

TROPICAL LEPIDOPTERA, 12 (Suppl. 1): 13-24

A REVIEW OF THE GENUS *MYCALESIS* IN THE SOLOMONS ARCHIPELAGO, WITH DESCRIPTIONS OF SEVEN NEW TAXA (LEPIDOPTERA: NYMPHALIDAE: SATYRINAE)

W. JOHN TENNETT

Biogeography and Conservation Laboratory, Dept. of Entomology,
The Natural History Museum, London SW7 5BD, England, UK

ABSTRACT.— Butterflies of the satyrine genus *Mycalesis* Hübner, 1818 from the Solomons Archipelago are assessed in the light of recent field work and material contained in major museum collections. Confusion in the nomenclature of Solomon Islands *Mycalesis* is discussed and resolved. *M. splendens splendens* is restricted to Treasury Island, *M. interrupta* is raised to species status, and the following seven new taxa are described: *M. richardi* sp. nov., *M. biliki* sp. nov., *M. splendens versicolor* ssp. nov., *M. splendens guadalcanalensis* ssp. nov., *M. splendens magnificans* ssp. nov., *M. splendens tenebrosus* ssp. nov., and *M. interrupta woodsi* ssp. nov.

KEYWORDS: biogeography, distribution, *Mycalesis biliki* n. sp., *Mycalesis interrupta woodsi* n. ssp., *Mycalesis richardi* n. sp., *Mycalesis splendens guadalcanalensis* n. ssp., *Mycalesis splendens magnificans* n. ssp., *Mycalesis splendens versicolor* n. ssp., *Mycalesis splendens tenebrosus* n. ssp., Oceania, taxonomy.

There are probably more than 100 species of the satyrine genus *Mycalesis* Hübner 1818, in the Oriental and Australian regions and the group is in need of revision. Three (or four) species have been thought to occur in the Solomons (e.g., Fruhstorfer, 1911; D'Abbrera, 1971, 1978, 1990; Miller and Miller, 1978; Samson and Sibatani, 1982) but, with the exception of the common and widespread *Mycalesis perseus* (Fabricius, 1775), the distribution and taxonomy of Solomon Islands *Mycalesis* species has been confused.

The aim of this paper is to review published literature concerning *Mycalesis* in the Solomons Archipelago, to remove the muddle surrounding published names, to examine the distribution of *M. splendens* Mathew, 1887 and associated taxa in the Solomons, and to describe new taxa discovered by recent field work. This paper is part of a general study into the biodiversity and biogeography of Solomon Islands butterflies (Tennent, 1998).

Background to the present study

In 1882 and 1883, Gervase F. Mathew, Staff Paymaster Royal Navy, visited the Solomon Islands aboard the survey ship HMS *Espiègle* (Mathew, 1887). The vessel visited the small island of Ugi, off the north coast of San Cristobal, in the eastern Solomons, in 1882 (but see comment under *M. sara*, below), where it remained for three days (Mathew, 1886). The following year, in September, the ship spent three days anchored off the small and remote island of Treasury, in the western Solomons. Mathew collected butterfly specimens during these visits and subsequently described a new species of *Mycalesis* from each of the islands: *M. sara*, based on a solitary male from Ugi, and *M. splendens*, based on a solitary female from Treasury (Mathew, 1887).

It seems that Mathew was unable to decide on a name for the 'beautiful and distinct species' (*splendens*) he had in front of him (Mathew, 1887: 39), since the holotype of *splendens* bears a hand-written label which reads '665. *Mycalesis elegans* Math[ew], Solomon Is[lands], Sep[tember] 1883. Type' and '*Mycalesis splendens*' on the other side. The present author was unable to find any other reference to the name '*elegans*' which is assumed to be an unpublished manuscript name. Perhaps Mathew was so taken with the magnificent female in front of him, that he could not decide whether '*elegant*' or '*splendid*' best described it!

Some years later, Grose-Smith (1889) described *M. interrupta* from a male or males obtained by Charles Morris Woodford from 'Rubiana Lagoon' in the New Georgia Group. The holotypes of all three taxa are in the Natural History Museum, London (BMNH) (Fig. 1-6).

In dealing with the Indo-Australian *Mycalesis*, Fruhstorfer (1911: 339) accepted the validity of *M. splendens* from Bougainville and Treasury but, for some unaccountable reason (they are clearly quite different insects), synonymised the name *interrupta* with *sara*, giving the distribution as Rubiana. Fruhstorfer may not have seen *splendens* (it was not illustrated), and almost certainly had never seen true *sara*, both sexes of which are distinctive. The only Solomons *Mycalesis* illustrated (Fruhstorfer, in Seitz, 1911 [plates]: 91b), said to be *sara*, was a female *interrupta*, and it is clear from this and from the text that it was *interrupta* to which he referred. D'Abbrera (1971), whose work was largely based on Seitz, followed Fruhstorfer in regarding *interrupta* as synonymous with *sara* and said 'I have examined a good number of specimens of both races [of *splendens* and *sara* (i.e., *interrupta*)], and cannot see any significantly dramatic differences between them . . .'. He gave Bougainville, Treasury and Santa Isabel as the range of *splendens* and 'Roviana (Rubiana)' for *sara* (i.e., *interrupta*) (D'Abbrera, 1971: 260) and illustrated a male upperside and female underside of *splendens*, neither of which represented the nominotypical race. He had clearly not examined the holotypes of any of the three taxa, or examined the extensive series of Solomons *Mycalesis* in the BMNH.

Miller and Miller (1978: 21) illustrated the genitalia of two male *Mycalesis* butterflies from the same Bougainville locality, which they believed showed 'relationship, but not identity', in the belief that they were observing differences at species level between *M. splendens* and *M. sara* (i.e., *interrupta*), and reached the conclusion that 'it seems better to class them as separate, though unquestionably closely related, species' (Miller and Miller, 1978: 6). In addition to Bougainville material, these authors reported specimens referable to *splendens* from Malaita and San Cristobal, said to be new island records, as well as 'typical *sara*' (i.e., *interrupta*), from Bougainville and Guadalcanal, also new island records. Dr. Jackie Miller kindly supplied individual colour photographs of both surfaces of the Allyn Museum series of Solomons *Mycalesis*, including the two dissected

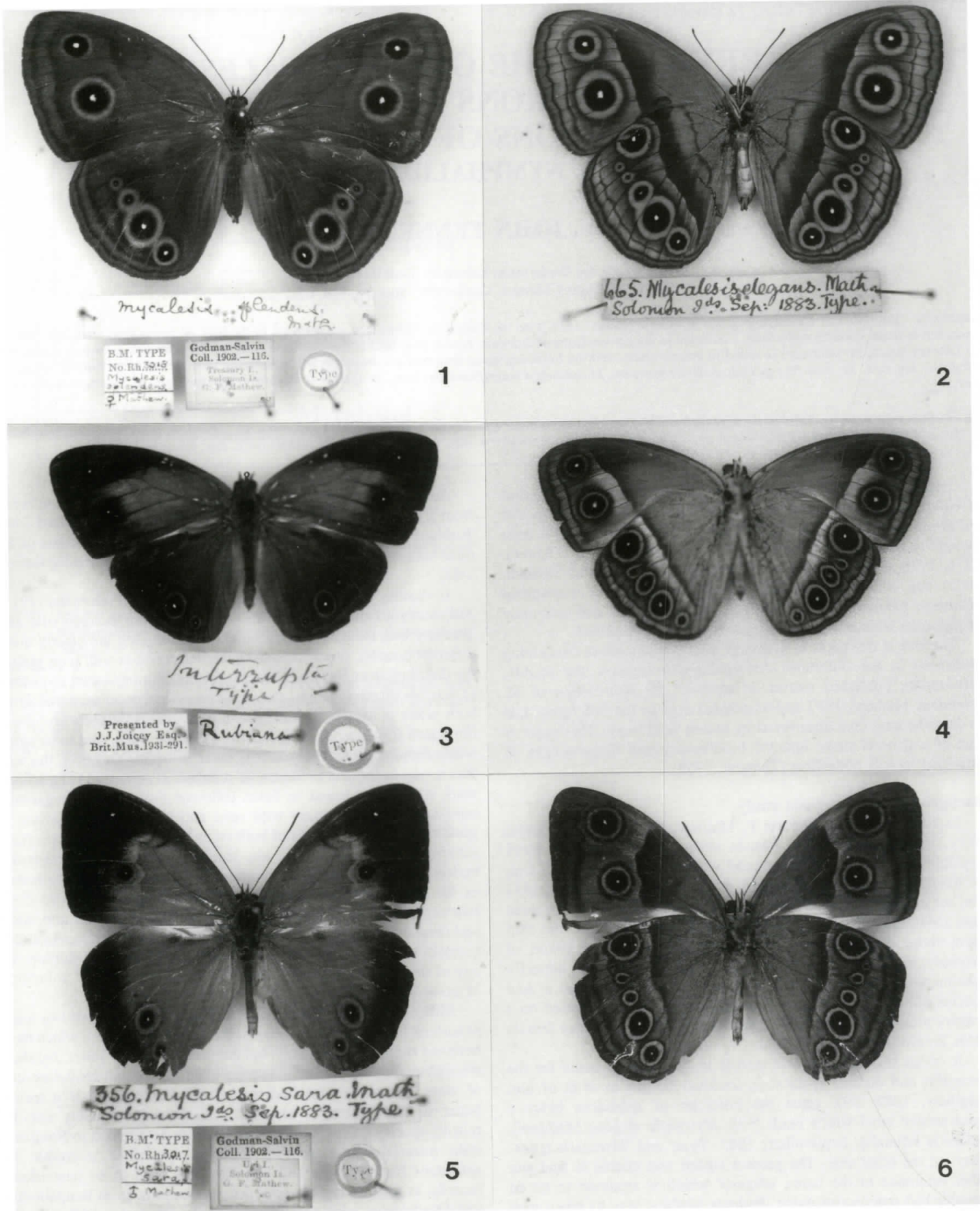


Fig. 1-2. *Mycalesis splendens*, female holotype: 1, upperside; 2, underside. Fig. 3-4. *Mycalesis interrupta*, male holotype: 3, upperside; 4, underside. Fig. 5-6. *Mycalesis sara*, male holotype: 5, upperside; 6, underside.

males from Bougainville. It transpired that the two Bougainville specimens in question were neither *interrupta*, which is confined to the New Georgia Group, or *sara*, which is confined to San Cristobal and its satellites. Nor were they referable to typical *splendens*, restricted by the present author to Treasury Island (see below).

