

First record of a female *Delias neeltje* (Lepidoptera: Pieridae)

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Abstract: The previously unknown female *Delias neeltje*, recorded from Mokndoma, Papua, is described and illustrated. Comparison is made between *D. neeltje* and the closely allied *D. clathrata* from PNG.

Rangkuman: Deskripsi betina *Delias neeltje* yang sebelumnya belum dikenal, disajikan, setelah ditangkap di daerah Mokndoma, Papua, Indonesia, dilengkapi dengan foto-foto dan peta. Sekaligus dibuat perbandingan antara *D. neeltje* dan *D. clathrata* dari P.N.G.

Keywords: *Delias clathrata* complex, Central Mountain Range Papua, Indonesia.

Introduction

Delias neeltje belongs to the *clathrata* group of *Delias* consisting of nineteen species, all endemic to the central mountain ranges of the mainland of New Guinea. According to current classification, fourteen species are endemic in Papua (the western part of the island); and four species are endemic in Papua New Guinea, while a single species is known from both sides of the 141°-EL border. The *clathrata* group (or Group XV, according to Talbot) has been divided into six sub-groups, with *D. neeltje* Gerrits & van Mastrigt, 1993 placed in the *clathrata* subgroup along with *D. clathrata* Rothschild, 1904 and its subspecies *limata* Jordan, 1930, *Delias sawyeri* Van Mastrigt, 1996 and *Delias catocausta* which has three subspecies. Following the publication of *D. neeltje* by Gerrits & Van Mastrigt in 1993, the same species was described later in the same year by Yagishita as *D. clathrata sakumai*, a taxon which has subsequently been treated as a junior synonym of *D. neeltje*.

Abbreviations

The abbreviations given below have been used throughout the text:

- BMNH – Natural History Museum, London, U.K.
- BMNH (E) – as above Entomological Dept.
- KSP – Koleksi Serangga Papua, Jayapura, Indonesia
- LT – Lectotype
- PT – Paratype

***Delias neeltje* female**

(figs 1-2)

Material examined: Puncak Jaya, Mokndoma, E 137° 46.5'; S 3° 38.6'; 2180 m, 13.7.2013, Mike Wild Fam. ♀, (will be moved to KSP).

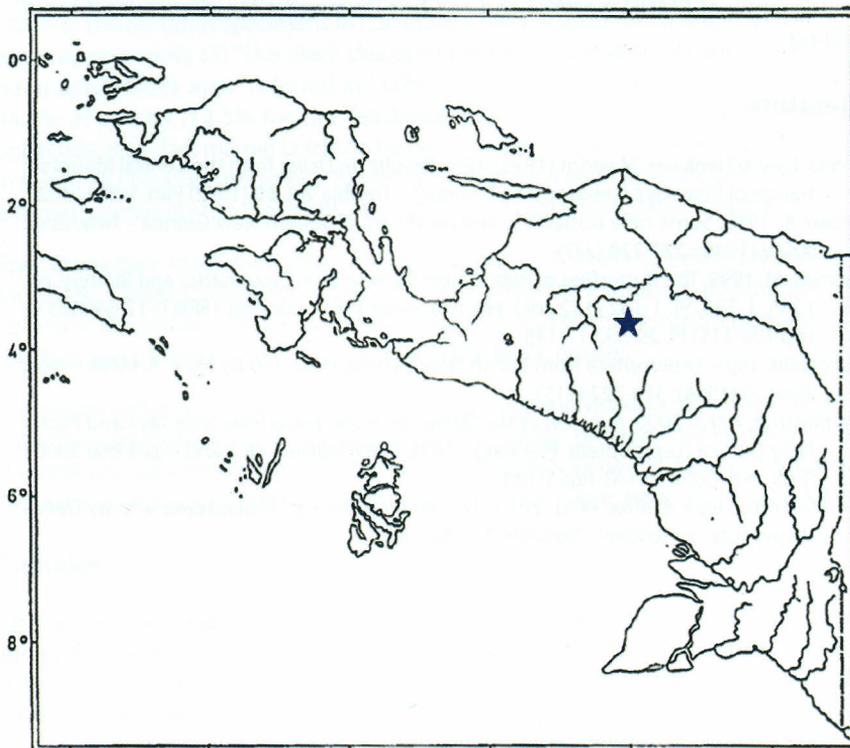
Diagnosis:

D. neeltje differs from *D. clathrata*, including ssp. *limata*, in the following features (see figs 1-14): The bright orange to red subapical and terminal spots on the underside of the forewing; in *clathrata*, these spots are light orange or even yellow; the underside of the hindwing is white with seven dark spots; in *clathrata* the spots are larger and the white parts are often filled with greyish brown diffusion; the dark spot in the base on underside of hindwing does not reach the inner border and is divided by a broad white stripe while in *clathrata* the dark triangle does reach the inner border and is divided by a narrow white stripe.

