

Third record of *Semanga helena* RÖBER, 1887 from Sulawesi and notes on the distribution of *Jamides snelleni* RÖBER, 1886 (Lepidoptera, Lycaenidae)

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Abstract: A new record of the Lycaenidae species *Semanga helena* RÖBER, 1887 from Sulawesi island, Indonesia, is presented. Up to now only two specimens were found in Sulawesi originating from the northern and eastern peninsula. The new location of *S. helena* in Southeast-Sulawesi is far away from the earlier records. *S. helena* appears to be one of the rarest butterfly species of Sulawesi. *Jamides snelleni* RÖBER, 1886 is another rare and endemic Lycaenidae from Sulawesi. Its distribution within the island is discussed and its presence in Southeast Sulawesi is shown for the first time.

Keywords: Lycaenidae, Sulawesi, *Semanga helena*, *Jamides snelleni*, butterflies.

Ein dritter Nachweis von *Semanga helena* RÖBER, 1887 für Sulawesi und Anmerkungen zur Verbreitung von *Jamides snelleni* RÖBER, 1886 (Lepidoptera, Lycaenidae)

Zusammenfassung: Ein neuer Nachweis der Bläulingsart *Semanga helena* RÖBER, 1887 von der Insel Sulawesi, Indonesien, wird beschrieben. Bis jetzt waren nur 2 Exemplare der Art aus Sulawesi bekannt geworden und zwar eines von der nördlichen sowie ein weiteres von der östlichen Halbinsel. Der neue Fundort von *S. helena* liegt in Südost-Sulawesi weit entfernt von den bisher bekannten Lokalitäten. Die Art ist offenbar einer der seltensten Tagfalter Sulawesi. *Jamides snelleni* RÖBER, 1886 stellt eine weitere seltene und endemische Lycaenidae aus Sulawesi dar. Ihre Verbreitung auf der Insel wird diskutiert und ihr Vorkommen auf der südöstlichen Halbinsel zum ersten mal belegt.

Introduction

Generally, little is known about the numerous species of Lycaenidae from the Indonesian island Sulawesi, particularly concerning information on distribution within the island and biological data. The family Lycaenidae is unfortunately not covered by the early works of MARTIN (1914–1929) and also not by the book series “The butterflies of the South-East Asian islands” produced by Etsuzo TSUKADA. There is also limited information in the primary literature or the work of D’ABRERA (1986). The species repertoire of Sulawesi is, however, compiled by VANE-WRIGHT & DE JONG (2003) showing the occurrence of at least 183 Lycaenidae species within the Sulawesi region. Besides the general lack of data, a further problem is that large areas of Sulawesi such as Southeast Sulawesi and the eastern parts of Sulawesi-Tengah appear nearly unexplored entomologically.

This gap could be partially filled by own investigations at least in Sulawesi Tenggara (Roos 1993, 1995, 2000, 2005, 2012) which lead also to the discovery of new species and subspecies (Roos 1992, 1996, 1997, 2015). This paper focuses on two species of Lycaenidae from Southeast Sulawesi, i.e. *Semanga helena* RÖBER, 1887 and *Jamides snelleni* RÖBER, 1886, with special reference to the former

which has been recorded on Sulawesi before two times only. A third record is described here. The species-rich genus *Jamides* HÜBNER, 1819 is represented in the Sulawesi region by about 20 species of which at least 5 are endemic (VANE-WRIGHT & DE JONG 2003). Distributional data of the rare endemic *J. snelleni* will be discussed here and its presence in Southeast Sulawesi is shown.

