

The Nomenclature and Type Status of *Telicota paceka mesoptis* Lower, 1911 (Lepidoptera: Hesperiiidae)

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ABSTRACT. O. B. Lower described, in 1911, the hesperiine skipper *Telicota augias mesoptis* Lower, 1911, but he neither stated the number of specimens before him nor designated a holotype. Our investigations indicate that Lower had at least 11 syntypes (7 males, 4 females), which are now registered in the Australian Museum, Sydney and South Australian Museum, Adelaide (SAMA). At least two authors (G. A. Waterhouse in 1933, and M. J. Parsons in 1998) attempted to resolve the taxonomy of *mesoptis* but neither of them made a valid lectotype designation in that the syntype they specified cannot be located and unambiguously identified to act as the unique type of the taxon. Thus, we designate a male specimen in SAMA (registration number: SAMA Database No. 31-001600) as the lectotype to become the unique bearer of the name *mesoptis*. This action does not affect the name or rank of the taxon, rather it constitutes a formal subsequent fixation since Lower's name was introduced 110 years ago. With regard to nomenclature, the taxonomic status of *mesoptis* has changed several times, both in terms of rank and with the species or genus in which it has been combined. Currently, the correct nomenclature is *Telicota paceka mesoptis* Lower, 1911 and we recommend that this name be used to designate the Australian population rather than *Telicota mesoptis mesoptis* Lower, 1911 in which it has been known for the past 87 years (since 1934).

Introduction

Lower (1911) described the butterfly *Telicota augias mesoptis* Lower, 1911, but he neither stated the number of specimens before him nor designated a holotype. Lower (1911, p. 157) stated “My specimens are all from the Kuranda district, taken in March, April and May.” Lower's type material was subsequently deposited in the South Australian Museum, Adelaide (SAMA), but there are also three syntypes in the Australian Museum, Sydney (AMS) (Waterhouse, 1932; Peters, 1971). Because Lower (1911) did not designate a

type specimen or make reference to a type specimen of any sort, a taxonomist must therefore determine which specimen of Lower's type material (i.e., his syntypic series) represents the name-bearing “type” in order to fix the name *mesoptis* to the species in question. According to **Article 74** of the ICZN (1999), the fixation of a name from syntypes is dependent on the designation of a lectotype; that specimen then becomes the unique bearer of the name of the nominal species group taxon and the standard for its application.

At least two authors (Waterhouse, 1932, 1933, 1937; Parsons, 1998) have attempted to resolve the taxonomy of

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Table 1. Lower's (1911) syntypic series of *Telicota paceka mesoptis* Lower, 1911 in the Australian Museum, Sydney (AMS) and South Australian Museum, Adelaide (SAMA). Specimens are listed in chronological order of capture for each sex. In the absence of an adequate fixation of Lower's name *mesoptis* we designate the male specimen "SAMA Database No. 31-001600" as the lectotype.

sex	label data	accession numbers
♂	Kuranda, Q, [no date] F. P. Dodd	AMS KL.11557, K.147003
	Kuranda, Townsville, Qld, Apl 07, F. P. Dodd	SAMA Database No. 31-001600
	Kuranda, april 07, F.P.D.	SAMA Database No. 31-021501
	Kuranda, Townsville, Qld, April 07, F. P. Dodd	SAMA Database No. 31-021502
	Kuranda, Nov. 07, F.P.D.	SAMA Database No. 31-001601
	Kuranda, Q, May 1908, F. P. Dodd	AMS KL.11557, K.147004
	KURANDA, May 08, F. P. DODD	SAMA Database No. 31-001599
	Kuranda, Q, Apr. 1907, F. P. Dodd	AMS KL.11557, K.147005
	Kuranda, Townsville, Qld, apl 07, F. P. Dodd	SAMA Database No. 31-021503
	KURANDA, apl 08, F. P. DODD	SAMA Database No. 31-001598
KURANDA, May 08, F. P. DODD	SAMA Database No. 31-001602	

