An illustrated and annotated checklist of *Philiris* Röber, 1891, taxa occurring in the Indonesian provinces of North Maluku and Maluku (Lepidoptera: Lycaenidae)

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Abstract: This paper recognises 16 taxa (8 species) of the lycaenid genus *Philiris* Röber, 1891 that occur in the Indonesian provinces of North Maluku and Maluku. Two new subspecies are described: *Philiris helena* ***nok*** **ssp. n.** (holotype = HT male, BMNH) from Morotai and *Philiris intensa* ***discoblanca*** **ssp. n.** (HT female, BMNH) from Obi. Some new island locality records are introduced, maps show all the islands discussed in the text and all taxa are illustrated in colour.

Keywords: Lepidoptera, Lycaenidae, *Philiris*, new subspecies, new locality records, Indonesia, North Maluku, Maluku.

Eine illustrierte und kommentierte Checkliste der Taxa von *Philiris* Röber, 1891 der indonesischen Provinzen Nord-Maluku und Maluku (Lepidoptera: Lycaenidae)

Zusammenfassung: Es werden 16 Taxa (8 Arten) der Lycaenidengattung *Philiris* Röber, 1891 aufgelistet, die in den indonesischen Provinzen von Nord-Maluku und Maluku vorkommen. Zwei neue Unterarten werden beschrieben: *Philiris helena* ***nok*** **ssp. n.** (Holotypus = HT Männchen, in BMNH) von Morotai und *Philiris intensa* ***discoblanca*** **ssp. n.** (HT Weibchen, BMNH) von Obi. Einige neue Inselnachweise werden gegeben, Verbreitungskarten zeigen die bearbeiteten Inseln, und alle Taxa werden farbig abgebildet.

Introduction

This paper provides an illustrated and annotated checklist of all species and subspecies of the genus *Philiris* Röber, 1891 (Lycaenidae, Luciini) known to occur in the Indonesian provinces of North Maluku (Maluku Utara) and Maluku, together with their known ranges. It includes a few new island locality records.

We have largely followed the format established by Rawlins et al. (2014) in "*An illustrated and annotated checklist of* Jamides *Hübner, 1819, taxa occurring in the Indonesian Provinces of North Maluku and Maluku (Lepidoptera: Lycaenidae)*".

Some species of the genus are notoriously difficult to identify and there are some records of taxa occurring in unexpected locations in the past literature. Where possible we have tried to locate and examine the appropriate specimens to set the record straight.

We describe two new subspecies and recognise 16 taxa, comprising 8 *Philiris* species, as occurring in the Maluku area.

We include maps showing all the main islands of Maluku and North Maluku and, where available to us, provide photographs of both surfaces of both sexes of each taxon.

In producing this checklist we have relied heavily on the collections of the Natural History Museum, London. In addition some private collections have been examined.

Biogeography and definitions of North Maluku and Maluku

In this paper we use the term Maluku to incorporate the two Indonesian provinces of North Maluku (= Maluku Utara) and Maluku (see Maps 1 & 2). Together these are often referred to as the "Moluccas" or the "Spice Islands". We also use the geographical terms "northern Maluku" and "central Maluku".

Different authors have used these terms with varying meanings. We follow here the detailed definitions given by Rawlins et al. (2014: 5–8).

In brief, the political province of North Maluku comprises:

1. The Sula Islands.
2. The islands we refer to as "northern Maluku" (Morotai, Halmahera, Ternate, Makian, Bacan, Kasiruta, Mandioli and their associated smaller islands).
3. Obi.
4. Gebe.
5. The political province of Maluku comprises:
6. The islands we refer to as "central Maluku" (Buru, Ambelau, Manipa, Kelang, Buano, Seram, Ambon, Haruku, Saparua, Nusa Laut, Geser and Seram Laut).
7. The Gorong, Watubela and Tayandu Island groups.
8. The Banda Islands.
9. The Kei Islands.
10. The islands of Southwest Maluku (District) (= Maluku Barat Daya) including Wetar.
11. The Tanimbar Islands.
12. The Aru Islands.

As discussed by Rawlins et al. (2014), Maluku is an area of huge biogeographical interest and includes a variety of faunistic regions – the Sula islands which are part of the Sulawesi Region, northern Maluku, Obi and central Maluku which represent the heart of Maluku, the islands from Wetar to Tanimbar represent Lesser Sunda Island fauna, whilst Aru is biogeographically part of the New Guinea Region. Kei fauna shares links with all these four regions and Gebe is a link between northern Maluku and the New Guinea Region.

There are 16 known *Philiris* taxa in Maluku and these are concentrated in Aru (adjacent to New Guinea where the genus is at its richest) and in northern Maluku, Obi and central Maluku. One taxon, *P. helena gisella* Staudinger, 1888, is known from Gebe and one, *P. intensa regina* Butler, 1882, from Kei and Tanimbar. As far as we are aware no *Philiris* species have been recorded from the Sulas, Bandas or Southwest Maluku Islands. Gebe fauna is poorly researched and we expect further *Philiris* taxa to occur there.

At the subspecies level, 12 of the 16 (75%) taxa of *Philiris* known from Maluku are endemic, as are three of the eight species (37.5%).

Maluku is an area of generally high butterfly endemicity: Rawlins et al. (2014: 8) noted 41 of the 55 (also 75%) taxa of the genus *Jamides* Hübner, 1819 occurring in Maluku were endemic — and therefore of prime conservation importance.

For clarity we note that the Indonesian western half of the Island of New Guinea along with its associated offshore islands (previously variously known as Irian, Irian Jaya, West Irian, Irian Barat) now consists of two political provinces: West Papua and Papua. We use the term "New Guinea" in its geographical sense to mean the whole island including these two Indonesian provinces along with the mainland part of the country of Papua New Guinea.

Abbreviations used

ANIC	Australian National Insect Collection, Canberra, Australia.
"AT"	Allotype (i.e., a paratype of opposite sex to the holotype; no special status according to the ICZN rules).
BMNH	The Natural History Museum, London, UK.
CARR	Coll. Andrew Rawlins, Rainham, Kent, UK.
CSIRO	Commonwealth Scientific and Industrial Research Organisation.
HT	Holotype.
LT	Lectotype.
NNML	Nationaal Natuurhistorisch Museum Naturalis (formerly Rijksmuseum van Natuurlijke Historie — RMNH), Leiden, Holland and now part of the Naturalis Biodiversity Center.
PNG	The country of Papua New Guinea.
PT	Paratype.
ssp.	Subspecies.
ssp. n.	Subspecies nova.
ST	Syntype.
UnF	Underside forewing.
UnH	Underside hindwing.
UpF	Upperside forewing.
UpH	Upperside hindwing.

Annotated checklist of the *Philiris* taxa of North Maluku and Maluku

Philiris Röber (1891: 317)

Type species by monotypy: (*Thecla*) *ilias* C. Felder (1860: 454).

The key works on the genus include "*A revision of the genus* Candalides *and allied genera*" (Tite 1963) and "*The butterflies of Papua New Guinea*" (Parsons 1998).

Sands' (1981a) academic PhD thesis, "*The ecology, biogeography and systematics of the tribe Luciini*" was never published and though containing much useful information, the "lectotypes" designated therein are therefore invalid. Parsons (1998) incorrectly treats these Sands "lectotypes" as valid.

It could be argued under Article 74.5 of the International Code of Zoological Nomenclature (ICZN) that, in some cases, Parsons (1998), by noting Sands' "lectotype designations" and thereby identifying a particular specimen from syntypes, effectively makes the designations himself. However, this paper is not a review of Maluku *Philiris* but simply an annotated checklist and we leave the resolution of this issue to future researchers.

The genus ranges from Maluku through New Guinea to the Bismarck Archipelago and Australia. It reaches its peak diversity in New Guinea. In New Guinea it is the most species-rich lycaenid genus and of all butterfly genera on the island only *Delias* has more species.

Tite (1963) listed 58 species (56 in the identification key and two others). Sands (1979, 1981b) described a further 11 species in two separate papers for CSIRO. These were included in his PhD thesis (1981a: 413) where he listed a total of 64 species.

