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Three new eumaeine species from the Andes (Lepidoptera: Lycaenidae)

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Three new eumaeine species from the Andes (Lepidoptera: Lycaenidae) — Three eumaeine species are described from the Andes: *Penaincisalia perezi* sp. n. (type locality: Peru, dep. Ancash, Cordillera Blanca, Quebrada Demanda, 4500 m), *Penaincisalia lamasi* sp. n. (type locality: Peru, dep. Ancash, Cordillera Blanca, Camino Portachuelo, 4700 m) and *Podanotum andrewneildi* sp. n. (type locality: Venezuela, Mérida, km 12.5 Apartaderos–Santo Domingo, 3200 m). The diversity of the genera *Penaincisalia* and *Podanotum* is briefly discussed and a key for species is presented. The species *paramosa* Constantino et Salazar, 1998 is transferred from *Penaincisalia* to *Podanotum*, new combination. With 9 original figures.

Key words: *Penaincisalia, Podanotum*, Colombia, Peru, Venezuela.

INTRODUCTION

The lycaenid butterfly tribe Eumaeini of the neotropics is not satisfactorily known. Only in the last few decades of the XXth century the American lepidopterists Harry Clench, Kurt Johnson, Stanley Nicolay and Robert Robbins started to work systematically and publish on the tribe. However, many species and genera remain undescribed, and still there is no sufficient supraspecific nor higher classification for the tribe (Brown 1993: 45).

The present paper adds new data to the knowledge of two recently erected genera, namely *Penaincisalia* and *Podanotum*, which belong to the same group of genera within the Eumaeini (Bálint & Wojthsiak 2000: 185).

The genus *Penaincisalia* was described by Johnson (1990) and subsequently reviewed (1992). However the existence of two taxa was overlooked, previously recorded in the Huascarán National Park, situated in northern Peru (Lamas & Pérez 1983). During my Peruvian expedition in 1995 I collected both of these species and examined them in the Lepidoptera collections of the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos (Lima, Peru) (Bálint 1997). I describe these two species in the present paper.

The genus *Podanotum* was erected by Torres and his colleagues (Torres *et al.* 1996)

to include bright, metallic coloured high Andean lycaenid butterflies. During one of his Venezuelan expeditions Mr. Andrew Neild (London, UK) collected a little brown lycaenid, which was tentatively determined as "*Podanotum* sp. female" by the American lycaenid specialist Robert Robbins. This curious species is also described in the present paper.

The following institutional abbreviations are used throughout the text: MIZA (Museo del Instituto de Zoología Agrícola, Universidad Central de Venezuela, Maracay, Venezuela), MTM (Magyar Természettudományi Múzeum, Budapest, Hungary), MUSM (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru).

I express my sincere thanks to my lepidopterist fellow Mr. Andrew Neild for reading the paper and for his constructive advice.

DESCRIPTIONS OF NEW SPECIES

Penaincisalia perezi sp. n.
(Figs 1–2, 7)

"*Thecla*" sp. n. 2. ("rosada") — Lamas & Pérez 1983: 35, 36, Fig. 45. [nomen nudum].

Penaincisalia aurulenta — D'Abrera 1995: 1142, Figs p. 1143 "*P. aurulenta* male" [misidentification].

P. sp. n. *rosada* — Bálint 1997: 11, 12. [nomen nudum].

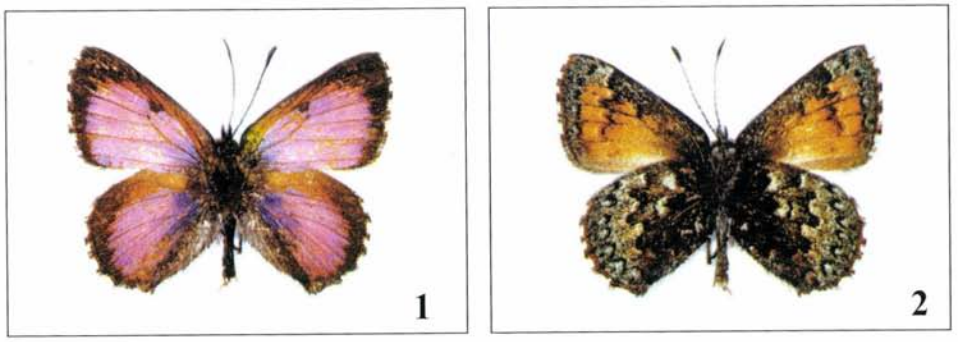
Diagnosis — Similar to congener and sympatric *P. aurulenta* Johnson, 1990, but dorsal wing ground colour is iridescent magenta and not brilliant orange. Ventral surface with mottled and hoary pattern is also much like *P. aurulenta*, but fore wing with a median band and less marked marginal patches.