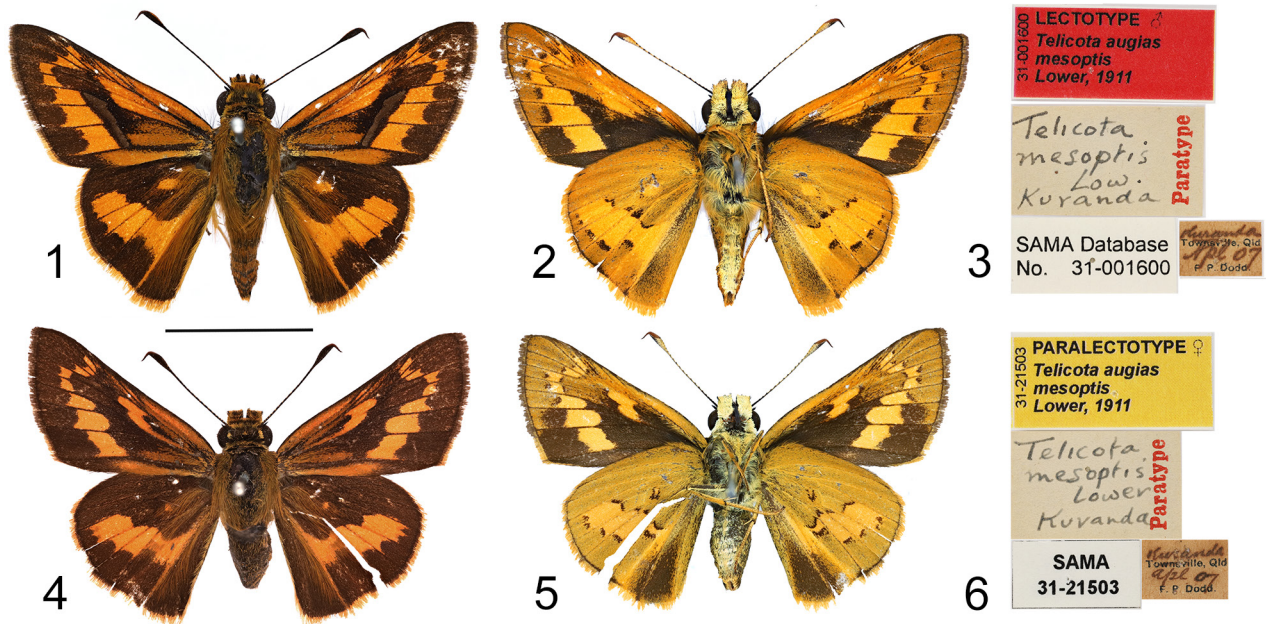
mesoptis but our investigations indicate that neither of them made a valid lectotype designation. In April 1932, G. A. Waterhouse and Brigadier W. H. Evans visited SAMA with the specific purpose of examining the O. B. Lower collection of HesperIIDae. They also designated types in cases where Lower had not marked his material as types (Waterhouse, 1933). In the case of *mesoptis*, Waterhouse (1932, p. 236) stated that "Lower's types came from Kuranda and there are paratypes in the Australian Museum." but he did not refer to a particular specimen. Waterhouse (1933, p. 60) subsequently stated "The holotype male and allotype female are from Kuranda, April 1907.", and later reiterated his earlier comment that the "Holotype male [is] from Kuranda, Qld, at Adelaide." (Waterhouse, 1937, p. 123). Evans (1949, p. 405) similarly implied that the type of *mesoptis* was a male from the same location, stating "♂ Kuranda". Both Braby (2000) and Edwards *et al.* (2001) interpreted the action of Waterhouse in 1933 as constituting a lectotype designation according to **Article 74** of the ICZN (1999). However, here lies the first problem. Our examination of Lower's type series (= syntypes) in SAMA revealed that there are eight specimens (5♂, 3♀) (Table 1) but none of them are labelled in such a way as to indicate which specimens G. A. Waterhouse and his colleague W. H. Evans considered to be the "holotype" and the "allotype". Three of the type males were collected from Kuranda in April 1907 by F. P. Dodd (Table 1), so any one of these specimens could have been the "holotype" intended by Waterhouse (1933, 1937). All eight syntypes are arranged in a single unit tray labelled "Telicota mesoptis mesoptis Lower PARATYPE I 18631". Each specimen is further labelled with a type label which states "Telicota mesoptis Low. Kuranda Paratype". It is not clear who added the "paratype" labels, but it was probably G. A. Waterhouse because the three type specimens in AMS (K.147003, K.147004, and K.147005) have an identical label, and the handwriting resembles that of G. A. Waterhouse. Regardless, these designations are incorrect because Lower (1911) designated neither a holotype nor a paratype.

