

REVIEW OF THE MEXICAN *POLYTHRIX* WATSON 1893 (HESPERIIDAE)

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ABSTRACT. Six species of *Polythrix* are listed from Mexico, with a key to their identification, their synonymy, type locality, general distribution, Mexican distribution, and a plate showing the left valve of each species' male genitalia. One name, *Polythrix alciphron* (Godman & Salvin) 1893, is placed in synonymy because that name represents a female form only.

There has been some confusion concerning members of the genus *Polythrix*, particularly in the Mexican area. During the past twelve years I have attempted to clarify the exact generic position and status of members of this genus and their distribution in Mexico and other areas (Freeman, 1967, 1969, 1977). In this article I present a key to the identification of the six species which occur in Mexico. I also list the synonymy of these species, the distribution of each based on specimens in my collection, a brief species description, and a plate showing the left valva of the male genitalia of each species, thus simplifying determination of each species.

Key to the Mexican *Polythrix*

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|--|-----------------------|
| 1a. No costal fold present | 2 |
| 1b. Costal fold present | 3 |
| 2. Three apical spots in line; ground color light brown; lower surface of secondaries with dark bands and spots in males, females usually have a broad discal white area; tails in males fairly short (5 mm), in females long (12 mm); discal bands and spots are present on the upper surface of the secondaries but are subdued; head and thorax brown above | <i>octomaculata</i> |
| 3a. Three apical spots present | 4 |
| 3b. Four to five apical spots present | 5 |
| 4a. Head and thorax brown above; discal spots on primaries semi-compact; tails fairly short in males (5 mm), and in females longer (12 mm); discal band on lower surface of secondaries inconspicuous | <i>procerus</i> |
| 4b. Head and thorax brown above; discal spots on primaries compact; tails short, in females (5 mm); discal band on lower surface of secondaries dark and well defined | <i>guatemalaensis</i> |
| 5a. Head and thorax brown above | 6 |
| 5b. Head and thorax green above with intermixed brown scales | 7 |
| 6a. Usually 4 apical spots; discal band not compact; ground color usually dark brownish-black; tails in males medium length (8-10 mm), females longer (15 mm); dark spots in space 1b on primaries evenly colored | <i>asine</i> |
| 6b. Usually 5 apical spots; discal band not compact; ground color usually light brown in coloration; tails in males same length as females (15 mm); dark spots in space 1b on primaries light centered | <i>mexicanus</i> |

7. Four apical spots present; rarely is there a spot in space 1b; tails short in males (5 mm), longer in females (12–16 mm); on lower surface of secondaries space 1b from base to middle deeply grooved and at the distal end of the groove there is a small erect hair tuft on vein 1b *caumus*

Polythrix octomaculata (Sepp) 1848

Synonymy. *decurata* (H.-S) 1869; *calenus* (Mabille) 1888; *elegans* Hayward 1933; *alciphron* (G. & S.) 1893.

Type locality. Surinam.

General distribution. Texas to Argentina.

Mexican distribution. 6 miles south of Ciudad Valles, S. L. P. (Hotel Covadonga), June 1969, ♂ and 2 ♀ (leg. H. A. Freeman); Comala, Colima, 21 Mar. 1967, ♂ (leg. Robert Wind); Salada, Colima, October 1967, 2 ♂ (leg. R. Wind); Acahuizotla, Gro., Oct. 1950, ♂ and Oct. 1955, ♂ (leg. T. Escalante); Dos Amatos, Veracruz, 15 Sept. 1972, ♀ (leg. Ramirez); Catemaco, Veracruz, 18 June 1968, ♂ (leg. H. A. Freeman); Candelaria Loxicha, Oaxaca, March to November, 1968–71, 9 ♂ and ♀ (leg. E. C. Welling); X-Can, Quintana Roo, May 1967, 2 ♂ (leg. E. C. Welling); and Muste, Chiapas, 2 Aug. 1968, ♂ and 30 Oct. 1968, ♂ (leg. E. C. Welling collector).

