

## Supplements to “*Parnassius phoebus* (FABRICIUS, 1793), a misidentified species” (Lepidoptera: Papilionidae)

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**Abstract:** We designate a neotype specimen according ICZN (1999: Art. 75) to clarify and stabilize the identity and taxonomic status of the nominal taxon *Parnassius phoebus* (FABRICIUS, 1793) (in the revised sense), since the name-bearing type specimen of the DRURY collection figured by JONES is evidently lost. The chosen male specimen was collected by ARTEMIEV near Ust-Kamenogorsk, close to the place visited by SOKOLOV in 1771. It looks very similar to the watercolour in JONES' Icones. This neotype will be deposited in the HOPE Entomological Collections, Oxford University Museum of Natural History, Oxford, U.K.

**Nachträge zu „*Parnassius phoebus* (FABRICIUS, 1793), eine fehlidentifizierte Art” (Lepidoptera: Papilionidae)**

**Zusammenfassung:** Ein Neotypus für das nominelle Taxon *Parnassius phoebus* (FABRICIUS, 1793) (im revidierten Sinn) wird in Übereinstimmung mit Art. 75 des Code (ICZN 1999) designiert, um die Identität und den taxonomischen Status des Taxons permanent zu klären und festzulegen. Der namenstragende Typus aus der Sammlung DRURY, der JONES zum Zeichnen vorlag, ist offensichtlich verloren. Der ausgewählte männliche Falter wurde von ARTEMIEV bei Ust-Kamenogorsk, in der Nähe des von SOKOLOV 1771 besuchten Originalfundorts, gefangen. Er ähnelt der Abbildung in den „Icones“ von JONES. Dieser Neotypus wird unmittelbar nach der vorliegenden Publikation in die HOPE-Sammlungen der Entomologie des Oxforder Naturhistorischen Universitätsmuseums, Oxford, Großbritannien, gelangen.

### Introduction

This is a supplement to HANUS & THEYE (2010). In this publication the species “*Parnassius phoebus* (FABRICIUS, 1793)” (*sensu* BRYK 1935) of all authors after 1793 was shown to be a misidentification. *Parnassius phoebus* (FABRICIUS, 1793) was originally described by FABRICIUS after a specimen in the DRURY collection originating from “Siberia” figured by JONES in the so-called “JONES' Icones”. From JONES' watercolours, which were illustrated and published in print for the first time by HANUS & THEYE (2010: 78), it can be seen that the taxon *phoebus* introduced by FABRICIUS was later known as *Doritis clarius* EVERSMAHN, 1843 and/or *Doritis ariadne* LEDERER, 1853. Recognizing this error means suppressing these two names, replacing them by *Parnassius phoebus* (FABRICIUS, 1793) (new and revised status, see in HANUS & THEYE 2010). As for “*Parnassius phoebus* (FABRICIUS, 1793)” (*sensu* BRYK 1935), it was replaced in the publication by the oldest available name applicable to this taxon, namely *Parnassius corybas* FISCHER VON WALDHEIM, 1823 (status changes see in HANUS & THEYE 2010).

The problem now was that no name-bearing type specimen for *Parnassius phoebus* (FABRICIUS, 1793) (in the revised sense) is believed to be extant. DRURY received

the specimen from PALLAS in 1777; it had been caught by SOKOLOV in the West Altai closely to the east of Ust-Kamenogorsk, between 15 and 25. vii. 1771. DRURY died in 1803 and his collection came to auction on 23. v. 1805. According to the auction sale catalogue, the *phoebus* specimen was very likely included in Lot 33: “*Papilio Apollo* and 14 Papiliones”, bought by MILNE, or in Lot 34: “Papiliones of the Heliconii Family”, bought by LATHAM. MILNE's collection was partially auctioned in 1824 and the remainder in 1839. The Natural History Museum, London (BMNH), purchased over 1700 specimens from the latter sale, but no *phoebus* (*sensu* FABRICIUS) specimen from Siberia is mentioned in any of the BMNH catalogues. Nothing could be found about the LATHAM collection. As for the possibility that DRURY's specimen were purchased by Alexander MACLEAY, whose collection is currently deposited at the University of Sidney, Australia, no such specimen could be located there so far (Jude PHILP, Senior Curator of the MACLEAY Museum, Sidney, in an email of 28. vi. 2011; they will go on searching, but a success is unlikely). Therefore, the specimen being the model for the illustration and description of *Parnassius phoebus* by FABRICIUS (1793) can be considered lost.

We thus decided to designate a neotype specimen to clarify and stabilise the identity and taxonomic status of the nominal taxon *phoebus* FABRICIUS, 1793. We therefore searched for *Parnassius* specimens originating from the locality of the lost type, that is the surroundings of the Ablakit (Ablakotka) fortified Kalmuck temple, where SOKOLOV spent a few days looking for natural science elements while his sketcher was drawing sketches of the temple. Such specimens should be truly representative of *Parnassius phoebus* (FABRICIUS, 1793) in the original sense. Through Roman YAKOVLEV we got in touch with Roman ARTEMIEV, who had collected a few *Parnassius* from the close vicinity of Ust-Kamenogorsk to the lower Ulba river, and provided us with a pair which is presented below:

Fig. 1, ♂: Kazakhstan, Oriental Region, 25 km east of Ust-Kamenogorsk: Gorno-Ulbinka village, 400 m, on the north slope of the Ulba Mountain, south of the Ulba river, vi. 1999, Roman ARTEMIEV leg., coll. J. HANUS.