Parsons (1998: 361) recorded 53 named species in PNG (all but five occur on mainland PNG) along with at least three undescribed species (all from mainland PNG) and he noted a further six species known only from Irian Jaya (i.e., West Papua and Papua). Parsons estimated about 65 species in total but pointed out that some taxa are of doubtful status, whereas it is likely there are some undiscovered species. Müller (2014) described a further six species from PNG — five from mainland New Guinea and one from New Britain —, confirming Parsons' intuition and giving a total of about 62 species known from mainland New Guinea alone.

Sands (1981a: 412–413) divided the genus into 21 species-groups whilst noting that the groups only provided a "tentative indication of relationships". The species-groups are not relevant in the scope of this paper so are not discussed here.

Parsons (1998: 361–362) pointed out that many species are very similar and demonstrate phenotypic variability, so are very hard to identify and that this has resulted in misidentification of undissected specimens even by expert researchers. Dissection of male genitalia is often necessary for definitive determinations to be made.

Here we record 16 taxa, comprising eight species from Maluku, three of which are endemic. 12 subspecies are endemic.

Philiris helena (Snellen, 1887)

Pseudodipsas helena Snellen (1887: 217); TL: Ron Island – see note 1.
= *Lycaena griseldis* Staudinger (1888: 272, pl. 94); TL: Waigeo – see note 1.
= *Candalides parvifascia* Rothschild (1915a: 393); TL: Vulcan Island – see note 4.
= *Candalides philotas cineraceus* Joicey & Talbot (1917: 220); TL: Waigeo – see note 4.
= *Candalides amblypodina* Röber (1926: 375); TL: S.E. and S.W. New Guinea – see note 4.

Range: Maluku, Waigeo, New Guinea and various offshore islands, New Britain (Tite 1963, Parsons 1998).

Note 1: Snellen (1887), in French, described *helena* from 2 ♂♂ and 2 ♀♀. Under "*Hab.*" he listed first a ♂ from Roon Island in his collection, captured by H. P. Netscher. He then noted a ♂ from Waigeo and 2 ♀♀ from Morotai and Ternate – these three caught by Dr. Bernstein and in the "Musée de Leyde" (NNML). He considered *helena* close to *P. innotatus* Miskin, 1874 (see also note 2 below). No specimens of *helena* were illustrated in this paper but in a subsequent paper in Dutch, Snellen (1889: 391, pl. 10, figs. 2–3) illustrated both surfaces of both sexes. Staudinger (1888) described *Lycaena griseldis* from Waigeo and gave the name *L. gisella* to specimens of "Nordmolukken" origin.

Van Eecke (1915: 77) synonymised *Lycaena griseldis* with *Pseudodipsas helena,* noting that the ♂ types were in Leiden Museum, and used the combination *Holochila helena* for the taxon.

Parsons (1998: 367) noted the *helena* "LT ♂" from "Rhoon Isl." was designated by Sands (1981a). But as discussed earlier this "lectotype" is invalid as this Sands thesis was not published. As well as the ♂ from "Rhoon Isl." Sands (1981a: 445) listed a further *helena* ♂ labelled "Waigeoe Bernstein", along with two ♀♀ from Morotai and Ternate, all held in the NNML. We are confident that these are the four syntypes from which Snellen described the taxon.

Snellen (1887) had only ♂♂ from Ron and Waigeo and only ♀♀ from Morotai and Ternate, so he had no reason to believe they might be distinct subspecific taxa. We consider that the ♀♀ from Morotai and Ternate belong to *P. helena gisella* Staudinger, 1888 (original combination *Lycaena gisella*), published a year later.

Tite (1963: 228) does not include Maluku in the distribution of ssp. *griseldis* (= *helena*) and Parsons (1998: 367) discusses only the range of ssp. *helena* within PNG.

We conclude that *Philiris helena helena* does not occur in Maluku. We include Ternate and Morotai in the range of *P. helena gisella*.

Note 2: Snellen (1887) also noted that Leiden Museum had a ♂ of "*Pseud. innotatus* Misk." taken by Dr. Bernstein in Ternate. (*Pseudodipsas*) *innotatus* Miskin, 1874 was described from Brisbane and is restricted to Australia. A second subspecies *P. innotatus evinculis* Wind & Clench, 1947 was also described from Queensland in Australia. Sands (1981a: 490) noted specimens of *innotatus* from PNG which he provisionally placed with *evinculis*. Parsons (1998: 375–376) recorded the same distribution for *innotatus*. Subsequently Sands (2015: 237) synonymised *evinculis* with *innotatus*. Neither Tite nor Sands commented on the Bernstein Ternate specimen and we have found no further references to the species occurring in Maluku.

Snellen (1887) considered *P. helena* close to *P. innotatus* but they are not phenotypically similar. We have been unable to go to Leiden to examine this specimen, but we consider it likely that it is *P. intensa butleri* Grose Smith & Kirby, 1897 (known from Ternate and other northern Maluku Islands) which superficially closely resemble *P. innotatus.* In any case we exclude *P. innotatus* from the Maluku fauna.

Note 3: Tite (1963: 227) originally listed this taxon as *P. griseldis* but in his notes subsequent to publication (included as a single typed sheet with the Bulletin) he stated: "It now seems likely that Snellen had this species before him when he described *Pseudodipsas helena* (Notes from the Leyden Museum **ix:** 217, 1887, Roon Island) and (1889, Tijschr. Ent. **32:** 391, pl. 10 figs. 2–3). If this is so, *helena* as the oldest name must take priority."

Note 4: Tite (1963: 228) synonymised these three taxa – *parvifascia*, *cineraceus* and *amblypodina* – with *griseldis* and hence they are now synonyms of *helena*. None is from Maluku.

Note 5: Tite (1963: 227–228) recorded six subspecies of *griseldis* (= *helena*). Sands (1981a: 450) added a further undescribed subspecies from New Britain, and Parsons (1998: 367) also recognised this. Below, we describe a new subspecies from Morotai, giving a total of eight subspecies, three of which occur in Maluku.

Philiris helena gisella (Staudinger, 1888)

(Figs. 1–2: ♂ Bacan; Figs. 3–4: Type ♀ *grandis*, Bacan; Figs. 5–6: ♀♀ Bacan; Fig. 7: Type ♂ *mneia,* Bacan; Fig. 8: Type ♀ *mneia,* Bacan.)

Lycaena gisella: Staudinger (1888: 272); TL: northern Maluku – see note 1.
= *Philiris mneia:* Druce (1897: 15); TL: Bacan – see notes 2 and 4.
= *Holochila grandis:* Grose Smith (1899: 14, pl. 18, figs. 12-14); TL: Bacan – see notes 3 and 4.

Range: endemic to northern Maluku: Halmahera, Ternate, Bacan (BMNH). We add new island records from Makian (1 ♀, i. 2011), Kasiruta (1 ♂, iv. 2003; 1 ♂, ii. 2004) and Gebe (1 ♂, i. 2010) (CARR). Also see note 6 below.

Note 1: Staudinger (1888) described *gisella* from specimens from Halmahera and Bacan without specifying a holotype. Sands (1981a: 447) stated: "The syntypic males and females of *gisella* from which the descriptions were made, have not been located." Stefan Schröder (pers. comm.) suggests some Staudinger types may have been lost during World War II.

Note 2: Druce (1897) described both sexes of *mneia* and recorded: "Hab. Batchian, March (W. Doherty)". He didn't specify the numbers of ♂♂ or females ♀♀ he examined but it must have been a few as he used the phrase "Some female specimens". He noted: "This species has long been in collections, but I have nowhere seen it described."

Tite (1963: 227) noted he had examined the *mneia* "Type". A ♂ and ♀ in the BMNH, each bearing (amongst others) labels stating "ex. coll. Hamilton Druce, 1919" and "*Philiris mneia* ♂ (or ♀) Type H. H. Duce" (*sic*) are shown in Figs. 7 and 8. Both are from "Batchian", one "ex-Stevens", the other from "Mar. 1892 W. Doherty". Both match closely the original description by H. H. Druce. We consider that Sands (1981a: 447) was wrong to preclude them from being syntypes.

