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Figures 41-55. Male genitalia of *Symmachia* species collected at PNSD (in lateral view). **41)** *S. divisora* **sp. nov.**, Paratype. **42)** *S. probetor*. **43)** *S. estellina*. **44)** *S. falcistriga falcistriga*. **45)** *S. leena punctata*. **46)** *S. calliste*. **47)** *S. pardalis*. **48)** *S. accusatrix*. **49)** *S. threissa seducta*. **50)** *S. hetaerina hesione*. **51)** *S. miron miron*. **52)** *S. emeralda*. **53)** *S. calligrapha*. **54)** *S. elinas*. **55)** *S. tricolor*. Abbreviation for general structures of the genitalia: **ae:** aedeagus; **gn:** gnathos; **sa:** saccus; **tg:** tegumen; **un:** uncus; **va:** valve. Scale line: 1mm.

confined to distinct geographic regions. Since the male genitalia vary greatly among species of *Symmachia*, and there are only slight differences between the male genitalia of the two taxa, and we have not found them to be sympatric, we believe that the two taxa probably correspond to the same species, in a conservative approach. We therefore remove *S. hesione* from synonymy with *S. hetaerina* and place it again as a subspecies of that species: *Symmachia hetaerina hesione* Stichel, 1910, **stat. rev.** (Fig. 25-26). *Symmachia*

hetaerina hetaerina occurs in the southern and eastern portion of Amazonia and *S. hetaerina hesione* occurs in the middle-west portion of Amazonia.

The following male wing pattern characters serve to diagnose the two taxa. **Forewing:** *dorsal surface* – a) small costal sub-triangular spot with pale yellow coloration located after the costal curvature, anteriorly limited by the costal margin and posteriorly reaching 2/3 of the discal cell's final width, present in *S. haeterina hesione* (Fig. 25) and absent in *S. h. hetaerina* (Fig. 23); b) marginal sub-rectangular orange spot, bigger in *S. hetaerina hesione* (Fig. 25) anteriorly reaching M_2 and posteriorly reaching half of the space in CuA_1-CuA_2 , smaller and pale white in *S. h. hetaerina* (Fig. 23); c) posterior median spot, orange in *S. hetaerina hesione* (Fig. 25), occupying 3/5 of the anal margin while half the width and pale white in *S. h. hetaerina* (Fig. 23). *Ventral surface* – d) costal spot begins on the costal margin and reaches 2/3 of the final width of the discal cell in *S. hetaerina hesione* (Fig. 26) while smaller and not beginning on the costal margin in *S. hetaerina hetaerina* (Fig. 24); e) small spot that posteriorly borders the basal portion of Sc smaller in *S. hetaerina hesione* (Fig. 26); other spots as mentioned for the dorsal surface, but pale orange in *S. hetaerina hesione* (Fig. 26). **Hindwing:** *dorsal surface* – f) orange median spot 1.5 times larger in *S. hetaerina hesione* (Fig. 25) while smaller and pale white in *S. h. hetaerina* (Fig. 23); g) whitish yellow marking along the anal margin of *S. haeterina hesione*. *Ventral surface* – h) median spot limited to M_3 in *S. hetaerina hesione* (Fig. 25) while reaching the anal margin in *S. h. hetaerina* (Fig. 23) and h) marginal spot in cell CuA_2-2A around three times larger in *S. h. hetaerina* (Fig. 23).

The females have more elongate wings than the males in both subspecies, with wing pattern resembling that of the respective male. The female of *S. h. hetaerina* has markings of the same color as the male, while *S. hetaerina hesione* differs by having yellow spots instead of orange (Fig. 27-28).

This species was the most common *Symmachia* at PNSD, with eight captured individuals, all of them flying fast and landing on the adaxial surface of the leaves of small trees, about three meters above the ground after 14:00h.

