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The genus *Pons* JOHNSON, 1992 (*Lepidoptera: Lycaenidae: Eumaeini*)

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ABSTRACT. The Neotropical eumaeini lycaenid genus *Pons* JOHNSON, 1992 is reviewed and a key to the four species recognized is provided. *Pons saraha* JOHNSON, 1992 is a senior synonym of *Pons regala* LECROM & JOHNSON, 1997, syn. n. The female of *Pons magnifica* JOHNSON, 1992 was described as *Thecloxurina pantanosa* JOHNSON & ADAMS, 1993, syn. n. The female of *Pons purpurea* JOHNSON, 1992 was described as *Thecloxurina browni* JOHNSON, 1992, syn. n. The female of *Pons vittata* JOHNSON, 1992 is described from southern Ecuador. The genus *Pons* belongs to the *Penaincisalia* genus group of Eumaeini lycaenids.

Key words: entomology, taxonomy, diversity, new synonymy, Andes, *Lepidoptera*, *Lycaenidae*, *Eumaeini*, *Pons*.

INTRODUCTION

The group of magnificent Neotropical lycaenids with a conspicuous tailless hindwing anal lobe in males was separated as genus *Pons* by JOHNSON (1992) who described four new species and placed *Thecla arcula* DRUCE, 1907 in the genus. Subsequently *T. arcula* was transferred to the genus *Ocaria* CLENCH, 1970 by d'ABRERA (1995). Later, another species was added to the genus *Pons* (LECROM and JOHNSON 1997).

These remarkable looking insects have remained unrecognised surprisingly long. However, this can be easily explained: specimens of *Pons* are very rare in

collections, which is well demonstrated by the fact that when this genus was established a rather small sample was available for study (see Table 1). Indeed, only few additional specimens were subsequently located in various European museums (see the entries: Additional material examined) and the records of *Pons* are very scarce in recently published literature (JOHNSON and ADAMS 1993). Nevertheless, after the study of this newly located material plus examining some types we have now probably a better overview of the genus than we had previously. Thus the major purpose of the present paper is to give (1) a revised brief diagnosis of the genus, (2) a key that will allow specific identification, (3) a correction of the nomenclature, (4) the description of the unknown female of *Pons* species hitherto known only from the male holotype and (5) brief discussion of the diversity and placement of *Pons* in the tribe *Eumaeini*.

The following abbreviations for institutions and museums (according to LAMAS and HEPPNER 1982) are used in the text. For allowing us to access the collections personally, we thank their curators, as mentioned below.

AME - Allyn Museum of Entomology (USA-Sarasota); AMNH - American Museum of Natural History (USA-New York: Dr. Frederick RINDGE); BMNH - The Natural History Museum (GB-London: MR. Phillip R. ACKERY); FSCA - Florida State Collection of Arthropods (USA-Gainesville); HNHN - Hungarian Natural History Museum (H-Budapest); MNHN - Museum Nationale d'Histoire Naturelle (F-Paris: Dr. Jacques PIERRE); MZUJ - Zoological Museum, Jagiellonian University (PL-Kraków); NMW - Naturhistorisches Museum (A-Wien: Dr. Martin LÖDL).

We use the terminology of JOHNSON (1992) for descriptive texts.

Table 1. Material available for JOHNSON when he separated *Pons*

<i>Pons magnifica</i>	- AMNH holotype male, MNHN allotype female;
<i>Pons vittata</i>	- AME holotype male, AME paratype male;
<i>Pons purpurea</i>	- BMNH holotype male;
<i>Pons saraha</i>	- AME holotype male.

***Pons* JOHNSON, 1992**

(Figs 1-10)

Type species: *Pons magnifica* JOHNSON, 1992, by original designation of JOHNSON (1992).

DIAGNOSIS

Reminiscent of *Thecloxurina* JOHNSON, 1992, but somewhat larger (forewing costal length < 1-3 mm). Hindwing with prominent blunt and spatulate anal

tailless lobe in males, but female anal hindwing lobe tailed at vein 1 A+ 2A with an additional minute caudal extension at CuA2 contrary to *Thecloxurina*, which has tailed male but female lacks caudal extension. Thus *Pons* is an other Neotropical eumaeini genus having tailless males and tailed females (eg. *Micandra* STAUDINGER, 1888, *Trichonis* HEWITSON, 1865).