Description:

Upperside of forewing milky, slightly translucent white with black costal border slightly wider than the male, bearing four very small subapical dots in which some coloration is visible from spots on underside. Broad black costa connected with black border, entering the discal cell, dc-bar partly visible. Small streak is present 2/3 up costal border towards apex, reaching inward to M3. Inner edge of black border scalloped from above dc-bar to tornus, slightly entering along inner margin. Basal area with grey-black diffusion. All veins are clearly visible. Upperside of hindwing is translucent white, revealing the patterns on the underside. Costa is white. Black border from apex to tornus is wider than the male with undulate inner edge, with a bright orange subapical band, formed by four spots, with the second one elongated and pointing inwards. Basal area with grey-black diffusion. Underside of forewing as in male: milky white with black border of same size as upperside, but inner edge less scalloped. A thick black costal band from base to black border, entering mid way into the discal cell, and cutting off an elongate greyish spot at Sc. All veins are clearly visible. Underside of hindwing similar to male: milky white, with black border from apex to tornus, narrowed and more clearly defined than on upperside, with especially undulate inner margin. A black subbasal band from costa to dorsum, crossing the discal and cubitus cells at subbasal level, following the anal margin, at apex connected with terminal black border. A second very broad, bowed band consists of six distinctly separate black spots from costa to dorsum, completed to half a circle by a large seventh spot at the innerside. These spots – less developed than in males – cross the discal and cubitus cells medially to postmedially. Top most discocellular spot very faint. In base below white costa

black pear-shaped spot, separate from subbasal black band by white streak/band. Concentration of yellow scales cause a broad yellow greyish band from base along anal margin, much more yellowish than in *clathrata*. All veins are clearly visible. Length of forewing: 29 mm.



Map 1. Collection area of *Delias neeltje* ♀

Discussion

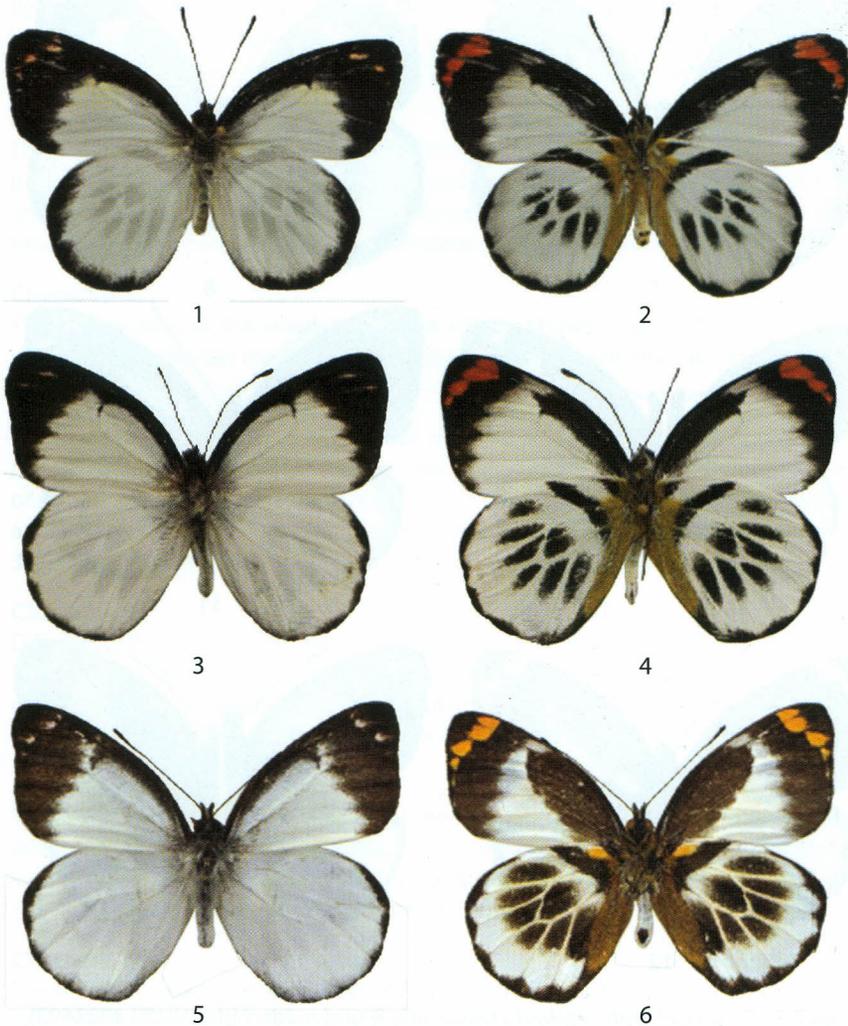
The close morphological relationship between *D. neeltje* and *D. clathrata* raises the question of whether *neeltje* is a subspecies of *clathrata* or a separate species. The significant differences mentioned in the above description and the distance between the localities of both species (over 500 km) are the principle reasons for maintaining two separate species. The appearance of the *D. neeltje* female confirms the differences previously known between males of the two species.