Note 3: Grose Smith (1899) described *grandis* from specimens from Bacan and Ternate. He stated that the "type male" from Bacan was in Staudinger's collection and the "type female", also from Bacan, caught by Doherty, was in his own collection. He noted further specimens, all in his collection – a ♂ and a ♀ from Bacan and a ♀ from Ternate captured by Wallace and a further ♂ from Bacan taken by Doherty.

He further stated "Possibly this insect may be identical with *H. Gisella*, Staudinger, though, if such is the case, it is improbable that Dr. Staudinger would have sent me this specimen un-named".

Sands (1981a: 447) designated Grose Smith's *Holochila grandis* "type female" from Bacan as the "lectotype ♀". This designation is invalid as this Sands work is unpublished. The specimen (Figs. 3–4) is in the BMNH. He noted one of its labels read "Batchian Mar. 1892 W. Doherty". It is clear from the list of specimens Grose Smith used for his description of *grandis* that this specimen is the female allotype.

Note 4: Tite (1963: 227) listed *grandis* and *mneia* as synonyms of *gisella* but without appending "syn. n." as he did elsewhere when he proposed new synonyms. However Sands (1981a: 446) noted that these two taxa were synonymised by Tite. We have seen no earlier papers making the synonymy so we consider that Tite was the first to do so and confirm the synonymy here.

Note 5: Bethune-Baker (1906: 102) described *Candalides grandis* after the publication of *Holochila grandis* Grose Smith, 1899. Subsequently Bethune-Baker (1908: 121, pl. 8, fig. 15) noted that "*Candalides* and *Holochila* are synonymous" and introduced *grandissima* as a replacement name for his own *grandis*. *Candalides grandissima* Bethune-Baker, 1908, remains a valid, altogether different, species in that genus. Tite (1963: 211) stated that the figures in Seitz (Grünberg, *in* Seitz 1921: 851, fig. 145g) annotated as *grandissima* represent *P. griseldis* (= *helena*) *gisella*.

Note 6: We believe there is confusion about the distribution of *gisella* so we discuss it in some detail here. From northern Maluku the BMNH contains 44 ♂♂ and 40 ♀♀ from Bacan, 10 ♂♂ and 8 ♀♀ from Halmahera and 5 ♂♂ and 3 ♀♀ from Ternate.

As mentioned in the notes above, these three islands are the only locations recorded for the taxon *gisella* by Staudinger (1888), Druce (1897), Grose Smith (1899) and Sands (1981a). Parsons (1998: 367) did not discuss *gisella* as it does not occur in PNG but in his range for the species *helena* he noted, within Maluku, only Bacan, Halmahera and Aru (the locality for ssp. *aurelia* Grose Smith, 1899). However Tite (1963: 227) also listed Buru and Ambon. In the BMNH there are 3 ♂♂ from Ambon and 1 ♂ from Seram as well as 3 ♂♂ from New Guinea. These specimens are associated with a label stating "Accuracy of locality doubtful". R. I. Vane-Wright (pers. comm.) considers this label was written by G. E. Tite or other NHM Entomology Department staff at Tring Zoological Museum in the 1950s or 1960s, yet oddly Tite did list Ambon (but not Seram or New Guinea) in the distribution of *gisella*.

We have seen no other records from Ambon or Seram (where there has been a lot of collecting in recent years) and we consider *gisella* not confirmed as occurring there.

With the *gisella* specimens in the BMNH there is also 1 ♀ bearing a label: M[oun]t Mada, Buru, 3,000 [feet], Sept[ember] [18]98 (Dumas). We consider this specimen to be *P. helena nok* from Morotai, see below.

There are also 4 ♂♂ purportedly from Obi in the BMNH and they all carry exactly the same labels stating "Obi, ex J. Waterstradt 1904, ex Oberthür Coll. Brit Mus. 1927-3". These labels are considered erroneous, as Tennent & Rawlins (2012: 140) and Rawlins et al. (2014: 13, 16, 28) explained in detail. In the BMNH there is a label questioning these same labels associated with *Jamides cyta amphissa* Felder, 1860 and those authors also found the identical labels on other taxa, otherwise not known from Obi. They considered, as we do, that specimens with these labels did not originate in Obi but very likely came from Bacan. We have seen no further records from Obi and therefore consider *gisella* not to occur there. Thus we consider that *gisella* is endemic to northern Maluku.

Note 7: The ♀♀ of *gisella* show three forms with varying amounts of contrasting blue scaling on the discal area of the upperside forewings. The ♀ depicted in Fig. 8 has an all brown upperside. Those in Figs. 3 and 5 show a sparse sprinkling of blue scales, whilst that in Fig. 6 exhibits a defined blue patch.

The 'all brown upperside' form is the most frequent amongst the ♀♀ in the BMNH from Halmahera (9 of 12, the other 3 being the intermediate form) and Bacan (32 of 40, with 6 of the intermediate form and 2 of the blue patch form). There is one example of each form in the three BMNH ♀♀ from Ternate. We cannot determine any seasonal correlation with the different forms.

Philiris helena nok ssp. n.

(Figs. 9–10: HT ♂, Morotai; Figs. 11–12: PT ♀♀, Morotai.)

Holotype ♂: Indonesia, Morotai, Daeo, xi. 2003 (BMNH).

Paratypes (in total 8 ♂♂, 8 ♀♀): All Morotai: 1 ♀, iv. 2009 (BMNH); 2 ♀♀, Daeo, 3. vi. 1992; 4 ♂♂, 1 ♀, Daeo, ix. 2004; 2 ♂♂, Daeo, xi. 2004; 1 ♂, 1 ♀, Daeo, iv. 2006; 1 ♀, Daeo, vi. 2006; 2 ♀♀, Daeo, i. 2009; 1 ♂, iv. 2009 (CARR).

Etymology: named for the nickname of the first author's supportive and great friend Kanokwan Boonlert Visser.

Range: Morotai — see note 3.

Diagnosis

♂ (Figs. 9–10).

Forewing length 16 mm. Showing minor but consistent differences from other subspecies on both upper- and undersides as follows. Upperside basal and discal coloured areas a richer, glowing blue colour in comparison with the duller purple of both other Maluku subspecies. Upperside borders more dense, velvety black than the brown-black of either *gisella* or *aurelia*. On the UpF the black border 5 mm wide with a more diffuse inner border than in *gisella* which reaches a maximum width of only 4 mm, even narrower in *aurelia*. The dorsal black border of the hindwings much broader almost reaching vein 2 along its whole length, while both other subspecies have a purple area crossing vein 1b into space 1a. The underside ground colour a flat silvery white, lacking the fine orange/brown peppering of scales near the apex of *gisella*.

♀ (Figs. 11–12).

Forewing length 15.5–16.5 mm. UpF exhibiting variability of discal scaling as demonstrated in ♀♀ of *gisella*. The unmarked form (Fig. 12) uniformly dark brown. The discal patch, when present, of medium extent, light purple (Fig. 11) contrasting with the pale blue in *gisella* (Figs. 3, 5, 6). The underside sharing the same flat silvery white of the ♂♂, with similarly contrasting black-tipped veins and chequered fringes on UnH.

Note 1: Similar but clearly different to ssp. *gisella* from the rest of northern Maluku. Interestingly a number of species in northern Maluku often occur on Morotai and Halmahera in different subspecies despite Morotai's proximity (about 10 miles at closest point) to Halmahera (e.g. *Jamides aratus* (Stoll, [1781]).

Note 2: As discussed above, the ♀♀ of *P. helena gisella* come in three main forms relating to the amount of contrasting blue scaling on the upperside forewings, with the 'all brown upperside' form predominant. *P. helena nok* also has occasional variability in the ♀♀, however 7 of the 8 ♀♀ we have examined from Morotai (CARR) have the contrasting patch (in this case purple instead of blue) to a greater or lesser extent, indicating this is the predominant form on Morotai, in contrast to the situation on Bacan and Halmahera.

