

A new *Luffia* from La Gomera (Canaries): *Luffia gomerensis* sp.n. (Lepidoptera: Psychidae)

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Samenvatting. Een nieuwe *Luffia* soort van La Gomera (Canarische eilanden): *Luffia gomerensis* sp.n. (Lepidoptera: Psychidae)
In enkele *Luffia* zakken, verzameld op La Gomera (Canarische eilanden) op 7 maart 1995, bevonden zich volledig ontwikkelde eitjes. Deze werden uitgekweekt en leverden 10 maanden later 5 mannetjes en 5 wijfjes. Morfologisch onderzoek van vooral de mannetjes duidde op het bestaan van een tot nu toe onbeschreven soort: *Luffia gomerensis* sp.n.

Résumé. Une nouvelle espèce de *Luffia* de La Gomera (Isles canariennes): *Luffia gomerensis* sp.n.
Dans quelques fourreaux de *Luffia*, trouvés sur l'île de La Gomera (Isles canariennes), des oeufs bien développés furent trouvés. L'élevage de ces oeufs donnait 5 mâles et 5 femelles. Une étude morphologique, surtout des mâles, révélait l'existence d'une espèce inconnue jusqu'à présent: *Luffia gomerensis* sp.n.

Key words: La Gomera - Canaries - *Luffia gomerensis* sp.n. - *Luffia rebeli*.

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On 7 March 1995 some larval cases of *Luffia* Tutt, 1899 were collected in the valley of Vallehermoso on the island of La Gomera (Canaries), at an altitude of 500m. All cases were found on walls that were partially covered with lichen. This genus has never been mentioned from La Gomera before, but it seemed most probable that the specimens belonged to *Luffia rebeli* Walsingham, 1908, an endemic species from the island of Tenerife, 30km to the northeast of La Gomera. During the same expedition I collected some cases of *Luffia rebeli* in different biotopes on Tenerife. The larvae from Tenerife emerged between 8.V.1995 and 26.VI.1995.

The cases found on La Gomera appeared to be empty and contained only exuvies, but eggs were found in some of these. A part of these eggs hatched on 15 March and an ab ovo breeding resulted after 10 months in 5 males and 5 females. Since eggs of *Luffia* hatch after 3 to 4 weeks, we can estimate that imago's in La Gomera emerge already in the beginning of the year (February?). Bred larvae from Tenerife reached the adult stadium only in May and June.

The morphology of the specimens from La Gomera and those from Tenerife was compared. *Luffia* males from La Gomera are distinguished by the presence of whitish scales in the pattern of the forewings, which gives them a more contrasted appearance than the specimens from Tenerife. This difference is clearly visible by the whitish dorsal spots, that form a clear transverse band when the wings are roof-folded in their natural position (fig. 2a).

Adult cases as well as the imago's from La Gomera are smaller than those from Tenerife, and the table of the maximum length and width of the forewing shows that two separated groups exist (fig. 3). To investigate whether this difference in size was not an artefact resulting from the artificial ab ovo breeding, I paired a couple of *Luffia rebeli* from Tenerife, Bosque de la Esperanza. The larvae were bred under the same circumstances (food, light, temperature) as the ones from La Gomera. The forewing sizes of four adult males fall in the group of *Luffia rebeli* (see fig. 3, marked with triangles).

A comparison of the genital structure showed no significant differences, but this is not a rare phenomenon in the family Psychidae where sometimes only small or no visible

differences at all could be detected between closely related species (e.g. *Pseudobankesia* Meier, 1963, see Hättenschwiler 1994).

Because of the small, but constant differences in the phenology and morphology of the specimens from La Gomera, compared to those of Tenerife, plus the fact that the apterous females have not much dispersal capabilities, I consider the populations of La Gomera as a separate morpho-species, which is described hereafter.

Luffia gomerensis sp.n.

Holotype ♂ (fig. 1d), incl. exuvie and larval case, labeled: *Luffia gomerensis*, T1, HOLOTYPUS (red label); Canarias, La Gomera, Vallehermoso (white label); case with eggs 7/III/1995, larva ab ovo 15/III/1995, imago 4/I/1996 (white label); Henderickx, H.A. (white label); in the collection of the author.

