 1927 ..... Bolivia
3. *ventralis* Esaki, 1927 ..... French Guiana
4. *woythowskii* Hungerford, 1935 ..... Peru

##### Genus *Limnobotodes* Hussey, 1925

Type species *Limnobotodes paradoxus* Hussey, 1925

1. *paradoxus* Hussey, 1925 ..... Honduras

##### Genus *Hydrometra* Latreille, 1796

##### *Limnametra* Burmeister, 1835

Type species, *Cimex stagnorum* Linnaeus, 1801

1. *acapulcana* Drake, 1952 ..... Mexico, Nicaragua
2. *adnexa* Drake, 1956 ..... Panama
3. *aemula* Drake, 1956 ..... Mexico
4. *alloiona* Drake & Lauck ..... Nicaragua

5. *argentina* Berg, 1879 ..... Argentina, Boliva,  
 - *mentor* Buchanan-White, 1879 ..... Brazil, Chile, Panama  
 - *chilensis* Reed, 1901 ..... Paraguay, Peru,  
 - *kirkaldyana* Torre-Bueno, 1926 ..... Trinidad, Uruguay,  
 - *husseyi* Torre-Bueno, 1926 ..... Venezuela
6. *australis* Say, 1832 ..... Br. Honduras, Greater  
 - *myrae* Torre-Bueno, 1926 ..... Antilles, Mexico,  
 U. S. (southern)
7. *barei* Hungerford, 1927 ..... (U. S. (Fla.))
8. *barrana* Drake, 1952 ..... Panama
9. *caraiba* Guérin-Méneville, 1856 ..... Brazil, Br. Guiana,  
 - *championiana* Torre-Bueno, 1925 ..... Columbia, Costa Rica,  
 - *agenor* Kirkaldy, 1902 ..... Cuba, El Salvador,  
 Guatemala, Haiti, Honduras,  
 Jamaica, Nicaragua,  
 Panama, Venezuela
10. *ciliosa* Drake & Lauck ..... El Salvador
11. *comata* Torre-Bueno, 1926 ..... Trinidad
12. *consimilis* Barber, 1934 ..... Greater Antilles, Mexico,  
 U. S. (Fla.)
13. *crossa* Drake & Lauck ..... Honduras
14. *cyprina* Torre-Bueno, 1926 ..... Mexico
15. *excella* Drake & Lauck ..... Peru
16. *exilis* Torre-Bueno, 1926 ..... Br. Honduras, Honduras,  
 - *white* Hungerford, 1933 ..... Mexico, Panama
17. *fruhstorferi* Hungerford & Evans, 1934 ..... Brazil  
 - *brasillana* Drake, 1952
18. *fuanicana* Drake, 1954 ..... Brazil
19. *gibara* Torre-Bueno, 1926 ..... Cuba
20. *guianana* Hungerford & Evans, 1934 ..... Br. Guiana, Peru  
 Venezuela
21. *huallagana* Drake, 1954 ..... Peru
22. *hungerfordi* Torre-Bueno, 1926 ..... Costa Rica, El Salvador,  
 - *australis* Torre-Bueno, 1926 ..... Guatemala, Nicaragua,  
 - *australis* Hungerford, 1923 ..... U. S. (southern)
23. *lentipes* Champion, 1898 ..... El Salvador, Guatemala,  
 - *cordobensis* Torre-Bueno, 1926 ..... Mexico
24. *intonsa* Drake & Hottes, 1952 ..... Mexico, Costa Rica
25. *lillianis* Torre-Bueno, 1926 ..... U. S. (Calif.)
26. *martini* Kirkaldy, 1900 ..... Canada (southern), U. S.  
 - *lineata* Say, 1832  
 - *lineata* Martin, 1900
27. *metator* Buchanan-White, 1879 ..... Brazil
28. *naiades* Kirkaldy, 1902 ..... Panama  
 - *mentor* Champion, 1898
29. *panamensis* Drake, 1953 ..... Panama
30. *placita* Drake, 1953 ..... Paraguay
31. *priscillae* Torre-Bueno, 1926 ..... Guatemala
32. *sztolcmani* Jaczewski, 1928 ..... Guatemala
33. *taxcana* Drake & Hottes, 1952 ..... Costa Rica, Honduras.

34. *wileyi* Hungerford, 1923 ..... Mexico, U. S. (southern)  
35. *williamsi* Hungerford & Evans, 1934 ..... Ecuador  
36. *zeteki* Drake, 1952 ..... Columbia, Mexico,  
Panama