Remarks. This species has three apical spots of sub-equal size forming a straight line. The discal band is not compact. The spot in space 2 is somewhat square and is situated midway under the larger cell spot. There is a costal spot directly over the cell spot. The spot in space 3 is small and is located outward from the spot in space 2 and the cell spot. There is a faint indication of the discal band on the upper surface of the secondaries; on the lower surface the band is much darker and well defined. The tails are fairly short in the males. There is no indication of a costal fold which Evans (1952) says is characteristic of the genus. Head and thorax are brown above. The female upperside is very similar to the male except the tails are longer. On the lower surface of the secondaries specimens vary from those like males (not having any white) to specimens which represent the type of *alciphron* (Godman & Salvin) in having a large white discal area. Most of the specimens I have examined from Mexico have some white on the lower surface of the secondaries thus indicating that *alciphron* is a female form of *octomaculata* and thus a synonym of *octomaculata* (New Synonymy).

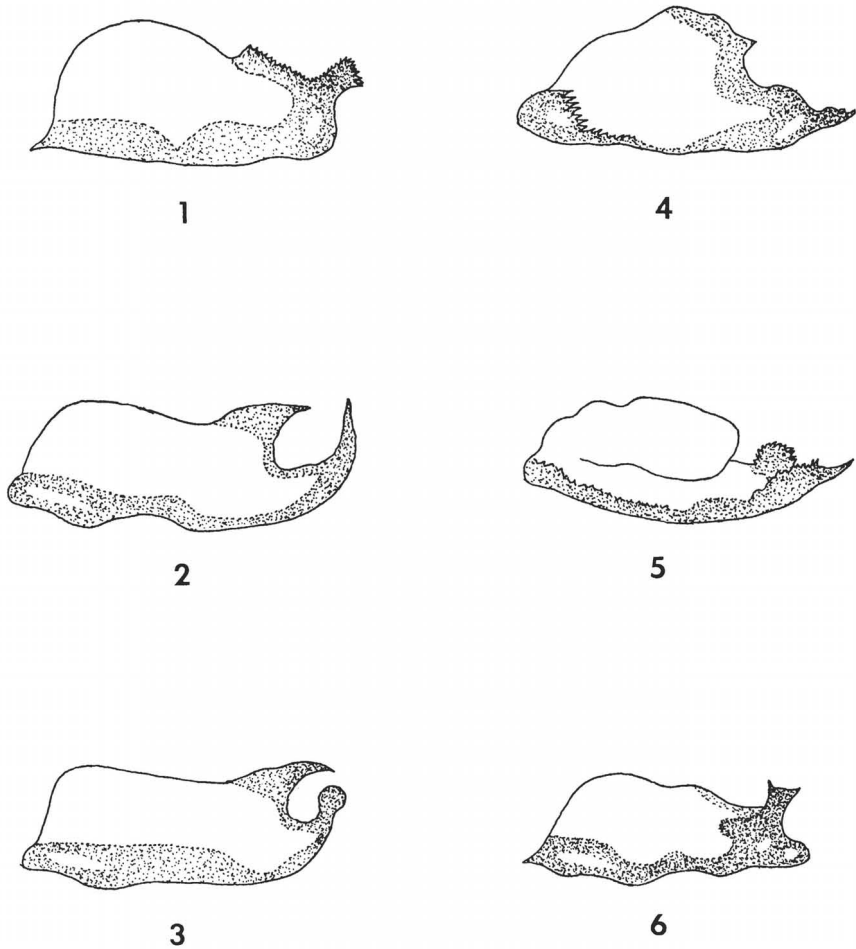
Polythrix asine (Hewitson) 1867

Type locality. Nicaragua.

General distribution. Mexico to Peru.