PHYLOGENETIC AFFINITY

The genus *Pons* belongs to the tribe *Eumaeini* (*Lycaenidae: Theclinae*) as characterized by ELIOT (1973: 439-400). The closest relatives of *Pons* are the “elfin”-like hairstreak genus *Thecloxurina* JOHNSON, 1992 (type species: *Thecloxurina* FELDER & FELDER, 1865) and its relatives belonging to the *Penainsicalia* genus group (see Discussion).

SPECIFIC IDENTIFICATION

Accurate specific identification of *Pons* does not pose a problem (see the Key): The ventral hindwing median band offers a good diagnostic character at the species level. This character is shared by the sexes of the same species; therefore male and female specimens can be easily associated.

DISTRIBUTION

Geographical: Andes from Colombia central to southern Peru. Spatial: higher altitudes from 2100 to 3500 m. Temporal: from August to April.

BIOLOGY

Pons species occur at upper limits of humid montane cloud forest ecotones close to timberline in the Andes. Individuals show hilltopping behaviour. There is no record for larval hosts or adult nectar sources. Males were captured in baited trap effective for Pronophilina butterflies in Colombia.

KEY TO SPECIES

1. Forewing apex shorter than 15 mm *Pons saraha* JOHNSON, 1992
- Forewing apex 15 mm or longer 2
2. Hindwing median band bent and J-shaped *Pons magnifica* JOHNSON, 1992
- Hindwing ventral median band not bent, V- or W-shaped 3
3. Hindwing ventral median band undulate and V-shaped
..... *Pons purpurea* JOHNSON, 1992
- Hindwing ventral median band straight and W-shaped
..... *Pons vittata* JOHNSON, 1992



1-2. *Pons saraha*, male, Ecuador (HNHM): 1 - dorsum, 2 - venter (forewing length 13,5 mm). 3-4. *Pons magnifica*, male, Colombia (MZJU): 3 - dorsum, 4 - venter (forewing length: 15 mm). 5-6. *Pons purpurea*, male, Ecuador (NMW): 5 - dorsum, 6 - venter (forewing length: 16 mm)

