ON THE IDENTITY OF *POTAMANAXAS ANDRAEMON* AND ITS RELATIVES, WITH THE DESCRIPTION OF A NEW SPECIES FROM PERU (HESPERIIDAE: PYRGINAE: ERYNNINI)

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Abstract - Analysis of male genitalia, wing patterns and wing shapes suggests that *Potamanaxas perornatus* Hayward, 1940, **reinstated status** is a species distinct from *P. andraemon* (Mabille, 1898); *P. andraemon* subspecies are species-level taxa: *P. fuma* Evans, 1953, **new status** and *P. forum* Evans, 1953, **new status**; and the *P. fuma* type series includes specimens of a new species, which is described herein. *Potamanaxas lamasi* **new species** differs from *P. fuma* by shape of valvae and maculation. A lectotype for *Carrhenes andraemon* Mabille, 1898 is designated to ensure nomenclatural stability. Primary types of these five species are illustrated with photographs, and a preliminary identification key to males is given.

Key words: taxonomy, skipper butterfly, Colombia, The Natural History Museum London, field marks

Evans (1953) circumscribed *Potamanaxas andraemon* (Mabille, 1898) by the combination of the following forewing characters: (**a**) the base of M_3-Cu_1 cell is white; (**b**) Cu_2-2A cell dorsally with a sharply defined discal pale oval or rectangular spot, much narrower than the white spot at the base of Cu_1-Cu_2 cell; (**c**) white dorsal spot in M_2-M_3 is much less conspicuous than the white dorsal spot in cell M_3-Cu_1; (**d**) apical third of ventral surface is paler, with brown spots and patches, but not mostly brown; (**e**) white patch in discal cell is not prominently divided laterally (=crossed by) by a dark bar in most specimens. In addition to transferring *andraemon* to the genus *Potamanaxas* Lindsey, 1925 from *Carrhenes* Godman & Salvin, 1895, Evans (1953) treated *P. perornatus* Hayward, 1940 as its junior subjective synonym, and described two subspecies: *P. andraemon fuma* Evans, 1953 and *P. andraemon forum* Evans, 1953. This treatment of the four species-group names has been followed since (e.g. Mielke 2005, Warren *et al.* 2013).

It has been argued by several researchers that many of Evans' subspecies and synonyms are better viewed as species-level taxa (e.g. Austin & Warren 2001, 2002, Burns & Janzen 2001, Mielke & Casagrande 2002). This reassessment of Evans' (1953) taxonomy is not a negative consequence of taxonomic inflation (Isaac *et al.* 2004), when researchers joggle ranks of taxa at will, but a reflection of true discoveries of biological species through accumulation and analysis of additional data and specimens. For instance, new observations by Gerardo Lamas of the sympatry of *P. thestia* Evans, 1953 and *P. paralus* (Godman & Salvin, 1895) (cited by Mielke & Casagrande 2002) suggests that these names should refer to distinct species. I herein review the four taxa included by Evans within *P. andraemon*, present evidence that they should be treated as species, and describe a new species in this group.

MATERIALS AND METHODS

Potamanaxas specimens were examined in the following collections: National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM); Natural History Museum, London, UK (BMNH); Museum für Naturkunde, Berlin, Germany (ZMHB); American Museum of Natural History, New York, NY (AMNH); McGuire Center for Lepidoptera and Biodiversity (Florida Museum of Natural History), Gainesville, FL (MGCL); Carnegie Museum of Natural History, Pittsburgh, PA (CMNH); Academy of Natural Sciences of Drexel University, Philadelphia, PA (ANSP); Museum für Tierkunde, Dresden, Germany (MTD); Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany (DEI); and Texas A&M University Insect Collection, College Station, TX (TAMU). Standard entomological techniques were used for dissection (Robbins 1991), i.e., the adult abdomen was soaked for 24 hours in 10% KOH at room temperature, dissected and subsequently stored in a small glycerol vial pinned under the specimen. Genitalia and wing venation terminology follows Steinhauser (1981). Length measurements are in metric units and were made from photographs of specimens taken with a scale and magnified on a computer screen. Photographs of specimens and dry genitalia were taken by the author with a Nikon D800 camera through a 105 mm f/2.8G AF-S VR Micro-Nikkor lens; dissected genitalia were photographed in glycerol with Nikon D200 camera without lens through microscopes at 4x and 5x magnification. Images were assembled and edited in Photoshop CS5.1. Genitalia images were taken in several focus slices and stacked in Photoshop to increase depth of field.

RESULTS

Analysis of *Potamanaxas* specimens in BMNH curated by Evans (1953), in particular type material and its comparison with *Potamanaxas* in other collections suggests the following changes to the status of four names currently listed under *P. andraemon* (Mielke 2005, Warren *et al.* 2013), and reveals the presence of an undescribed species that is named herein. Prior to this new species description, it is necessary to clarify the identity of *P. andraemon*, to stabilize nomenclature by designation of its lectotype, and to compare *P. andraemon* with *P. perornatus*.

Potamanaxas andraemon (Mabille, 1898), **lectotype designation**
(Figs. 1-10, 41-43, 59 part, 60 part)

Carrhenes andraemon was described by Mabille (1898) from an unstated number of specimens from Colombia. Parts of the Mabille collection, including many of his types, are currently preserved in ZMHB and BMNH. While a search for possible *P. andraemon* types in ZMHB was unsuccessful, a specimen curated as a type of *P. andraemon* was found in BMNH. This specimen and its labels are shown in Figs. 1-2. Its characters fully agree with the original description (Mabille 1898). In addition, its labels indicate that it is from Colomb[ia] and came from the P. Mabille collection. One poorly written label appears to read "sp. nov. near Chœremon", which compares well with the phrase from the original description: "n. sp. − Port et taille de Choeremon" (Mabille 1898: p. 195), roughly translated as "new species − appearance and size of Chaeremon," referring to *Carrhenes chaeremon* (Mabille, 1891). This dates this label to approximately 1892-1897. John V. Calhoun kindly provided the following historical analysis. Handwriting and the use of the English word "near" suggest that this label was not written by Mabille, but more likely a British entomologist. This specimen possibly passed through the hands of Hamilton H. Druce, who received a large number of Lepidoptera specimens from "an orchid collector" from the interior of Colombia. Druce based descriptions of several new hairstreak species (Lepidoptera: Lycaenidae: Theclinae) on this set of specimens (Druce 1890). Since the label itself is not written in the distinctive handwriting of Druce, he might have distributed specimens from this shipment to other British entomologists, who in turn passed some to Mabille. Labels from Druce's specimens in BMNH indicate that the orchid collector's name was J. Carder. According to Cribb (2010), John Carder (?-1908) collected in Central America and the northern Andes of Colombia. Druce's specimens possibly were collected in 1883, when Carder collected in the Colombian cordillera between Popayan and Tolima (Anonymous 1915). This area of Colombia falls within the range of *P. andraemon* (Fig. 60) and it is possible that this specimen was collected by Carder. Taken together, these considerations argue that this specimen is almost surely a syntype of *P. andraemon* and it was presumably mentioned by Evans (1953) as "type B. M." Unfortunately, this specimen lacks its abdomen.

However, another similar-looking specimen was found in BMNH next to the syntype (Figs. 3-4). It bears the same type of round locality label, with "Colomb" written in purple ink. While it is not a syntype (its labels indicate that it came from the P. Dognin collection via the J. J. Joicey collection), its genitalia were prepared (Figs. 42ab) and drawn (Fig. 41) by W. H. Evans. Evans' unpublished sketch, pinned next to the specimen and similar in style to the genitalia sketches from his books (e.g. Evans 1953), is consistent with the genitalia mounted on the carton card pinned under this specimen, and the "P8" number on the carton card (Fig. 3 on the left) matches "P8" written on the sketch (Fig. 41). However, both genitalia and the sketch, while being similar to each other, differ greatly in the size and shape of the terminal prong of cucullus from the published sketch of "*P. andraemon*" (Fig. 44, Evans 1953: Plate 43) and genitalia of other *andraemon*-like specimens from Colombia (Fig. 48) and Ecuador (Figs. 45-46, 49). Another more recently collected specimen from western Colombia (USNM collection, Figs. 7-8) was found to possess similar genitalia with the bulbous and granular distal end of the cucullus (Fig. 43), suggesting that such genitalia are likely not an aberration, but are characteristic of this species. Moreover, analysis of wing shapes and patterns of specimens that key out to *P. andraemon andraemon* in Evans (1953) also reveals certain differences (Figs. 1-24, described in Fig. 59 top row). Therefore, the two BMNH specimens bearing "Colomb" label (*P. andraemon* syntype and specimen with genitalia prepared by Evans) and the two USNM specimens (Figs. 5-8) are not the same species as other *andraemon*-like specimens from Colombia and Ecuador (Figs. 11-24). Even though it is not possible to analyze genitalia of the syntype, it is clear from wing shapes and patterns that it is more similar to the other "Colomb" specimen with a short, knob-like cucullus distal end and does not match other *andraemon*-like specimens with an elongated, horn-like cucullus distal end (compare Figs. 1-24, 59 top row). Analysis of other available names and their original descriptions reveals that *P. perornatus* is characterized by the bifid cucullus with long antler-like prongs (Fig. 47, Hayward 1940). Therefore, *P. andraemon* and *P. perornatus* were incorrectly synonymized by Evans.