Samson and Sibatani (1982) examined the nomenclature of Solomons *Mycalesis* and, for the first time since the original descriptions, correctly assigned the names *splendens*, *interrupta* and *sara*, remarking on the considerable phenotypic variation of *splendens* on different islands and reporting the discovery, apparently for the first time, of the female of *sara*. They considered typical *splendens* to occur from Bougainville to Guadalcanal, suggesting it may be found in the future on Buka, Malaita (the authors were apparently unaware of the Millers' 1978 report from Malaita) and Ulawa, and treated *interrupta* as a race of *splendens* confined to the New Georgia Group. *M. sara* was correctly accorded species status and restricted to San Cristobal and its small satellite island, Ugi, although they noted an absence of males from San Cristobal and of females from Ugi. They were correct in most significant respects, although there is actually a series of both sexes of *sara* taken on San Cristobal by A. S. Meek in 1908 and by other collectors between 1958 and 1970, in the BMNH. The third edition of D'Abrera (1990) remained erroneous.

Some further confusion resulted from Parsons' treatment of New Guinea *Mycalesis* (Parsons, 1998). Although *M. sara* was correctly identified and illustrated (Parsons, 1998: plate 86, figs. 2491-2494), it was reported correctly from Ugi and San Cristobal, but wrongly from Guadalcanal and Bougainville, with the comments that it would 'probably eventually be located throughout the Solomons' and that 'the *sara* ♀ is not yet known from Bougainville in PNG, but is probably very similar to the ♀ illustrated' (Parsons, 1998: 546).

From this and from examination of *Mycalesis splendens* from various islands in the Solomons Archipelago contained in the BMNH, it became clear that the situation was more complex than previously realised. In particular, Bougainville populations, clearly not nominotypical *splendens*, *sara*, or *interrupta*, were difficult to place. Likewise, although there was indeed significant phenotypic variation in '*splendens*' throughout the Archipelago (cf. Samson and Sibatani, 1978), it seemed highly unlikely that, for example, the 'orange' form which appeared to occur only on Guadalcanal, where it flew apparently throughout the year, was merely a seasonal variant of the dark forms from Choiseul, Santa Isabel and Florida.

Aware of these anomalies, during recent field work in the Solomon Islands, *Mycalesis* specimens were collected from as many localities as possible, in all months of the year. This resulted in a collection of several hundred specimens of both sexes, including from islands and island groups where the '*splendens*' group was previously unrecorded. In addition, a number of *Mycalesis* specimens were obtained on loan from various institutions. The result of these studies are presented below.

Systematics

It was hoped that data gathered during a cumulative total of 9 months field work in the Solomon Islands in 1996 and 1997, would enable resolution of the taxonomic questions outlined above. In fact, although the status and distribution of *Mycalesis* taxa in the Archipelago is much clearer as a result, it is equally clear that more field work is required before the true status of, for example, the phenotypes which occur from Bougainville to Florida can be clarified with anything approaching certainty.

Structure of the male genital armature, of considerable identification value in some butterfly groups, is of limited value in the Oriental *Mycalesis* (see illustrations in Aoki, *et al.*, 1982). With the

exception of *M. perseus*, genitalia of Solomons taxa, including of species differing widely in phenotype, are of the general '*splendens*' type (Fig. 51), with some modification, usually minor and relating to the shape of the tegumen and the shape and breadth of the uncus and brachium. In dissecting and examining more than 50 individual specimens, some constant differences were observed in populations from different islands and island groups. A combination of phenotype and genitalic structure makes it clear that at least 11 *Mycalesis* taxa occur in the Archipelago. Disregarding *M. perseus*, which is recorded from most of the Solomon Islands, it was found that on Guadalcanal and Malaita (and possibly also on San Cristobal), two species fly together.

Unless otherwise stated, material in the account that follows is in the BMNH, London. This includes all material collected by the author. The following abbreviations are used:

AME	Allyn Museum of Entomology, Sarasota, FL, USA
ANIC	Australian National Insect Collection, Canberra
BMNH	The Natural History Museum, London, England
BPBM	Bernice P. Bishop Museum, Honolulu, HI, USA
DCRS	Dodo Creek Research Station, Honiara, PNG
OUM	Oxford University Museum, Oxford, England

Mycalesis splendens splendens Mathew, 1887

(Fig. 1-2, 7, 13, 18, 24, 51)

Mycalesis splendens Mathew, 1887, *Trans. ent. Soc. Lond.*, 1887:38, pl. 4, fig. 4, TL: Treasury

Distribution: The nominate subspecies is restricted to Treasury Island.

Description: Male fwl 31mm; ups uniform dark brown; inner margin of hw suffused russet-brown, in fresh specimens extending to include basal area of hw and basal third of fw; postmedian ocelli pupilled and widely ringed yellow, tinged orange; additional blind ocelli sometimes present on hw in ss. 4-5; uns arrangement of ocelli like ups; ocelli enclosed in variable postmedian band, tinged silver and/or violet, with broad russet-red band distad; basal third of both wings uniform mid-brown; hw with postbasal darker brown line, thin, straight, extending from inner margin to costa. For male genitalia, see Fig (51). Female larger; ocelli large and prominent on both surfaces, ringed paler yellow; ups russet-brown suffusion of male usually absent.

Material examined: (24♂, 13♀): 1♀, Treasury, Sep 1883, G. F. Mathew (HOLOTYPE); 1♂, 3♀, Treasury, 9 Aug 1901, Meek; 3♂, 1♀, ditto, 12 Aug 1901; 1♂, ditto, 15 Aug 1901; ditto, 1♂, 16 Aug 1901; ditto, 19 Aug 1901; 3♂, 3♀, 5-10 Aug 1901, Meek; 1♂, 1♀, Treasury; 3♂, 1♀, Treasury Group, Stirling Island, SL-40m, 30 Nov 1997, W. J. Tennent; 7♂, ditto, 2 Dec 1997 (including gen. preps. BMNH (V) 4883 & 4884); 4♂, 3♀, Treasury Group, Mono Island, Falamai to Balemai river, SL-40m, 1 Dec 1997, W. J. Tennent.

Comment: Color variation in *splendens* populations from Bougainville and the 'northern' chain of islands (see below) seems to be absent from Treasury populations which are, by comparison, constant in appearance. The yellow ringed ocelli are prominent, even in flight. Treasury is a small island which might be expected to harbor little in the way of geographical races due to its proximity to the large island of Bougainville. However, the island supports distinctive races of two hesperiid butterflies, *Tagiades japedus kazana* Evans, 1934 and *Tagiades trebellius lola* Evans, 1949, and a race of the danaine butterfly *Danaus affinis* (Fabricius, 1775), all of which show a remarkable similarity to races on the island of Ulawa, more than 800 km to the east (Tennent, 1998). It is interesting that a distinctive race of *M. splendens*, reported from Ulawa for the first time in this paper (see below) is also closer in appearance to nominotypical *splendens* from Treasury than to races on adjacent islands.

Mycalesis splendens versicolor Tennent, ssp. nov.

(Fig. 8-10, 14, 19-21, 25)

Distribution: Bougainville, the Shortlands, Choiseul, Santa Isabel and Florida.

Description: Both sexes variable. Male like *M. s. splendens*; fwl 26.5mm; ups ocelli less prominent, ringed orange-yellow; upf ocelli often reduced only

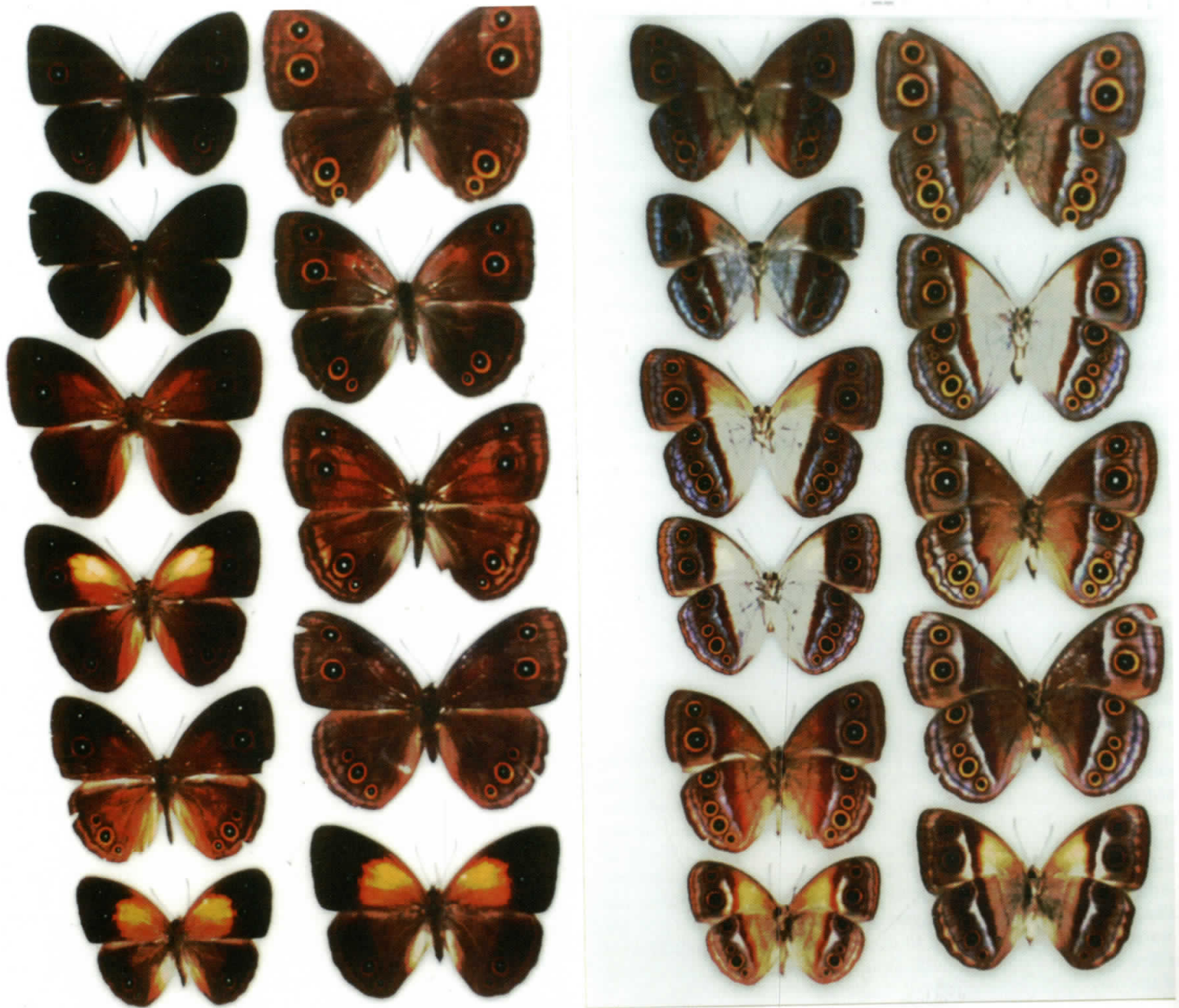


Fig. 7-28. *Mycalesis splendens*, adults (by row, male and female; left set with upper sides, right set with lower sides shown): *M. splendens splendens*: ♂ 7, 18 (Treasury); ♀ 13, 24 (Treasury). *M. splendens versicolor*: ♂ 8, 19 (holotype) (Choiseul); 9, 20 (ANIC) (Bougainville); 10, 21 (paratype) (ANIC) (Bougainville); ♀ 14, 25 (Choiseul). *M. splendens guadalcanalensis*: ♂ 12, 23 (holotype) (Guadalcanal); ♀ 17, 28 (paratype) (Guadalcanal). *M. splendens magnificans*: ♀ 15, 26 (holotype) (Ulawa). *M. splendens tenebrosus*: ♂ 11, 22 (holotype) (Russells); ♀ 16, 27 (paratype) (Russells).

