

NOTES ON THE GENUS *LEUCANELLA* LEMAIRE, 1969
WITH DESCRIPTIONS OF NEW TAXA
(Lepidoptera, Saturniidae)

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INTRODUCTION

Since the description of the genus *Leucanella* by Lemaire (1969), a variable number of biological species (23-26) have been recognized within this genus (Lemaire 1973, 1996, 2002). Some of these biological species count a variable number of recognized subspecies. In particular, Lemaire (2002) indentified a total of four different subspecies in the species-group of *contempta* (*s.s.*) namely *contempta* (Lemaire, 1967), *windi* Lemaire, 1973, *flavissima* (Lemaire, 1967) and *nyctimenoides* (Lemaire, 1967).

According to the arrangement proposed by Lemaire (2002), the range of the nominotypical subspecies is from Colombia to Argentina. The type locality of *contempta* is located in Colombia, Valle department, on the western side of the Andes. Given that there is an evident variability among specimens assigned to *contempta*, Lemaire (2002) figured two males and two females in his revision of Hemileucinae. One pair is from Colombia (Valle department), one female is from Ecuador (Sucumbíos province) and another male is from Ecuador (Loja province). The pair from Colombia figured by Lemaire (2002) is from a site near the type locality but it was collected at a different altitude.

After the publication of the revision by Lemaire (2002), the available specimens of *contempta* (*sensu* Lemaire 2002) from Venezuela, Colombia, Ecuador, Peru, Bolivia and Argentina have been examined in private and public collections. The junior author examined the Lemaire's collection in the Muséum National d'Histoire Naturelle, Paris, France (MNHN), and clarified some doubts concerning the arrangement of some

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populations commonly assigned to *contempta*. Furthermore, specimens collected by the senior author in numerous sites in Ecuador give us the opportunity to have a clearer picture of the several different populations occurring in this country. In any case, there are specimens from different sites in Ecuador which are not possible to assign to any of the described taxa including those described herein.

The following descriptions and related comparisons are made among the new taxa and the typical and topotypical specimens from Colombia only examined in the Lemaire's collection (see also Lemaire 2002). In fact, comparisons with specimens from other sites are unuseful given that it is not assumed for certain that populations from other parts of the range of the former *contempta* (sensu Lemaire 2002) are really conspecific.

Given that the recognition of the taxonomic category subspecies is questionable, and the status of the former subspecies of *contempta* namely *windi*, *flavissima* and *nyctimenooides* is still fluid, they are not revised herein awaiting for further material. For these reasons, the new taxa described below are tentatively considered to be still subspecies of *contempta*. All the type specimens are in the collection of the senior author.

Leucanella contempta s a c h a n. ssp.

MATERIAL EXAMINED. Holotype: male, Ecuador, Azuay, road Panamericana sur Cunca-Loja, 2 km S after the crossroad to Jima, 3200 m, 15 January 2006, H. Käch leg., in coll. H. Käch.

PARATYPES: 10 ♂♂ and 1 ♀, all same data of the holotype but collected on 15-17 January 2006.

DESCRIPTION. Holotype (fig. 1). Forewing length, 48 mm. Head, antennae, legs reddish brown. Thorax upperside and underside reddish brown. Abdomen upperside reddish brown but darker than the colour found on the thorax. Abdomen underside reddish brown.

On the forewing upperside, the ground colour is very light reddish brown with a brown line which separates the postdiscal area from the submarginal area. It extends from the apex to the inner margin. The brown line is characterized by a parallel second very narrow yellow line on the internal side. A very faint brown discal spot is present in the discal cell.

On the hindwing upperside, the basal, the postdiscal and discal areas are grey. An evident eyespot is present in the discal and postdiscal areas. It is characterized by a black pericellular ring surrounded by a narrow yellow

low ring. The reddish iris has in the center a black elongated pupil with whitish streaks. An irregular black line separates the postdiscal area from the submarginal area. The submarginal area is characterized by a reddish brown colour which is darker if compared with that of the margin.

The underside is reddish brown on both wings. On the forewing, a black line separates the postdiscal from the submarginal area. A black ocellus is present in the discal cell with a white spot in the middle. On the hindwing underside is present a pale brown line which separates the postdiscal area from the submarginal area.

FEMALE (fig. 2). Head and antennae light brown. Legs brown. Thorax upperside and underside brown; abdomen upperside brown and light brown; abdomen underside brownish beige.