Further analysis of 19th century material in BMNH reveals an Ecuadorian specimen (Figs. 17-18) with *P. perornatus*-like genitalia (Fig. 45) bearing a similar identification label to that of *P. andraemon* syntype: "/ *Carrhenes andrœmon / Mab. /*", likely in Mabille's handwriting. This specimen was collected in 1890, prior to the description of *P. andraemon*; however, it was probably identified by Mabille in 1910, as a small addition on the identification label stated in a different handwriting: "Mabille 1910". Another specimen with a similarly-styled locality and date label "/ Environs de LOJA/ Equateur / 90 /" was found in USNM collection (Figs. 15-16). Its genitalia were dissected (vial # NVG120922-30) and found to be similar to those of *P. perornatus*, not *P. andraemon*. Being from Ecuador, these two specimens are not syntypes and were most likely inspected by Mabille in 1910, only after the *P. andraemon* description; however, since Mabille considered at least the BMNH specimen to be the same species as *P. andraemon*, it is possible that if the *P. andraemon* type series consisted of more than a single syntype, it was polytypic and contained specimens of *P. perornatus*. Additionally, Evans confused these two species and considered the names to be synonymous. While he sketched genitalia of both (the original sketches are pinned near specimens in the BMNH collection), he illustrated only *P. perornatus* as *P. andraemon* in his Catalogue (Evans 1953). Therefore, to avoid further unnecessary confusion about these two names, especially if other syntypes are found, and to secure the identity of *P. andraemon* in the interest of nomenclatural stability, the designation of a lectotype for *P. andraemon* is desirable. The sole syntype (referred to as "type" in Evans (1953)) is a logical candidate allowing us to use both available names (*andraemon* and *perornatus*) to denote species-level taxa, thus stabilizing the nomenclature.

Therefore, the specimen in BMNH bearing eight labels: circular, yellow on one side, handprinted: / 829 / , white, covered in glue on the other side; round, white with red circle on one side, printed: / Type / inside the red circle and handprinted: / H / 775 / on the opposite side of label; round, white, handwritten in purple ink: / *Colomb* / , green unmarked on the opposite side; rectangular, white, handwritten: / *sp. nov.* / *near Chœremon* / ; rectangular, white, handwritten: / *Carrhenes* / *andrœmon* / *Colomb.* / ; rectangular, white, printed: / Ex musæo / P. Mabille / 1923 / ; rectangular, white, printed: / R. Oberthür Coll. / Brit. Mus. 1931-136 / ; rectangular, white, printed: / BMNH(E) #1054201 / is hereby designated as the lectotype of *Carrhenes andraemon* Mabille, 1898. The following label will be added to the specimen after publication of this study: / LECTOTYPE / *Carrhenes andraemon* / Mabille, 1898. Ann. Soc. ent. France 66: 195-196 / designated by Grishin, 2013 /. This specimen is illustrated in Figs. 1 and 2. It lacks an abdomen, right palp and apiculus of the right antenna. Additionally, it possesses a crescent-shaped tear at the base of the hindwing discal cell and has a leg protruding along the dorsal side of right forewing.

Additionally, excellent photographs by Jim Snyder of dorsal and ventral surfaces of a live *Potamanaxas* individual from western Colombia (Figs. 9-10), whose wing pattern matches closely that of the *P. andraemon* lectotype, suggests that it is *P. andraemon* rather than *P. perornatus*. USNM specimens and these live photographs indicate that *P. andraemon* ranges along the Colombian Western Cordillera from north to south.

Potamanaxas perornatus Hayward, 1940, **reinstated status**
(Figs. 11-24, 44-49, 59 part, 60 part)

Potamanaxas perornatus was described by Hayward (1940) from a holotype male collected in Ecuador: Tungurahua Province: [Hacienda] San Francisco at ca. 01° 25'S, 78° 15'W, 1300 m, by William Clarke-Macintyre (specifics about locality and collector per G. Lamas, pers. comm.). Its genitalia was illustrated (reproduced here as Fig 47). This name was synonymized wth *P. andraemon* by Evans (1953). However, genitalia of *P. andraemon* (Figs. 41, 42ab, 43, 59 part) and the holotype of *P. perornatus* (Fig. 47) are drastically different. Most significantly, the distal end of the cucullus is shorter than the basal process and knob-like, bulbous and finely granular tip in *P. andraemon*. In *P. perornatus* it is broadly bifid, antler-like and smooth, with a long and pointed distal end. The description of *P. perornatus* mentions "a suffused group of yellow scales beyond the cell" (Hayward 1940: p. 862) on the dorsal hindwing, which corresponds to the cell-end bar in specimens shown in Figs. 11-24, and not to the rectangular whitish discal area of *P. andraemon* (Figs. 1, 3, 5 & 7). The mention of more extensive yellow coloring on dorsal forewing than that observed in *P. andraemon* is also inconsistent with the description of *P. perornatus*. Taking into account these differences in genitalia and wing patterns, it is worthwhile to regard these two taxa as distinct biological species. Therefore *P. perornatus* is hereby **reinstated to species status** and *andraemon*-like specimens with

Figs. 1-10. ***Potamanaxas andraemon*** **adults. 1-2**. - lectotype designated herein, Colombia, ex. coll. P. Mabille, 1923, R. Oberthür Coll., Brit. Mus. 1931-136, specimen No. BMNH(E) #1054201; **3-4**. - Colombia, 32. 21. ex. coll. Dognin, 1921, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054042 (genitalia shown in Figs. 41-42ab); **5-8**. - Colombia: Valle del Cauca, above Pance, 4000' 19-Jan-1985, leg. J. B. Sullivan (genitalia of **7-8** shown in Fig. 43); **9-10**. - Colombia: Antioquia department, Jardín, Reserva Natural La Mesenia (Gustavo), 18-Sep-2012, photographs by Jim Snyder, individual not collected, identification is provisional. Dorsal and ventral surfaces are shown on odd- and even-numbered figures, respectively. In half-specimen images, pinholes and some other imperfections have been digitally removed to emphasize actual elements of the pattern. F to the left of an image indicates mirror image (left-right inverted). Labels are shown for **1-4** with the specimens. Round white type label for the lectotype is shown in dorsal and ventral views. Labels are reduced 2.5 times compared to specimens: small scale bar below the lectotype labels is for labels; larger scale bars refer to specimens. All are males. Specimens **1-4** are in BMNH collection and are copyright (©) Trustees of the Natural History Museum, London (used with permission); **5-8** are in USNM collection.

bifid, antler-like cuculli with long and pointed prongs are considered to be *P. perornatus*. A series of such specimens is illustrated in Figs. 13-24 (valvae of all these specimens were examined) and some of their genitalia are shown in Figs. 44-49. Analysis of these and other *P. perornatus* specimens reveals significant variation and also suggests additional wing pattern and genitalic characters to separate them from *P. andraemon*, as elaborated in Fig. 47 and the identification key given below. *Potamanxas andraemon* is currently known from only four specimens and several photographs of live individual(s) with wing patterns that closely match the lectotype (all known locations in Western Cordillera of Colombia, Fig. 60). However, *P. perornatus* is more common in collections and has been collected from Eastern Cordillera in Colombia (Boyaca: Arcabuco) and Eastern Slopes of the Andes in Ecuador (Sucumbíos: La Bonita, Napo: Rio Azuela, Tungurahua: Ambato & Baños, Pastaza: Rio Verde, Morona-Santiago: Plan de Milagro, and Loja: Loja) and Peru (Amazonas: Abra Pardo Miguel, 05° 42'S, 77° 48'W, 2200m & Alto Río Nieva, 05° 41'S, 77° 47'W, 2000m, G. Lamas, pers. comm., specimens in MUSM collection) (Fig. 60).

Potamanaxas fuma Evans, 1953, **new status**
(Figs. 31-34, 53-54, 59 part, 60 part)

Potomanaxas andraemon fuma was described by Evans (1953) from a series of 4 male specimens from Peru. The "type" is from Peru: Pasco: Huancabamba. Because Evans (1953) used the phrase "Sub-sp. **fuma** nov: ♂ Huancabamba, Peru: type B.M.," in reference to this specimen, Mielke (2005) regarded it as the [holo]type per Art. 73.1.1. of International Commission of Zoological Nomenclature (ICZN) (1999). The type series of these 4 specimens in BMNH with their labels is illustrated in Figs. 27-34. Two of these specimens (Figs. 29-32) are in the Evans reference collection drawers, while the other two are among the the general Hesperiidae holdings as curated by Evans (Figs. 27-28, 31-34). All these specimens agree with the original description, which was short and was given as a part of his identification key (Evans 1953). One of the specimens in the general collection (Figs. 33-34) bears the type label and is a likely the [holo]type. According to the locality label, it is from Peru: Huancabamba in agreement with the description.