to pupil; ups basal and discal suffusion more grey than russet (when present); forms also occur in which discal and basal areas are widely suffused clear orange-yellow or a dull reddish-brown; intermediates may occur in any population, but appear to be uncommon; uns like *M. s. splendens*, ocelli less prominent; basal areas grey, often tinged yellow-brown, especially at fw costa; in forms with clear orange-yellow ups suffusion, this may be pronounced. Male genitalia like *M. s. splendens*. Female like *M. s. splendens*; ups darker brown; ocelli less prominent; uns like male.

Material examined: (135♂, 47♀): ♂ HOLOTYPE, Choiseul, 3-7km north of Mole, 40-80m, 15 Apr 1997, W. J. Tennent (BMNH).

PARATYPES: 5♂, Bougainville, Apr 1904, Meek (including gen. preps. BMNH (V) 4885 & 4886); 1♂, ditto, Apr-May 1904; 2♂, ditto, May 1904; 4♂, 3♀, Bougainville, Arawa, Dec 1907, Meek (including gen. preps. BMNH (V) 4887 & 4888); 3♂, 1♀, Bougainville, Arawa, Meek; 1♀, Bougainville, Buin, Meek; 2♂, Bougainville, Meek; 1♂, Bougainville, Kieta, 4 Jan 1953, W. Brandt (gen. prep. JT288) (ANIC); 1♂ ditto, 7 Jan 1953 (ANIC); 2♂ ditto, 10 Jan 1953 (ANIC); 1♂ ditto, 14 Jan 1953 (ANIC); 1♂, 1♀ ditto, 15 Jan 1953 (♂ gen prep. JT289) (ANIC); 1♂ ditto, 17 Jan 1953 (ANIC); 1♂ ditto, 20 Jan 1953 (ANIC); 1♂ ditto, 21 Jan 1953 (ANIC); 1♂ ditto, 25 Jan 1953 (ANIC);

3♂ ditto, 1 Feb 1953 (ANIC); 1♂, 1♀ ditto, 4 Feb 1953 (gen. prep. JT290) (ANIC); 1♂ ditto, 9 Feb 1953 (ANIC); 1♂ ditto, 4 Aug 1953 (ANIC); 1♀ ditto, 15 Nov[?] 1953 (ANIC); 1♂, Bougainville, northeast, Muthhi, 18km southwest of Tinputz, +/-700m, 20 Mar ??, 'Tawi' (gen. prep. JT287) (BPBM); 1♀, Bougainville, 6 Dec 1956, ?Ford (BPBM); 1♀, Bougainville, northeast, Torpamos, wsw of Tinputz, 26 Feb 1968, R. Straatman (AME); 2♂, Bougainville, Torpamos, 6km southwest of Tinputz, 1200m (AME); 2♂, Bougainville, Buin, 29 Dec 1969, R. Straatman (including gen. prep. 3821 [Allyn] (AME)); 2♂, ditto, 30 Dec 1969 (AME); 1♂, 1♀, ditto, 1 Jan 1970 (including gen. prep. 3817 [Allyn] (AME)); 1♀, Bougainville, Kieta, 7 Jan 1938 (AME); 1♀, ditto, 6 Jun 1938 (AME); 1♂, ditto, 6 Aug 1938 (AME); 1♀, Bougainville, Kieta, 15 Jun 1939 (AME).

Shortland Group: 1♂, Shortlands; 3♂, 3♀, Shortland Group, Alu, Webster; 4♂, 2♀, Shortland Group, Alu, Woodford; 1♂, Shortland Group, Alu; 1♂, Shortland Group, Alu, 23 Jun-mid Aug 1886, Woodford (AME); 2♂, Shortland Group, Fauro, end Aug-early Sep 1886, Woodford (OUM); 9♂, 7♀, Shortland Group, Alu, 23 Jun-mid Aug 1886, Woodford (OUM); 1♀, Shortland Group, Alu, Maleai Island (off Alu), SL, 26 Nov 1997, W. J. Tennent; 4♂, 1♀, Alu, Maleai Island (off Alu), Maleai village to Nuhu, SL,



Fig. 29-50. *Mycalesis* sp. adults (by row, male and female; left set with upper sides, right set with lower sides shown): *M. interrupta interrupta*: ♂ 29, 40 (Kolombangara); ♀ 35, 46 (Rendova). *M. interrupta woodsii*: ♂ 30, 41 (holotype) (Vella Lavella); ♀ 36, 47 (paratype) (Vella Lavella). *M. biliki*: ♂ 31, 42 (holotype) (Malaita). *M. richardi*: ♂ 32, 43 (holotype) (Guadalcanal); ♀ 37, 48 (paratype) (Guadalcanal). *M. sara*: ♂ 33, 44 (San Cristobal); ♀ 38, 49 (San Cristobal). *M. splendens malaitensis*: ♂ 34, 45 (Malaita); ♀ 39, 50 (Malaita).

27 Nov 1997 W. J. Tennent (including gen. prep. BMNH (V) 4889); 7♂, 1♀, Alu, north-west coast, 0-4km inland from Lofang, SL-60m, 28 Nov 1997 W. J. Tennent (including gen. prep. BMNH (V) 4890); 1♂, 1♀, Shortland Group, Fauro, Woodford; 1♂, Shortland Group, Fauro, end Aug-early Sep 1886, Woodford (AME); 2♂, Shortland Group, Fauro, east coast, gardens and ridges above Kiriki village, SL-120m, 24 Nov 1997, W. J. Tennent (gen. preps. BMNH (V) 4891 & 4892).

Choiseul: 3♂, 4♀, Choiseul, north side, Dec 1903, Meek; Choiseul, Dec 1903-Jan 1904, Meek; 1♂, Choiseul, Meek; 1♂, 1♀, Choiseul; 1♂, Choiseul, Malangona, 60m, 28 Feb 1964, P. Shanahan (BPBM); 2♂, data as holotype; 1♂, Choiseul, 3-6km north of Mole, 40-120m, 16 Apr 1997, W. J. Tennent; 6♂, 1♀, ditto, 18 Nov 1997 (including gen. preps. BMNH (V) 4893 & 4894); 3♂, 2♀, Choiseul, north-west, ca 25km north of Mole, 250m, 19 Nov 1997, W. J. Tennent.

Santa Isabel: 1♂, Santa Isabel, islets near, Webster; 6♂, 5♀, Santa Isabel, 4 Jun-9 Aug 1901, Meek; 1♂, 1♀, Santa Isabel, Meek; 1♂, Santa Isabel, near Buala, 17 May 1984, A. Worsnop; 1♂, Santa Isabel, Buala, 20 Aug 1964 (BPBM); 1♂, Santa Isabel, Tatamba, 29 Aug 1964 (BPBM); 1♂, Santa

Isabel, Tatamba, SL-80m, 4 Mar 1997, W. J. Tennent; 3♂, 1♀, ditto, 5 Mar 1997; 1♂, Santa Isabel, Hukamoto-Tatamba, SL-60m, 6 Mar 1997, W. J. Tennent; 4♂, Santa Isabel, north-west of Buala, SL-20m, 8 Mar 1997, W. J. Tennent; 1♂, Santa Isabel, south-east of Buala, SL-40m, 9 Mar 1997, W. J. Tennent.

Florida: 3♂, Florida, Ndala; 5♂, Florida, Woodford; 1♂, Florida, Meek; 1♂, Florida, 2 Jan 1901, Meek; 1♂, 1♀, ditto, 8 Jan 1901; 2♂, ditto, 11 Jan 1901; 1♂, ditto, 13 Jan 1901; 1♂, ditto, 20 Jan 1901; 1♂, [Florida], Tulagi, 24 Sep 1953, J. D. Bradley; 1♀, Florida, 20 Dec 1964 (AME); 1♂, Florida, Tulagi, 16 Sep 1984, A. G. Worsnop (DCRS).

Comment: The variety of 'forms' occurring on islands from Bougainville to Florida is bewildering, and inclusion of phenotypes under the umbrella of *versicolor* should be treated with some caution. Future studies may identify more than one taxon. The potential explanations of seasonal dimorphism or polymorphism for this array of forms, are confounded by the fact that some forms apparently fly together at different times of the year (i.e., in different seasons), whilst others appear to be most frequent on (but not exclusive to) different islands.

For example, a long series of both sexes of *M. splendens* from Bougainville in the BMNH and in other museum collections, fall into two distinct categories based on the orange flush of the ups basal and discal areas, which may very loosely be described as 'bright' and 'dull'. Although some are merely labelled 'Bougainville', others bear more precise locality and date data. The fact that they were taken in various months of the year and that 'bright' and 'dull' individuals were obtained in the same place at the same time, as well as throughout the year, makes seasonal variation an unlikely explanation. No dark specimen, of the form typical of Choiseul, Santa Isabel or Florida, has been seen from Bougainville whereas, although most specimens from those islands appear almost uniformly dark, with little or no ups orange colouration, individuals almost indistinguishable from Bougainville material also occur there. On the Shortland Group, where butterfly populations are, as might be expected, similar in all respects to those on nearby Bougainville (Tennent, 1998), phenotypes of forms 'typical' of all islands of the northern Solomons chain have been reported.