Results and discussion

Semanga helena RÖBER, 1887

According to VANE-WRIGHT & DE JONG (2003) the Theclinae genus *Semanga* DISTANT, 1884 includes two very rare species. While *Semanga superba* DRUCE, 1873 is widely distributed in southeast Asia (D’ABRERA 1986, CORBET & PENDLEBURY 1992) *Semanga helena* is endemic for the Sulawesi region. *S. helena* has been described by RÖBER (1887) from Banggai island located off the eastern peninsula of Sulawesi as a species of the genus *Kerau-nogramma*. In a subsequent publication, RÖBER subsumes the new species as a subspecies only of *Semanga superba* DRUCE, 1873 thereby transferring it to the genus *Semanga* (RÖBER 1939). Currently, *S. helena* is considered a separate species distinct from *S. superba* (D’ABRERA 1986, TAKANAMI 1989, VANE-WRIGHT & DE JONG 2003). A lectotype of *S. helena* was designated by TAKANAMI (1989) and is deposited in the Senckenberg Naturhistorische Sammlungen Dresden (formerly Staatliches Museum für Tierkunde, Dresden).

NIEUWENHUIS (1949) investigated the butterfly fauna of Banggai Island but did not find *S. helena*. The species was also not detected by DETANI on Peleng the largest island of the Banggai Archipelago (DETANI 1983). For Sulawesi proper neither D’ABRERA (1986) nor VANE-WRIGHT & DE JONG (2003) list any *Semanga*. A first record of *S. helena* for Sulawesi was published by TENNENT (2005). The specimen was found in 1985 in the Dumoga Bone National Park in North Sulawesi (Sulawesi Utara) which is far from the type locality and also separated by the Maluku sea. The species was identified by Alan CASSIDY, a known specialist of Asian Lycaenidae. In his paper, TENNENT (2005) mentions another specimen of *S. helena* collected by Yusuke TAKANAMI at Mount Tambusisi in Central Sulawesi (Sulawesi Tengah) which is much closer to Banggai than Dumoga Bone. In April 2009, I could discover a third specimen of *S. helena* on Sulawesi. Again, the location is far away from the other known places. The specimen shown in Fig. 1 was found in April 2009 in the vicinity of Kolaka in the province Southeast Sulawesi. With a wingspan of 30 mm it fairly coincides with the size given by RÖBER (1887) in his original description.