Note 3: Alongside the *gisella* specimens in the BMNH there is 1 ♀ bearing a label: M[oun]t Mada, Buru, 3,000 [feet], Sept[ember] [18]98 (Dumas). Both Rawlins and Tennent (pers. comm.) have noticed that some of the specimens (from a number of taxa) in the BMNH with this Mt. Mada label almost certainly do not come from Buru and appear to be from Morotai. See also Tennent (2016a).

This ♀ is indistinguishable from the predominant ♀ form (with the purple patch on the upperside forewing) that occurs in Morotai (see note 2 above).

Philiris helena occurs in eight subspecies across its range and if it occurred in Buru would be likely to be phenotypically different. We have seen no other records from Buru and we exclude Buru from the known range for ssp. *nok* and for the species *helena.*

Philiris helena aurelia (Grose Smith, 1899)

(Figs. 13–14: Type ♂, Aru; Figs. 15–16: Type ♀, Aru.)

Holochila aurelia: Grose Smith (1899: 13, pl. 18, figs. 1–3); TL: Aru.— see note 1.

Range: endemic to the Aru Islands — Wamar (BMNH). We add a specific new island record from Maikoor (Fatujuring: 1 ♀, 18. iii. 1999; 1 ♂, 13. viii. 1999; 1 ♂, 28. viii. 1999) (CARR). K. Nagai (pers. comm.) also collected the taxon in Trangan, Kobroor and Wokam. See note 2.

Note 1: Grose Smith (1899) described both sexes of *aurelia* noting "Hab. Aru (Wallace)" without stating how many specimens there were in the type series, then added only "In Mr Grose Smith's Collection, from the Wilson-Saunders Collection".

Note 2: Rothschild (1915b: 30) recorded 1 ♀ *Philiris aurelia* taken in the Wollaston Snow Mountains expedition in xi. 1912. We located this specimen at the BMNH bearing 3 labels: "Canoe Camp, Utakwa R., Dutch N. Guin., Decemb. 1912, A. F. R. Wollaston"; "Rothschild Bequest B.M. 1939-1"; handwritten label stating: "*Philiris* near *aurelia* Gr-Smith ♀". This specimen is now placed with ssp. *aurelioides* Rothschild (1915b: 30).

Note 3: Van Eecke (1915: 77) considered correctly that it was very possible that *H. aurelia* was a subspecies of *helena*. Tite (1963: 227) placed *aurelia* as a subspecies of *griseldis*. Sands (1981a: 447) used the combination *Philiris helena aurelia* and "designated" male and female "lectotypes" in the BMNH each bearing a label stating "Aru Wallace". These designations are invalid as this work was never published. The specimens are shown here in Figs. 13–16.

Philiris philotas (C. Felder, 1860)

Thecla philotas: C. Felder (1860: 454); TL: Ambon — see note 1.
= *Philiris theleos:* Druce (1897: 15); TL: Ambon — see note 2.

Range: endemic to Maluku — see note 4.

Note 1: Felder (1860) gave a short description of both sexes of *philotas* in Latin and noted the specimens to be in his collection. We illustrate here (Figs. 17–18) a syntype ♂ from Ambon ("Amboin") in the BMNH which bears "Felder Colln", "Type" and "*Philotas* n." labels. This is the specimen Sands (1981a: 454) invalidly designated as the "lectotype".

Note 2: In his original description of *theleos,* Druce said "Type Mus. Druce" but it is now in the BMNH. Tite (1963: 229) synonymised *theleos* with *philotas* and illustrated a ♂ (pl. 4, fig. 164) and ♂ genitalia (text-fig. 74).

Note 3: Tite (1963: 229) described *philotoides* from New Guinea and noted that the ♂ genitalia showed no marked differences from *philotas*. Parsons (1998) did not include *philotas* in his "*Butterflies of PNG*". Like Tite he treated *philotoides* as a true species but agreed that the ♂ genitalia are very similar and considered that it could possibly be a race of *philotas*.

Note 4: Grose Smith (1894: 580) listed "*Holochila philotus* [*sic*] Feld." in his account of the Lepidoptera collected by Doherty in Humboldt Bay and Neighbouring Islands and noted "A long series of both sexes". Where specimens were caught elsewhere than Humboldt Bay he specified the locations, so it is assumed that these specimens were from Humboldt Bay. There is a series of 4 ♂♂ and 5 ♀♀ in the BMNH each bearing the same label: "Humboldt Bay, Sept.–Oct. 1892, W. Doherty". Two of the specimens (1 ♂, 1 ♀) also have a handwritten label stating: "*H. philotas* Feld.". These are misidentified specimens of *P. helena helena.*

Tite (1963: 229) did not include New Guinea in the distribution for the species *philotas*, considering it only occurred in Maluku. Parsons (1998: 368) noted incorrectly that *P. philotas* was "endemic to Ambon Island, Moluccas".

Note 5: There are two races of *philotas,* both are restricted to Maluku.

Philiris philotas philotas (C. Felder, 1860)

(Figs. 17–18: Type ♂, Ambon; Figs. 19–20: ♀ Ambon.)

Thecla philotas: Felder C. (1860: 454); TL: Ambon.
= *Philiris theleos:* Druce (1897: 15); TL: Ambon.

Range: Buru, Seram, Ambon, Haruku, Saparua, Seram Laut, Gorong (BMNH). Tite also lists Watubela but we were unable to find any Watubela specimens in the BMNH. We add Manipa (1 ♂, 23. ix. 1993; 1 ♂, 1 ♀, ix. 1993; 2 ♂♂, 1 ♀, ix. 2005) and Kelang (1 ♀, Tihu, x. 2004) (CARR).

Philiris philotas obiana Tite, 1963

(Figs. 21–22: HT ♂, Obi; Figs. 23–24: "AT" ♀, Obi; Figs. 25–26: ♂ Fruhstorfer unpublished *obiana* "type", Obi; Figs. 27–28: ♀ Obi.)

Philiris philotas obiana: Tite (1963: 229); TL: Obi — see note 1.
= *Philiris obiana* Fruhstorfer, ***nomen nudum*** — see note 3.

Range: endemic to Obi.

Note 1: Tite (1963: 229) described the HT ♂ and "AT" ♀ collected by W. Doherty in Laiwui, Obi, ix. 1897. He noted "Other material", all from Obi — W. J. C. Frost (4 ♂♂, 3 ♀♀) and Fruhstorfer (1 ♂ — has PT label) in the BMNH.

Note 2: Sands (1981a) added nothing further.

Note 3: In addition to Tite's HT and "AT", the BMNH type collection contains a *Philiris* ♂ from Obi bearing a HT label and the name "*obiana*" in Fruhstorfer's handwriting (Figs. 25–26). The BMNH "Lepindex" holds a card containing the text: "R28/*obiana* Fruhstorfer; syn. of *geluna;* Fruhstorfer; Tring; probably not published". Tite's ♂ HT is indistinguishable from Frustorfer's "type" and they clearly represent the same taxon. We cannot find any publication by Frustorfer of the name *obiana* with a description of this specimen and we therefore retain Tite as the author of *obiana* in this context and consider *obiana* Fruhstorfer to be an unpublished name.