All four specimens from the type series bear carton cards with genitalia glued onto them by Evans (Figs. 27-34). Genitalia of all four specimens (Figs. 51-54) appear very different from those of *P. andraemon* (Figs. 41-43). Most notably, the basal prong of the cucullus is long, horn-like, and directed posteriordorsad leaving a wide gap between it and the ampulla in *P. andraemon* (Fig. 59 part). It is short, stout, tooth-like and is directed anteriordorsad, leaving a narrow gap between it and the ampulla in all specimens of *P. andraemon fuma* from the type series (Fig. 59 part). The distal prong of the cucullus in *P. andraemon* is short, knob-like, bulbous and granular, but the cucullus is broadly extended at the distal end forming an irregular dorsal edge in all the specimens of *P. andraemon fuma* from the type series. In addition to these differences in genitalia, numerous wing pattern differences exist between *P. andraemon* and the four specimens of *P. andraemon fuma* from the type series as listed by Evans (1953). This is further elaborated on Fig. 59, suggesting that *fuma* is a species-level taxon and not a subspecies of *P. andraemon*. This **new status** for *P. fuma* is proposed here.

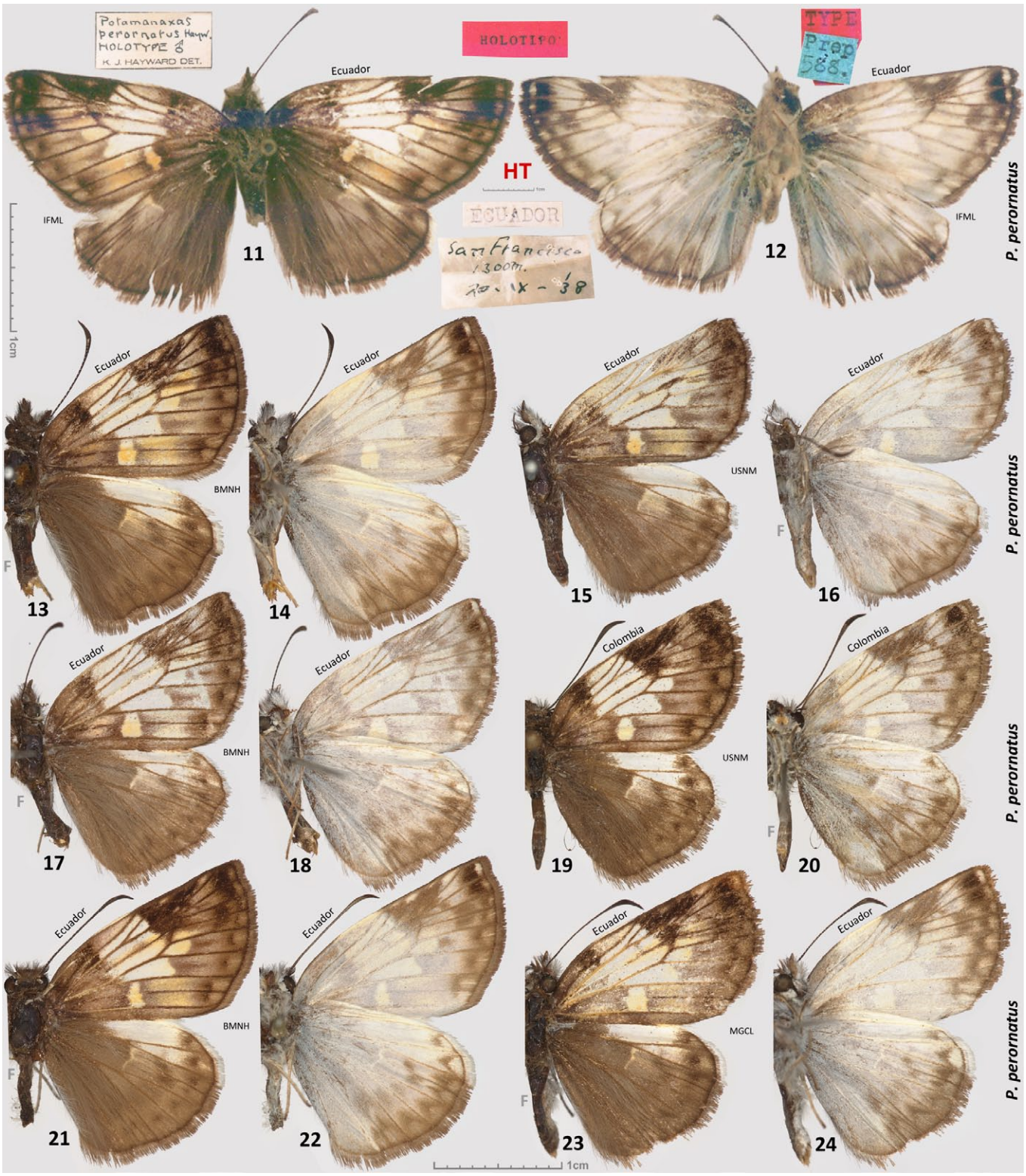
Further analysis of the genitalia of the type series of *P. fuma* revealed the specimens to be of two different types. Two specimens possess genitalia of one type. Two others differ from the first two, but are similar to each other. Major differences exist in the shape of the cucullus and costa. In two specimens, the cucullus possesses a more elongated and rounded distal end, a groove is absent or residual along its dorsal edge; the gap between the cucullus basal tooth and the ampulla is wider. The valva is narrower and its costa is rounded apically in these specimens. In the second set of specimens, the cucullus has a truncated, slightly upturned, distal end, with a prominent groove along its dorsal edge on the inside, marking a thin ridge along the exterior side with the basal tooth; the gap between the cucullus basal tooth and the ampulla is narrower. The valva is broader, its costa is angled apically in these two specimens. Interestingly, the Evans' (1953) genitalia sketch of *P. fuma* (Fig. 50) combines the characters of both types: the cucullus is longer and the costa is less angular as in one group (like the *P. fuma* [holo]type), but its distal end is truncated and upturned, the dorsal edge of the cucullus is seemingly grooved and its basal tooth is narrowly separated from the ampulla as in the other group. It is likely that a sketch averaging both genitalia types was drawn by Evans. Apparently, one of these genitalia types is of *P. fuma* and the other belongs to a potential new species, as no other described *Potamanaxas* taxon (out of 32 available names, Mielke 2005, Grishin 2012, Warren *et al.* 2013) possesses genitalia similar to those of the type series of *P. fuma*. The most similar are genitalia of *P. tunga* Bell, 1956, and *P. laoma trex* Evans, 1953, but the cuculli in these two taxa are more gracile, thinner and more pointed at the distal end.

Wing patterns also partition the type series of *P. fuma* into two groups of two specimens each. Two specimens from "Huancabamba", including the *P. fuma* [holo]type are in one group, while the two other specimens (from "Charape" [Peru: Cajamarca] and without locality label) are in the other group. The second group is a new species named herein. The third specimen of this new species was found by Gerardo Lamas among specimens of *Potamanaxas frenda* Evans, 1953 in the collection of the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM).

Potamanaxas lamasi Grishin, **new species**
(Figs. 25-30, 51-52, 58, 59 part, 60 part)