***Symmachia miron miron* Grose-Smith, 1898**

(Fig. 29-30, 51)

A single specimen was collected in flight at 14:00h, four meters above the ground in a small clearing at the hilltop. The phenotype appears to be intermediate between the nominate subspecies described from Ecuador and the subspecies *S. miron pulchellita* Brévignon and Gallard, 1992 described from French Guiana. More material from PNSD and other Amazonian localities is needed to confirm the taxonomic status for this intermediate phenotype.

***Symmachia emeralda* Hall and Willmott, 2007**

(Fig. 31-32, 52)

Three individuals were captured at the hilltop on the same day at 10:00h, while landing on the abaxial surface of the leaves in small trees about four meters above the ground. An exchange of "perches" among individuals was observed, with perches located about three meters from one another.

***Symmachia calligrapha* Hewitson, 1867**

(Fig. 33-34, 53)

Two male of this species were captured on the hilltop at 13:00h, when they were apparently fighting while flying in spiral manoeuvres about 2.5 meters above the ground.

***Symmachia elinas* (Rebillard, 1958)**

(Fig. 35-36, 54)

This is the smallest species of *Symmachia* found at PNSD, and two individuals were captured at 14:00h while flying with other species of Riodinidae belonging to the genus *Argyrogrammana* Strand, 1932 and *Theope* Doubleday, 1847 in a small patch of sun on the hilltop, two meters above the ground.

Table 1. Richness of *Symmachia* species in published lists from west Amazonian sites. * Approximate values.

Site of study	Effort in days (number of researchers)	Richness			References
		Butterflies	Riodinidae	<i>Symmachia</i>	
North Portion of the PNSD, Acre, Brazil	9(1)	411 spp	163 spp	15 spp	Present study
Parque Estadual do Chandless, Acre, Brazil	14(2)	482 spp	83 spp	0 spp	Mielke et al. (2010)
Reserva Tambopata, Madre de Dios, Peru	76(>2)*	1234 spp	239 spp	4 spp	Lamas (1994)
Parque Nacional del Manu, Pakitza, Peru	97(>2)*	1300 spp	246 spp	5 spp	Robbins et al. (1996)
Cacaulândia, Rondônia, Brazil	200(>2)*	1592 spp	345 spp	8 spp	Austin et al. (unpublished)

***Symmachia tricolor* Hewitson, 1867**

(Fig. 37-38, 55)

Six individuals of this species were captured after 14:30h on the hilltop. It is the only species of the genus for which females were collected (n=2). The specimens were collected in a small clearing while flying fast at one meter from the ground, when resting on dry branches or above small trees with about three meters high.

Discussion

Located in the northwest region of the state of Acre, on the border with Peru, the PNSD forms the watershed of the middle valley of the Ucayali River, Peru, and Juruá River basin, one of the richest regions in the world for butterflies (Brown and Freitas 2002).

The high richness of *Symmachia* at the PNSD, including a new species, found in only eight days of sampling at the top of a single hill by a single researcher, is surprising, considering the rarity of most species of the genus. In fact, the PNSD has more species of *Symmachia* than any other site with a published list in the western Amazon, even though several of these sites have been intensively collected for consecutive years and have been subject to much greater sampling effort (Lamas 1994; Robbins et al. 1996; Mielke et al. 2010)(Table 1).

It is precisely because of the mountainous topography found at PNSD that access to the rich and little-known canopy-associated butterfly fauna is facilitated, due to the behavior of hilltopping performed by many riodinid species. The rich fauna of butterflies at this site applies not only to the genus *Symmachia*, with a total of approximately 160 Riodinidae species sampled, more than 80% occurring on the top of a single hill. In addition, other groups of insects, such as wasps of the Bethyridae (Hymenoptera), presented high richness in this place, where in a short sampling period more than 100 morphospecies were collected, most of them unknown to science (Azevedo et al. 2002; Azevedo and Batista 2002; Morato et al. 2008). Even the fauna of large mammals found at PNSD places it among the richest protected areas of the Neotropics (Calouro 1999).

More sampling is needed to generate a robust list of butterflies occurring in PNSD, especially in places not yet surveyed, including the tops of other mountains in the region.

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