Peters (1971) referred to three types (2♂, 1♀) of *T. augias mesoptis* from Kuranda as "paratypes" in AMS and provided an accession number "KL 11557". However, since Lower (1911) did not designate a holotype and Waterhouse

(1933) did not make an explicit lectotype designation, these specimens ought to be regarded as syntypes. Thus, from our assessment, Lower had at least 11 syntypes when he described *mesoptis*. Presumably, the three specimens in AMS were transferred from SAMA to that museum on permanent loan by G. A. Waterhouse in 1932 based on his comment in September 1932 on p. 236 of Waterhouse (1932) and the fact they have the same "paratype" label as those in SAMA noted above. There are an additional eight specimens of *mesoptis* (4♂, 4♀), collected from Kuranda in 1907 by F. P. Dodd, in Museums Victoria, Melbourne, but these specimens do not have type labels and therefore were probably not part of Lower's syntypic material.

The second attempt to fix the name and identity of *mesoptis* was by Parsons (1998). Parsons (1998, p. 192) referred to a "holotype" female from "Kuranda, Nov. 07 (SAMA: I 18631)". However, examination of Lower's material in SAMA indicates that the three females were collected in April 1907, April 1908 and May 1908, not in November 1907 (Table 1). There is one specimen collected in November 1907, but it is a male. Thus, Parsons' (1998) action does not qualify as a lectotypification because it is not clear which specimen he was referring to. In other words, while the actions of both Waterhouse (1933) and Parsons (1998) were intentional and based on a single type specimen, they are ambiguous in that the syntype cannot be located and unambiguously identified in SAMA to act as the unique type of the taxon.

As noted earlier, in cases where there are two or more syntypes a lectotype must be selected from the type series in order to fix the name of the nominal species group taxon (**Article 74.1**) (ICZN, 1999). Thus, in the absence of an adequate fixation of Lower's name *mesoptis* and in accordance with **Article 72.2** (fixation of name-bearing types from the type series of nominal species-group taxa established before 2000) and **Article 74.1** (designation of a lectotype), we hereby designate the male specimen "SAMA Database No. 31-001600" as the lectotype to become the unique bearer of the name *mesoptis* (Figs 1–3). This nomenclatural action does not affect the name or rank of the taxon, rather it constitutes a formal subsequent fixation since Lower's name was introduced 110 years ago. The



Figures 1–6. *Telicota paceka mesoptis* Lower, 1911 type material in the South Australian Museum, Adelaide (SAMA): (1–3) lectotype male, showing dorsal, ventral and labels; (4–6) paralectotype female, showing dorsal, ventral and labels. Scale bar = 10 mm.

specimen was selected on the basis of three criteria: (1) it is unambiguously part of Lower's syntypic series; (2) it is one of three specimens collected from Kuranda by F. P. Dodd in April 1907 that G. A. Waterhouse intended to be the name-bearing type; and (3) it is in better condition than the two other syntype males collected during the same month (i.e., April 1907) and thus more representative of the taxon in question in that it clearly portrays the diagnostic features of the taxon. The label data of the lectotype male is as follows: "Kuranda, Townsville, Qld, Apl 07, F. P. Dodd", "SAMA Database No. 31-001600", "Telicota mesoptis Low. Kuranda Paratype"; we have added "LECTOTYPE ♂ *Telicota augias mesoptis* Lower, 1911" [on red card]. Lower's 10 other syntypes (6♂, 4♀) in SAMA and AMS (Table 1) must now qualify as paralectotypes of *mesoptis* and not paratypes. One of the paralectotype females in SAMA (Figs 4–6), to which we have added a type label "PARALECTOTYPE ♀ *Telicota augias mesoptis* Lower, 1911" [on yellow card], is illustrated for comparison with the lectotype male.