Mexican distribution. 6 miles south Ciudad Valles, S. L. P. (Hotel Covadonga), June–July 1966–72, 28 ♂ and 14 ♀ (leg. H. A. Freeman); Salada, Colima, May to June 1967, 2 ♂ (leg. Robert Wind); Comala, Colima, April 1967, ♂ (leg. R. Wind); Presidio, Veracruz, July 1951, ♂ and ♀ (leg. Ramirez); Catemaco, Veracruz, Aug. 1965, ♀ (leg. Ramirez); Candelaria Loxicha, Oaxaca, June to Sept., 1968–71, 15 ♂ and ♀ (leg. E. C. Welling); and Muste, Chiapas, June–July 1968, 5 ♂ (leg. E. C. Welling).

Remarks. Usually 4 apical spots and sometimes 5. The spots increase in size from space 8 to 6. The spot in space 9 is small and if there is a spot in space 5 it also is small. The apical spots form a straight line. The discal band is not compact. The spot in space 2 is fairly small and is usually located somewhat outward from the cell spot, however in some specimens this spot is in line with the cell spot. Spot 3 is over the outer edge of the spot in space 2, well separated from the cell spot. There may or may not be a small costal spot over the cell spot. There are usually two dark spots in space 1b, one under the inner edge of spot 2 and the other basad. The discal bands are prominent on the upper surface of the secondaries; however



Figs. 1-6. Male genitalia, left valvae. 1, *Polythrix octomaculata* (Sepp). 6 mi. S. Ciudad Valles, S. L. P. (Hotel Covadonga), 25 June 1969 (H. A. Freeman; H. A. F.); 2, *Polythrix asine* (Hewitson). 6 mi. S. Ciudad Valles, S. L. P. (Hotel Covadonga), 10 June 1966 (H. A. Freeman; H. A. F.); 3, *Polythrix mexicanus* Freeman. Paratype, 6 mi. S. Ciudad Valles, S. L. P. (Hotel Covadonga), 29 July 1966 (H. A. Freeman; H. A. F.); 4, *Polythrix procerus* (Plotz). 6 mi. S. Ciudad Valles, S. L. P. (Hotel Covadonga), 11 June 1967 (H. A. Freeman; H. A. F.); 5, *Polythrix guatemalaensis* Freeman. Holotype, Sayaxche, El Petan, Guatemala, 23 August 1963 (E. C. Welling; A. M. N. H.); 6, *Polythrix caunus* (H.-S.). 6 mi. S. Ciudad Valles, S. L. P. (Hotel Covadonga), 10 June 1967 (H. A. Freeman; H. A. F.).

they are usually rather narrow. The tails are usually of medium length; however some specimens have fairly long tails. Costal fold is well developed. Discal and apical spots are white. The general ground coloration is dark brownish-black. Head and thorax above brown.

Polythrix mexicanus Freeman 1969

Type locality. Hotel Covadonga, Ciudad Valles, S. L. P., Mexico.

General distribution. Texas to southern Mexico.

Mexican distribution. 6 miles south Ciudad Valles, S. L. P. (Hotel Covadonga), June–Aug. 1966–72, 31 ♂ and 13 ♀ (leg. H. A. Freeman); Ajijic, Jalisco, 22 Oct. 1965, ♀ (leg. Robert Wind); Catemaco, Veracruz, June 1966–68, 4 ♀ (leg. H. A. Freeman); Juchitan, Oaxaca, 17 Aug. 1964, ♀ (leg. H. A. Freeman); Candelaria Loxicha, Oaxaca, Sept.–Oct. 1968–71, 3 ♂ (leg. E. C. Welling).

Remarks. Usually 5 apical spots with the spots increasing in size from 8 to 6. The spot in space 9 is small as is the one in space 5, which may sometimes be absent. The discal band is not compact. The spot in space 2 is usually midway under the cell spot. There is a small costal spot directly over the cell spot. The spot in space 3 is about half the size of the spot in space 2 and is located over the outer edge of that spot and outward from the cell spot. There are two dark spots in space 1b which are light centered; one is located under the inner edge of the spot in space 2 and the other is basad. The discal bands are well developed above and below on the secondaries and are broader than in *asine*. The tails are long in comparison to any other species of *Polythrix*, particularly in the males. The ground color is light brown. The head and thorax above are light brown.