Description.– *Male* (Figs. 17-20): right forewing length = 15 mm of holotype, 15.5 mm and 16 mm of paratypes. Forewing apex rounded, not truncate, termen convex, inner margin slightly convex, discal cell shorter than the inner margin, Sc and R_1 end basad of the end of discal cell, R_2 ends distad of the end of the discal cell. Dorsal forewing pale-brown, crossed by a white discal diagonal band from Sc to Cu_2, its width defined by the origins of Cu_2 basally and Cu_2 and R_2 distally, band interrupted by brown veins, including a line of brown scales along the central crease in the discal cell, yellow streak inside the band along both sides of the central crease, residual band in the costal cell, darker, overscaled with brown and yellow, yellow squarish, rounded at angles discal spot in cell Cu_2-2A, a double yellow spot basad of this spot with two yellow streaks distad, a yellow streak in the distal half of cell 2A, a white spot, which may bear a yellow tinge, at the base of cell M_3-Cu_1 not or very slightly overlapping along Cu_1 with the white spot in cell Cu_1-Cu_2, yellow spot in basal third of cell M_1-M_2 with areas of darker scales basad and distad this spot, no defined paler spot in cell M_2-M_3 (but some yellow scales may be present in the basal third), paler, light-brownish areas within the middles of all cells from Sc to M_1 near apex, darker brown patches along the margin near the apex continuing towards the tornus as a paler-brown submarginal band framed with dark-yellowish areas. Ventral forewing pale, cream colored, darker in apical quarter, dorsal pattern weakly repeated, darkest brown submarginal spots in cells R_5-M_1 and M_1-M_2, pale-brown submarginal spots in other cells and postdiscal pale-brown spots in cells M_1-M_2 and M_2-M_3. Hindwing nearly triangular, termen evenly convex, costa and inner margin about equal in length, longer than abdomen. Dorsal hindwing pale-brown, same ground color as the forewing, but white anteriad of Sc+R_1, cell Sc+R_1-Rs white from basal third to near the apex, cell Rs-M_1 white in basal two-thirds; pale cream trapezoidal patch at the end of discal cell separated from posdiscal paler areas by brown diffuse spots; small diffuse pale spot in anterior part of the discal cell basad of the origin of Rs, diffuse pale-brown areas at the bases and centers of cells M_3-Cu_1 and Cu_1-Cu_2, barely continuing posteriad and forming two weakly defined bands: discal and postdiscal; traces of pale-brown submarginal band. Ventral hindwing mostly cream-white, greyer towards the anal margin with pale brown spots at the end of discal cell near the origin of Rs, in cells from M1 to Cu2 forming a weakly defined band of spots and submarginally in cells from Sc-R1 to 1A; these submarginal spots chevron-like pointing basad. Fringes pale brown, paler below, except near the apex of hindwing fringes white. Head and palpi dark-brown above, whitish below, antennae dark-brown narrowly ringed with white at segments. Thorax and abdomen dark-brown above and on the sides, cream-white below; legs mostly cream. *Male genitalia* (Figs. 51-52, 58): tufts of scales near the bases of valvae brown, darker in the middle; tegumen slightly longer than wide; uncus divided with arms shorter than tegumen width; gnathos upturned and joint ventrad in the caudal half, granular on its surfaces caudad, widely separated from uncus; valva longer in anteriorposterior dimension ("length") than in dorsolateral dimension ("height"), with arched, almost angular costa; cucullus about a third of the valva "length", extending caudad for about the same "length" as its "height", with a stout tooth-like process dorsally at its base, process directed anteriodorsad and separated from ampulla by a narrow gap, cucullus caudal end appears truncated and upturned to an obtuse hook-like point, dorsal edge of cucullus irregularly dentate and with a groove on the inside, between the distal end and basal process; sacculus with style-like projection at the base, about twice as long as wide, widening dorsad to bulbous round end.

Female: unknown or unrecognized.



Figs. 11-24. ***Potamanaxas perornatus*** **specimens. 11-12**. - the holotype, Ecuador: Tungurahua Province, [Hacienda] San Francisco at ca. 01° 25'S, 78° 15'W, 1300 m, 20-IX-1938, leg. William Clarke-Macintyre, genitalia No. Prep 588 (genitalia illustration from the original description is shown in Fig. 47); **13-14**. - Ecuador: Rio Pastaza, Rio Verde, 5000 ft, M. G. Palmer, ex. coll. Hamilton Druce, 1919, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054028 (distal end of genitalia *in situ* shown in Fig. 46); **15-16**. - Ecuador: "Environs de Loja", 1890; **17-18**. - Ecuador: "Environs de Loja", 1890, 32. 21. ex. coll. Dognin, 1921, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054044 (distal end of genitalia *in situ* shown in Fig. 48); **19-20**. - Colombia: Arcabuco, Boyaca, 2200 m, 31-Jan-1971, S. S. & S. Nicolay, genitalia vial # H754 prep. S. S. Nicolay (genitalia shown in Fig. 48); **21-22**. - Ecuador: Ambato, Anda Vasconez, R. Oberthür Coll., Brit. Mus. 1931-136, specimen No. BMNH(E) #1054029 (valva shown on Fig. 49); **23-24**. - Ecuador: Napo Province, Rio Azuela, "8.1.1976", 1600 m, leg. H. Mühle, MGCL Accession #2008-43. Dorsal and ventral surfaces are shown on odd- and even-numbered figures, respectively. In half-specimen images, pinholes and some other imperfections have been digitally removed to emphasize actual elements of the pattern. "F" to the left of an image indicates mirror image (left-right inverted). In **15-16**, left forewing is shown instead of right. Labels are shown for the holotype around the specimen images. Labels are reduced 2.5 times compared to specimens: small scale bar below the lectotype labels is for labels, and larger scale bars refer to specimens. All specimens are males. **15-16**, **19-20** are in USNM collection; **23-24** is in MGCL collection; **11-12** is at the Fundación Miguel Lillo, Tucumán, Argentina (IFML) and is photographed by Gerardo Lamas; others are in BMNH collection and are copyright (©) Trustees of the Natural History Museum, London (used with permission). Valvae of all specimens shown have been examined to confirm identification.

Types.– Holotype male, with the following labels: white, printed: / PERU, HU[ánuco], Puente / Cayumba 0930/7558 [i.e. 09° 30'S, 75° 58'W] / 870m 17.vi.2001 / T.C. Emmel et al. / , red, printed: / HOLOTYPE ♂ / Potamanaxas / lamasi Grishin / , white, printed: / genitalia vial #/ NVG130307-01 / Prep. N. V. Grishin / . Paratype male, with the following labels: white, printed: / J. J. Joicey Coll. / B. M. 1925-451. / ; white, printed: / BMNH(E) #1054046 / ; blue, printed: / PARATYPE ♂ / Potamanaxas / lamasi Grishin / . Carton card with genitalia glued to it by W. H. Evans is pinned under the specimen. Paratype male, with the following labels: white, printed: / Charape : N. Peru. / 4,000 ft. Sep. Oct. 1912. / A. & E. Pratt. / ; white, printed: / J. J. Joicey Coll. / B. M. 1925-451. / ; white, printed: / BMNH(E) #1054132 / ; blue, printed: / PARATYPE ♂ / Potamanaxas / lamasi Grishin / . Carton card with genitalia glued to it by W. H. Evans is pinned under the specimen. The holotype is in the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM) and paratypes are in The Natural History Museum, London, UK (BMNH).

Type locality.– PERU: Huánuco, Puente Cayumba, 09° 30'S, 75° 58'W, 870 m, which is on the eastern slopes of the Andes in central Peru, about 14 air miles south of Tingo María.

Etymology.– *Potamanaxas lamasi* **n. sp.** is named in honor of Gerardo Lamas, an undisputed Dean of Neotropical butterflies, whose extraordinary contributions to our knowledge of butterfly taxonomy are unmatched. Dr. Lamas' role in the studies of Peruvian butterflies is only surpassed by his own work to re-vamp our understanding of the entire Neotropical butterfly fauna. His lifetime of dedicated and imaginative research to trace the sources of all Neotropical butterfly names, together with assembling a comprehensive collection of type specimen photographs, culminated in the unprecedented checklist that formed the basis for all future studies. Gerardo generously agreed to share with the world his photographs of type specimens images on the Butterflies of America website <http://www.butterfliesofamerica.com/L/Neotropical.htm>, and his comprehensive bibliography file with literature references for all Neotropical butterfly names, updated yearly, is available at <http://www.butterfliesofamerica.com/L/Biblio.htm>. Gerardo's kind help was instrumental to this project, and he found the specimen used as the holotype of this new species in the MUSM collection. The name is an indeclinable noun in apposition.

Distribution and phenology.– This species is known only from the holotype and two paratypes from the eastern slopes of the Andes in Peru. The holotype was collected in June in central Peru: Huánuco, about 14 air miles south of Tingo María, near the bridge across Rio Huallanga at an elevation of 870 m. One of the paratypes does not bear a locality label. The second paratype was collected in September or October in northeastern Peru: Cajamarca, Hacienda Charape, elevation 1200 m.

Diagnosis: The new species is most similar to *P. fuma* and the following characters are shared between these two species, which distinguishes them from other *Potamanaxas*: (**a**) yellow streak in distal half of dorsal forewing cell 2A; (**b**) squarish, rounded at angles, yellow discal spot in dorsal forewing cell Cu_2-2A, and two double streaks of yellow basad and distad of this spot; (**c**) white spots at the bases of dorsal forewing cells M_3-Cu_1 and Cu_1-Cu_2 do not overlap or only very slightly along the vein Cu_1; (**d**) no, or very small white spot at the base of the dorsal forewing cell M_2-M_3 cell; (**e**) dorsal forewing discal cell bar pale, divided and overscaled with brown central crease; (**f**) dorsal hindwing discal cell with a pale spot basad of the Rs origin; (**g**) rectangular or trapezoidal pale area distad of dorsal hindwing discal cell; (**h**) veins not prominently overscaled with brown in postdiscal area of ventral wings; (**i**) well-defined dark spot at the end of discal cell on ventral hindwing , but no clearly-defined end-of-cell pale bar distinctly visible against the cream background; (**j**) base of dorsal cucullus with a stout, tooth-like projection directed anteriordorsad and with a shorter, rounded or truncated tip at the distal end, dorsal edge of cucullus is irregular, but not finely dentate; (**k**) sacculus rounded at the end projection.