Acknowledgements

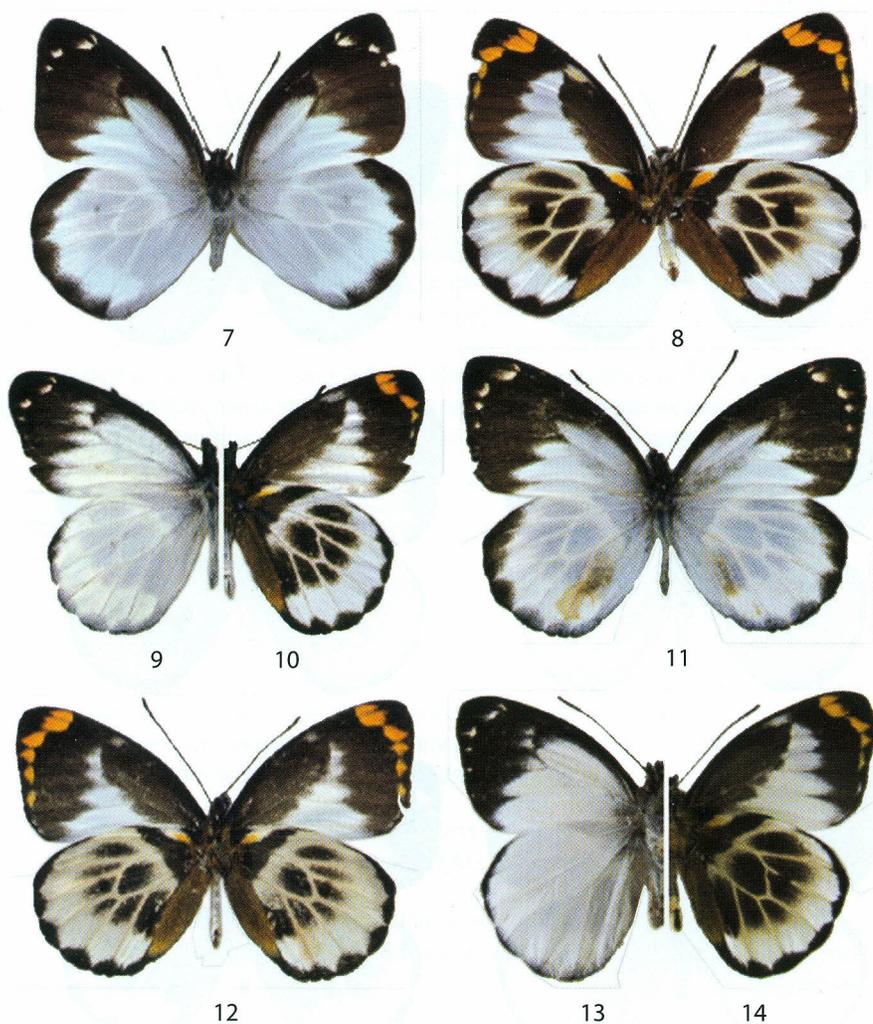
I want to thank my sons who collected the *D. neeltje*♀. Thanks to Henk van Mastrigt for valuable information, additional notes, pictures of KSP material, and help in the editing of this article. Thank you also to David Lees (BMNH) for allowing photography of BMNH material and to Chris Davenport for pictures and proof reading.

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Figs 1-4. *Delias neeltje* 1-2 upperside & underside ♀ (Mike Wild Fam.)
3-4. Upperside & underside ♂ PT (KSP 21880);
Figs 5-6. *Delias clathrata clathrata* upperside & underside ♂ [BMNH(E) #983493] –
Head of R. Aroa (Meek)].



Figs 7-8. *Deliás clathrata clathrata* upperside & underside ♀ [(BMNH(E) #983492) – Owgarra (coll. Meek) ex coll. Herbert Druce].

Figs 9-14. *Deliás clathrata limata*: 9-10. upperside & underside ♂ LT [West Side of Herzog Mts (coll. A.F. Eichhorn - BMNH(E)); 11-12 upperside & underside ♀ [(BMNH(E) #984006) – West Side of Herzog Mts (coll. A.F. Eichhorn); 13-14. upperside & underside ♂ [CD - Kerowagi, Simbu Prov., P.N.G.].