Paratypes:

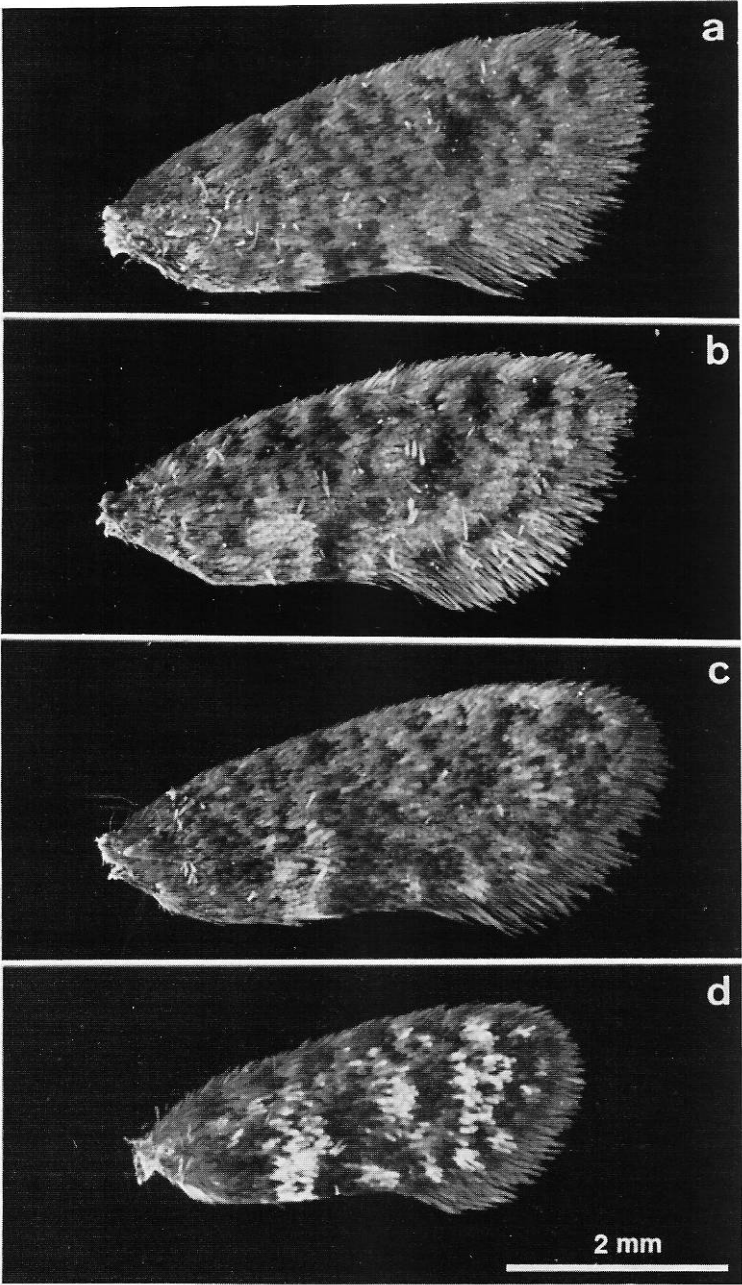
1. 1♂ incl. exuvie and larval case, labeled: *Luffia gomerensis*, T2, PARATYPUS (red label); Canarias, La Gomera, Vallehermoso, case with eggs 7/III/1995, larva ab ovo 15/III/1995, imago 7/XII/1995 (white label), prep. G189; Henderickx, H.A. (white label); in the collection of the Natural History Museum, London.
2. 3♂ incl. exuvie and larval case, labeled: *Luffia gomerensis*, PARATYPUS T3, T4, T5 (red labels); Canarias, La Gomera, Vallehermoso, ab ovo, eggs: 7/III/1995, larva ab ovo 15/III/1995, imago's: T3: 15/XII/1995, T4: 26/XII/1995, T5: 29/XI/1995 (white labels), Henderickx, H.A. (white label); in the collection of the author.
3. 1♀ incl. exuvie and larval case, labeled: *Luffia gomerensis*, T6, PARATYPUS; Canarias, La Gomera, Vallehermoso, ab ovo, eggs: 7/III/1995, larva ab ovo: 15/III/1995, imago: 19/XII/1995; Henderickx, H.A. (transparent label); in the collection of the Natural History Museum, London.
4. 4♀ incl. exuvie and larval case, labeled: *Luffia gomerensis*, PARATYPUS T7, T8, T9, T10; Canarias, La Gomera, Vallehermoso, ab ovo, eggs: 7/III/1995, larva ab ovo: 15/III/1995, imago's: T7: 15/XII/1995, T8: 20/XII/1995, T9: 29/I/1996, T10: 8/II/1996; Henderickx, H.A. (transparent labels); in the collection of the author.