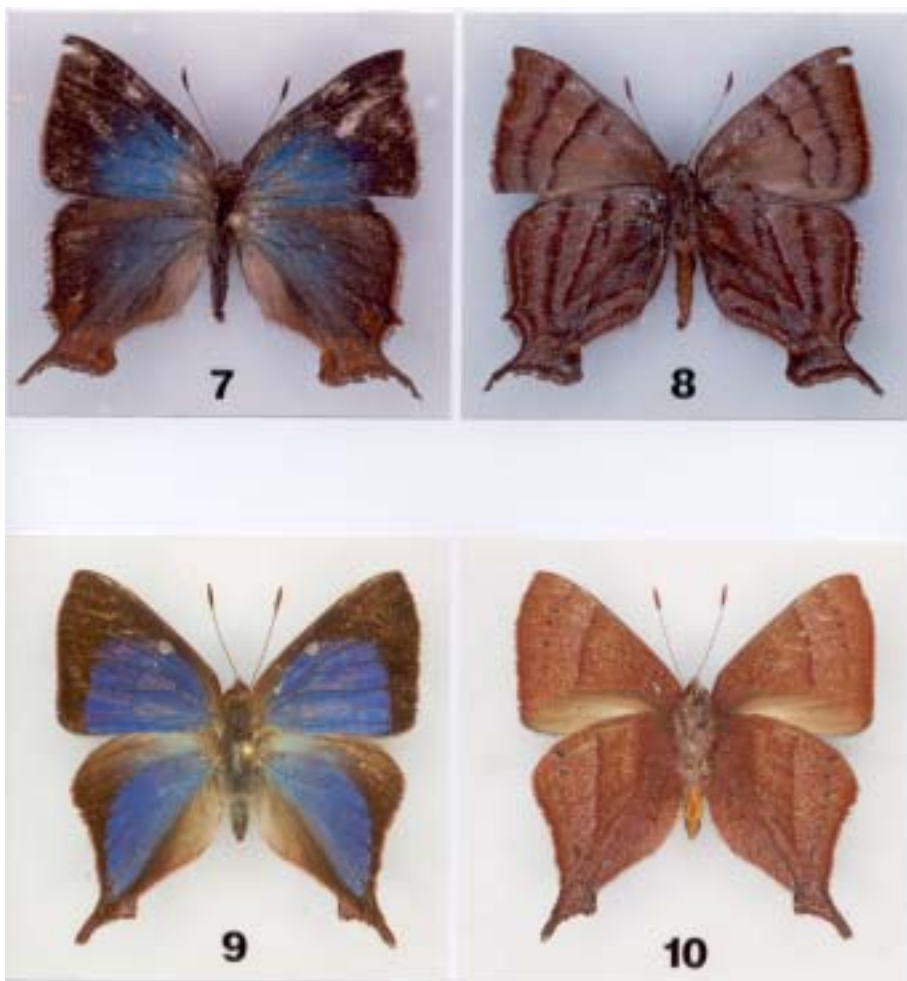
SYNOPSIS OF SPECIES

***Pons saraha* JOHNSON, 1992**

(Figs 1-2)

"Pons saraha NEW SPECIES" - JOHNSON, 1992: 25, figs 20 (holotype genitalia) 116 (holotype dorsum and ventrum). Type: Holotype male, deposited AME (JOHNSON 1992: 25), ECUADOR: "Carchi, vicinity Tufino, 3500 m, leg. DE LAFEBRE".

"Pons regala NEW SPECIES [NUEVA ESPECIE]" - LECROM & JOHNSON 1997: 1, figs 1a (male genitalia), 1b (female genitalia), pl. VI, figs a (holotype dorsum and ventrum), b ("allotype"



7-8. *Pons vittata*, female, Ecuador (MZJU): 7 - dorsum, 8 - venter (forewing length: 17 mm). 9-10. *Thecloxurina loxurina*, male, Colombia (HNHM): 9 - dorsum, 10 - venter (forewing length: 14,5 mm); photos 1-2 and 5-8 by András KUN , HNHM; 3-4 and 9-10 by Janusz WOJTUSIAK, MUZJ

female dorsum and ventrum), **new synonym**. Type: Holotype male, deposited FSCA (Anonymous 1997: [v]), COLOMBIA: "El Tablazo, Subachoque Cundinamarca, 3450 m, 6.III.94., leg. J.F. LECROM".

"*Pons vittata* JOHNSON" - JOHNSON and ADAMS 1993: 7, fig. 2*k* (male dorsum and ventrum), misidentification.

ADDITIONAL MATERIAL EXAMINED

3 males, ECUADOR: "Pichincha Province, Pululahua Geobotanical Reserve, Moraspungo Visitors Area, 3080 m, high. elev. scrub., 23.XII.93, G. KAREOFELAS" (HNHM).

DISTRIBUTION

Geographic: known from two Colombian (Cali, Cundinamarca) and two Ecuadorian (Pichincha, Tufino) montane localities. Spatial: known between elevations 3080-3500 m. Temporal: known only from December and March.

NOTE

Reading the original descriptions and comparing the accompanying figures we could not find any diagnostic character for separating *P. saraha* and *P. regala*, therefore we consider them as synonyms; consequently *Pons saraha* JOHNSON, 1992 = *Pons regala* LECROM & JOHNSON, 1997, **new synonym**.

The specimen figured as *Pons vittata* by JOHNSON and ADAMS (1993, 2*k*) is misidentified and represent *P. saraha*. This view is supported by (1) the forewing shape of the specimen, (2) the identical shape of male dorsal forewing scent patch and (3) the disruptive submedian line of forewing ventrum.