The status of these forms is uncertain and the arrangement proposed here is not entirely satisfactory. Further studies are required in order to place the various forms in their correct systematic arrangement but, for the present, they are retained as forms of *M. s. versicolor*. Corresponding male and female forms of each of the phenotypes exist. On three occasions when a pair were captured *in copula*, the sexes were of the same form. The holotype is a typically dark example from Choiseul.

Genitalia illustrated by Miller and Miller (1978: 21), said to represent different *Mycalasis* taxa, both represent the 'bright' Bougainville phenotype and perceived differences appear to be distortion due to slightly different viewing angles. A dorsal spur, seen on one aedeagus but apparently absent from a second (Miller and Miller, 1978: 21, figs. 59, 58), is present on all *splendens* specimens and is part of a 'sleeve' which can become detached during dissection.

Mycalasis splendens tenebrosus Tennent, ssp. nov.

(Fig. 11, 16, 22, 27)

Distribution: The Russell Islands.

Description: Similar to *M. s. splendens*; large, male fwl 30mm; upf basal suffusion dark russet-red; uph russet-red suffusion of inner margin extended to include basal areas; uns basal areas brown; red line basad to median line broad, diffuse. Genitalia like *M. s. splendens*. Female like *M. s. splendens*; ups ocelli well developed; uph with obscure reddish suffusion on inner margin (not seen on females from any other locality) and basal areas; uns like male.

Material Examined: (3♂, 1♀) HOLOTYPE: ♂, Russell Group, Pavuvu Island, north, SL-80m, 27 Oct 1997, W. J. Tennent (BMNH).

PARATYPES: 1♂, 1♀, same data as holotype (♂ gen. prep. BMNH (V) 4895); 1♂, Russell Group, Mane Island, SL-80m, 28 Oct 1997, W. J. Tennent (gen. prep. BMNH (V) 4896).

Comment: This race has a closer affinity with the *M. splendens* phenotypes of Santa Isabel to the north, than with those of Guadalcanal to the east, or the New Georgia Group to the west. This illustrates a general feature of Solomons butterfly populations and is the result of a complex geological history and major tectonic activity which continues today. Geologically, the Russells share an affinity with the New Georgia Group, Savo and the western end of Guadalcanal (Pettersen, *et al.*, 1999), but may have been more isolated in the recent past than at present (for example, the bulk of Guadalcanal may have been submerged as recently as the last 100,000 years (Dr Patrick Coleman, pers. comm.; Tennent, 1998)). Recent field work suggests that distinct races of at least two other nymphalid butterfly species (*Vindula arsinoe* and *Cyrestis acilia*) fly on the Russells.

Mycalasis splendens guadalcanalensis Tennent, ssp. nov.

(Fig. 12, 17, 23, 28, 52)

Distribution: Guadalcanal. Possibly also San Cristobal (see comment, below).

Description: Ups similar to *M. s. versicolor*; male fwl 25mm; upf basal areas dull orange; ocelli obscure; uns similar to *M. interrupta* (below); more

uniform, darker; unf median line lined silver-white near inner margin, becoming vestigial and then absent towards costa; pale markings distad to this line absent; submarginal line well-developed, silver-white; unh median line thinly lined silver distally, lined russet-red basally; basal areas brown. Genitalia like *M. splendens*; posterior indentation of tegumen less shallow dorsally; lower edge of lateral indentation sloping more steeply ventrally (fig. 52). Female similar.

Material examined: (107♂, 28♀): HOLOTYPE: ♂, Guadalcanal, north coast, Tuaruhu to Mataniko Falls, 100-280m, 13 Jul 1996, W. J. Tennent (BMNH).

PARATYPES: 5♂, *Guadalcanal*; 2♂, Guadalcanal, Aola, Woodford; 1♂, 1♀, Guadalcanal, Woodford; 2♂, 2♀, Guadalcanal, Apr 1901, Meek; 1♀, ditto, 14 Apr 1901; 1♀, ditto, 16 Apr 1901; 2♂, 1♀, ditto, May 1901; 2♂, Guadalcanal, Meek; 1♀, Guadalcanal, Leggett; 20♂, 4♀, Guadalcanal, Tapenanje, 10-23 Dec 1953, J. D. Bradley; 1♀, Guadalcanal, Honiara, Kukum, 11 Apr 1956, E. S. Brown; 1♀, Guadalcanal, Honiara, Kolaa Ridge, Oct 1964, P. F. Drake; 1♂, Guadalcanal, Honiara, Kukum, 12 Sep 1965, P. F. Drake; 2♂, 1♀, ditto, Aug-Sep 1965; 2♂, ditto, 19 Sep 1965; 1♀, ditto, 27 Sep 1965; 1♀, ditto, 28 Dec 1965; 1♂, Guadalcanal, Poha river, 27 Dec 1953, F. R. Hollins; 1♀, Guadalcanal, Poha river, 7 Feb 1966, P. F. Drake; 3♂, Solomon Islands (BMNH); 3♂, 1♀, Guadalcanal, Betikama river, 6 Aug-2 Oct 1960, W. W. Brandt (ANIC); 4♂, Guadalcanal, Aola, 30 Mar-25 Sep 1887, Woodford (OUM); 1♂, Guadalcanal, 21 Nov 1943 (BPBM); 1♂, ditto, 26 Nov 1943 (BPBM); 1♂, ditto, 12 Dec 1943 (BPBM); 1♂, ditto, 19 Dec 1943 (BPBM); 1♂, ditto, 16 Nov 1944 (BPBM); Guadalcanal, Metanikau River, 10 Jun 1944, H. E. Milliron (BPBM); 1♂, Guadalcanal, 5 miles from mouth of the Metanikau River, 2 Jul 1944, H. E. Milliron (BPBM); 1♂, Guadalcanal, Tenaru River, 15 Sep 1957 (BPBM); 1♂, Guadalcanal, Honiara, 30 Apr 1964, J. Sedlacek (BPBM); 3♂, Guadalcanal, Tambalia, 20-25 May 1964, J. Sedlacek (BPBM); 1♂, 2♀, Guadalcanal, Oct 1942, S. Nicolay (AME); 1♂, 1♀, Guadalcanal, near Honiara, Jan-Feb 1970 (AME); 1♂, Guadalcanal, Nov 1990 (AME); 1♂, ditto, Sep 1991 (AME); 1♂, Guadalcanal, ridge north of Mount Popomanaseu, 850m, 22 Jul 1996, W. J. Tennent; 2♀, Guadalcanal, north of Mount Popomanaseu, Sutakiki River, 500m, 2 Aug 1996, W. J. Tennent; 1♀, Guadalcanal, south of Gold Ridge village, 5-700m, 3 Aug 1996, W. J. Tennent; 1♂, Guadalcanal, Gold Ridge village, 580m, 5 Aug 1996, W. J. Tennent; 7♂, Guadalcanal, north coast, Poha river, SL-40m, 12 Mar 1997, W. J. Tennent (including gen. preps. BMNH (V) 4897 & 4898); 2♂, Guadalcanal, south coast, Chocho to Mbabanakira, SL, 6 Nov 1997, W. J. Tennent; 1♂, Guadalcanal, hills above Hauvalisi village (Mbabanakira), 50-480m, 7 Nov 1997, W. J. Tennent; 2♂, 1♀, Guadalcanal, south coast, Itina River (Mbabanakira), SL-40m, 8 Nov 1997, W. J. Tennent; 1♂, Guadalcanal, south coast, west of Mbabanakira, SL-20m, 9 Nov 1997, W. J. Tennent; 2♂, Guadalcanal, south coast, above Hauvalisi village (Mbabanakira), 100-440m, 10 Nov 1997.

Savo: 1♂, Savo, Woodford; 10♂, 1♀, Savo, Toganimata (Number One) Hill area, 50-480m, 12 Nov 1997, W. J. Tennent (♂♂ including gen. preps. BMNH (V) 4899 & 4900); 13♂, 2♀, Savo, 0-2km inland from Supeka village, SL-100m, 13 Nov 1997, W. J. Tennent (♂ including gen. prep. BMNH (V) 4901) (JT).

Comment: A series of 23♂ and 3♀ taken on Savo Island in 1997 are tentatively placed with this race. The orange on both surfaces is more subdued than on specimens from Guadalcanal and two males are identical to the usual form found on, for example, Santa Isabel. No similar specimen (i.e., lacking orange) has been seen from Guadalcanal. There is a male bearing the label 'San Cristobal, Wairahu river, 100m, 9-15 May 1964, J Sedlacek' (gen. prep. JT317) in the BPBM, Honolulu and a second male with the label 'San Cristobal, Tetera, 9 Jun 1965' (gen. prep. JT472) in the Allyn Museum, Sarasota. Both are similar in appearance to Guadalcanal material and their genitalia are indistinguishable from *M. s. guadalcanalensis*. It is considered that their provenance should be treated with some caution. *M. splendens* shows a propensity for subspeciation on other islands in the Solomons and, as San Cristobal supports a higher proportion of endemic butterfly taxa than any other Solomon island, with the exception of Rennell/Bellona, a race of *splendens* on San Cristobal might be expected to be demonstrably different to a race occurring on Guadalcanal. Although *Mycalasis* are not always easy to collect, due to their habits of flying deep into the forest when disturbed, their presence is usually obvious and they are frequently common where they occur. During five visits to San Cristobal in 1996 and 1997, particular attention was paid by the author to this genus. No

species other than the common *M. perseus* and the endemic *M. sara* were seen.

***Mycalesis splendens malaitensis* Uémura, 2000**

(Fig. 34, 39, 45, 50, 53)

Mycalesis splendens malaitensis Uémura, 2000, *Bull. Toyosato Mus. Ent.*, 9:5, fig. 8-9. TL: Malaita.

Distribution: Malaita.

Description: Ups like the 'bright' form of *M. s. versicolor*; male fwl 29mm; upf orange suffusion more dull, extended towards outer margin in s.1b; uns with features similar to both *M. s. guadalcanalensis* and *M. i. woodsi*; median line broadly lined silver distally; unh basal areas pale brown. Genitalia similar to *M. s. guadalcanalensis*; lateral indentation of tegumen more open, angular (Fig. 53). Female similar. This race was described by Uémura (2000) from 14♂, whilst the present paper was in press.