Male: forewing length 4 mm, width 1.5 mm, groundcolour grey with whitish markings, conspicuous white dorsal spot at one third (fig. 1d). This spot forms a transverse band when the specimen is at rest (fig. 2a). Several whitish scales in the discal and marginal areas.

Genitalia as in the other *Luffia* species (fig. 2b).

Fig. 1: Right forewing of the males of the genus *Luffia* Tutt, 1899:

- Luffia lapidella* (Goeze, 1783), Spain, Rabos, imago ex larva 2.IX.1991;
- Luffia lapidella* f. *ferchaultella* (Stephens, 1850), male offspring, Belgium, prov. Antwerpen, Mol, imago 9.VII.1986;
- Luffia rebeli* Walsingham, 1908, Canaries, Tenerife, Vilaflor, imago ex larva 23.VI.1995.
- Luffia gomerensis* sp.n., Holotype, Canaries, La Gomera, Villahermoso, imago ab ovo 4.I.1996.



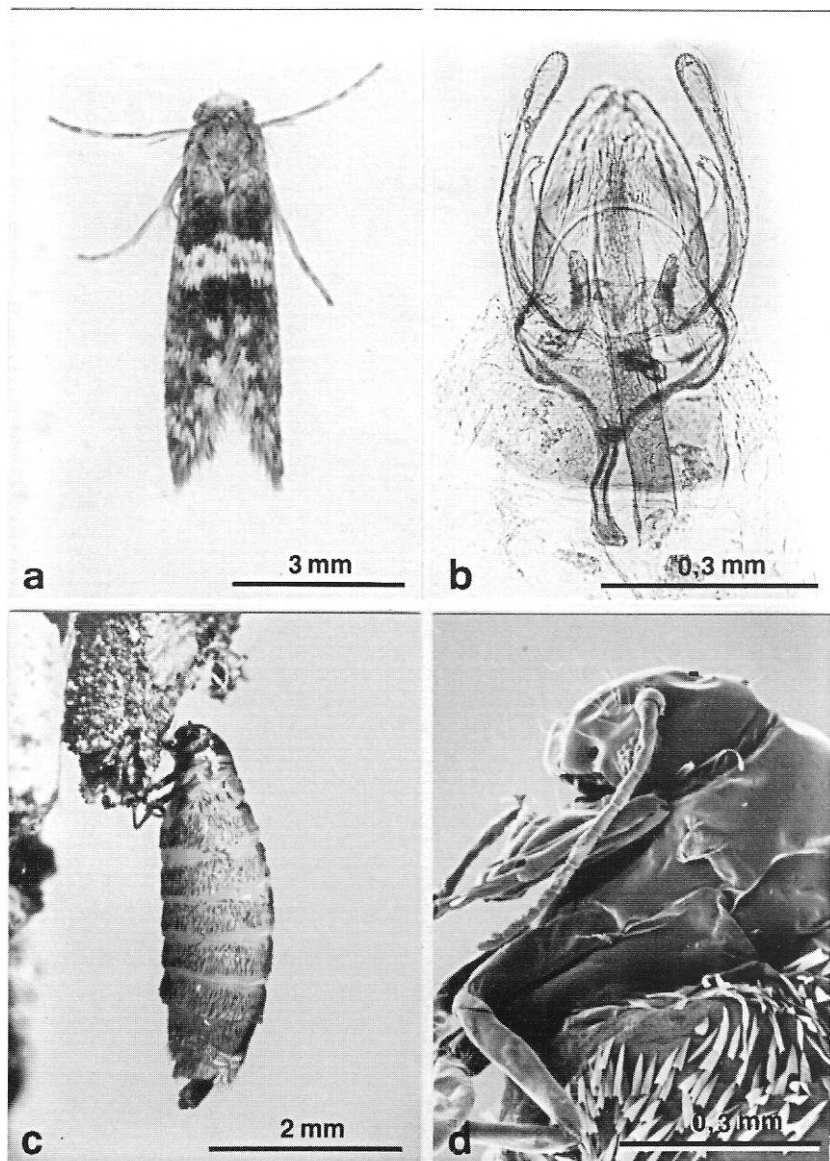


Fig. 2: *Luffia gomerensis* sp.n.

- a. Male in resting position, notice the apparent transverse band formed by the whitish dorsal spots; Canaries, La Gomera, Vallehermoso, paratype T5, imago 29.XI.1995.
- b. Male genitalia; Canaries, La Gomera, Vallehermoso, prep. G189, paratype T2, imago 7.XII.1995.
- c. Female imago, Canaries, La Gomera, Vallehermoso, paratype T7, 15.XII.1995.
- d. Head and thorax of the female, with the reduced wings visible; Canaries, La Gomera, Vallehermoso.

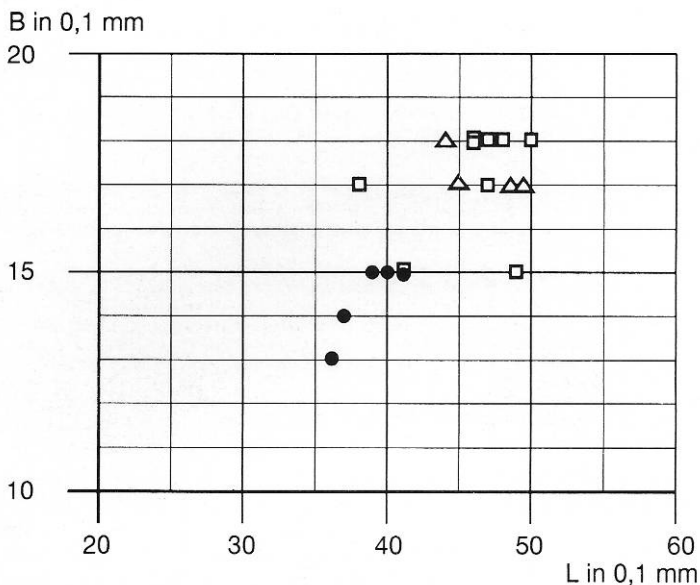