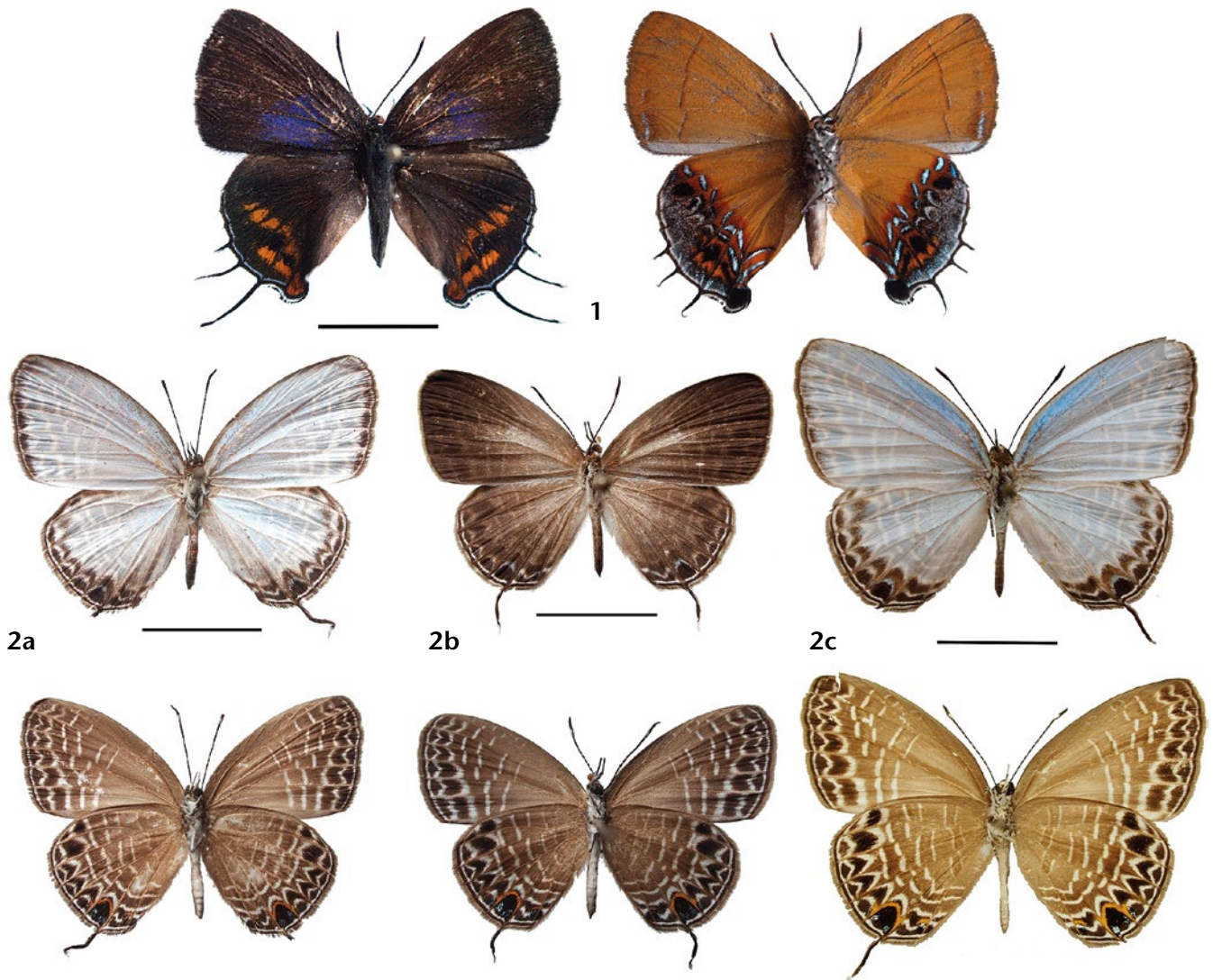


Fig. 1: Female of *Semanga helena* found 20 km east of Kolaka, Sulawesi-Tenggara. Upperside (left) und underside wing pattern (right) is shown. — Fig. 2: *Jamides snelleni*. Upperside (top) and underside (bottom) wing patterns are shown each. First (2a) and second (2b) column: ♂ and ♀, respectively, from Sambeani (Southeast-Sulawesi), 10. x. 2002. Bottom row (2c): Male from Menado (North-Sulawesi) (© Trustees of The Natural History Museum, London). — Scale bars = 1 cm, for uppersides. All photographs: Peter H. Roos.

Although I studied the area around Kolaka extensively on at least 9 field trips, only 1 specimen of *S. helena* could be observed. Hence, there are altogether only 3 records of *S. helena* for Sulawesi proper up to now. The records diverge largely within date and location (Fig. 3) rendering *S. helena* one of the rarest butterflies on Sulawesi. Whether the rarity of observations reflects its real occurrence can be doubted. It is possible that *S. helena* has a very hidden mode of life for us, for example by preferring the upper storeys of the forest. As it is not a strong flyer it may reside at more inaccessible places. CORBET & PENDLEBURY (1992) note that the males of the related *Semanga superba* DRUCE, 1873 are preferably taken on exposed hilltops.

The location where I found *S. helena* is about 20 km east of Kolaka. The forest cover is still in good condition there and exploitation is moderate. However, clearings for gardening south of the location extend steadily. If they proceed with the same speed they can be expected to reach the location in a few years. It is noted that just these clearings already

destroyed the forest at the type locality of the Satyrinae *Zethera incerta tenggara* ROOS, 1992. This taxon occurs exclusively in Sulawesi-Tenggara and may even constitute a distinct species of the genus *Zethera*.

New record: Sulawesi-Tenggara, 20 km east of Kolaka, 1. iv. 2009 (1 ♀).