Description — Male: head, thorax, abdomen, palpi and fore wing androconial cluster typical of genus. Wings: dorsal surface dark iridescent magenta edged by a fuscous marginal and apical border; fringes chequered; ventral fore wing ground colour orange, costa and margin fuscous, median with discoidal line, postmedian with ruptive lineal marking, submargin with black spot in each cell; hind wing basal area black with scattered ash blue scales, postbasal spot white in discal cell and cell Sc+R1, medial line ruptive, basally greyish, distally blackish, postmedial and marginal areas grey, submargin with ash blue spot in each cell; fringes chequered. Holotype fore wing costal length from base to apex: 12 mm. Paratypes 10–12 mm (n = 10). Male genitalia typical of genus (Fig. 7).

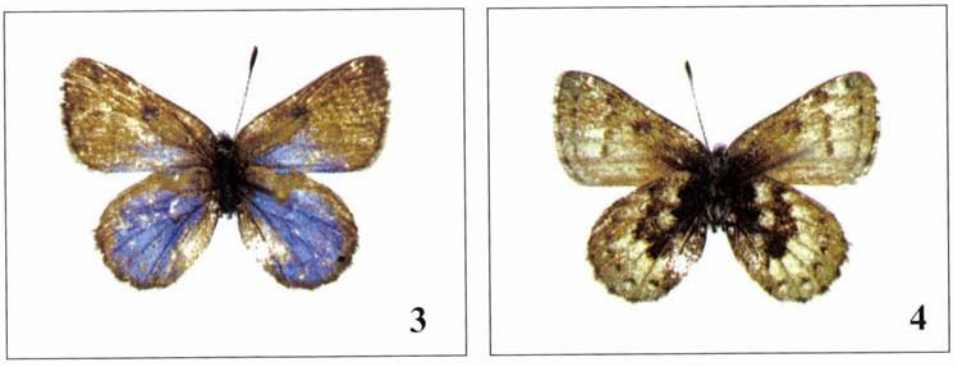
Female: Unknown.

Type locality — Peru, department of Ancash, Parque Nacional Huascarán, Quebrada Demanda, 4500 m.

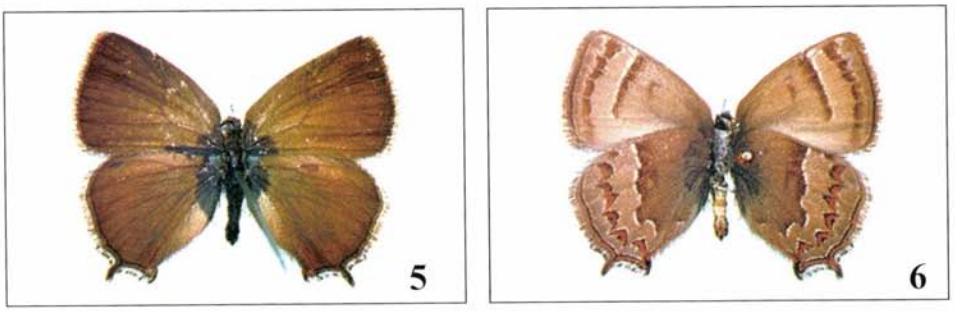
Types — Holotype: male, deposited in MUSM, labelled as "PERU, Dept. Ancash, PN Huascarán, Quebrada Demanda, 4500 m, 10.II.1995, leg. Zs. Bálint". The specimen is in excellent condition. 13 MTM male paratypes, nos 1–10 with the holotype data. Paratype nos 11–12 also from the PN Huascarán, but "Laguna Parón 4300 m, 7.II.1995", paratype no. 13 also from the PN Huascarán but "Quebrada Demanda 4400 m, 9.II.1995". 1 BMNH paratype male (no. 14) from "Peru, Paramo Corugas" (= Paramo Corongo) (figured by D'Abrera, l.c.). 1 MUSM paratype male (no. 15) figured by Lamas