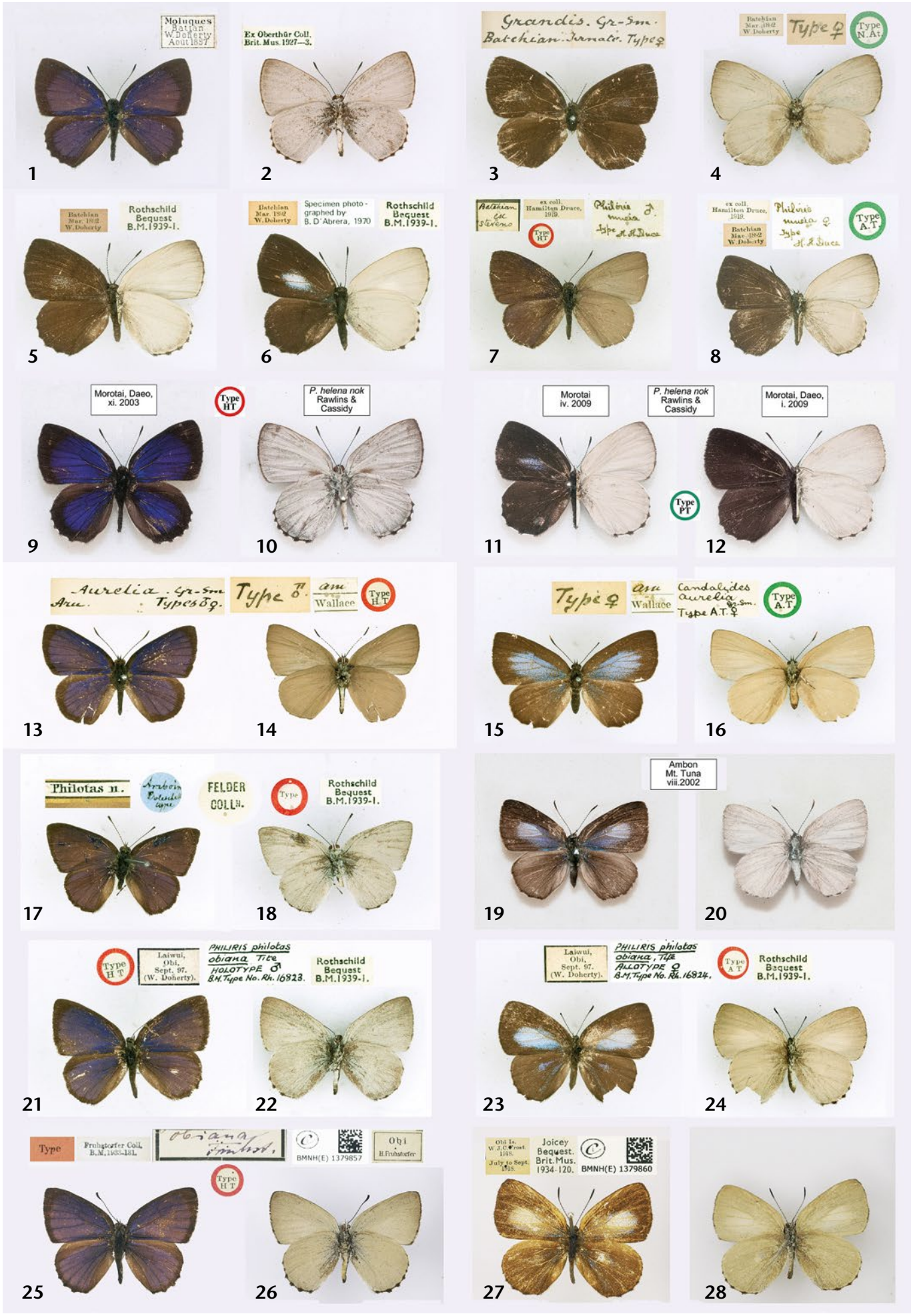
The Lepindex card for Fruhstorfer's *obiana* also suggests that *obiana* is synonymous with another Fruhstorfer taxon *geluna*. The BMNH holds a pair of specimens with printed labels stating "Type" and "Neu-Guinea" and the label "*geluna*" in Fruhstorfer's handwriting. Again, we can find no formal publication of this name by Fruhstorfer and it is not mentioned in Tite (1963), Parsons (1998) or D'Abrera (1971, 1977, 1990) in their respective works on this subject or region. We therefore conclude that *geluna* Fruhstorfer, in the context of the genus *Philiris,* remains an unpublished name, despite its repetition in a number of internet/database instances.

It is noted that both names do appear, as "*Holochila obiana*" (from Obi) and "*Holochila gelnua*" [*sic*] (from German New Guinea) in a "second list" of Fruhstorfer's types (see Tennent 2008) published by Talbot (1923: 104).

Why Tite made no reference to any of these three Fruhstorfer "type" specimens remains unexplained. The single Fruhstorfer

Map 1: Indonesia, showing the combined provinces comprising "Maluku" sensu lato. **Map 2:** Provinces of North Maluku and Maluku — island names used in the text. **Map 3:** Island details in south and eastern Maluku.

Plate 1, Figs. 1–16: Subspecies of ***Philiris helena***. **Figs. 1–8:** *P. helena gisella:* **1–2:** ♂, ups./uns., Bacan (Batjan, 1897, W. Doherty). **3–4:** ♀, ups./uns., Bacan (Batchian, Type *grandis,* 1892, W. Doherty). **5–6:** ♀♀, ups./uns., Bacan (Batchian, 1892, W. Doherty). **7:** ♂, ups./uns., Bacan (Batchian, Type *mneia,* Stevens). **8:** ♀, ups./uns., Bacan (Batchian, Type *mneia*, 1892, W. Doherty). **Figs. 9–12**: *P. helena* ***nok*** **ssp. n.: 9, 10:** ♂, HT, ups./uns., Morotai (Daeo, xi. 2003). **11:** ♀, PT, ups./uns., Morotai (iv. 2009). **12:** ♀, PT, ups./uns., Morotai (Daeo, i. 2009, CARR). **Figs. 13–16**: *P. helena aurelia:* **13–14:** ♂, Type, ups./ uns., Aru (A. R. Wallace). **15–16:** ♀, Type, ups./uns., Aru (A. R. Wallace). — **Figs. 17–28**: Subspecies of ***Philiris philotas***. **Figs. 17–20:** *P. philotas philotas:* **17–18:** ♂, Type, Ambon (Amboin[a], Dolleschall). **19–20:** ♀, Ambon (Mt. Tuna, viii. 2002; CARR). **Figs. 21–28:** *P. philotas obiana:* **21–22:** ♂, HT, ups./uns., Obi (Laiwui, ix. 1897, W. Doherty). **23–24:** ♀, "AT", ups./uns., Obi (Laiwui, ix. 1897, W. Doherty). **Figs. 25–26:** ♂, "Type", ups./uns., Obi (H. Fruhstorfer). **27–28:** ♀, Obi (vii.–ix. 1918, W. J. C. Frost). — All specimens are in the BMNH unless indicated otherwise.



♂ from Obi that Tite lists in "Other Material" after his description of *obiana* is identifiable – bearing a PT label – in the BMNH, alongside the Frost *obiana* specimens.

As mentioned earlier, the BMNH Lepindex notes *geluna* Fruhstorfer from New Guinea to be a synonym of *obiana* Fruhstorfer from Obi. We have compared these unpublished "types" at the BMNH and consider them to represent different taxa. We conclude that *obiana* Tite is restricted to Obi. As New Guinea is not covered in this paper we make no conclusions about the true identity of the specimen labelled *geluna* but it is possibly *P. helena*.

Philiris intensa (Butler, 1876)

Holochila intensa: Butler (1876: 245); TL: Aru.

Range: Maluku, New Guinea, Biak, Mefor, Roon, Louisiade and Trobriand Islands, Bismarcks (BMNH).

Tite (1963: 236–237) listed three subspecies, two of which (*intensa* and *butleri*) occur in Maluku and the other in New Guinea and outlying islands in PNG. He treated *regina* Butler, 1882 as a good species. Following Parsons (1998: 374) we consider *regina* to be a subspecies of *intensa* – see notes under *regina* below.

In addition Cassidy (2003: 77) described a further subspecies from Buru and we describe below a new subspecies from Obi thus giving a total of six, five of which are represented in Maluku.

Philiris intensa intensa (Butler, 1876)

(Figs. 29–30: type ♂, Aru; Figs. 31–32: ♀ Aru.)

Holochila intensa: Butler (1876: 245); TL: Aru – see note 1.