Polythrix procerus (Plotz) 1881

Synonymy. *aelius* (Plotz) 1881; *auginulus* (Godman & Salvin) 1893.

Type locality. Para, Brazil.

General distribution. Mexico to Venezuela.

Mexican distribution. 6 miles south of Ciudad Valles, S. L. P. (Hotel Covadonga), June 1966–69, 13 ♂ and 4 ♀ (leg. H. A. Freeman); Catemaco, Veracruz (Playa Azul), 12 Aug. 1967, ♂ (leg. H. A. Freeman); and X-Can, Quintana Roo, 2 Aug. 1962, ♂ (leg. E. C. Welling).

Remarks. There are 3 apical spots in this species; the one in space 7 is small and situated slightly inward from the ones in spaces 6 and 8. The discal spots are semi-compact and are sordid white. The spot in space 2 is well developed and is in line with the cell spot. In all my specimens except the male from X-Can, Quintana Roo, there is a small spot in space 1b situated at the outer edge of spot 2. The spot in space 3 is small and in line with the outer edge of the spot in space 2. There is only the slightest indication of a discal band on the upper surface of the secondaries and on the lower surface the discal band is present but inconspicuous. The costal fold is well developed. Head and thorax above brown.

Polythrix guatemalaensis Freeman 1977

Type locality. Sayaaxche, El Petan, Guatemala.

General distribution. Southern Mexico to Guatemala.

Mexican distribution. X-Can, Quintana Roo, 26 July 1962, ♀ (allotype), (leg. E. C. Welling).

Remarks. There are 3 apical spots in this species; the one in space 7 is smaller than the ones in spaces 6 and 8 but in line. The spots that form the discal band are sordid white and they are compact with a well developed spot in space 1b, a somewhat square spot in space 2, an elongated cell spot, a costal spot of about the same width as the cell spot, and a triangular spot in space 3 which is against the spot in space 2 and the cell spot. There is only the slightest indication of a discal band on the upper surface of the secondaries; however on the lower surface this band is dark and well developed. Costal fold is well developed. The tails are comparatively short in this species. The head and thorax above brown.

Polythrix caunus (Herrich-Schaffer) 1869

Synonymy. *lindora* (Butler) 1870.

Type locality. Unknown.

General distribution. Mexico to Paraguay.

Mexican distribution. 6 miles south of Ciudad Valles, S. L. P. (Hotel Covadonga), June 1966-72, 47 ♂ and 23 ♀ (leg. H. A. Freeman); and Candelaria Loxicha, Oaxaca, 21 Sept. 1971, ♂, and 20 Aug. 1971, ♀ (leg. E. C. Welling).

Remarks. This species has 4 apical spots that are sub-equal. The spot in space 9 is small and the ones in spaces 8 to 6 are progressively larger forming a straight line. Rarely is there a small spot in space 1b under the spot in space 2. The spot in space 2 is quadrate and is located with its inner surface directly under the center of the cell spot. The spot in space 3 is located over the outer edge of the spot in space 2 and not touching the cell spot. There is no indication of discal spots on the upper surface of the secondaries and only slightly indicated on the lower surface. Sometimes there is a whitish spot at the lower end of the indistinct discal band in space 1c. On the lower surface of the secondaries space 1b from base to middle deeply grooved and at the distal end of the groove there is a small erect hair tuft on vein 1b. Tails fairly short in the males and long in the females. Maculation white. Head and thorax above green, intermixed with brown scales. Specimens in the Valles area are slightly less green than those from Oaxaca.

ACKNOWLEDGMENTS

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