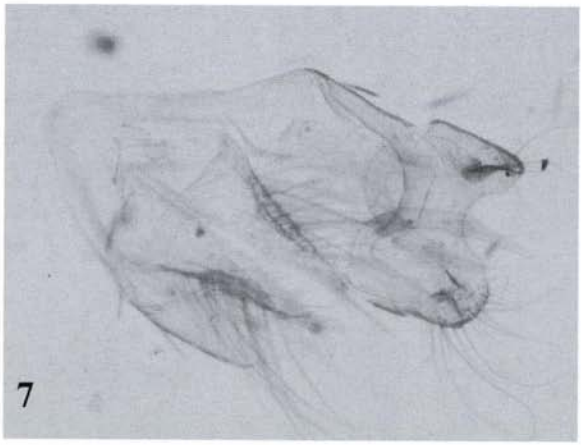
Figs 1–2. *Penaincisalia perezi* sp. n., holotype (MUSM). – 1: dorsum, 2: ventrum

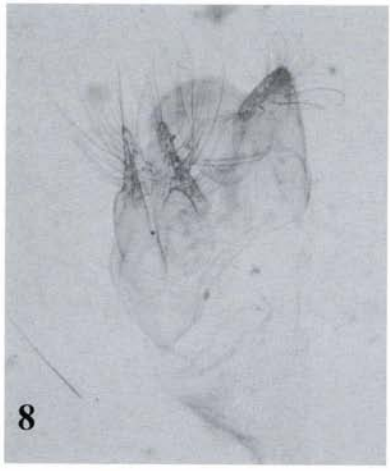


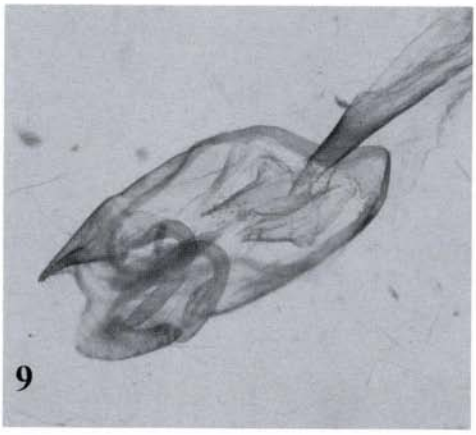
Figs 3–4. *Penaincisalia lamasi* sp. n., holotype (MUSM). – 3: dorsum, 4: ventrum



Figs 5–6. *Podanotum andrewneildi* sp. n., holotype (MIZA). – 5: dorsum, 6: ventrum







Figs 7–9. Eumacini male genitalia. – 7: *Penaincisalia perezi* sp. n. (holotype), 8: *P. lamasi* sp. n., (holotype), 9: *Podanotum andrewneildi* sp. n. (holotype)

and Pérez (l.c.). Genital dissections: gen. prep. Bálint nos 654, 655, 658–660. Paratypes nos 2–6 will be deposited in MUSM.

Distribution — Geographical: known only from the glacial valleys of the Cordillera Blanca. Spatial: known from high elevations at 3550–4600 m. Temporal: known from January to December (see Lamas & Pérez, l. c).

Etymology — The species is named after Mr. J. Enrique Pérez, who carried out extensive field work in the type locality.

Discussion — See below the entry of the next species.

Penaincisalia lamasi sp. n.
(Figs 3–4, 8)

"*Thecla*" sp. n. 3. ("celeste") — Lamas & Pérez 1983: 35, 36, Fig. 46 [nomen nudum].

P. sp. n. "celeste" — Bálint 1997: 12. [nomen nudum].

Diagnosis — There is no similar known congener. The fore wing shape somewhat resembles *P. alatus* (Druce, 1907) but dorsal ground colour is iridescent azure blue and hind wing ventral postbasal spots and postmedian area is white.