Fig. 3: Chart of the width and length of the male forewings of the studied specimens of *Luffia gomerensis* sp.n. (circles) and *Luffia rebeli* Walsingham, 1908 (squares and triangles, the latter representing bred specimens).

Small differences in the antennae and tarsi were noticed, but due to the insufficient number of adults, it is not clear yet whether these fall into the individual variation of the new species or whether they represent specific distinctive characters between the new species and its allies (Sauter & Hättenschwiler 1991).

Female: apterous (fig. 2c, d), no constant morphological differences were thus far noticed between this and the allied species.

The species is apparently closely related to *Luffia rebeli* from which it can easily be distinguished by the more contrasting pattern and the overall smaller size (fig. 1c). The flight period appears to be about three months earlier than that of *L. rebeli*. The forewing of *Luffia lapidella* (Goeze, 1783) is even less contrasting (figs 1a-b).

Luffia gomerensis sp.n. is apparently confined to the island of La Gomera, from which its name is derived.

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References

- Hättenschwiler, P., 1994. Die mittel- und westeuropäischen Arten der Gattung *Pseudobankesia* mit Beschreibung von zwei neuen Arten (Lep. Psychidae). - *Mitt.ent.Ges. Basel* 44 (3/4): 109-121.
 Sauter, W. & Hättenschwiler, P., 1991. Zum System der palaearktischen Psychiden (Lep. Psychidae) I. Teil: Liste der palaearktischen Arten. - *Nota lepid.* 14 (1): 69-89.