Range: Aru including Wamar Island, New Guinea mainland south of the Central Cordillera (BMNH, Parsons, 1998). Within Aru we specify new island records from Trangan (Taberfane: 1 ♀, 3. iv. 1994; 1 ♀, 15. i. 1995; 1 ♀, i.–ii. 1997) and Kobroor (1 ♂, Gulili, ii. 1996) (CARR). K. Nagai (pers. comm.) also collected the taxon in Maikor.

Note 1: Butler (1876) described *intensa* from ♂ and ♀ specimens from Aru.

Note 2: Sands' (1981a: 481) designation of a "lectotype" ♂ in the BMNH is unpublished and therefore invalid. Parsons (1998: 374) incorrectly recognised this "designation". Its status requires further investigation beyond the scope of this paper. We illustrate the specimen here (Figs. 29–30).

Note 3: Grose Smith & Kirby (1897–1902: 7, pl. 10, figs. 8–10) included this taxon in their paper illustrating "New, rare and unfigured species".

Philiris intensa butleri (Grose Smith & Kirby, [1897])

(Figs. 33–34: ♂ Bacan; Figs. 35–36: ♀ Halmahera.)

Holochila butleri: Grose Smith & Kirby ([1897]: 8, pl. 10, fig. 13); TL: Halmahera – see note 1.

Range: endemic to northern Maluku – Halmahera, Bacan (Tite 1963; BMNH), Ternate (Sands 1981a, at NNML).

Note 1: Grose Smith & Kirby ([1897]) described and illustrated the ♂, stating the habitat to be "Gilolo" (in Halmahera) and indicated that the type was in the collection of Dr. Staudinger. Tite (1963: 236) did not examine the type but discussed both sexes. Sands (1981a: 483) stated that the HT had not been located in museum collections.

Note 2: Tite (1963: 236) placed *butleri* as a race of *intensa* and Sands (1981a: 481) followed this.

Philiris intensa regina (Butler, 1882)

(Figs. 37–38: ♂ Kei; Figs. 39–40: ♀ Kei; Figs. 41–42: ♂ Tanimbar.)

Holochila regina: Butler (1882: 150); TL: Duke of York Island – see note 1.

Range: Kei (Kei Kecil, Kei Besar), Biak, Mefor, Ron, Bismarcks (including Duke of York Island) (Parsons 1998); Tanimbar (Larat Island) (BMNH) – see note 4.

Note 1: Butler (1882) described both ♂ and ♀. He indicated that Duke of York Island was the type locality but that he also had ♂♂ from New Guinea.

Note 2: Tite (1963: 237, text-fig. 88) transferred *regina* from *Holochila* to *Philiris*. He considered *regina* to be a good species, noting differences in various features, including in the duct of the bursa copulatrix, that separated it from *intensa*. Sands (1981a: 485) likewise listed *regina* as a species but commented that it was "doubtfully distinct from *intensa*", but then remarked on their differences in behaviour. Finally he stated: "*P. regina* may be better recognised as the subspecies of *P. intensa* which occurs on the Duke of York Islands, New Britain and New Ireland." He omitted its occurrence on Kei and off-shore Papuan Islands.

Parsons (1998: 374) placed *regina* as a subspecies of *intensa* noting that all of the features Tite (1963: 237) used to differentiate *regina* as a distinct species from *intensa* were variable in *intensa* and could not be used to separate the two (at the species level). Sands (1981a: 483–484) had made similar observations about the species *intensa* and also noted geographical variability in the ♀♀ but still listed *regina,* though doubtfully, as a distinct species. We follow Parsons.

Note 3: Sands' (1981a: 481) designation of a "lectotype" ♂ in the BMNH is unpublished and therefore invalid. Parsons (1998: 374) incorrectly recognised this "designation". Its status requires further investigation beyond the scope of this paper. This specimen from Duke of York Island is in the BMNH.

Note 4: In the BMNH there is one male with label "Tenimber, Ritabel (Ile de Larat), W. Doherty, 1897)". This is the only record of any *Philiris* species from Tanimbar. Larat, the most northern of the Tanimbar Islands, lies about 135 miles west south-west of Aru and about 95 miles south-west of Kei. This specimen (Figs. 41–42) is very similar to *regina* and for now we include it here.

Note 5: *P. intensa regina* has an unusual disjunct distribution.

Philiris intensa ***discoblanca*** **ssp. n.**

(Figs. 43–44: ♀ HT, Obi.)

Holotype ♀: Indonesia, Obi, i. 2013 (BMNH). – No paratypes.

Etymology: named for the circular white patch on the discal area of the UpF.

Range: Obi.

Unlike those of *P. helena,* the ♀♀ of the various Maluku races of *P. intensa* show marked uniformity. As this unique female from Obi is readily separable from those of other island locations, we describe it here as a new subspecies.

Diagnosis

♀ (Figs. 43–44).

Forewing length 15 mm. Forewing broad, apex to dorsum 11 mm. UpF blue areas as in *regina* but overlaid with a circular white patch in the discal area outside the cell from vein 2 to vein 4, but not reaching the black terminal border or vein 5 as in *ilioides*. The white area thus surrounded by the blue. UpH dusted with pale blue scales

in all spaces from 1b to 5 but with the veins remaining black-brown. The blue scaling reaching to within 1 mm of the termen in spaces 2 to 5. On both UpF and UpH, the scaling showing a deeper blue near the base. Underside matt white with the marginal markings fine and the subbasal spot in space 1a strong.

♂: Unknown.

Philiris intensa ilioides Cassidy, 2003

(Figs. 45–46: HT ♂, Buru; Figs. 47–48: "AT" ♀, Buru.)

Philiris intensa ilioides: Cassidy (2003: 77, figs. 5c, 5d, 6c, 6d and 22b and c – male genitalia); TL: Buru – see note.

Range: Buru.

Note: Cassidy (2003) described this taxon from a pair of Toxopeus specimens caught at Station 9 near the large lake in Central Buru (presumably Lake Rana) in 1921. The types are in the van Groenendael Collection held in the Zoological Museum of the University of Amsterdam, which is now included in the Naturalis Biodiversity Center, Leiden.

Philiris fulgens (Grose Smith & Kirby, [1897])

Holochila fulgens: Grose Smith & Kirby ([1897]: 8, pl. 10, figs. 14–15); TL: Ambon.

Range: Maluku, New Guinea, Biak, Australia (Tite 1963, Parsons 1998, BMNH) – see note 4 under *P. fulgens fulgens*.

Note 1: Grünberg (*in* Seitz 1921: 854, pl. 145g) placed *fulgens* in *Candalides* Hübner, 1819.

Note 2: Tite (1963: 242) placed *fulgens* under *Philiris* and listed four subspecies. Parsons (1998: 366) noted that one of these subspecies, *septentrionalis* Joicey & Talbot (1916: 76), may be a distinct species and this was confirmed by Tennent (2016b). In any case this taxon is not present in Maluku. Two subspecies occur in Maluku.

Philiris fulgens fulgens (Grose Smith & Kirby, [1897])

(Figs. 49–50: ♂ Seram; Figs. 51–52: ♀ Seram; Figs. 53–54: Type ♂, Ambon.)

Holochila fulgens: Grose Smith & Kirby ([1897]: 8, pl. 10, figs. 14–15); TL: Ambon – see note 1.

Range: endemic to central Maluku: Seram, Ambon (Tite 1963, BMNH).

Note 1: Grose Smith & Kirby ([1897]) described and illustrated a ♂ and they indicated that there was more than one specimen by stating "In the collections of Mr. H. Grose Smith and of the late Mr. Hewitson".

Note 2: Tite (1963: 242) indicated he had examined the HT ♂ in the BMNH. Sands' (1981a: 431) subsequent designation of the same specimen ("Amboi [= Ambon], Wallace") as the "lectotype ♂" was not published and is therefore invalid. Parsons (1998: 365) refers to the "ST ♂", "Amboi, Wallace". All three authors are clearly referring to the same specimen (Figs. 53–54).

Note 3: Neither Tite (1963) nor Sands (1981a) were able to examine any ♀♀ and there are none in the BMNH.

