

**A RECORD OF *DACTYLOPLUSIA IMPULSA* (WALKER, 1865)  
(LEPIDOPTERA: NOCTUIDAE: PLUSIINAE) NEW TO FIJI**

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**Abstract**

The species *Dactyloplusia impulsula* (Walker, 1865) is recorded from Fiji for the first time. This considerably extends its known range. The single female specimen is illustrated and the genitalia are figured for the first time.

**Introduction**

A single specimen of the plusiine species *Dactyloplusia impulsula* (Walker, 1865) was taken in lowland forest in southeastern Viti Levu, Fiji. There are no published records of this species from any part of Fiji and it is not listed in the recent checklist of Fijian Lepidoptera by Evenhuis (2013).

**Materials and methods**

The specimen was taken on 30 October 2012 at a mercury vapour light in Colo-I-Suva Forest Park (grid reference: -18.32847°, 178.274073°), close to Suva on the main island of Viti Levu. This is an area of mahogany plantation interspersed with regrowth of native plant species. The specimen was dissected and a genitalia slide prepared. The slide and the specimen were then clearly labelled and retained as voucher specimens at the South Pacific Regional Herbarium, Suva, Fiji.

This work was part of a systematic programme of light trapping carried out in a number of lowland forest locations close to Suva, which forms the basis of a study to investigate potential metrics for the evaluation of forest quality. Light trapping was carried out using a mercury-vapour light trap, which was operated for four hours between 6.30 pm and 10.30 pm across three different forest types during the months of October and November 2012. The details of the methods used and results obtained were described by Tikoca (2015).

**Family Noctuidae**

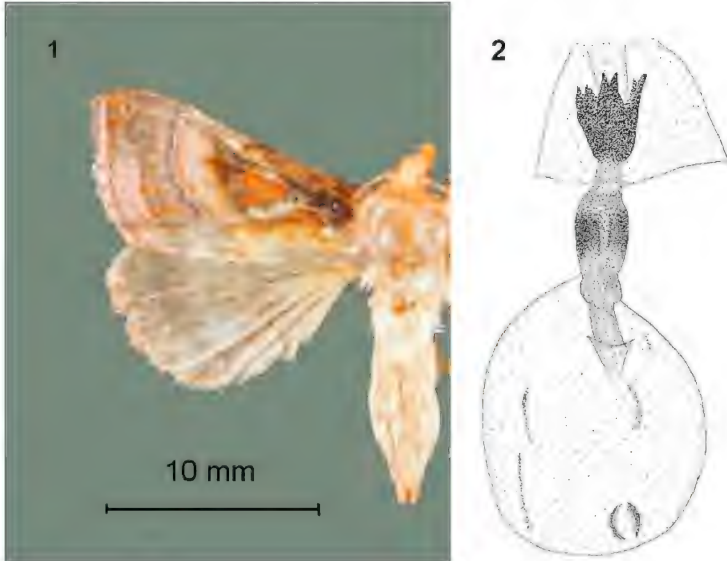
**Subfamily Plusiinae**

**Genus *Dactyloplusia* Chou & Lu, 1979**

Chou and Lu (1979) reviewed the Chinese Plusiinae and introduced the monotypic genus *Dactyloplusia* Chou & Lu for Walker's *Plusia impulsula*.

***Dactyloplusia impulsa* (Walker, 1865)**

Holloway (1985) discussed this species and illustrated the adult male and its genitalia. An image of the female Fijian specimen is included here for comparison (Fig. 1), and for completeness the female genitalia are also illustrated (Fig. 2). In the adult, the three lines in the terminal third of the wing, each approximately parallel to the termen, are diagnostic, as is the dark basal suffusion combined with the orange shading in the central area.



**Figs 1-2.** *Dactyloplusia impulsa* female: (1) adult; (2) genitalia.

**Genitalia:** The ductus bursae is strongly expanded and sclerotised centrally; the sterigmata is heavily sclerotised with anterior and posterior lamellae fused and bears six sharp processes directed posterobasally; the bursa copulatrix bears a signum consisting of a pair of small, crescent shaped, somewhat diffuse markings that are ribbed and fade away marginally.

**Occurrence**

Holloway (1985) recorded the geographical range of *D. impulsa* as Sri Lanka, India, S. China, Sundaland, Sulawesi and New Guinea. Species of subfamily Plusiinae are known for their dispersal and propensity for individuals to turn up outside their normal established range and Holloway (1985) noted this behaviour for three of the five species previously known from Fiji. It is likely that this is also the case with the current record.

Only this single specimen of *D. impulsa* was obtained from a total of 491 macro-moth individuals belonging to 10 families and 92 taxa, collected over 12 nights of light trapping (Tikoca 2015). This suggests that the species either is currently not abundant in forests in the Suva area or was a vagrant. *Dactyloplusia impulsa* is sufficiently unmistakable and striking that it is unlikely to have been overlooked during previous recording in Fiji if it were resident, and it remains to be seen by further sampling effort whether the species becomes or is already established.

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