On the forewing upperside, the ground colour is reddish brown with a dark narrow brown line which separates the basal area from the discal area. The brown marginal and submarginal areas are lighter if compared with the other areas of the wing. A postmedial dark brown line extends from the apex to the inner margin. This is followed inwardly by a parallel yellow line. An evident brown discal spot is present in the discal cell and it is surrounded by a narrow yellow line.

On the hindwing upperside, the basal, the postical and discal areas are greyish. A large eyespot is present in the discal area. It is surrounded by an external yellow ring and by another internal black ring. The iris is brownish while the black pupil has scattered whitish streaks. An irregular black line separates the postdiscal area from the submarginal area. This is characterized by a series of brick red crescents followed outwardly by a light grey band extending to the margin.

The underside of both wings is light brown, more reddish basally. On the forewing, a black line heavier posteriorly, separates the postdiscal from the submarginal area, followed outwardly by a very faint brownish line. A black ocellus is present in the discal cell with a white spot in the middle. The submarginal area is lighter if compared to the other areas of the wing. On the hindwing underside is present a black line in the anal area which irregularly reaches the costa.

MALE GENITALIA. This new taxon has a structure similar to that of *contempta* but it differs in the shape of the uncus which is longer. The harpae is acute and sclerified and the aedeagus is apically lanceolate.



Fig. 1 – *Leucanella contempta sacha* new ssp.: holotype.



Fig. 2 – *Leucanella contempta sacha* new ssp.: paratype, female.



Fig. 3 – *Leucanella contempta inti* new ssp.: holotype.



Fig. 4 – *Leucanella contempta inti* new ssp.: paratype, female.

DERIVATIO NOMINIS. The new taxon is dedicated to Valentin Sacha Käch, senior author's son. Sacha means jungle or selva in Quicha.

DISTRIBUTION. According to the typical series reported above, the range of this new taxon is restricted to the type locality.

COMMENTS. The forewing length is 45-52 mm according to the paratypes examined. At first look, this new taxon is related to *contempta* but it differs for the reduced size, for the shape of the forewing and for the ground colour of both wings. The structure of the male genitalia belongs to *contempta* but it has some minor differences.

According to the typical series, two different morphs of males were found. One is that described above while the other differs in having only the ground colour greyish green.

At present, the range of this new taxon is restricted to the type locality but it must be pointed out that the specimen depicted by Lemaire (2002: pl. 65 specimen 2) possibly belongs to this new taxon. Only two males were examined in the collection of Lemaire (in MNHN) both collected at the same site. If these two males will be related to this new taxon there might be a range extension also into the province of Loja.

Leucanella contempta i n t i n. ssp.

MATERIAL EXAMINED. Holotype: male, Ecuador, Pichincha, NW of Quito, western slope of Vulcan Pichincha, approx. 13 km from Lloa, 2750 m, ex ovo, emerged on 21-25 September 2007, reared from a wild-caught female collected on 10 April 2007, coll. H. Käch.

PARATYPES. 1 ♂, 1 ♀, same data of the holotype.

DESCRIPTION. Holotype (fig. 3). Forewing length, 42 mm. Head brown. Antennae yellowish brown. Legs brown. Thorax upperside brown; underside brown and light brown. Abdomen upperside brownish grey. Abdomen underside light brown.

On the forewing upperside, the ground colour is light greyish brown with a darker basal area. This latter area is separated from the discal area by an irregular black line. A postmedial brown line, with a parallel narrow yellow line, extends from the apex to the inner margin. A faint discal spot, surrounded by an irregular line, is present in the discal cell. The veins and the margin are brown like in the basal area.

On the hindwing upperside, the basal, discal and postdiscal areas are

dark grey. A prominent ocellus is present and it is surrounded by a yellow ring and by a second one larger black ring. The iris is light brownish while the pupilla is black with the presence of scattered white streaks. Other white streaks are present in the iris. An irregular black line separates the postdiscal area from the submarginal area. The submarginal area is grey with the presence of a light brown band and by another greyish light brown area. The margin is light brown.

The ground colour of the underside of both wings is entirely light brown. The forewing has the presence of a black line from the costa to the inner margin. A black ocellus with a white spot in the middle is present. Along the costa, there is a darker brown area near the apex and another one reddish light brown in the basal area. The hindwing has the basal and discal areas reddish light brown. A white dot is present in the cell.

FEMALE (fig. 4). On the forewing upperside, the ground colour is light brown with the basal area darker and with a reddish nuance. An irregular faint light line separates the basal area from the discal area. A postmedial brown line, with a parallel narrow yellow line, extends from the apex to the inner margin. An evident irregularly round discal spot is present in the discal cell surrounded by a light line. The veins are speckled with dark brown.