The following characters separate the new species from *P. fuma*: (**1**) dorsal hindwing with a small and diffuse pale spot in discal cell basad of the origin of Rs, this spot is larger in *P. fuma*; (**2**) dorsal hindwing with narrower, almost rectangular and only slightly trapezoidal pale area distad of discal cell, this area is trapezoidal and more extended along M_3 in *P. fuma*; (**3**) dorsal hindwing base of cell M_3-Cu_1 is mostly dark and pale in *P. fuma*; (**4**) dorsal forewing with pale-brown or yellowish costal cell, the distal half of this cell is white in *P. fuma*; (**5**) dorsal forewing white spots in cells M_3-Cu_1 and Cu_1-Cu_2 are separated by an area of brown scales, and mostly touch each other in *P. fuma*; (**6**) ventral forewing with the darkest apical spots in cells R_5-M_1 and M_1-M_2, the darkest spots in *P. fuma* are in cells R_4-R_5 and R_5-M_1; (**7**) cucullus with a truncated, slightly upturned distal end, with a prominent groove along its dorsal edge in the inside. In *P. fuma* the cucullus is more elongated with rounded distal end, and the groove is absent or residual along its dorsal edge; (**8**) the gap between the cucullus basal tooth and the ampulla is narrower than in *P. fuma*; (**9**) valva broader than in *P. fuma*, its costa angled apically.

Additional details are provided in the identification key below and in Fig. 59. It should be noted that since only two specimens each of *P. fuma* and *P. lamasi* **n. sp.** are known, the characters listed above to separate them are only provisional and some of the characters may not hold in a larger series, thus a combination of characters should be used for identification. Out of these nine characters, the shape of the cucullus (character 7) is most likely to be diagnostic.

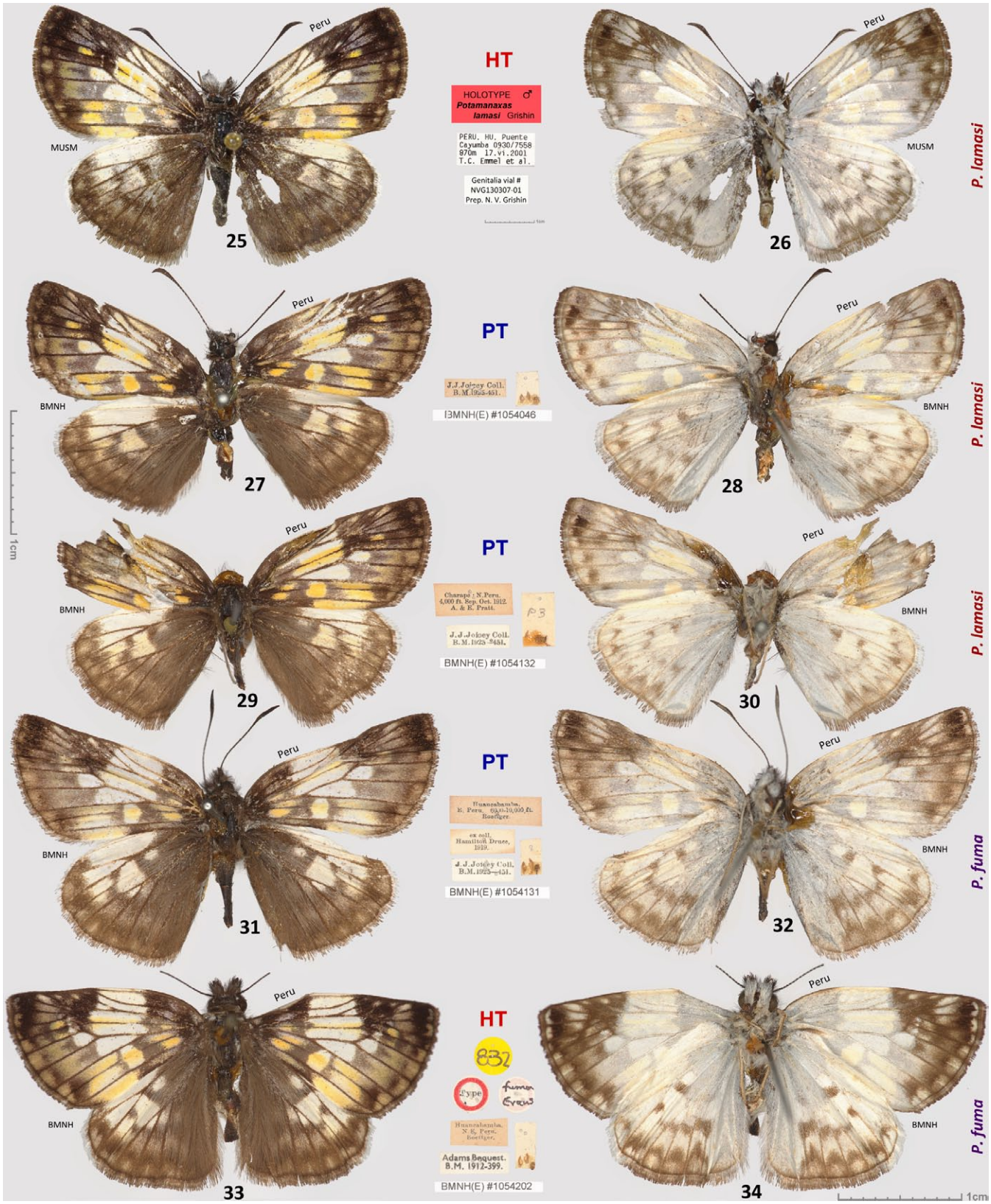
Potamanaxas forum Evans, 1953, **new status**
(Figs. 35-40, 55-57, 59 part, 60 part)

Described as another subspecies of *P. andraemon* by Evans (1953), this taxon's type series of 3 specimens in BMNH is from Bolivia and Peru (Figs. 35-40), [holo]type (as deduced by Mielke 2005) being from Bolivia: Yungas & La Paz (Figs. 35-36, 57ab). There is little doubt about the identity of the *forum* [holo]type, because explicit and unique label data are given for it by Evans in the original description: "Sub-sp. **forum** nov: ♂ Bolivia, Yungas, La Paz: 1,000 metres: H. Rolle: type B.M." (Evans, 1953: p. 144). Of the two type series specimens from Bolivia (Figs. 37-40), only one bears label mentioning "Yungas", "La Paz", "1000 m", and "H. Rolle". The second specimen is from the W. C. Hewitson's collection and the locality is not more detailed than just "Bolivia".