Material examined: (11♂, 4♀): 4♂, 1♀, Malaita, north, above Malu'u, SL-580m, 24 Oct 1997, W. J. Tennent (gen. prep. BMNH (V) 4902, 4905, 4906, 4907); 1♂, Malaita, near Auki, Dec 1983, A. G. [Worsnop] (gen. prep. BMNH (V) 4903) (BMNH); 1♂, Malaita, north, Dala, 11 Jun 1964 (gen. prep. JT468) (BPBM); 1♀, Malaita, Dala, 50m, 6-13 Jun 1964, J. & M. Sedlacek (BPBM); 1♀, ditto, 7-22 Jun 1964 (BPBM); 1♂, Malaita, northwest, Dala, 50-200m, 15 Dec 1969, R. Straatman (gen. prep. JT469) (AME); 2♂, ditto, 17 Dec 1969 (gen. preps. JT470 & JT471) (AME); 1♂, 1♀, Malaita, Auki to Fiu River, SL-200m, 11 Apr 1997, W. J. Tennent (♂ gen. prep. BMNH (V) 4904); ditto, 25 Oct 1997; 3♂, 1♀, same data as holotype (♂ gen. preps. BMNH (V) 4905, 4906, 4907).

***Mycalesis splendens magnificans* Tennent, ssp. nov.**

(Fig. 15, 26)

Distribution: Ulawa.

Description: Male not known. Female fwl 34mm; ups like *M. s. splendens*; upf ocelli with yellow outer ring almost completely obscured; uph ocelli near tornus lightly ringed orange-yellow; prominent pale grey scales basad from irregular submarginal lines (not seen in any other *splendens* race); uns ocelli very large, ringed pale yellow, pupils large; distal edge of uns median line prominently edged silver, basal edge russet-red line thin; irregular marginal and submarginal lines pale, giving an overall appearance of contrast; unh postbasal line absent.

Material examined: (3♀): HOLOTYPE: ♀ Ulawa, Harrina village area, 40m, 25 Mar 1997, W. J. Tennent (BMNH).

PARATYPES: 2♀, same data.

Comment: The three females on which this description is based were taken at the side of a path in primary forest, and are constant in appearance. No males of this race were seen. The small island of Ulawa supports a remarkable butterfly fauna and several widespread species have races on Ulawa which are closer in appearance to races from some western islands, rather than with San Cristobal to the south, or with Malaita to the west. At the level of subspecies, only Rennell/Bellona and San Cristobal have a higher percentage of endemic taxa.

***Mycalesis interrupta interrupta* Grose-Smith, 1889, stat. rev.**

(Fig. 3-4, 29, 35, 40, 46)

Mycalesis interrupta Grose-Smith, 1889, *Ent. Mon. Mag.*, 25:299.

TL: Rubiana [Island]

Mycalesis splendens interrupta Grose-Smith; Samson & Sibatani, 1982:172

Distribution: Restricted to the eastern islands of the New Georgia Group. Reported from Gizo, Kolombangara, New Georgia and Rendova. The species may also occur on the Shortlands (see comment under *M. i. woodsi*, below).

Description: Male smaller than *M. splendens*, fwl 26mm; fw narrow, apex slightly angular; hw less full than in *M. splendens*, apex distinctly angular; upf basal and discal extensive clear orange flush, almost or completely enclosing ocellus in s. 2 (variable); upf ocelli lacking yellow outer ring; uph with grey basal flush, tinged orange; ocelli small, obscurely ringed orange-yellow; unf broadly orange-yellow; prominent yellow suffusion distad to median line; ocelli small, prominent; hw median band regular, edged silver distad, thinly edged orange basad; basal areas pale grey; submarginal line yellow, prominent. Genitalia similar to *M. splendens*; brachium slender; tegumen less deeply indented both laterally and dorsally (Fig. 54). Female similar, larger; markings more pronounced on both surfaces.

Material examined: (46♂, 18♀): 1♂, *Rubiana* [HOLOTYPE] (BMNH); 1♀, *Solomon Islands*, G. C. Wheeler (BMNH); 6♂, 2♀, Gizo, Nov 1903, Meek.

Gizo: 1♂, Gizo, Meek; 1♂, Gizo, 'mile 6', secondary forest, 26 Dec 1985 (gen. prep. BMNH (V) 4908) (BMNH); 1♂, Gizo, 30-100m, 10-20 Jul 1964, J. & M. Sedlacek (BPBM).

Kolombangara: 1♀, Kolombangara, 10 Feb 1901, Meek; 1♂, ditto, 19 Feb 1901; 2♂, ditto, 23 Feb 1901; 1♂, ditto, 27 Feb 1901; 1♀, ditto, 5 Mar 1901; 1♀, ditto, 10 Mar 1901; 2♀, ditto, 11 Mar 1901; 1♀, Kolombangara, Gollifers Camp, 700m, 22 Jan 1964, malaise trap, P. Shanahan (BPBM); 1♂, Kolombangara, Vanga Point, SL-40m, 21 Aug 1996, W. J. Tennent; 3♂ ditto, 23 Aug 1996 (including gen. prep. BMNH (V) 4909); 2♂, ditto, 27 Aug 1996; 6♂, Kolombangara, inland from Vanga Point, SL-400m, 25 Aug 1996, W. J. Tennent.

New Georgia: 4♂, 2♀, New Georgia, Webster (BMNH); 3♂, New Georgia, west, ca 3km north of Munda, 100m, 2 Nov 1997, W. J. Tennent (including gen. prep. BMNH (V) 4910); 2♂, ditto, 4 Nov 1997; 1♂, 1♀, New Georgia, west, road from Noro to Munda, 20-140m, 3 Nov 1997, W. J. Tennent.

Rendova: 1♂, Rendova, Meek; 5♂, 3♀, Rendova, Feb 1904, Meek; 2♀, Rendova, Gongorai area, Rendova harbour, SL-100m, 6 Sep 1996, W. J. Tennent; 3♂, 1♀, Rendova, Gongorai area, Rendova harbour, SL-250m, 7 Sep 1996, W. J. Tennent (♂ including gen. prep. BMNH (V) 4911); 1♂, Rendova, south, Lokaru area, SL, 9-16 Mar 1997, T. Turner.

Comment: The type locality, given by Grose-Smith as 'Rubiana Lagoon' and by Fruhstorfer (1911) and D'Abrera (1971 etc.) as 'Roviana (Rubiana)', was said to be either the [Roviana] Lagoon in the New Georgia Group, or the island [of Rubiana] west of New Georgia Island (Samson and Sibatani, 1982). The label on the holotype simply states 'Rubiana' and, since it was collected by Charles Woodford (Grose-Smith, 1889), this almost certainly refers to Rubiana Island, where Woodford stayed for some weeks on two occasions in 1886 and 1887 (Woodford, 1890; Tennent, in press). Confusion over the names *M. interrupta* and *M. sara* has been discussed in the introductory section (see above). The taxon was placed as a subspecies of *M. splendens* by Samson and Sibatani (1982). Differences in appearance, wing shape and male genitalia between *M. interrupta* and *M. splendens*, suggest separate species.

***Mycalesis interrupta woodsi* Tennent, ssp. nov.**

(Fig. 30, 36, 41, 47, 54)

Distribution: Vella Lavella. No material from Ranongga has been seen; it is likely that *M. i. woodsi* also occurs there.

Description: Like *M. i. interrupta*; ups clear orange-yellow replaced by deep orange, reduced in extent and rarely encompassing ocelli in s. 2; uns darker, orange flush restricted to basal area of unf; unh median line obscure, silver line basad dull, vestigial; basal areas brown. Genitalia like *M. i. interrupta* (Fig. 54). Female similar.

Material examined: (34♂, 7♀): HOLOTYPE: ♂ Vella Lavella, SE corner, SL-40m, 20 Sep 1997, I. G. Woods (BMNH). PARATYPES: 2♂, 1♀, Vella Lavella, Feb-Mar 1908, Meek; 5♂, 4♀, Mar 1908, Meek; 1♂, same data as holotype; 3♂, ditto, 1 Dec 1996, 1♂, ditto, 13 Apr 1997; 1♂, 1♀, 4 Jun 1997; 1♂, ditto, 9 Jun 1997; 3♂, ditto, 10 Jun 1997; 3♂, ditto, 6 Aug 1997; 1♀, ditto, 9 Sep 1997; 3♂, ditto, 13 Sep 1997; 6♂, ditto, 18 Sep 1997; 1♂, ditto, 19 Sep 1997; 1♂, ditto, no date (gen. prep. BMNH (V) 4912); 1♂, Vella Lavella, Biporo, 2♂, 15 Nov 1963 (BPBM); 1♂, Vella Lavella, Pusioma, 20 Nov 1963, P. Shanahan (BPBM).

Comment: There are two males and one female of this species labelled '[Shortland group] Alu Is[land], Crowley bequest', in the BMNH. Of these, the males are characteristic of *M. i. woodsi*, whilst the female bears more resemblance to the nominotypical race. It is not known whether these labels are accurate and the presence of *M. interrupta* outside the New Georgia Group requires confirmation.

Etymology: This taxon is named after Mr. Ian Woods, a member of the USA Peace Corps based on Vella Lavella, who collected a series at the author's request in 1996 and 1997.

***Mycalesis richardi* Tennent, sp. nov.**

(Fig. 32, 37, 43, 48, 56)

Distribution: Guadalcanal.

Description: Like *M. sara* (below), this species is strongly sexually dimorphic. Male fwl 26mm; uph ocelli dark brown, small, obscure; basal areas dark russet-brown; uns lacking in contrast; median line lined purplish-white distally, maroon-red basally; basal areas plain brown. Genitalia distinctive; like *M. splendens*; uncus more bowed, short, thickened at base; brachium short, thickened; valve long, slender (fig. 56). Female uph brown; basal areas dark russet-brown; upf ocelli not ringed yellow; distinctive clear white irregular subapical patch between ocelli, similar to the female of *M. bififormis* Rothschild and Durrant, 1915, from Irian Jaya; uns like male, white area corresponding to ups more extensive.

Material examined: (14♂, 1♀) HOLOTYPE: ♂ Guadalcanal, south of Gold Ridge village, 5-700m, 3 Aug 1996, W. J. Tennent (BMNH).