Pons magnifica JOHNSON, 1992

(Figs 3-4)

"*Pons magnifica* NEW SPECIES" - JOHNSON, 1992: 22, fig. 16*a* (holotype genitalia), 16*b* ("allotype" female genitalia) [misidentification], 113 (holotype dorsum and ventrum). Type: Holotype male, deposited AMNH (JOHNSON 1992: 22), COLOMBIA: "Bogota, La Calera, 3100 m, subparamo, leg. L. RICHTER, December 1945" (examined).

"*Thecloxurina pantanosa* NEW SPECIES" - JOHNSON and ADAMS 1993: 1, Pl II- 2*A* (holotype dorsum and ventrum), fig. 1*a* (holotype female genitalia). Type: Holotype female, deposited BMNH (JOHNSON & ADAMS 1993: 2): COLOMBIA: [no locality label, type locality: Dept. de Cauca, between Leticia and Purace km 131, 2850 m] (examined, BMNH(E)# 266574), **new synonym**.

"*Pons magnifica* JOHNSON" - JOHNSON and ADAMS 1993: 7, fig. 2*j* (male dorsum and ventrum).

"*Pons magnifica* JOHNSON" - d'ABRERA 1995: 1140, figs (male dorsum and ventrum).

ADDITIONAL MATERIAL EXAMINED

Male, COLOMBIA: "Bogota" (BMNH). Two males, COLOMBIA: "Dep. Cauca, Res. Tambito, 2100 m, 13.11.1997., J. WOJTUSIAK & T. PYRCZ leg." (MZUJ).

DISTRIBUTION

Geographical: known only from three Colombian montane localities (Bogota; Cauca). Spatial: known between elevations 2100-3100 m. Temporal: known from August, December and February.

NOTE

According to the genital figure of the MNHN "allotype" specimen given by JOHNSON (1992: fig. 15b) it represents a different taxon misplaced in *Pons*, because it does not have ductus bursae characteristic for the group (see Discussion). We could not locate this specimen in Paris. Moreover, we have the feeling that the BMNH male specimen bearing JOHNSON's original paratype label should have been listed as paratype by JOHNSON. This BMNH male specimen was figured by d'ABRERA (1995: 1140) as paratype. Since it was not listed amongst the types of *P. magnifica*, consequently the specimen is not paratype.

The placement of the taxon *pantanosa* in *Thecloxurina* is erroneous for the reader who compares genital structures and wing shapes figured in the monograph of JOHNSON (1992). Knowing the female of *saraha* now it is obvious that *pantanosa* should have been placed in *Pons* [*Pons pantanosa*, **new combination**]. Moreover, the ventral hindwing median band of *magnifica* is qualitatively identical with that of *pantanosa* holotype, indicating that they represent different sexes of the same taxon. This is supported also by the geographic location of *pantanosa*'s type locality. Therefore we consider *magnifica* and *pantanosa* as synonyms, consequently *Pons magnifica* JOHNSON, 1992, female = *Thecloxurina pantanosa* JOHNSON & ADAMS, 1993, **new synonym**.

***Pons purpurea* JOHNSON, 1992**

(Figs 5-6)

"*Pons purpurea* NEW SPECIES" - JOHNSON 1992: 24, figs 19 (holotype genitalia), 115 (holotype dorsum and ventrum). Type: Holotype male, deposited BMNH (JOHNSON 1992: 24), PERU:

"Agualani, 9000 ft, March 1904, leg. OCKENDEN" (examined; figured by d'ABRERA 1995:1140).

"*Thecloxurina browni* NEW SPECIES" - JOHNSON, 1992: 7, figs 4 (holotype genitalia), 100 (holotype dorsum and ventrum) (as *Thecloxurina browni*), **new synonym**. Type: Holotype female, deposited AMNH (JOHNSON 1992: 7), ECUADOR: "Hda. Talahua, 3100 m, leg. F.M. BROWN, 29.April, 1939" (examined).

"*Pons purpurea* JOHNSON" - d'ABRERA 1995: 1140, figs (holotype dorsum and ventrum).

ADDITIONAL MATERIAL EXAMINED

Male, PERU: "S. Luis, 70 km östl. v. Cuzco, SO Peru, 2800 m, 1973.XI.leg. F. KÖNIG", "gen. prep. No.917, BÁLINT Zs." (NMW). Male, ECUADOR: "Azuay prov., W. Cuenca, Rio Mazen, ADAMS leg." (BMNH).