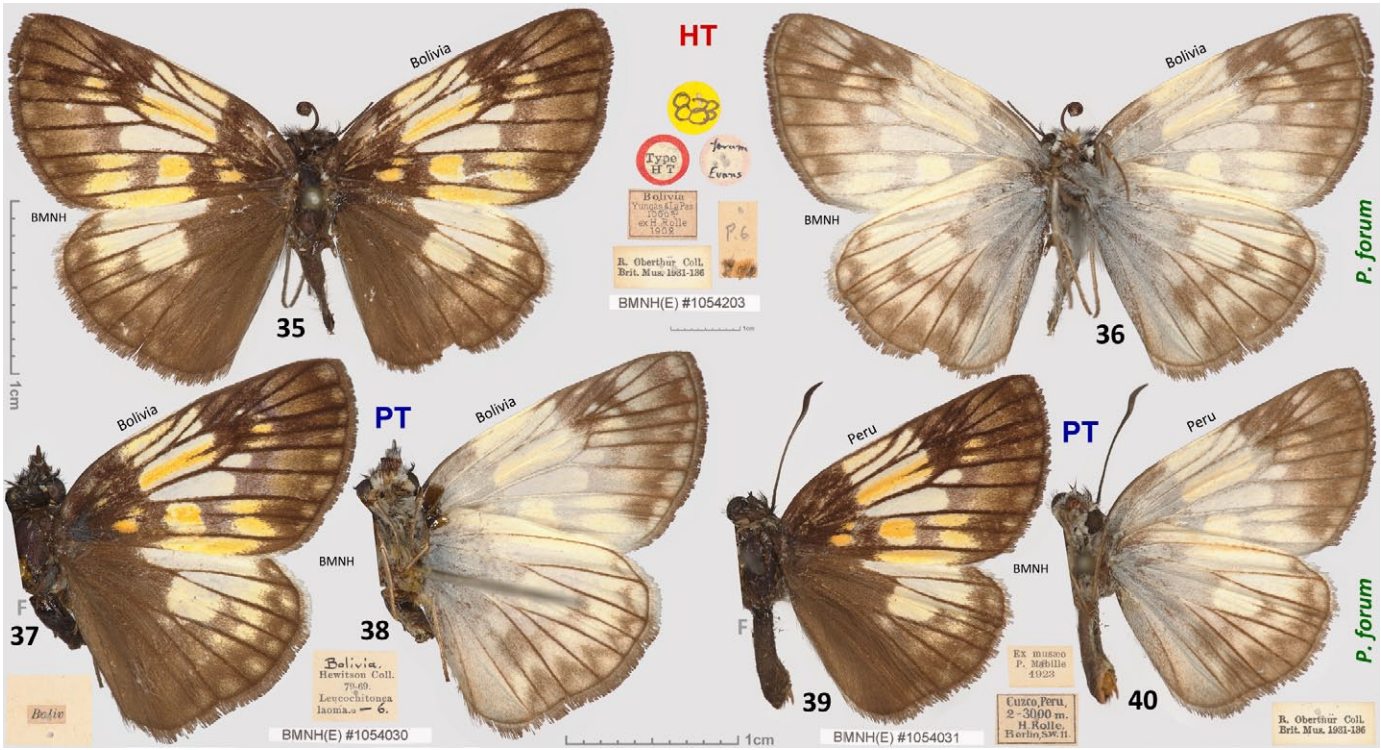
Genitalia of *P. andraemon forum* set it apart from all other taxa in the *P. andraemon* group (Figs. 55-57, 59 part). Its cucullus has a long, broad, rounded tip at the distal end, more massive compared to other taxa. The dorsal edge of the cucullus is distally finely dentate, unlike other taxa and is very different from *P. andraemon*, whose cucullus is much shorter as described above and illustrated in Figs. 41-43, 59 part. Of all *P. andraemon* group species, the most similar cucullus shape to *P. andraemon forum* is observed in *P. fuma* (Figs. 53-54, 59 part). However, the *P. fuma* cucullus is shorter, more stout, less massive and is irregular along the dorsal edge, but not finely dentate. Moreover, the *P. fuma* valva is broader and it costa is more angular. In facies, *P. andraemon forum* is uniquely characterized by more rounded wings, veins prominently overscaled with brown within the distal third to half of the ventral surfaces of both wings, the central crease in the dorsal forewing discal cell is not overscaled with brown in the basal half (or more) leaving the pale discal cell bar mostly undivided, and the absence of darker-brown apical spots on the ventral forewing. Additional characters are illustrated in Fig. 59 and listed in the identification key below. Owing to these significant differences, *P. forum* is hereby **raised to species status**.

DISCUSSION

Due to the very small sample of specimens available for analysis, the following brief key is preliminary, is given only as a guide, and exceptions are expected. However, putting it forward seems useful to aid studies of this poorly known group of skippers. Male genitalic valvae characters are likely to be diagnostic. The characters expected to be most reliable are given in the first sentence of each paragraph. For more confident identifications it is prudent to analyze a larger set of characters as given in the visual key (Fig. 59) and closely compare them with specimens illustrated in Figs. 1-58 that show variation. Note that substantial variation in the length and shape of cuculli prongs in dissected *P. perornatus* specimens was observed. While many more additional specimens are needed to evaluate taxonomic significance of such variation, it is possible that additional undescribed species are present in this group. Due to the scarcity of females in collections and potential difficulty in the association of sexes, it does not seem possible to suggest

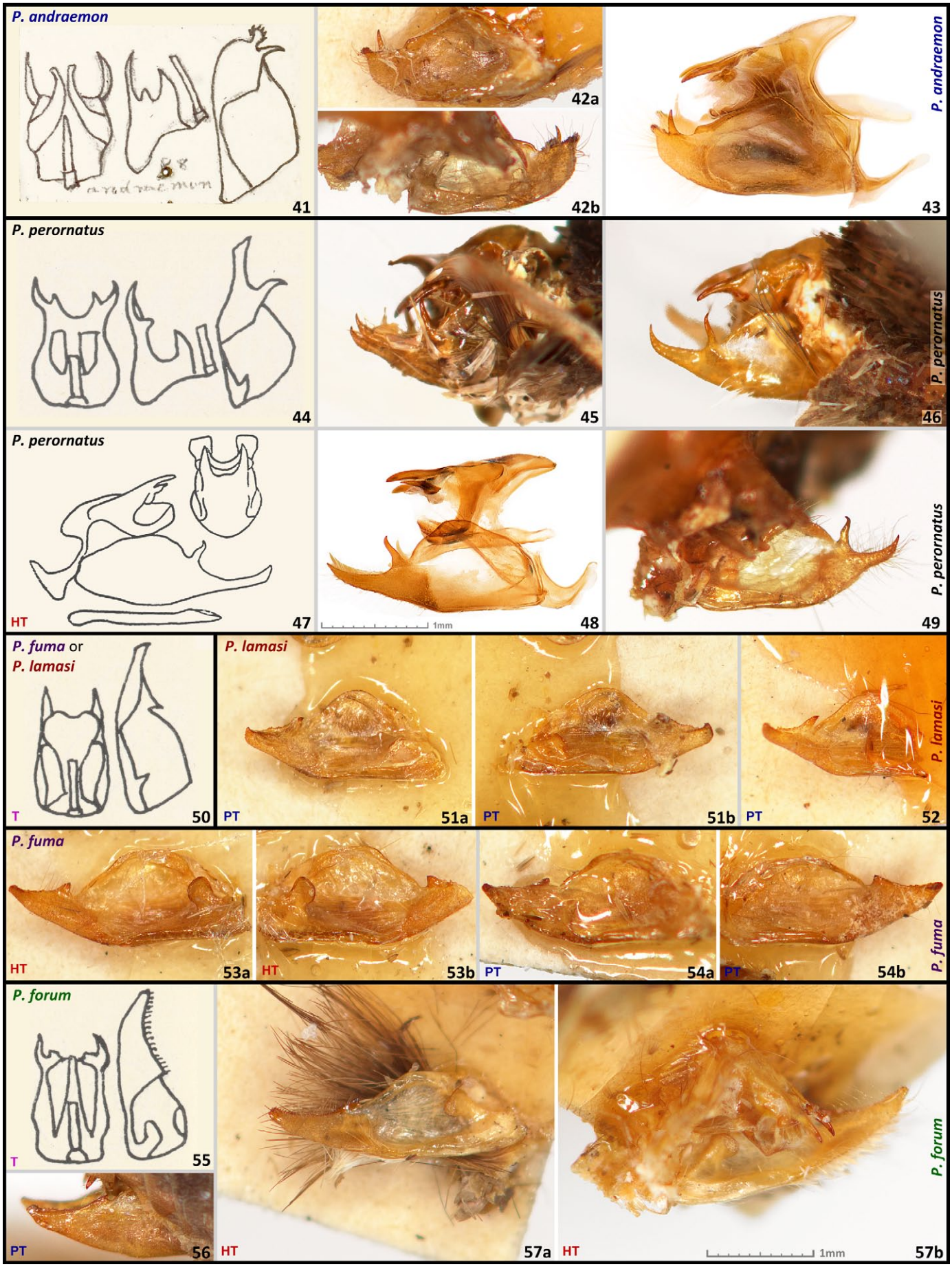


Figs. 25-34. *Potamanaxas lamasi* n. sp. and *P. fuma* type specimens. 25-26. - *P. lamasi* **n. sp.** holotype, Peru, (genitalia shown in Fig. 58), **27-28**. - *P. lamasi* **n. sp.** paratype, [Peru], J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054046 (valvae shown on Figs. 51ab); **29-30**. - *P. lamasi* **n. sp.** paratype, Peru: Charape 4000 ft. Sep-Oct 1912, A. & E. Pratt, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054132 (valva shown on Fig. 52); **31-32**. - *P. fuma* [para]type, Peru: Huancabamba, 6000-10000 ft, Boettger, ex coll. Hamilton Druce, 1919, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054131, (valvae shown on Figs. 54ab); **33-34**. - *P. fuma* [holo]type, Peru: Huancabamba, Boettger, Adams Bequest. B.M. 1912-399, specimen No. BMNH(E) #1054202 (valvae shown on Figs. 53ab). Dorsal and ventral surfaces are shown on odd- and even-numbered figures, respectively. In paratypes, pinholes and some other imperfections have been digitally removed to emphasize actual elements of the pattern. Labels are shown for all specimens between dorsal and ventral views and are reduced 2.5 times compared to specimens: smaller scale bar below the labels of *P. lamasi* holotype is for labels, larger scale bars refer to specimens. Round white type label for *P. fuma* [holo]type is shown in dorsal and ventral views. All specimens are males; **25-26** is in MUSM collection, photographs by Jim P. Brock; all others are in BMNH collection and are copyright (©) Trustees of the Natural History Museum, London (used with permission).