PARATYPES: 1♂, Guadalcanal, Apr 1901, Meek; 1♂, Guadalcanal, Tina River, 22 Mar 1965, E. S. Brown (abdomen missing); 1♂, same data as holotype; 1♂, Guadalcanal, ridge north of Mount Popomanaseu, 850m, 22 Jul 1996, W. J. Tennent; 1♀, ditto, 1350m, 1 Aug 1996; 1♂, Guadalcanal, north of Mount Popomanaseu, Satakiki River, 500m, 2 Aug 1996, W. J. Tennent; 6♂, Guadalcanal, hills above Hauvalisi village (Mbabanakira), 50-480m, 7 Nov 1997, W. J. Tennent (including gen. preps. BMNH (V) 4913 & 4914); 2♂, ditto, 10 Nov 1997.

Comment: In 1996, males were seen in primary forest on the steep slopes of Mount Popomanaseu, from 500m to more than 1000m, flying at the lower end of this range with *M. splendens guadalcanalensis*. Only one female was taken, flying extremely swiftly with others on a forested ridge at 1350m north of Mount Popomanaseu, in very dull weather, with a flight similar to crepuscular species of *Melanitis* Fabricius, 1807. Males and females were not actually observed flying together and they are associated by virtue of the russet-brown ups colour of both sexes, and the fact that no other *Mycalesis* species was seen above ca. 7-800m altitude. In 1997, males of both this and *M. s. guadalcanalensis* were flying together on a steep ridge in undisturbed forest west of the Popomanaseu massif at ca 200-400m. There is a male specimen of this species in the BMNH, taken by Meek in 1901. On his own admission, Meek was unable to visit mountainous areas of Guadalcanal, because of the danger posed by natives (Meek, 1913: 181), and it is presumed that this specimen was taken at a low level, near the coast.

Etymology: The species is named after Dick Vane-Wright, Department of Entomology, The Natural History Museum, London, who provided support and encouragement to the author during this research project.

Mycalesis biliki Tennent, sp. nov.

(Fig. 31, 42, 57)

Distribution: Malaita.

Description: Male similar to *M. s. malaitensis*; small, fwl 24mm; upf basal orange pale, significantly reduced; uph russet-brown of inner margin absent (present in all other Solomons taxa of '*splendens*' group); uns similar to *M. s. malaitensis*, unf silver distal edge to median line reduced, vestigial. Genitalia distinctive, similar to *M. richardi*; base of brachium curved ventrally (Fig. 57). Female unknown.

Material examined: (1♂) HOLOTYPE: ♂m Malaita, north, above Malu'u, SL-580m, 24 Oct 1997, W. J. Tennent (gen. prep. BMNH (V) 4915) (BMNH).

Comment: This species may be confused with *M. s. malaitensis*, with which the only specimen known was flying, and its status was only fully appreciated when it was dissected. This prompted dissection of all other '*splendens*' males available from the island of Malaita, including three males kindly loaned by Dr. Jackie Miller, Allyn Museum, Sarasota. The male holotype remains unique.

Etymology: The species is named after Mr. Moses Biliki, Director of Forestry, Ministry of Forests, Environment and Conservation, Honiara, who gave his unequivocal support to the author's research into Solomon Islands butterflies.

Mycalesis sara Mathew, 1887

(Fig. 5-6, 33, 38, 44, 49, 55)

Mycalesis sara Mathew, 1887, *Trans. ent. Soc. Lond.*, 1887:38, pl. 4, fig. 3.
TL: Ugi

Distribution: San Cristobal and Ugi.

Description: Strongly sexually dimorphic. Male fwl 30.5mm; basal two-thirds of upf bright tawny-orange; ocelli small, obscure; ocellus in s. 2 displaced basad in comparison to all other Solomons *Mycalesis*; uph broadly bright tawny-orange; border brown-black; androconial bristles paler than any other Solomons *Mycalesis*; ocelli small, prominent, ringed orange; uns like *M. richardi*, darker; median band irregular, on upf angled towards costa at vein 5. Genitalia like *M. splendens*; uncus and brachium slender; lateral indentation of tegumen open (Fig. 55). Female large; uph basal areas russet-brown; broad postmedian/submarginal band clear orange-yellow; margins dark brown, narrow; uph ocelli in straight line, displaced basad; uns markings well defined; wide postmedian band yellowish-white.

Material examined: (24♂, 10♀): 1♂, Ugi, Sep 1883 [?], G. F. Mathew [HOLOTYPE] (BMNH); 2♂, 2♀, San Cristobal, Yanuta, 19-29 Apr 1908, Meek; 4♂, 1♀, ditto, 19 Apr-9 May 1908; 1♂, 2♀, San Cristobal, Makira harbour [south coast], 1-8 May 1908, Meek; 1♂, San Cristobal, 1958-1959, J. H. Latter; 1♂, San Cristobal, Waimasi, Jul 1963, W. R. M. Low; 1♂, San Cristobal, Kira-Kira, 14 Nov 1964, P. F. Drake; 1♂, ditto, 19 Nov 1964; 1♀, San Cristobal, 2 Feb 1970, R. Straatman; 1♂, San Cristobal, 4 Dec 1969 (ANIC); 1♀, San Cristobal, Kira-Kira to Manowiriwiri, 6 Dec 1964, R. Straatman (AME); 1♀, ditto, 9 Dec 1964 (AME); 1♂, San Cristobal, Kira-Kira, 25 Jan 1984, A. G. Worsnop (DCRS); 1♀, San Cristobal, below Hauta, 3-400m, 30 Mar 1997, W. J. Tennent; 2♂, San Cristobal, Hauta, 4-500m, 31 Mar 1997, W. J. Tennent; 1♂, ditto, 1 Apr 1997; 3♂, 1♀, San Cristobal, above Hauta, 6-700m, 1 Apr 1997 (including gen. prep. BMNH (V) 4916), W. J. Tennent; 3♂, ditto, 18 Oct 1997 (including gen. prep. BMNH (V) 4917); 1♂, San Cristobal, Hauta village gardens, 5-600m, 19 Oct 1997, W. J. Tennent.

Comment: The holotype of *M. sara* bears a hand written label, similar in all respects to the label accompanying the holotype of *M. splendens*, suggesting it was taken on the island of Ugi in September 1883. Mathew (1886) implied that he visited Ugi in 1882 and clearly stated that he visited Treasury in September 1883. The distance between these two islands make it unlikely that he visited both in the same month.

Mycalesis perseus lalassis Hewitson, 1864

Mycalesis lalassis Hewitson, 1864, *Illus. Exotic Butterfl.*, 3:[89], pl. *Mycalesis* 6 [45]. TL: New Guinea

Distribution: Common and widespread throughout the Solomons. Reported from almost all islands from Bougainville to the Santa Cruz Group, flying throughout the year. The species occurs from India, Sri Lanka and China, through the islands of the Philippines to New Guinea and northern Australia. It is the only Solomons *Mycalesis* species which flies outside the Archipelago.

Material examined: A large amount of material of *M. perseus* from the Solomons Islands has been examined. The number and sex of specimens was not recorded, nor was Bougainville included. It is not part of the '*splendens*' species group and its distribution and systematics are not in doubt. It is not illustrated here. The genitalia were illustrated by Aoki, *et al.* (1982: 298).

Shortland Group, Alu, 23 Jun-mid Aug 1886, Woodford (OUM); Shortland Group, Fauro, end Aug-early Sep 1886, Woodford (OUM); Shortland Group, Nila Island (off Alu), 2 May 1984, A. G. Worsnop (DCRS); Shortland Group, Alu, Maleai Island (off Alu), SL, 26 Nov 1997; ditto, 27 Nov 1997; Alu, Maleai Island (off Alu), Maleai village to Nuhu, SL, 27 Nov 1997; Alu, north-west coast, 0-4km inland from Lofang, SL-60m, 28 Nov 1997 (JT); Shortland Group, Fauro, east coast, gardens and ridges above Kiriki village, SL-120m, 25 Nov 1997 (JT).

Treasury, 5-10 Aug 1901, Meek (BMNH); Treasury Group, Stirling Island, SL-40m, 30 Nov 1997; ditto, 2 Dec 1997; ditto, 3 Dec 1997; Treasury Group, NW coast, 0-4km inland from Lofang, SL-60m, 28 Nov 1997 (JT).

Choiseul, north side, Dec 1903, Meek (BMNH); Choiseul, 19km (by road) north of Mole, 14 Apr 1997; Choiseul, 3-7km north of Mole, 40-80m, 15 Apr 1997; ditto, 17 Apr 1997; Choiseul, 3-6km north of Mole, 40-120m, 16 Apr 1997; ditto, 17 Nov 1997; ditto, 18 Nov 1997; ditto, 22 Nov 1997; Choiseul, Choiseul Bay, SL-60m, 18 Apr 1997; ditto, 19 Apr 1997; Choiseul, NW, ca. 25km north of Mole, 250m, 19 Nov 1997; ditto, 20 Nov 1997; ditto, 21 Nov 1997 (JT).

Vella Lavella, Feb 1908, Meek; ditto, Mar 1908 (BMNH); Vella Lavella, SE corner, SL-40m, 19 Apr 1997, I. G. Woods (IGW).

Gizo, 4 May 1984, A. G. Worsnop; ditto, 16 Mar 1986 (DCRS).

Kolombangara, Vanga Point, 21 Aug 1996; ditto, 22 Aug 1996; ditto, 23 Aug 1996; ditto, 24 Aug 1996; ditto, 25 Aug 1996; ditto, 26 Aug 1996;