Fig. 2, ♀: Kazakhstan, Oriental Region, Irtysh River, Ablakotka (suburb of Ust-Kamenogorsk), 17. vi. 2010, Roman ARTEMIEV leg., coll. J. HANUS.

ARTEMIEV collected three more *Parnassius* specimens in the same area which, after photographs, look very similar to the pair above: 1 ♀, same data as the ♀ above; 1 ♂, Lake Sibinsky, 60 km south of Ust-Kamenogorsk, vi.



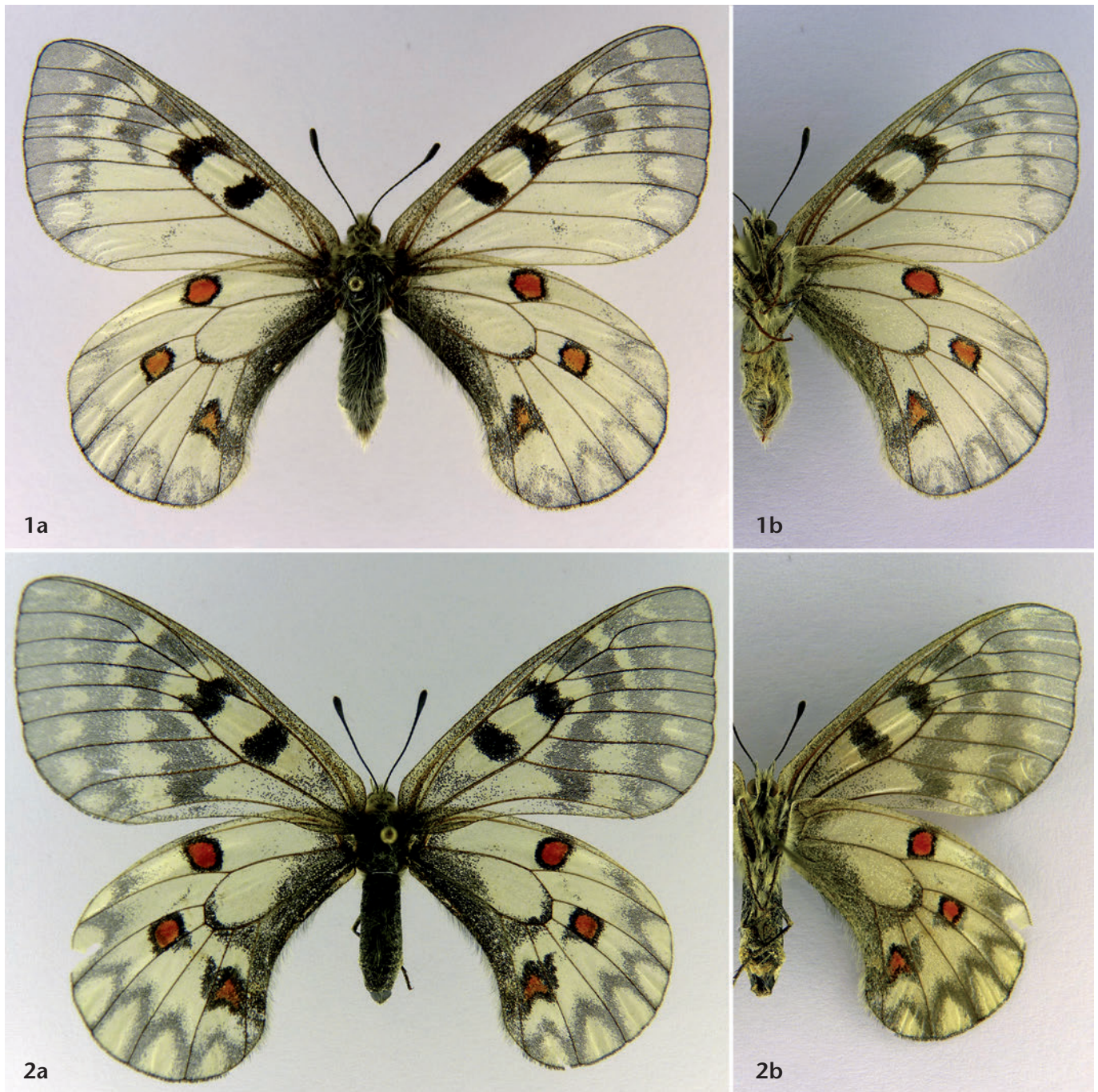


Fig. 1: ♂ (1a ups., 1b uns.), *Parnassius phoebus phoebus*, Kazakhstan, Oriental Region, Gorno-Ulbinka Village, vi. 1999, leg. Roman ARTEMIEV (wingspan 6.2 cm). **Neotype by present designation**, deposited in OUMNH. Fig. 2: ♀ (2a ups., 2b uns.), *Parnassius phoebus phoebus*, Kazakhstan, Oriental Region, Ablaketka, 20. vi. 2010, leg. Roman ARTEMIEV, coll. J. HANUS (wingspan 6.3 cm).