DISTRIBUTION

Geographic: known from two Ecuadorian (Cuenca, Talahua) and two Peruvian (Agualani, S. Luis) localities. Spatial: known between elevations 2800-3100 m. Temporal: known from March and November.

NOTE

Knowing the female of taxa *saraha* and *magnifica* now it is obvious that *browni* should have been placed in *Pons* [*Pons browni*, **new combination**]. Moreover, the ventral hindwing median band of *purpurea*, qualitatively identical with that of *browni* holotype, indicates that they indeed represent different sexes of the same taxon. This is supported also by the geographic location of the *browni* type locality. Therefore we consider *purpurea* and *browni* as synonyms, and although *browni* was described several pages earlier than *purpurea* in the same paper by Johnson, as first revisers we keep the name *purpurea* for it was described as *Pons*; consequently *Pons purpurea* JOHNSON, 1992, female = *Thecloxurina browni* JOHNSON, 1992, **new synonym**.

***Pons vittata* JOHNSON, 1992**

(Figs 7-8, 11-12)

"*Pons vittata* NEW SPECIES" - JOHNSON 1992: 22, figs 17 (holotype genitalia), 113 (holotype dorsum and ventrum). Type: Holotype male, deposited AME (JOHNSON 1992: 23), ECUADOR: "Pichincha, Niebli, NW slope, Volcan Pichincha, 3500 m, 1972, R. DE LA FEBRE".

ADDITIONAL MATERIAL EXAMINED

Female: "Ecuador, Tungurahua, Baños, El Tablón, 3250-3400 m, 7.VIII.1998., leg. T. PYRCZ"; "gen. prep. No.806, BÁLINT Zs." (MZJU).

DISTRIBUTION

Geographic: known from two Ecuadorian montane localities (Imbabura, Pichincha). Spatial: known between elevations 3250-3500 m. Temporal: known to occur from August and November.

NOTE

JOHNSON and ADAMS (1993: 7) subsequently reported the occurrence of the species in Colombia. Their record was based on a misidentification (see above *P. saraha*).

DESCRIPTION OF *PONS VITTATA* FEMALE

MATERIAL

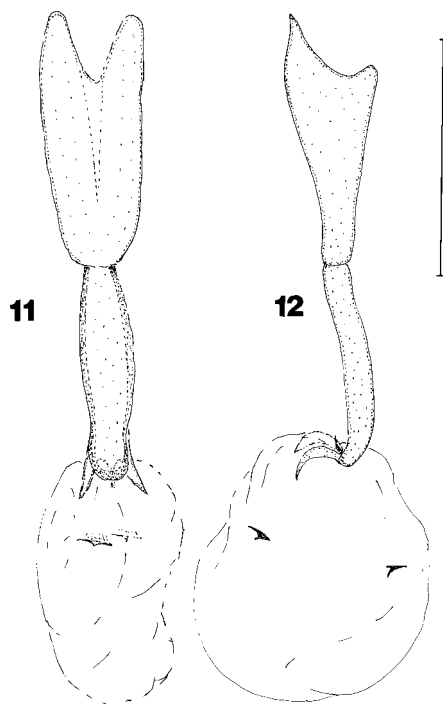
See additional material examined under *P. vittata*.

COMPARISON

Somewhat reminiscent of *P. purpurea* female but dorsum of wings with extensive blue basal suffusion (brown in *P. purpurea*), forewing ventrum with continuous submedian band (interrupted in *P. purpurea*), hindwing ventrum median band straight and W-shaped (undulate and V-shaped in *P. purpurea*).