Figs. 35-40. ***Potamanaxas forum*** **type specimens. 35-36**. - [holo]type, Bolivia: Yungas & La Paz, 1000 m, ex. H. Rolle, 1902, R. Oberthür Coll., Brit. Mus. 1931-136, specimen No. BMNH(E) #1054203 (genitalia shown on Figs. 57ab); **37-38**. - [para]type, Bolivia: Hewitson Coll., 79-69, specimen No. BMNH(E) #1054030; **39-40**. - [para]type, Peru: Cuzco, 2-3000 m, H. Rolle, Berlin, S.W. 11, ex. coll. P. Mabille, 1923, specimen No. BMNH(E) #1054030 (distal end of genitalia *in situ* shown in Figs. 56). Dorsal and ventral surfaces are shown on odd- and even-numbered figures, respectively. In paratypes, pinholes and some other imperfections have been digitally removed to emphasize actual elements of the pattern. "F" to the left of an image indicates mirror image (left-right inverted). Labels are shown between dorsal and ventral views and below specimens and are reduced 2.5 times compared to specimens: small scale bar below the [holo]type labels is for labels, and larger scale bars refer to specimens. Round white type label for the [holo]type is shown in dorsal and ventral views. Label shown below **37** is the underside of the label shown between **37** and **38**. All specimens are males and are in BMNH collection. Copyright (©) all images: Trustees of the Natural History Museum, London (used with permission).

Figs. 41-57. ***Potamanaxas*** **male genitalia. 41-43**. - *P. andraemon*; **44-49**. - *P. perornatus*; **50.** - *P. fuma* or *P. lamasi* **n. sp.**; **51-52**. - *P. lamasi* n. sp.; **53-54**. - *P. fuma*; **55-57**. - *P. forum*. **41**. - Sketch by W. H. Evans pinned to the right of the BMNH collection specimen shown in Figs. 3-4, genitalia Figs. 42ab; **44**, **50**. and **55**. - illustrations from Evans (1953, plate 43); Evans sketches show left-to-right: ventral view of tegumen with associated structures and penis, right lateral view of the same (omitted on Figs 50, 55), and left valva in interior later view; **47**. - original illustration from Hayward (1940), left lateral view of genitalia, penis below and distodorsal view of uncus, gnathos and tegumen on the right. Data for specimens: **42**. - *P. andraemon*, Colombia, 32. 21. ex. coll. Dognin, 1921, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054042 (specimen shown in Figs. 3-4); **43.** - *P. andraemon*, Colombia: Valle del Cauca, above Pance, 4000' 19-Jan-1985, leg. J. B. Sullivan (specimen shown in Figs. 7-8); **45**. - *P. perornatus*, Ecuador: "Environs de Loja", 1890, 32. 21. ex. coll. Dognin, 1921, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054044 (specimen shown in Figs. 17-18); **46**. - *P. perornatus*, Ecuador: Rio Verde, Rio Pastaza, 5000 ft, M. G. Palmer, ex. coll. Hamilton Druce, 1919, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054028 (specimen shown in Figs. 13-14); **48**. - *P. perornatus*, Colombia: Arcabuco Boyaca, 2200 m, 31-Jan-1971, S. S. & S. Nicolay, genitalia vial # H754 prep. S. S. Nicolay, right vinculum arc missing (specimen shown in Figs. 19-20); **49**. - *P. perornatus*, Ecuador: Ambato, Anda Vasconez, R. Oberthür Coll., Brit. Mus. 1931-136, specimen No. BMNH(E) #1054029 (specimen shown in Figs. 21-22); **51**. - *P. lamasi* **n. sp.** paratype, [Peru], J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054046 (specimen shown in Figs. 27-28); **52**. - *P. lamasi* **n. sp.** paratype, Peru: Charape 4000 ft. Sep-Oct 1912, A. & E. Pratt, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054132 (specimen shown in Figs. 29-30); **53**. - *P. fuma* [holo]type, Peru: Huancabamba, Boettger, Adams Bequest. B.M. 1912-399, specimen No. BMNH(E) #1054202 (specimen shown in Figs. 33-34); **54**. - *P. fuma* [para]type, Peru: Huancabamba, 6000-10000ft, Boettger, ex coll. Hamilton Druce, 1919, J. J. Joicey Coll. B.M. 1925-451, specimen No. BMNH(E) #1054131 (specimen shown in Figs. 31-32); **56**. - *P. forum* paratype, Peru: Cuzco, 2-3000 m, H. Rolle, Berlin, S.W. 11, ex. coll. P. Mabille, 1923, specimen No. BMNH(E) #1054030 (specimen shown in Figs. 39-40); **57**. - *P. forum* [holo]type, Bolivia: Yungas & La Paz, 1000 m, ex. H. Rolle, 1902, R. Oberthür Coll., Brit. Mus. 1931-136, specimen No. BMNH(E) #1054203 (specimen shown in Figs. 35-36). All non-drawings are W. H. Evans dry mounts on carton cards, except **43** and **48**, which are fully dissected and photographed in glycerol complete genitalia shown in right lateral view; and **45-46**, **56**, which are *in situ* right lateral views of abdomen distal end. Different species are framed in black; different specimens are separated by gray; different views of the same specimen are separated by white; **a** and **b** refer to the same specimen and are interior views of left and right valva, respectively. **49**. - left lateral view of genitalia with left valva removed. **52**. - interior view of left valva. All images except drawings are to scale. Drawings are scaled approximately. All specimens drawn and photographed are in BMNH collection except **43** and **48**, which are in USNM collection and **47**, which is in IFML collection. Copyright (©) of all photographs except **43, 47-48**: Trustees of the Natural History Museum, London (used with permission).


P. andraemon
41
42a
42b
P. andraemon
43
P. perornatus
44
45
P. perornatus
46
P. perornatus
HT
47
1mm
48
P. perornatus
49
P. fuma or
P. lamasi
T
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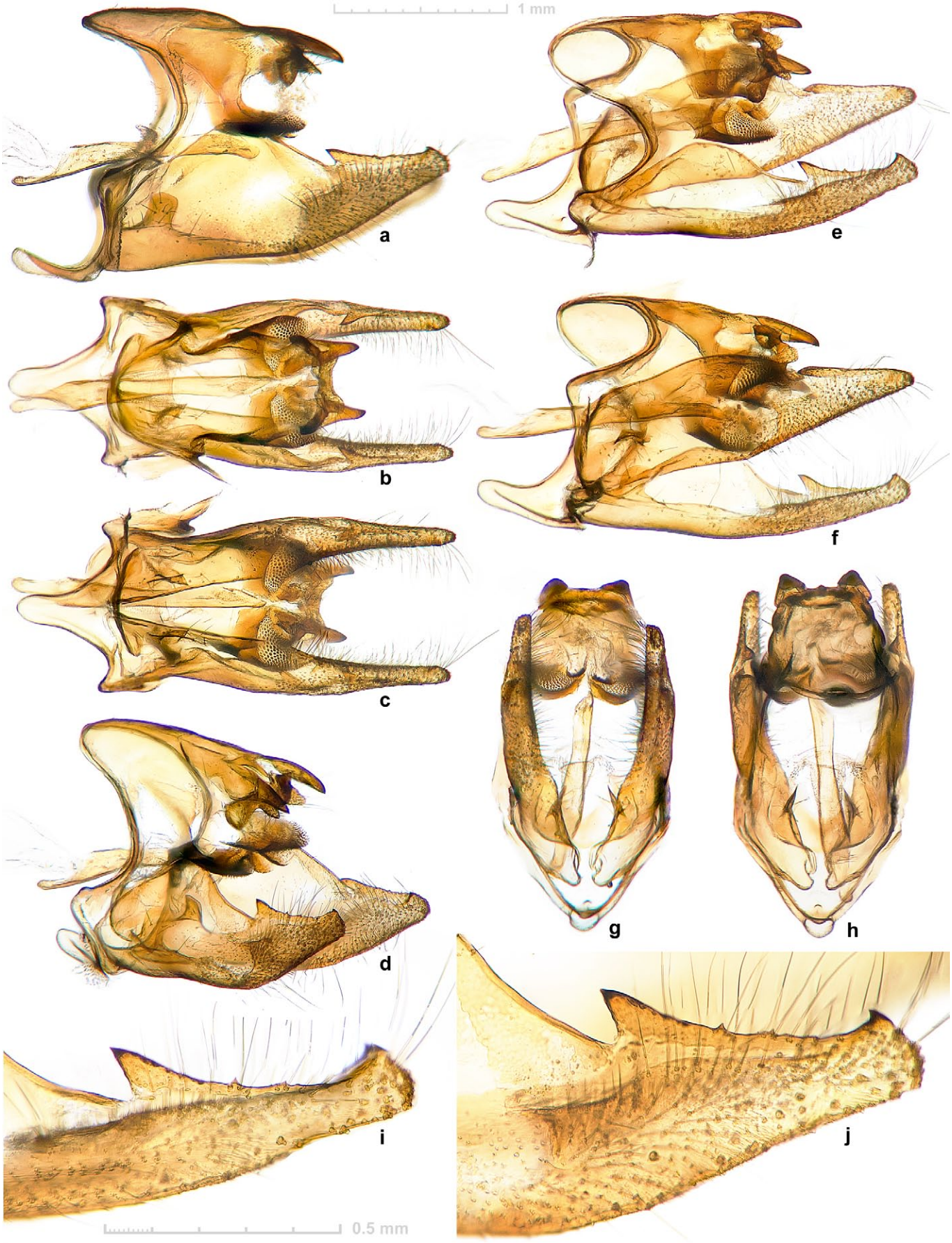

Fig. 58. ***Potamanaxas lamasi*** **n. sp. male genitalia, holotype. a-h.** - Complete genital capsule in different views: **a**. - left lateral, **b**. - dorsal, **c**. - ventral, **d**. - left posteriorlateral, **e**. - left dorsolateral, **f**. - left ventrolateral, **g**. - posteriorventral, **h**. - anteriordorsal; 1 mm scale bar for these images is shown on top. **i-j**. - magnified distal end of left valva in left exterior view: **i**. - dorsolateral, **j**. - lateral, 0.5 mm scale bar is shown at the bottom.