With regard to nomenclature, the taxonomic status of the taxon *mesoptis* has changed several times, both in terms of rank and with the species or genus in which it has been combined. Lower (1911) originally described it as a variety of *Telicota augias* (Linnaeus, 1763), that is, as "Var. IV. *T. mesoptis*, nov. var.". Varieties described before 1961 are treated as formal subspecific names under **Article 10.2** (availability of infrasubspecific names) and **Article 45.6** (determination of subspecific or infrasubspecific rank of names following a binomen) of the ICZN (1999). Lower (1911, p. 155) provisionally placed a further taxon (*T. ancilla*) under *T. augias* with similar subspecific ("variety") rank as *mesoptis*, but cautioned that "Perhaps some of them will ultimately be raised to the rank of species". Subsequently, Waterhouse (1932) regarded *mesoptis* as a distinct species, first under the name *Astycus mesoptis* (Lower, 1911) but then later reverted to *Telicota* (see Waterhouse, 1937) in

accordance with Evans (1934) who treated the taxon under the name *Telicota mesoptis* Lower, 1911. Waterhouse's action of treating *mesoptis* as a full species in 1932 was adopted for the next c. 80 years by many authors, including Evans (1949), Common & Waterhouse (1972, 1981), Braby (2000, 2010), Edwards *et al.* (2001) and Orr & Kitching (2010). Evans (1949) regarded *T. mesoptis* to be polytypic and he recognized four subspecies, namely: *T. mesoptis mesoptis* Lower, 1911; *T. mesoptis affinis* Rothschild, 1915; *T. mesoptis halma* Evans, 1934; and *T. mesoptis cadmus* Evans, 1934.

Parsons (1998), however, considered *T. mesoptis* to be conspecific with *T. paceka* Fruhstorfer, 1911 from mainland New Guinea and its adjacent islands based on study of specimens held in the Australian Museum, Australian National Insect Collection (Canberra) and the Natural History Museum (London) and those he had personally collected. Parsons (1998) noted that both species had identical male genitalia, a finding which confirmed an earlier observation by Evans (1949) who remarked that the male genitalia of *T. mesoptis* resembled exactly that of *T. paceka*. He also noted that *T. paceka* had priority over *T. mesoptis* because the name *paceka* was published first, on 14 March 1911 (actually on 1 March 1911, G. Lamas, pers. comm. 2020), whereas *T. mesoptis* was published several months later, on 10 August 1911 (actually in December 1911, G. Lamas, pers. comm.). Thus, under Parsons' (1998) classification, *mesoptis* was synonymized under *paceka* as a junior subjective synonym and it was treated as the Australian subspecies of *T. paceka*. Thus, Parsons (1998) recognized four subspecies under *T. paceka*: *T. paceka paceka* Fruhstorfer, 1911 from northern lowland mainland New Guinea; *T. paceka mesoptis* Lower, 1911 from north-eastern Australia; *T. paceka affinis* Rothschild, 1915 throughout most of mainland New Guinea and Mysol and Waigeo, Indonesia; and *T. paceka cadmus* Evans, 1934 from Goodenough and Fergusson Islands, PNG.

He did not comment on the status of *T. mesoptis halma* from the Lesser Sunda Islands (Flores) and Maluku (Halmahera, Obi, Ternate, Batjan), but presumably it also belongs in this species, that is, *T. paceka halma* Evans 1934 **comb. nov.** Specimens from the Kai and Aru Islands require further evaluation; they were placed under *T. paceka mesoptis* (= *T. mesoptis mesoptis*) by Evans (1934, 1949), but this population is geographically isolated from the north-eastern coast of Australia.

Braby (2000) and Edwards *et al.* (2001) drew attention to this alternative taxonomic opinion and noted that Parsons (1998) did not examine the type material, particularly the apparent lectotype, of *mesoptis* in SAMA, although Parsons (1998) did refer to the two paralectotype males in AMS. We have re-evaluated the taxonomic status of the *T. mesoptis* complex by comparing the illustrations of the male genitalia of *mesoptis* and *paceka* in Evans (1949, pl 48, figs 19, 21), Parsons (1998, pl. VII) and Braby (2000, fig. 23H,Q, p. 217). In our view, we conclude that Parsons' hypothesis of a single species for the complex is justified. Despite clear differences in the underside pattern of the two taxa, Parsons (1998) argued that nominate *T. paceka paceka* represents a dark northern lowland subspecies restricted to mainland New Guinea that is allopatric from *T. paceka affinis*. Thus, the correct nomenclature for Lower's taxon in Australia should now be regarded as *Telicota paceka mesoptis* Lower, 1911.

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