On the hindwing upperside, the basal, discal and postdiscal areas are greyish. A prominent black ocellus surrounded by a yellow ring is evident in the middle of the wing. In the middle of the brownish iris there is a black pupil with the presence of whitish distal streaks. An irregular black line separates the postdiscal area from the submarginal area. This is greyish with a light brown band followed on the outer side by a lighter brown contour. The margin is light brown.

The ground colour of the underside of both wings is entirely light brown and the designs faded out. The forewing shows a black line from the costa to the inner margin. A black ocellus with a faint whitish spot in the middle. In the apical area there is a dark brown suffusion which is continued with a scalloped greyish fascia. This separates the postdiscal area from the submarginal area. The colouration of the hindwing basal and discal areas is light reddish brown. A white dot is present in the cell, with the ocellus of upperside showing through.

MALE GENITALIA. The male genitalia structure differs from that of

contempta for the harpae differently shaped. The projection turns twice and it is more sclerotized. The basal part of the harpae is more structured. Basic differences can be found also in the valvae which are more elongated. The aedeagus is apically lobed.

DERIVATIO NOMINIS. This new taxon is dedicated to Paolo Inti Cori Käch, another senior author's son. Inti means sun and Cori means gold in Quichua.

DISTRIBUTION. According to the typical series reported above, the range of this new taxon is restricted to the type locality only.

COMMENTS. The forewing length of the paratype male is 45 mm. This means a variability between 42-45 mm. according to the two male specimens known.

At first glance, this new taxon is related to *contempta* but it differs for the reduced size, for the shape of the forewing which is somehow more similar to that of *Leucanella newmanni* (Lemaire, 1967), for the ground colour of both wings, and for the structure of the male genitalia. Another important difference was recognized in its preimaginal instars with the larvae of this new taxon having greyish black dorsal spine. This characteristic was not found in all the other species of this genus whose have the same spines yellowish black or whitish-yellowish black.

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SUMMARY

Two new taxa of the species-group of *contempta* are described. The description of these new subspecies are based on comparisons with typical and topotypical specimens of *contempta*. This was due to the possibility that other populations currently assigned to *contempta* are not really conspecific.

SOMMARIO

Note sul genere Leucanella Lemaire, 1969 con descrizione di due nuove sottospecie (Lepidoptera, Saturniidae).

Vengono descritte due nuove sottospecie di *Leucanella contempta* dell' Ecuador.

Sebbene *Leucanella contempta* sia stata considerata una specie variabile ad ampia distribuzione presente dalla Colombia all' Argentina, recenti studi stanno mettendo in luce che la supposta variabilità sia da attribuire a distinte unità tassonomiche fino ad oggi sconosciute. Pertanto le presenti descrizioni sono basate su comparazioni esclusive con materiale tipico e topotipico di *contempta*.

RESUMEN

Notas sur el genero Leucanella Lemaire, 1969 y descripción de nuevas subespecies de Ecuador (Lepidoptera, Saturniidae).

En este trabajo se describe dos nuevas subespecies de *Leucanella contempta* de Ecuador con sus respectivas ilustraciones en color. *Leucanella contempta inti*, n. ssp., es de la provincia de Pichincha (estribos oeste del Volcán Pichincha ubicado en la cordillera occidental de los Andes, cerca del pueblo de Lloa). Su nombre debe al homenaje de primero hijo (Inti Kaech) del primero autor. La otra subespecie nueva es *Leucanella contempta sacha*, n. ssp., de la provincia de Azuay (cerca de Jima) y su nombre debe en memorias a su segundo hijo (Sacha Kaech) de el primero autor.

REFERENCES

- LEMAIRE, C. 1973. Révision du genre *Automeris* Hübner et des genres voisins. Biogeographie, Ethologie, Morphologie, Taxonomie (Lep. Attacidae) (suite). Mem. Mus. nat. Hist. nat. (N.S.), ser. A, Zool., 79: 233-422, Fig. 133-278, pls. 30-49.
- LEMAIRE, C. 1996. 117. Saturniidae, pp. 28-49, 61-62. In: J. B. Heppner (ed.). Atlas of Neotropical Lepidoptera. Checklist: part 4 B, Drepanoidea, Bombycoidea, Sphingoidea, XLIX + 87 pp., Association for Tropical Lepidoptera & Scientific Publ., Gainesville, FL, USA.
- LEMAIRE, C. 2002. The Saturniidae of America. Les Saturniidae américains (=Attacidae). Hemileucinae: 1388 pp., 140 pls. Goecke & Evers, Keltern.