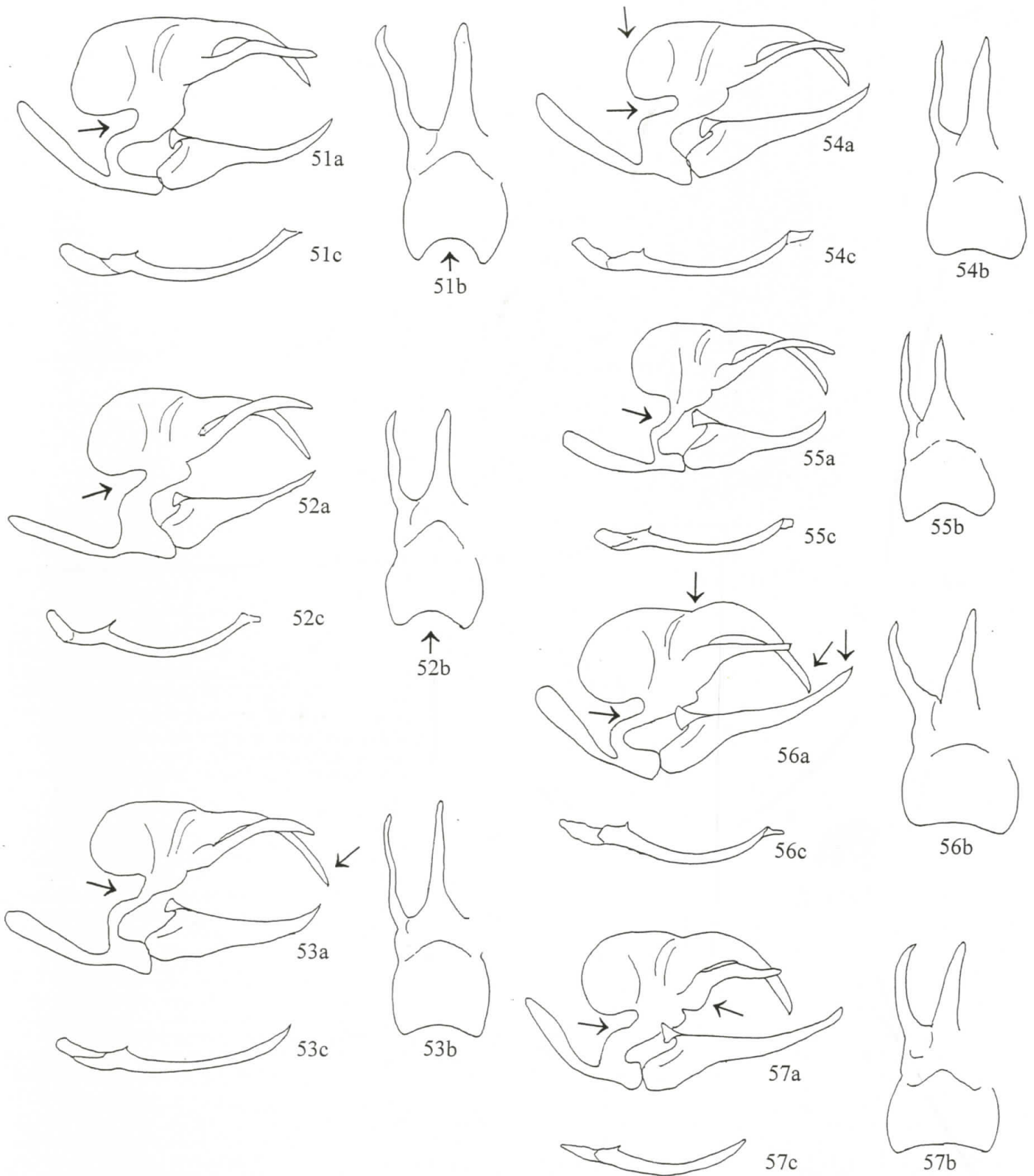
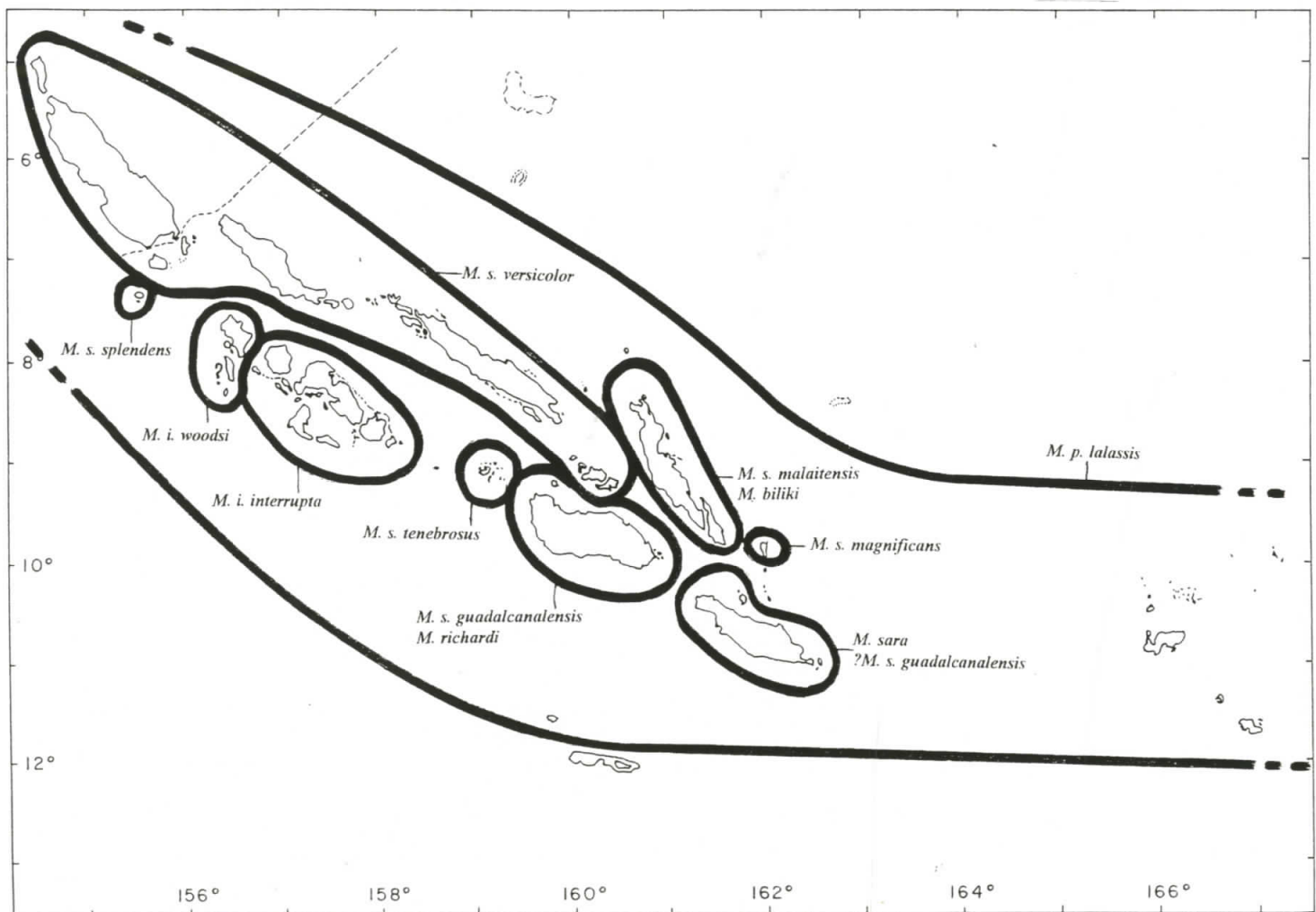


Fig. 51-57. Male Genitalia. 51, *M. splendens splendens*: a, genitalia, lateral view, aedeagus removed; b, tegumen, uncus, left brachium, dorsal view; c, aedeagus, lateral view. 52 a-c, *M. splendens guadalcanalensis*: ditto. 53 a-c, *M. splendens malaitensis*: ditto. 54 a-c, *M. interrupta woodsi*: ditto. 55 a-c, *M. sara*: ditto. 56 a-c, *M. richardi*: ditto. 57 a-c, *M. biliki*: ditto.



Map 1. Distribution of *Mycalesis* taxa in the Solomon Islands and Bougainville.

Kolombangara, Ringgi, 30 Aug 1996; Kolombangara, Kape harbor, 31 Aug 1996 (JT).

New Georgia, 27 Mar 1901, Meek; ditto, Mar 1904 (BMNH); *New Georgia*, Menakasapa (Paradise), 1 Sep 1996; ditto, 2 Sep 1996; *New Georgia*, Enoghae inlet, 3 Sep 1996; *New Georgia*, west, ca. 3km north of Munda, 100m, 2 Nov 1997; *New Georgia*, west, road from Noro to Munda, 20-140m, 3 Nov 1997 (JT).

Rendova, near Gongorai (Rendova harbor), 6 Sep 1996; ditto, 9 Sep 1996; (JT).

Rubiana, Woodford (BMNH).

Santa Isabel, 4 Jun-9 Aug 1901, Meek (BMNH); *Santa Isabel*, Tatamba, SL-80m, 4 Mar 1997; ditto, 5 Mar 1997; ditto, 7 Mar 1997; *Santa Isabel*, Hukamoto-Tatamba, SL-60m, 6 Mar 1997; *Santa Isabel*, NW of Buala, SL-20m, 8 Mar 1997; *Santa Isabel*, SE of Buala, SL-40m, 9 Mar 1997 (JT).

Bellona, Matahenua, 29-30 Nov 1953, J. D. Bradley; *Bellona* 21 Nov 1965, E. S. Brown (BMNH); *Guadalcanal*, Apr 1901, Meek; ditto, v.1901.

Guadalcanal: Honiara, 8-11 Sep 1953, J. D. Bradley; ditto, 11-18 Sep 1953; Tulagi, 24 Sep 1953, J. D. Bradley; Lungga, 18 Oct 1953, F. R. Hollins; Tapenanje, 10-23 Dec 1953, J. D. Bradley; [Mount] Gallego, Hidden Valley, 11 Jun 1965, Royal Society Expedition (BMNH); Aola, 30 Mar-25 Sep 1887, Woodford (OUM); 12 Dec 1943; Metanikau river, 21 May 1944, H. E. Milliron; ditto, 10 Jun 1944 (BPBM); Honiara, Kukum, 18 Jul 1963; Tenaru, malaise trap, 4 Jan 1984, R. MacFarlane (DCRS); Honiara, SL, 9 Jul 1996; ditto, 12 Jul 1996; ditto, 22 Apr 1997; Tuvaruhu to Mataniko Falls, 100-150m, 13 Jul 1996; Poha River, SL-40m, 12 Mar 1997; south coast, Chocho to Mbabanakira, SL, 6 Nov 1997; south coast, Hauvalisi village (Mbabanakira), SL, 6 Nov 1997; hills above Hauvalisi village (Mbabanakira), 50-480m, 7 Nov 1997; south coast, Itina River (Mbabanakira), SL-40m, 8 Nov 1997; south coast, west of Mbabanakira, SL-20m, 9 Nov 1997; south coast, above Hauvalisi village (Mbabanakira), 100-440m, 10 Nov 1997 (JT).

Savo, Toganimata (Number One) Hill area, 50-480m, 10 Nov 1997; *Savo*, 0-2km inland from Supeka village, SL-100m, 13 Nov 1997 (JT).

Florida, Jan 1901, Meek (BMNH); [Florida], Tulagi, 17 Feb 1984, A G Worsnop (DCRS).