Description — Male: head, thorax, abdomen, palpi and fore wing androconial cluster typical of genus. Fore wing dorsal surface fuscous grey with iridescent sky blue anal suffusion; hind wing dorsum iridescent sky blue with fuscous costa and margin; fringes chequered; ventral fore wing ground colour dove grey with discoidal spot, postmedian with lineal markings, submedian with faint blackish line in each cell; hind wing basal area velvet black, postbasal spots in discal cell and in cell Sc+R1 ochreous, medial line moderately ruptive, postmedial area lighter, submargin with small lighter spots and darker crescent in each cell, fringes chequered. Holotype fore wing costal length from base to apex: 9.5 mm. Male genitalia typical of genus (Fig. 8).

Female: Unknown.

Type locality — Peru, department of Ancash, Parque Nacional Huascarán, Quebrada Demanda, 4700 m.

Types — Holotype: male, deposited in MUSM, labelled as "PERU, Dept. Ancash, PN Huascarán, Camino Portachuelo, 4700 m, 10.II.1995, leg. Zs. Bálint". Genital dissection: gen. prep. no. Bálint 650 (holotype). The specimen is in good condition, wings are slightly worn, left antenna is missing, the abdomen is dissected. 1 male paratype, deposited in MUSM, figured by Lamas and Pérez (l.c.).

Distribution — Geographical: known only from the glacial stream valleys of Quebradas Ancosh and Demanda of the Cordillera Blanca. Spatial: known from high elevations between 4600–4700 m. Temporal: known from November and February (see Lamas & Pérez, l. c).

Etymology — The species is named after Dr. Gerardo Lamas, who also collected the species and was kind enough to help me in my search for suitable localities for polyommatine lycaenids in Peru.

Discussion — When he erected the genus *Penaincisalia*, Johnson (1990) placed 13 species in two species groups. Two further taxa were later added (Johnson 1992, Constantino & Salazar 1998). However, the nomenclature of *Penaincisalia* is problematic. After studying BMNH and AMNH materials, including numerous types, I have discovered certain synonyms (Bálint, in prep.). The systematics of the genus is also problematic, as is well demonstrated by the species *amatista* Dognin, 1895, which is intermediate between *Penaincisalia* s.str. and *Thecloxurina* Johnson, 1992 in wingshape, pat-

tern and morphology. Moreover, the species *paramosa* Constantino et Salazar, 1998 has to be placed in *Podanotum* (see below). My opinion is that *Penaincisalia* has to be restricted to the group closely related to the type species *P. culminicola* (Staudinger, 1894) and certain taxa have to be transferred to other genera (eg. *amatista* to *Abloxurina* Johnson, 1992), or the genus should be applied in a much broader sense as Lamas has already indicated (but without explanation) (Lamas *et al.* 1999: 5).

As in this present paper I do not formalize the synonyms I have discovered in the genus, I cannot give a key for all species. However, the following key is written for the males of *Penaincisalia* species occurring sympatrically in the Cordillera Blanca.

Key to males of *Penaincisalia* occurring in Llanganuco and its surroundings:

1a. Wings: dorsal ground colour iridescent lavender blue.
2 **(P. descimoni, P. culminicola)**

1b. Wings: dorsal ground colour different blue, or not blue.
3 **(P. aurulenta, P. lamasi, P. perezi)**

2a. Fore wing outer margin is shorter than inner margin, ventral hind wing with light basal spot in cell Sc+R1 and in discal cell.
P. descimoni

2b. Fore wing outer margin is equal in length with inner margin, ventral hind wing with no light basal spots.
P. culminicola

3a. Wings: dorsal ground colour brilliant orange.
P. aurulenta

3b. Wings: dorsal ground colour not brilliant orange.
4 **(P. lamasi, P. perezi)**

4a. Wings: dorsal ground colour iridescent magenta.
P. perezi

4b. Wings: dorsal ground colour iridescent sky blue.
P. lamasi

Podanotum andrewneildi sp. n.
(Figs 5–6, 9)

Diagnosis — Differs by the unicolorous brown dorsal ground colour from all congeners, which are brilliantly coloured; ventral fore wing with a discoidal line, which is missing in all the known species placed in the same genus.