Note 4: Sands (1981a: 431, 434) recorded that he examined 2 ♂♂ from Ambon, one from New Britain and one from Normanby Island (seen at ANIC and BMNH). He commented: "Specimens from New Britain and Normanby Island are included with material from Ambon as ssp. *fulgens* as they cannot be distinguished from them." Parsons (1998: 365) does not consider ssp. *fulgens* occurs in PNG. The next species listed by Parsons after *P. fulgens* is named "*Philiris* Species a". He considered that it was closely related to *P. fulgens* and gave its range as "Northern mainland PNG, Normanby Island and New Britain". He further stated that it was known by a number of ♂♂ from PNG in various collections which included ANIC. He specifically mentioned 1 ♂ from Normanby Island and one from New Britain and we strongly suspect these are the same specimens Sands was referring to. Parsons separated them from *P. fulgens* races in PNG on the basis of significant differences in the male genitalia. Tennent (2016b) has recently described Parsons' "*Philiris* Species a" as a distinct species, *P. mulleri*. We therefore conclude that ssp. *fulgens* is known only from central Maluku.

Philiris fulgens bicolorata Wind & Clench, 1947

(Figs. 55–56: ♂ HT, Aru; images reproduced by courtesy of the Museum of Comparative Zoology, Harvard University.)

Philiris fulgens bicolorata: Wind & Clench (1947: 9); TL: Aru – see note 1.

Range: Aru, southern New Guinea (Parsons 1998).

Note 1: Wind & Clench (1947) described only the ♂ of this subspecies from Aru. They recorded the HT data as: "male, Dobo, Aru Islands, June 3, 1939 (R. G. Wind), in the collection of the senior author." There were no paratypes noted. They remarked that it was a very interesting subspecies, apparently forming a link between *septentrionalis* of New Guinea and *kurandae* Waterhouse, 1903 of Australia. Both Sands (1981a: 432) and Parsons (1998: 366) considered that *bicolorata* was doubtfully distinct from *kurandae,* the subspecies present in Australia.

Sands (2015: 228) stated "In all geographical populations of *P. fulgens* the extent of variation in both sexes is considerable. It is difficult to distinguish the nominotypical *P. f. fulgens* from Amboina, Indonesia, *P. f. bicolorata* Wind & Clench from mainland New Guinea and *P. f. kurandae* from Queensland." He thus queried the validity of these subspecies. We have examined 13 ♂♂ and 3 ♀♀ of *fulgens* from Ambon and Seram and they all exhibit a very stable phenotype. For now we recognise *bicolorata* as a distinct subspecies.

Note 2: Tite (1963: 242) noted only the type locality and that the taxon was not represented in the BMNH.

Note 3: D'Abrera (1977: 372; 1990: 376) merely listed the taxon.

Note 4: Sands (1981a: 432, fig. 173 genitalia) recorded that he had examined 9 ♂♂ and 5 ♀♀ from southern PNG in ANIC. However he did not describe the ♀. He (as did Parsons 1998: 365) stated that the ♂ HT was in the collection of R. G. Wind, Berkeley, California, USA. The specimen is now in the MCZ Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA (specimen number Entomology 35767). Tennent (2016b) examined the HT genitalia and confirmed its conspecificity with *P. fulgens*.

Parsons (1998: 365) also recorded the taxon from southern mainland PNG. He illustrated the upperside of a ♀ from Western Province, PNG (pl. 51, fig. 1321).

Note 5: It appears none of the authors above were able to examine any further specimens from Aru beyond the HT ♂. We are not aware of any contemporary specimens from Aru, and K. Nagai (pers. comm.) who lived and collected in Aru for several years never encountered the taxon there.

Philiris moluccana Tite, 1963

(Figs. 57–58: HT ♂, Obi; Figs. 59–60: "AT" ♀, Obi.)

Philiris moluccana: Tite (1963: 242, text-fig. 96); TL: Obi – see note 1.

Range: Obi.

Note 1: Tite (1963) decribed the HT ♂ and "AT" ♀ in the BMNH collected by W. Doherty in Laiwui, Obi, in 1897. He listed one further ♀ with the same data but we were unable to find this specimen in the BMNH. Tite did not illustrate the specimens, only

Plate 2, Figs. 29–48: Subspecies of ***Philiris intensa*. Figs. 29–32:** *P. intensa intensa:* **29–30:** ♂, Type, ups./uns., Aru (Butler). **31–32:** ♀, ups./uns., Aru (iv.–vii. 1898, Webster). **Figs. 33–36:** *P. intensa butleri:* **33–34:** ♂, ups./uns., Bacan (Batjan, Moluccas, Adams). **35–36:** ♀, ups./uns., Halmahera (Halmaheira, viii. 1892, W. Doherty). **Figs. 37–42:** *P. intensa regina:* **37–38:** ♂, ups./uns., Kei (Kei Besar, vi. 2012; CARR). **39–40:** ♀, ups./uns., Kei (Kei Besar, vi. 2012; CARR). **41–42:** ♂, ups./uns., Tanimbar (Tenimber, 1897, W. Doherty). **Figs. 43–44:** *P. intensa* ***discoblanca*** **ssp. n.,** ♀, HT, ups./uns., Obi (i. 2013). **Figs. 45–48:** *P. intensa ilioides:* **45–46:** ♂, HT, ups./uns., Buru (Stn 9, 26. v. 1921, Toxopeus). **47–48:** ♀, "AT", ups./uns., Buru (Stn 9, 21. v. 1921, Toxopeus). — **Figs. 49–56:** Subspecies of ***Philiris fulgens*. Figs. 49–52:** *P. fulgens fulgens:* **49–50:** ♂, ups./uns., Seram (vi. 2013, CARR). **51–52:** ♀, ups./uns., Seram (viii. 2005; CARR). **53–54:** ♂, Type, ups./uns., Ambon (Amboina, A. R. Wallace). **Figs. 55–56:** *P. fulgens bicolorata:* ♂, HT, ups./uns., Aru (Dobo, 3. vi. 1939, R. G. Wind, MCZ Harvard).

Plate 3, Figs. 57–60: ***Philiris moluccana:* 57–58:** ♂, HT, ups./uns., Obi (Laiwui, ix. 1897, W. Doherty). **59–60:** ♀, "AT", ups./uns., Obi (Laiwui, ix. 1897, W. Doherty). — **Figs. 61–64**: ***Philiris ilias:* 61–62:** ♂, Type, ups./uns., Ambon (Amboin[a], Dolleschall). **63–64:** ♀, ups./uns., Seram (vii. 2009, CARR). — **Figs. 65–66:** ***Philiris ignobilis:*** ♂, ups./uns., Aru (Dobo). — **Figs. 67–68:** ***Philiris ziska*** *halmaheira;* ♂, HT, ups./uns., Halmahera (Halmaheira, 10./12. xii. 1928).

the ♂ genitalia. Sands (1981a: 453) found no further material to examine.

Note 2: We have seen no contemporary specimens.

Philiris ilias (Felder, 1860)

(Figs. 61-62: Type ♂, Ambon; Figs. 63-64: ♀ Seram.)

Thecla ilias: Felder C. (1860: 454); TL: Ambon — see note 1.

Range: endemic to Maluku — Buru (see note 9 below), Seram, Ambon, Saparua, Watubela Islands (Kasiui) (BMNH). We add new island records from Manipa (1 ♂, iv. 2003), Haruku (1 ♂, x. 2006) and Gorong (1 ♂, ii. 2012; 1 ♂, 1 ♀, viii. 2012) (CARR). S. Schröder (pers. comm.) also has records from Manipa. See notes 2–8.

Note 1: Felder (1860) briefly described both sexes in Latin and noted that the specimens were in his collection.

Note 2: Staudinger (1888: 272) recorded *ilias* from Ambon.

Note 3: Röber (1891: 317) placed *ilias* in his newly erected genus *Philiris* and made it the type species. He noted "Key — ein sehr defectes ♂". We have not heard of any other records from Kei and wonder if this defective/very bad condition specimen could have been *regina* — see earlier — which is the only *Philiris* species otherwise recorded from the Kei Islands.