Malaita, near Auki, Dec 1983, A. G. Worsnop (DCRS); *Malaita*, north-east of Auki, SL-200m, 9 Apr 1997; *Malaita*, Ru'u village area, south of Auki, SL-40m, 10 Apr 1997; *Malaita*, Auki to Fiu river, SL-200m, 11 Apr 1997; ditto, 22 Oct 1997; ditto, 25 Oct 1997; *Malaita*, north, above Malu'u, SL-580m, 24 Oct 1997 (JT).

San Cristobal, Yanuta, 19-29 Apr 1908, Meek (BMNH); *San Cristobal*, Kira-Kira, 2 Feb 1984, A. G. Worsnop (DCRS); *San Cristobal*, Kira-Kira, 9 Aug 1996; ditto, 10 Aug 1996; ditto, 12 Aug 1996; ditto, 20 Mar 1997; ditto, 21 Mar 1997; ditto, 29 Mar 1997; ditto, 5 Apr 1997; *San Cristobal*, Hauta, 4-500m, 31 Mar 1997; *San Cristobal*, above Hauta, 5-700m, 1 Apr 1997; ditto, 2 Apr 1997; *San Cristobal*, Hauta, 500m, 1 Apr 1997 (JT).

Ulawa, Su'umoli, SL, 22 Mar 1997; *Ulawa*, north coast, SL, 23 Mar 1997; *Ulawa*, Kellmei and Harrina village areas, SL-40m, 24 Mar 1997; *Ulawa*, Harrina village area, 40m, 25 Mar 1997 (JT); Ugi (BMNH).

Ugi, Pawa village, SL-50m, 26 Mar 1997; *Ugi*, west coast, north of Pawa, SL-60m, 27 Mar 1997; ditto, 16 Oct 1997; *Ugi*, east coast, SL, 28 Mar 1997 (JT).

Santa Ana, day or two from 11 May 1886 [!], Woodford (OUM).

Santa Cruz Group, [Ndeni Island], Lata, 29 Jan 1984, A. G. Worsnop (DCRS); *Santa Cruz Group*, Ndeni Island, Lata, 60m, 8 Oct 1997; *Santa Cruz Group*, Ndeni Island, 0-1km south of Lata, 60-100m, 9 Oct 1997; *Santa Cruz Group*, Ndeni Island, 0-5km south of Lata, 60-160m, 10 Oct 1997; ditto, 11 Oct 1997; *Santa Cruz Group*, Ndeni Island, Graciosa Bay, Luembalbe river to Luesalo (RTC), SL, 12 Oct 1997; *Santa Cruz Group*, Ndeni Island, 5-8km south of Lata, 160m, 13 Oct 1997; *Santa Cruz Group*, Ndeni Island, 10-15km south of Lata, 100-180m, 14 Oct 1997; *Santa Cruz Group*, Ndeni Island,

Table 1. Seasonal distribution of *Mycalesis* taxa in the Solomon Islands.

serial	taxon	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	<i>M. splendens splendens</i>								x	x		x	x
2	<i>M. splendens versicolor</i>	x	x	x	x	x	x	x	x	x		x	x
3	<i>M. splendens tenebrosus</i>										x		
4	<i>M. splendens guadalcanalensis</i>		x	x	x	x	x	x	x	x	x	x	x
5	<i>M. splendens malaitensis</i>				x		x	x			x		x
6	<i>M. splendens magnificans</i>			x									
7	<i>M. interrupta interrupta</i>	x	x	x					x	x		x	x
8	<i>M. interrupta woodsi</i>				x		x		x	x		x	x
9	<i>M. richardi</i>			x	x			x	x			x	
10	<i>M. biliki</i>										x		
11	<i>M. sara</i>	x	x	x	x	x		x		x	x	x	x
12	<i>M. perseus lalassis</i>	x	x	x	x	x	x	x	x	x	x	x	x

Lata, 1 Nov 1997, D Arathoon (JT); Santa Cruz Group, Reef Islands, Mohawk Bay, 31 Jan 1984, A. G. Worsnop (DCRS).

DISCUSSION

The Solomons Archipelago (which includes Bougainville, politically part of Papua New Guinea) supports a significant number of endemic taxa of many animal groups, including butterflies, and is understudied, despite a colonial history. Recognition here of seven new *Mycalesis* taxa as a result of recent fieldwork illustrates the extent of previous lack of knowledge regarding the butterfly fauna of the region. Butterflies in the Solomon Islands (including the Santa Cruz Group) have been the subject of a recent study (Tennent, 1998), from which it is clear that several of the larger and/or remote islands and island groups are relatively rich in endemic taxa at both species and subspecies level. In particular, the New Georgia Group, Ulawa and San Cristobal and, to a lesser extent, Malaita and Guadalcanal, have been found to support moderately high levels of endemic taxa, whilst the large islands of the northern chain (Bougainville, Choiseul, Santa Isabel, etc.), thought to have been significant in providing a stepping-stone route in the dispersal of taxa from west to east, support markedly less endemics. The known distribution of *Mycalesis* taxa closely fits the pattern of distribution of other butterfly groups.

In the tropics, *Mycalesis* species are prone to seasonal variation which can be quite extreme, often involving an increase or decrease in wing markings (ocelli) (Braby, 1994). The bewildering array of Solomons phenotypes have been previously thought due to seasonal variation. Aside from the fact that distribution is often clearly delineated geographically, records for many taxa span the year (Table 1). It is also the case that the distinct 'wet' and 'dry' seasons typical of many tropical regions are much less clearly defined in the Solomon Islands, due primarily to the physical geography of the islands themselves. In fact, little or no seasonal variation has been observed in Solomons *Mycalesis* taxa. The variety of phenotypes found in the northern chain of islands, from Bougainville, through Choiseul and Santa Isabel to Florida, remains an enigma and only further study will provide enlightenment.

ACKNOWLEDGEMENTS

Thanks are due to Mr. Moses Biliki, Ministry of Forests, Environment and Conservation, Honiara, for his support for this project; Mrs. Audrey Ruza, Ministry of Education and Human Resources Development, Honiara,

for issuing research permits for field work; Mr. Tim and Mrs. Relma Turner, who were generous in their hospitality in Honiara, and Mr. Ian Woods, who kindly collected material for the author on Vella Lavella. Dr. Marianne Horak, Department of Entomology, CSIRO, Canberra; Mrs. Ruth Liliquola, Dodo Creek Research Station, Honiara; Mr. Darren Mann and Dr. George McGavin, Hope Department of Entomology, Oxford University Museum; Dr. Scott Miller, Bernice P. Bishop Museum, Honolulu; Drs. Jackie and Lee Miller, Allyn Museum, Sarasota, Florida; Mr. Max Moulds, Australian Museum, Sydney, all allowed access to, and loans from, the collections in their care.

The author's first field visit to the Solomon Islands in 1996 was partially funded by the Exploration Board of Imperial College of Science, Technology and Medicine, London, The Linnean Society, London and the Royal Entomological Society, London. Significant funding for this and subsequent field visits was provided by the Trustees of the Godman Exploration Fund.

LITERATURE CITED

- Aoki, T., S. Yamaguchi, and Y. Uémura
1982. Part 3: Satyridae, Libytheidae. In E. Tsukada (ed.), *Butterflies of the South East Asian Islands*. Tokyo: Plapac. 500pp. [in Japanese]
- Braby, M. F.
1994. Phenotypic variation in adult *Mycalesis* Hübner (Lepidoptera: Nymphalidae: Satyrinae) from the Australian wet-dry tropics. *J. Aust. Ent. Soc. (Canberra)*, 33:327-336.
- D'Abrera, B.
1971. *Butterflies of the Australian Region*. Melbourne: Lansdowne. 415pp.
1978. *Butterflies of the Australian Region* (2nd ed.). Melbourne: Lansdowne. 415pp.
1990. *Butterflies of the Australian Region* (3rd ed.) Melbourne: Hill House. 416pp.
- Diamond, J.
1998. Geographic variation in vocalisations of the white-eye superspecies *Zosterops [griseotinctus]* in the New Georgia Group. *Emu (East Hawthorne, Australia)*, 98:70-74.
- Fruhstorfer, H.
1911. Satyridae. In A. Seitz (ed.), *Die Gross-Schmetterlinge der Erde. Teil IX. Die Indo-Australischen Tagfalter*, pp. 285-401. Stuttgart: A. Kernen.
- Mathew, G. F.
1886. Descriptions of some new species of Rhopalocera from the Solomon Islands. *Trans. Ent. Soc. London*, 1886:343-350.
1887. Descriptions of some new species of Rhopalocera from the Solomon Islands. *Trans. Ent. Soc. London*, 1887:37-49.
- Meek, A. S.
1913. *A Naturalist in Cannibal Land*. London: T. Fisher Unwin. 238pp.
- Miller, L. D., and J. Y. Miller
1978. "East Indian" butterflies: notes and descriptions. 1. Satyridae and Danaidae. *Bull. Allyn Mus. (Sarasota)*, 49:1-23.

- Parsons, M. J.**
[1998]. *The Butterflies of Papua New Guinea: their Systematics and Biology*. London: Academic Pr. 736pp, 26+136 pl..
- Petterson, M. G., C. R. Neal, J. J. Mahoney, A. D. Saunders, T. L. Babbs, A. A. Duncan, D. Tolia, R. Magu, C. Qopoto, H. Mahoa, H., and D. Natogga**
1999. Geologic-tectonic framework of Solomon Islands, SW Pacific. Crustal accretion and growth within an intra-oceanic setting. *Tectonophysics* (Amsterdam), 301:35-60.
- Samson, C., and A. Sibatani**
1982. On the discovery of *Mycalesis sara* Mathew female (Lepidoptera: Satyridae) from San Cristobal Island, Solomon Islands. *Trans. Lepid. Soc. Japan* (Tokyo), 32:171-178.
- Seitz, A. (ed.)**
1908-28. *Die Gross-Schmetterlinge der Erde. Teil IX. Die Indo-Australischen Tagfalter*. Stuttgart: A. Kernen. 2 pts (1197pp, 177 pl.).
- Tennent, W. J.**
1998. *Biodiversity and Biogeography of Solomon Islands Butterflies*. M.S. Thesis. Canterbury: Univ. Kent. (unpublished).
1999. Charles Morris Woodford C.M.G. (1852-1927): Pacific adventurer and forgotten Solomon Islands naturalist. *Arch. Nat. Hist.* (London), 26:419-432.
- Uémura, Y.**
2000. An annotated checklist of the genus *Mycalesis* Hübner, 1818 (Lepidoptera: Satyridae) of the New Guinea and adjacent territories. Part 1. *Bull. Toyosato Mus. Ent.* (Toyosato), 9:1-8.