Description — Male: dorsal fore wing, dorsal hind wing unicolorous dark brown, fringes brown, hind wing tailed at vein CuA2. Ventral fore wing and hind wing brown with somewhat lighter postmedial area. Fore wing with median discal line, postmedial band dark extending from costa to vein CuA1, paralleled distally by narrower whitish line, large dark submarginal spot present in each cell, margin with faint bronzish border, fringes brown. Ventral hind wing basal, postbasal and submedial area dark brown, medial area with a slightly jagged narrow white line, postmedial area with prominent red capspots with distally situated basal spot in every cell, margin with a narrow reddish brown band, fringes brown. Holotype fore wing costal length from base to apex: 10 mm. Male genitalia typical of the genus (Fig. 9).

Female: unknown.

Type locality — Venezuela, Mérida, km 12.5 on the road between Apartaderos and Santo Domingo, 3200 m.

Type — Holotype: male, presently in coll. A. Neild, but will be deposited in MIZA, labelled as "Apartaderos–Sto. / Domingo, Km. 12.5 / Mérida, Venezuela / ca. 3100–3200 m. / Coll. A. Neild [printed] / 16.IX.97. [handwritten]". Genital dissection: gen prep. Bálint no. 970. The specimen is in good condition, but stained (by grease?) in the basal area, and the two antennae are loose and pinned below in a cellophane triangle along with two legs; the abdomen is dissected.

Distribution — Geographically, spatially and temporarily known only from the holotype.

Etymology — Named after the collector of the holotype, Mr. Andrew Neild, Scientific Associate of The Natural History Museum (London, United Kingdom).

Discussion — Ecology: the habitat is marshy paramo with low bushes. Andrew Neild (pers. comm.) notes that he saw only a single specimen of *Podanotum andrewneildi*. Flying synchronically in the same area there were two *Paralustrus commodus* (Felder et Felder, 1865) (Lycaenidae, distributed in monatne northwestern Venezuela and Colombia), two *Steromapedaliodes albonotata* (Godman, 1905) (a species endemic to the Cordillera de Mérida), and numerous *Redonda empetrus* (Thieme, 1905) (a genus endemic to the Cordillera de Mérida) (both Satyrinae: Pronophilini). No other species were seen. The weather was poor (overcast and rainy) on the day of capture, but these specimens were all seen during a half hour break in the clouds, when the sun shone fiercely. The species perched on the top of one of these bushes, at about 2 metres above the ground. It flew very rapidly when disturbed, and due to its sombre colouration, was extremely difficult to follow in flight.

Systematics: I place this species in *Podanotum*, because (1) the ventral markings of *Podanotum clarissimus* Hall, Willmott et Johnson, 1996 are strongly reminiscent of the pattern of *andrewneildi*, and show characters unique amongst Neotropical lycaenids; and (2) the male genitalic configurations of *clarissimus* and *andrewneildi* are identical (I could not detect any diagnostic character). Members of the superficially similar *Penaincisalia* have a more complex ventral hind wing pattern and possess a dorsal fore wing androconial cluster.

When *Podanotum* was described, it contained two conspicuously coloured species. Some years later the metallic blue *Penaincisalia paramosa* was described (Constantino & Salazar 1998: 199). I consider the latter as congeneric with *P. andrewneildi*. I have not examined the holotype, but I am convinced that it belongs to *Podanotum* because (1) the male dorsal ground colour is metallic (no such *Penaincisalia* s. str. species are known), (2) the ventral markings are simplified (complex and cryptic in *Penaincisalia*) resembling *P. metallicus* Torres et Johnson, 1996, and (3) the male fore wing androconial cluster is missing. Consequently I propose the new combination *Podanotum paramosa* (Constantino et Salazar, 1998). The original placement of *paramosa* again indicates the problematic systematics of the whole *Penaincisalia* genus group (see above, plus Bálint & Wojtusiak 2000: 185). The *Podanotum* species described in the present paper shows a closer affinity to *P. paramosa*, because the hind wings of both the taxa are tailed.

Key to species of *Podanotum*

1a. Hind wing tailed.
2 **(P. paramosa, P. andrewneildi)**

1b. Hind wing not tailed.
3 **(P. clarissimus, P. metallicus)**

2a. Male fore wing dorsum iridescent azure.
P. paramosa (Colombia)

2b. Male fore wing dorsum unicolorous brown.
P. andrewneildi (Venezuela)

3a. Hind wing dorsum with very wide (3 mm) black margin.
P. clarissimus (Ecuador)

3b. Hind wing dorsum with very thin (<1 mm) black margin.
P. metallicus (Colombia)

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