

SYSTEMATIC NOTES ON *GRAPHIUM FELIXI* (JOICEY AND NOAKES) (LEPIDOPTERA: PAPILIONIDAE)

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Abstract

The systematic position of *Graphium felixi* (Joicey & Noakes) is examined. Currently regarded as a form of *G. thule* (Wallace), it is here placed as a subspecies of *G. deucalion* (Boisduval) (stat. nov.).

Introduction

In May and June, 1914, A. C. and F. Pratt collected on the island of Biak (Irian Jaya) a small series of a butterfly subsequently described by Joicey and Noakes (1915) as *Papilio felixi*. Although Joicey and Noakes stated that their new species was close to, but distinct from, *P. thule* Wallace, the taxon is currently treated as *Graphium thule* form *felixi*. D'Abrera (1971) noted that *felixi* is restricted to Biak, whereas the other described forms of *thule*, f. *princeps* Weymer, f. *leuthe* Grose-Smith and f. *thule*, occur throughout the species' range. Furthermore, the behaviour of *felixi* differs from that of *thule* (R. Straatman, pers. comm.). Examination of the male genitalia also suggests that these two taxa are not conspecific.

Systematic relationships

The male genitalia of eight of the twelve species in the *Graphium macareus* group [*encelades* (Boisduval), *xenocles* (Doubleday), *delessertii* (Guérin-Ménéville), *ramaceus* (Westwood), *macareus* (Godart), *megarus* (Westwood), *deucalion* (Boisduval) and *thule*] were dissected and compared with those of *felixi* (Fig. 1). Of these eight species only two, *deucalion* (Fig. 2) and *thule* (Fig. 3), have the dorsal spiny process of the valva deeply emarginate and "finger-like". The valva of *thule* differs from that of *deucalion* and *felixi* in being distally emarginate and having the row of spines on this edge much reduced. In pattern also *felixi* resembles *deucalion*, being distinct from *thule*.



Figs 1-3. Valva and clasper of: (1) *Graphium deucalion felixi*; (2) *G. deucalion deucalion*; (3) *G. thule*.

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Graphium felixi should therefore be removed from the *thule* complex and the question now arises as to whether it should be given species status or associated with *deucalion*, which is comprised of two subspecies, typical *deucalion* in Sulawesi and subspecies *leucadion* in the Northern Moluccas. Evidence of a faunal affinity between Biak, the Moluccas and Sulawesi is seen in other organisms: the owl *Otus manadensis* Quoy & Gaimard occurs as separate subspecies in Sulawesi and the Lesser Sundas, in the Moluccas and on Biak, yet is absent from the mainland of New Guinea and other associated islands such as Waigeu and Mefor (Hekstra, 1973). Similarities in dispersal patterns between butterflies and birds have been demonstrated by Holloway and Jardine (1968) and *felixi* is thus associated with *deucalion*.

The classification of *deucalion* and *thule* should therefore be amended as follows:—

Graphium deucalion

G. d. deucalion (Boisduval) [Sulawesi]

G. d. leucadion (Staudinger) [N. Moluccas]

G. d. felixi (Joicey and Noakes) stat. nov. [Biak]

Graphium thule

G. thule f. *thule* (Wallace) [New Guinea]

G. thule f. *princeps* (Weymer) [New Guinea]

G. thule f. *leuthe* (Grose-Smith) [New Guinea]

Graphium stratocles (C. & R. Felder), from the Philippines, is probably most closely allied to these two species, all three having the pale scales of the fore wing upperside narrow and hair-like.

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