1986; 1 ♂, Lake Shibirbi-Kol, 80 km south-east of Ust-Kamenogorsk, 20. vi. 2010, R. ARTEMIEV leg., coll. R. ARTEMIEV. None of the 2 ♀♀ has a sphragis.

A quick comparison of these pictures to the JONES watercolours clearly indicates that the specimen figured by JONES was a ♂.

**Neotype by present designation:** we select the ♂ presented in Fig. 1, which originates from the same locality as the lost type. It can be described as follows:

Antennae dark. Fore wing upper side with sub-marginal inter-nervular markings forming a band in the apex; veins of the hind wing underside dark, hind wing ante-marginal band made of arches with external parts

merging with the veins. No red spots at the anal angle of the hind wing underside. Two “square” orange/ red spots limited by the veins in spaces 5 and 7, a third well developed anal-cubital orange spot heavily circled with black.

The designation of a neotype here is done in accordance with the provisions of the Code (ICZN 1999: Art. 75); Art. 75.3 requires:

**75.3. Qualifying conditions.** A neotype is validly designated when there is an exceptional need and only when that need is stated expressly and when the designation is published with the following particulars:

**75.3.1.** a statement that it is designated with the express purpose of clarifying the taxonomic status or the type locality of a nominal taxon;

75.3.2. a statement of the characters that the author regards as differentiating from other taxa the nominal species-group taxon for which the neotype is designated, or a bibliographic reference to such a statement;

75.3.3. data and description sufficient to ensure recognition of the specimen designated;

75.3.4. the author's reasons for believing the name-bearing type specimen(s) (i.e. holotype, or lectotype, or all syntypes, or prior neotype) to be lost or destroyed, and the steps that had been taken to trace it or them;

75.3.5. evidence that the neotype is consistent with what is known of the former name-bearing type from the original description and from other sources; however, a neotype may be based on a different sex or life stage, if necessary or desirable to secure stability of nomenclature;

75.3.6. evidence that the neotype came as nearly as practicable from the original type locality [Art. 76.1] and, where relevant, from the same geological horizon or host species as the original name-bearing type (see also Article 76.3 and Recommendation 76A.1);

75.3.7. a statement that the neotype is, or immediately upon publication has become, the property of a recognized scientific or educational institution, cited by name, that maintains a research collection, with proper facilities for preserving name-bearing types, and that makes them accessible for study.

All these conditions are fulfilled, either already in HANUS & THEYE (2010) or in the present publication.

The figures presented in Figs. 1 & 2 compare well to the JONES watercolours of *Papilio phoebus* in the JONES' Icones (compare HANUS & THEYE 2010: fig. 1a, lower pictures). They show the same markings on both the upperside and the underside, in particular the "three square red spots circled with black and without pupilla on the hind wings" noted by FABRICIUS (1793) in his description. The drawings are somewhat schematic and exaggerate the characteristics of the different features. This can explain the only noticeable small difference: the anal-cubital spot is less "square" than the two other ones, and its orange centre more conspicuous. This comparison confirms that the chosen neotype specimen belongs to a population very similar to that of the lost type caught by SOKOLOV on the same locality.

Immediately after publication, the ♂ specimen selected as neotype will be deposited in the HOPE Entomological Collections, Oxford University Museum of Natural History (OUMNH), U.K., which also houses the JONES' Icones, still entirely unpublished (VANE-WRIGHT 2010).

**Note:** Since the original description by FABRICIUS in 1793, the taxon *phoebus* was rediscovered by SCHRENK in the Tabargatai Mountains and described as *Doritis*

*clarius* EVERSMAHN, 1843. This name was invalid as being a homonym of *Papilio clarius* HÜBNER, [1806]. It was also collected by KINDERMANN in the Buchtarma river valley and named, without further description, *Doritis ariadne* LEDERER, 1853. (Could this explain why *ariadne* was not really accepted and that the two names *clarius* and *ariadne* are still used today?). The species *clarius* EVERSMAHN, 1843 was also found by HABERHAUER at moderate elevations near Dschemine near Saisan. STAUDINGER (1881: 258) says that the specimens of this place are not so strongly marked as those from the Altai and that one ♀ even has quite the appearance of *Parnassius mnemosyne* (LINNÉ, 1758) which is not found flying with *phoebus* (ELWES 1886: 51).

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We are grateful to Roman ARTEMIEV and Roman YAKOVLEV for valuable information about the *Parnassius* from the Altai Mountains. We are also deeply indebted to Roman ARTEMIEV for giving us the pair of butterflies pictured in here as well as further data on related specimens in his collection. We thank Jude PHILP, Senior Curator of the MACLEAY Museum, Sydney, Australia, and his collaborators for searching for *Parnassius* in the butterfly Collections. John CALHOUN's pertinent comments about the JONES' Icones were greatly appreciated. The advices and suggestions of Wolfgang A. NÄSSIG, editor of NEVA, were again very helpful.

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