Note 4: Grose Smith (1894: 579) listed "*Holochila ilias* Feld." in his account of the Lepidoptera collected by W. Doherty in Humboldt Bay and neighbouring islands and noted "Four males and two females". Where specimens were caught elsewhere than Humboldt Bay he specified the locations, so it is assumed that these specimens were collected in Humboldt Bay. Neither Tite (1963: 252-253) nor Sands (1981a: 480) mentioned this discrepancy and both considered *ilias* to be restricted to Maluku.

We located a series of 5 ♂♂ and 2 ♀♀ in the BMNH all bearing the label "Humboldt Bay, Sept.-Oct. 1892, W. Doherty". One of the ♂♂ also has two handwritten labels stating: "Ilias. Feld." and "Gen. 1962.432 G.E.T" as well as the printed label "Rothschild Bequest B.M. 1939-1".

We are confident these are the specimens referred to by Grose Smith despite the disparity in numbers. This may be explained by Doherty supplying specimens to a number of contemporary collectors and the specimens were only later bequeathed to the BMNH. Two of the other 4 ♂♂ and one of the ♀♀ also bear the label "Rothschild Bequest B.M. 1939-1". A further ♂ and ♀ are labelled with "Joicey Bequest. Brit. Mus. 1934-120" and the last ♂ and ♀ carry "Godman-Salvin Coll. 1908.-168" labels.

The undersides of both sexes are very similar to *ilias* and the ♂♂ do have a superficial similarity with *ilias* but have clearly been misidentified. These specimens have all been placed in the BMNH drawer as *Philiris moira*. We therefore exclude New Guinea in the range for *Philiris ilias* which we consider to be a Maluku endemic.

Note 5: Tite (1963: 253) gave the distribution as Ambon, Seram, Buru, Saparua and Watubela. He noted that Grünberg (*in* Seitz 1921) included the Bismarcks and Australia in the species' range but considered that Grünberg "was undoubtedly dealing with a mixture of several species, his reference to variation in the whitish blue marking in the females tending to confirm this". Grünberg did not include Buru.

Note 6: Sands' (1981a: 480) designation of a "lectotype" ♂ is unpublished and therefore invalid. This specimen from Ambon (ex Felder collection) in the BMNH is illustrated with its labels (Figs. 61–62).

Sands further stated that "the species is restricted in distribution to the Moluccas". He did not routinely give distribution for each taxon but listed material examined – in this case Ambon, Seram, Saparua and Watubela.

Note 7: Parsons (1998: 374) whilst discussing the species grouping of *P. doreia* Tite, 1963, mentioned that *P. ilias* was known from Ambon, Seram, Saparua (he wrote "Sarapura") and Watubela.

Note 8: D'Abrera (1977: 375, 1990: 379) noted the range as Ambon, Seram, Saparua, Goram (= Gorong) and Watubela Islands.

Note 9: There are 3 ♂♂ from Buru in the BMNH and 2 of these bear the unreliable "Mt. Mada" label. As mentioned in note 3 under *Philiris helena nok,* some specimens with this label are likely to originate from Morotai but *ilias* is unknown from Morotai, or anywhere in northern Maluku, and the third specimen bears a Pratt brothers label, so we include Buru in the range for *ilias*.

Philiris ignobilis (Joicey & Talbot, 1916)

(Figs. 65–66: ♂ Aru.)

Candalides ignobilis: Joicey & Talbot (1916: 81); TL: Wandammen Mountains – see note 1.

Range: Aru including Wamar Island, New Guinea, Goodenough Island (BMNH, Tite 1963).

Note 1: Joicey & Talbot (1916) described *ignobilis* from 1 ♂ from the Wandammen Mountains in West Papua.

Note 2: Tite (1963: 249, text-fig. 108) examined the type at the BMNH and depicted its genitalia. He recorded the distribution as Aru – New Guinea and listed two specimens in the BMNH from Aru: "Dobo, 1 ♂; Aru, 1 ♂".

Note 3: Sands (1981a: 467, figs. 189–190, ♂ genitalia) stated that the brief original description of the ♂ was not adequate to distinguish it from similar species. He examined 14 ♂♂ from New Guinea and added that the ♀ had not been identified with certainty. He did not mention any material from Aru.

Note 4: Parsons (1998: 372) considered *ignobilis* to be endemic to mainland New Guinea and also stated "♀ unknown".

Note 5: We are not aware of any contemporary specimens from Aru, and K. Nagai (pers. comm.) who lived and collected in Aru for several years never encountered the taxon there.

Philiris ziska (Grose Smith, [1898])

Holochila ziska: Grose Smith ([1898]: 11, pl. 13, figs. 11–12); TL: Kapaur – see note 1.

= *Candalides pratti:* Bethune-Baker (1908: 122, pl. 8, fig. 13); TL: Fak Fak – see notes 2 and 3.

Range: Halmahera, New Guinea, Australia.

Note 1: Grose Smith (1898) described and figured both sexes. He noted "Hab. Kapaur, Dutch New Guinea (Doherty)" and indicated these specimens were in his collection.

Note 2: Bethune-Baker (1908) described and illustrated *pratti* ♂ and the type is in the BMNH. Rothschild (1915b: 31) recorded that *Philiris pratti* was collected in the Wollaston Snow Mountains expedition in 1912/1913.

Note 3: Tite (1963: 243) moved *ziska* to *Philiris* and synonymised *pratti* with *ziska* noting that the ♀ described and figured (pl. 13, fig. 13) by Grose Smith (1898) could not be the true ♀ of this species as the underside hindwing had no "black hind-marginal dot". Tite only examined ♂♂ and depicted the ♂ genitalia.

Note 4: Tite (1963: 243) recognised only the nominotypical subspecies but two further subspecies were subsequently described: *titeus* D'Abrera (1971: 373) from Australia and *halmaheira* Cassidy (2003: 76), see below. Sands (1981a: 465–466) recognised *titeus* and discussed the types, as did Tennent (2014: 170, figs. 91–93, 171).

D'Abrera, having described *titeus* in his 1971 edition, listed both the nominotypical subspecies as well as *titeus* in his 1977 (p. 373) and 1990 (p. 377) editions.

Note 5: Sands' (1981a: 464) "lectotype designation" of a *ziska* ♂ in the BMNH from Grose Smith's series of specimens is unpublished and therefore invalid. He also noted that the "Type A.T" in the BMNH was "not a female of this species (first noted by Tite 1963)" and considered it may be a ♀ specimen of *P. violetta*.

Sands also stated "Bethune-Baker's descriptions of both sexes of *P. pratti* might apply to many different species and are not adequate." However, Bethune-Baker (1908) only described the ♂. Finally, Sands gave a full description of the ♀.

Note 6: Parsons (1998: 371) merely listed a "HT ♂ 'Kapaur' (BMNH)" for *Holochila ziska,* without any reference to Sands. He also noted that D'Abrera (1977) had listed two subspecies, one of which occurred in Australia. However Parsons then stated the species was endemic to New Guinea.

One subspecies occurs in Maluku.

Philiris ziska halmaheira Cassidy, 2003

(Figs. 67–68: ♂ HT, Halmahera.)

Philiris ziska halmaheira: Cassidy (2003: 76, figs. 3–4, 21 ♂ genitalia); TL: Halmahera – see note 1.

Range: Halmahera.

Note 1: Cassidy (2003) described *halmaheira* from 1 ♂ in the van Groenendael Collection held in the Zoological Museum of the University of Amsterdam, which is now included in the Naturalis Biodiversity Center, Leiden. He considered the genitalia were similar to *P. azula* Wind & Clench 1947 and especially to *P. ziska,* using the drawings of Tite (1963) for comparison. He also noted the similarity of the upperside and the differences in the underside compared to *P. ziska* from New Guinea and tentatively considered *halmaheira* to be a subspecies of *ziska*. The ♀ is unknown.

Note 2: The specimen was labelled: "Ned. Indie. Halmahera; 10./12. xii. 1928". This is the only known specimen of the taxon and despite much collecting in Halmahera in recent years we are not aware of any further specimens.

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