DESCRIPTION

Body dark fuscous, head and abdomen venter auburn. Forewing costa length (from base to apex): 16 mm. Wings (Figs 7-8): Basal half of dorsal forewing and dorsal hindwing ground luminous sapphire blue; fuscous over rest of wings with brown, margin auburn-coloured. Hindwing with prominent auburn anal lobe and marginal spots in cells A-CuA2. Vein 1A+2A with long tail, vein CuA2 with short caudal extension. Ventral wing ground colour brown with maroon shade. Forewing discal line narrow, median and postmedian vertical stripes dark brown, straight and well marked continuously from costa to inner margin, margin rufous brown; hindwing median line well visible, straight and jagged W-shaped postmedian line curved and marked continuously from costal apex to inner margin, submargin maroon colour darker, margin dark brown. Genitalia (figs 11-12): posterior ductus bursae as long as anterior ductus bursae and divided by a membranous area, posterior ductus bursae in lateral view costally longer than anally, in ventral view with slightly sclerotized terminal margin and rounded apex separated by a membranous central fissure; anterior ductus bursae heavily sclerotized and curved costally towards cervix bursae; cervix bursae hood rounded and membranous with prominent convex ridges; corpus bursae signa large with membranous base.



11-12. *Pons vittata*, female genitalia: 11 - ventral, 12 - lateral (the bar indicates 1 mm)

NOTE

We consider the specimen described as a female of *P. vittata*, because (1) it possesses continuous ventral submedian band on both of the wings and (2) the hindwing ventrum median band is W-shaped. These two characters are unique in the case of *P. vittata* holotype for the whole genus.

DISCUSSION

JOHNSON divided *Pons* into two species groups, 1) *arcula* was placed with *magnifica* and *vittata* in the “*magnifica* Species Group”, 2) *purpurea* and *saraha* were placed in the “*purpurea* Species Group”. The groups were based on overall characters and yielded non-monophyletic entities. Three taxa, namely *magnifica-vittata-purpurea*, are most probably sister species forming a monophyletic unit, the genus *Pons* in strict sense. This statement is supported by the identical forewing shape of these species.

As we have mentioned *arcula* was subsequently transferred to *Ocaria*, but the act was unjustified, thus it needs confirmation. However, according to the scent patch of the male and female genital configuration (BMNH Rhop. vial. No.5900, examined) the placement of *arcula* in *Pons* seems to be erroneous.

P. saraha possesses male forewing dorsal scent pad obviously connecting *Pons* and *Thecloxurina* (compare figs 1-10). Moreover, the genera *Pons* and *Thecloxurina* cannot be separated by qualitative morphological characters (see figs 4-20 in JOHNSON 1992). These observations suggest that they represent the same eumacini lineage having females with slightly sclerotized genital ductus bursae divided by a central fissure and possessing a sclerotized cervix. These characters are widely distributed amongst neotropical eumaenines and approximately half of the genera listed under “infratribe *Thecloxurina*” (= *Penaincisalia* genus group) by JOHNSON and KROENLEIN (1993), and also some subsequently described ones (TORRES et al. 1996 possess the mentioned traits (see Table 2). Not surprisingly, there are intermediate taxa between the genera listed in Table 2, consequently the whole *Penaincisalia* genus group needs a further evaluation and not only the generic limits have to be diagnosed unambiguously but also a unique character which is diagnostic for the entire group, has to be found.

Table 2. Genera of the *Penaincisalia* genus group (listed in alphabetical order)

- Abloxurina* JOHNSON, 1992** (type species: *Thecla amatista* DOGNIN, 1895)
***Candora* JOHNSON, 1992** (type species: *Candora fallacandor* JOHNSON, 1992)
***Lamasa* JOHNSON, 1992** (type species: *Thecla calesia* HEWITSON, 1870)
***Paralustrus* JOHNSON, 1992** (type species: *Thecla commodus* FELDER & FELDER, 1865)
***Penaincisalia* JOHNSON, 1990** (type species: *Thecla culminicola* STAUDINGER, 1894)

***Podanotum* TORRES, HALL, WILLMOTT & JOHNSON, 1996** (type species: *Podanotum clarissimus* TORRES, HALL, WILLMOTT & JOHNSON, 1996)

***Pons* JOHNSON, 1992** (type species: *Pons magnifica* JOHNSON, 1992)

***Thecloxurina* JOHNSON, 1992** (type species: *Thecla loxurina* FELDER & FELDER, 1865)

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