Jamides snelleni RÖBER, 1886

Jamides snelleni RÖBER, 1886 is endemic for Sulawesi and it is obviously very rare or local on the island as already stated by FRUHSTORFER (1915). Correspondingly, distributional data are largely missing. In the original description of the species, RÖBER (1886) gives two different locations, Bonthain and Tomboegoe, located in Southwest- and East-Sulawesi, respectively, and with a distance from each other by about 530 km (see Fig. 3). From the original series of RÖBER, a lectotype was designated by TAKANAMI (1989) with Bonthain as type locality. Another specimen from this locality taken on 4. viii. 1985 was figured in the internet by CASSIDY (2009). A

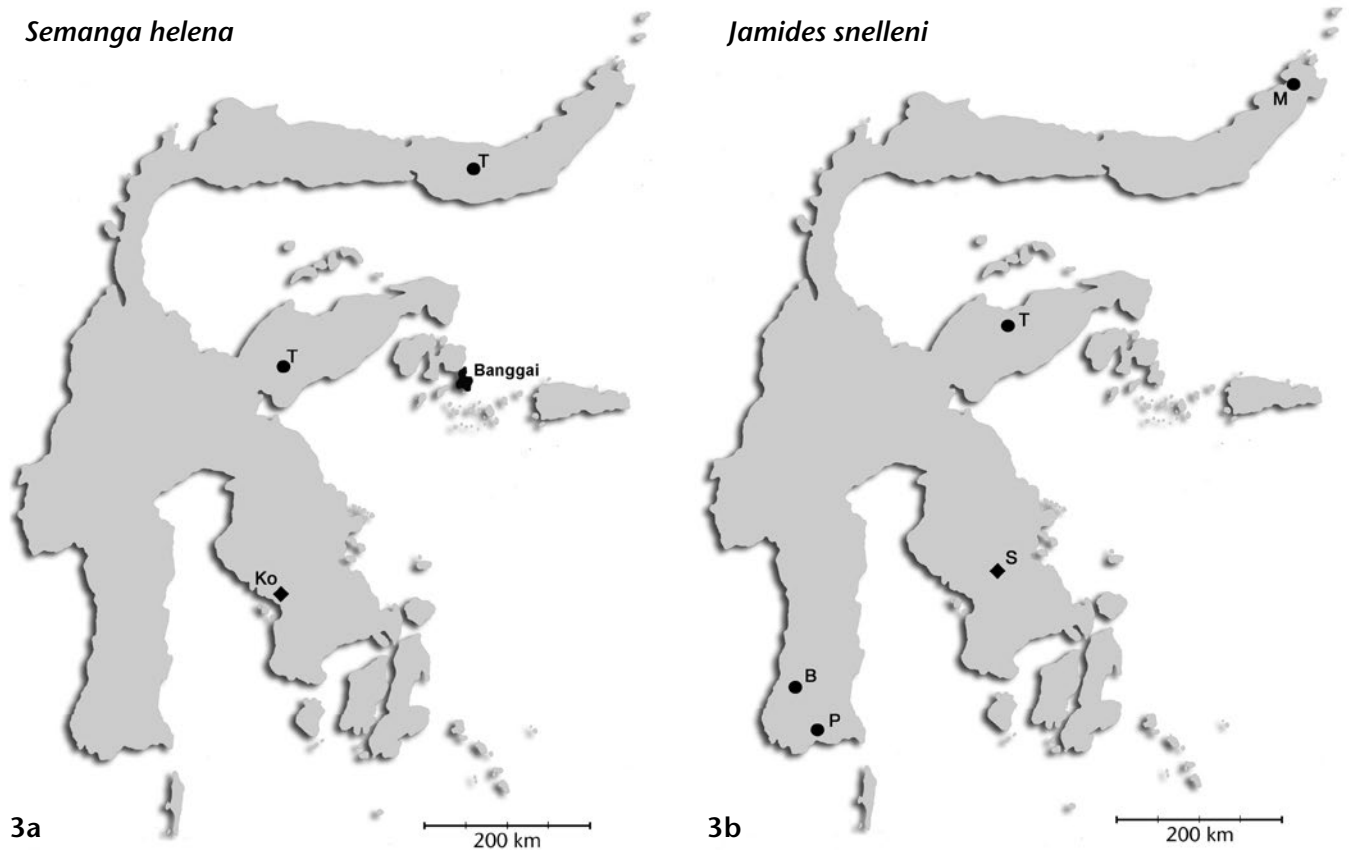


Fig. 3: Locations of *Semanga helena* (3a, left) and of *Jamides snelleni* (3b, right) on Sulawesi Island. Own locations are marked with ♦, others with ●. — *Semanga helena*: T, locations mentioned by TENNENT (2005), i.e. Dumoga Bone and Mount Tambusisi in North- and Central-Sulawesi, respectively. Ko, Kolaka as new location presented in this paper. Banggai Island, the type locality, is marked in black. — *Jamides snelleni*: S, Sambeani, new location in Southeast-Sulawesi; P, Pic of Bonthain; B, Bantimurung; T, Tomboe (= Tombugu); M, Manado.

single male from Bantimurung, Maros, which is also located in Southwest-Sulawesi, lead to the description of *Jamides ohtai* HAYASHI, 1976. It was later synonymized with *J. snelleni* by TAKANAMI (1987). The low level of familiarity of the species probably lead to its redescription by HAYASHI (1976). Apart from Southwest-Sulawesi, *J. snelleni* has also been found in North-Sulawesi as there is a specimen in the collection of the Natural History Museum, London, labelled “Menado” (Fig. 2). FRUHSTORFER (1915) mentions only one pair of *J. snelleni* without data but he assumes that it originates from the Minahassa region in North Sulawesi. No further material of the species is known from East-Sulawesi except that mentioned by RÖBER (1886). Investigations by JURRIANSE & LINDEMANS (1920) in Southeast-Sulawesi did not reveal any *J. snelleni* there. Summarised, clear distribution data for *J. snelleni* exist for Southwest-, North- and East-Sulawesi including only a low number of different places (Fig. 3). VANE-WRIGHT & DE JONG (2003) only mention South Sulawesi as distribution range for *J. snelleni*.

During 9 field trips to Southeast Sulawesi each at least for three weeks, I discovered *J. snelleni* only once in the vicinity of Sambeani. Altogether 6 ♂♂ and 3 ♀♀ were recorded between 8. and 11. x. 2002. Representative specimens are shown in Fig. 2. During several field trips, the species was not found in February or March at the same places in 1994 and 1996 or in October at other localities in Sulawesi-Tenggara, i.e. Asenua, Tawangga,

Sanggona, Porabua, Kolaka, Mangolo, Kendari, Ambololi and Moramo. Judged from the available data and observations, the species is apparently very restricted locally and also seasonally. So far, all specimens mentioned above were observed in the drier season, namely August to October.

The locality around Sambeani is under heavy anthropogenic pressure due to increasing settlements and agricultural land use. It is questionable whether a population of *J. snelleni* is still existing there.

New record: Sulawesi-Tenggara, Sambeani, 8.-10. x. 2002 (6 ♂♂, 3 ♀♀).

Conclusions

The occurrence of the rare Lycaenidae species *Semanga helena* and *Jamides snelleni* in central parts of Southeast-Sulawesi further underlines the importance of the region for species conservation and biodiversity as has been also shown previously. This is for example documented by the occurrence of the rare *Euthalia aconthea* CRAMER, 1777 (Roos 2005) and the existence of species and subspecies unique for the area, such as *Lohora umbrosa* Roos, 1997, *Cirrochroa recondita* Roos, 1996 and *Zethenia incerta tenggara* Roos, 1992. As the pressure on the natural habitats of the above species is increasing protective measures are urgently required.

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