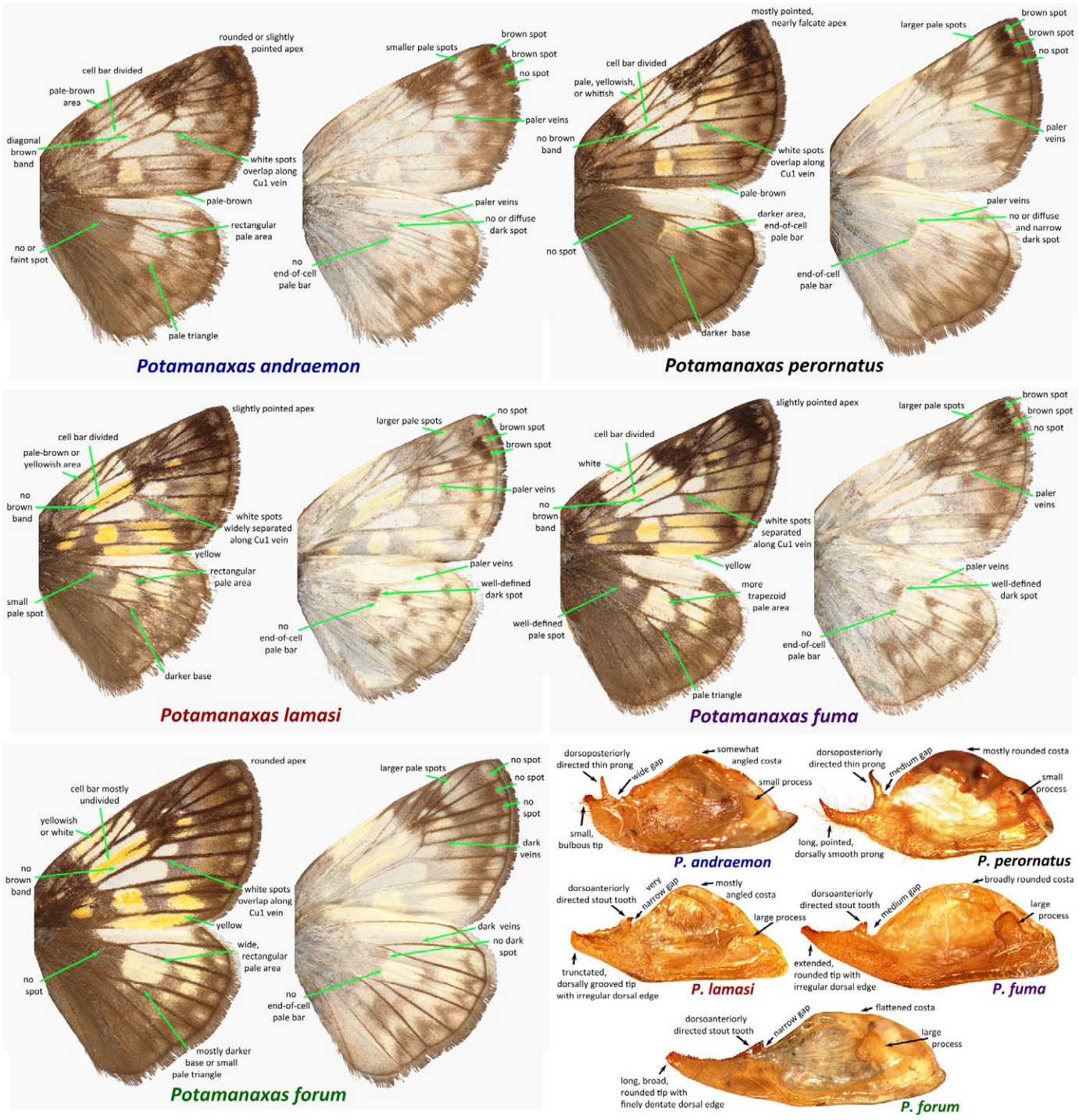

Fig. 59. Visual keys to males of *Potamanaxas* species from the *andraemon* group. Dorsal and ventral wing aspects for each species are shown on the left and right, respectively. Interior views of valvae are shown in lower right panel. Arrows point to characters that are briefly explained in words. Only the **key to valvae is expected to be diagnostic** and should be referred to in serious work. Due to very small samples of specimens available for analysis, wing characters indicated are very preliminary, entirely unexplored in females, and some may not hold in larger series. A combination of all characters and a close comparison with specimens illustrated in Figs. 1-58 that show variation are more meaningful for successful identification. Wings shown are illustrations, frequently composites of photographic segments from left and right sides and of several specimens that are combined and digitally edited to highlight the wing patterns instead of imperfections in specimens. Scale is only approximate. Valvae were digitally extracted from the background and due to the difficulty in tracing the boundaries minor imperfections in their shape might have been inadvertently introduced. However, unedited photographs of primary type specimens and genitalia are shown in other figures. All images are copyright (©) Trustees of the Natural History Museum, London (used with permission).

characters for female identification. Three female specimens available for the analysis were tentatively identified as *P. perornatus* and are characterized by a much darker apical third of the ventral forewing and more extensive pale areas on the dorsal hindwing than males, and in these characters they are more similar to *P. frenda*. It is hoped that the following key reflects the phylogeny of these species and the essential characters listed are synapomorphic for their respective groups. The following list order and relationship between species is proposed: {[*andraemon, perornatus*], [(*lamasi*, *fuma*), *forum*]}. In this order, species are simply arranged geographically, north-to-south and west-to-east (Fig. 60). However, hypothesized phylogenetic affinities are apparently satisfied as well.

KEY TO MALES OF *P. ANDRAEMON* GROUP

1a. Cucullus dorsally at its base with a thin horn-like prong directed posteriordorsad. Cell 2A on dorsal forewing pale-brown.....**2**

1b. Cucullus dorsally at its base with a stout, tooth-like projection directed anteriordorsad. Cell 2A on dorsal forewing with a broad yellow streak.....**3**

2a. Cucullus with a small, bulbous, finely granular tip at its distal end. Usually paler: dorsal hindwing with a rectangular pale area distally of discal cell, base of cell M_3-Cu_1 is pale; forewing discal cell posterior of the central crease with diagonal band of brown scales in distal third. Forewings typically more rounded. Colombia (west)..... .....***P. andraemon***

2b. Cucullus with a long, pointed (smooth and rounded in cross-section) prong at its distal end. Usually darker: hindwing with a narrow pale area at the end of discal cell, base of cell M_3-Cu_1 is dark; forewing discal cell posterior of the central crease pale and unmarked, without diagonal band of brown scales in distal third. Forewings more pointed, frequently nearly falcate. Colombia (east), Ecuador (east), Peru (north).....***P. perornatus***

3a. Cucullus with a shorter, rounded or truncated tip at the distal end, dorsal edge of cucullus is irregular, but not finely dentate. Veins weakly overscaled with brown ventrally, especially hindwing Sc+R_1, central crease in forewing discal cell scaled brown dorsally over the entire length, starting from the base of cell; white spots in cells M_3-Cu_1 and Cu_1-Cu_2 separated along Cu_1, i.e. spot in Cu_1-Cu_2 ends at the base of Cu_1. Forewings more pointed. **4**

3b. Cucullus with a long, broad, rounded tip at the distal end, dorsal edge of cucullus is distally finely dentate. Veins prominently overscaled with brown in distal half of wings venter, even hindwing vein Sc+R_1, central crease in forewing discal cell scaled brown only in distal half leaving the yellowish spot mostly undivided; white spots in cells M_3-Cu_1 and Cu_1-Cu_2 broadly overlap along Cu_1 vein, i.e. spot in Cu_1-Cu_2 continues distally past the base of Cu_1. Forewings more rounded. Peru (south), Bolivia..... ***P. forum***

4a. Cucullus with a truncated, slightly upturned distal end terminating at a dorsointerior-directed obtuse point, prominent groove along its dorsal edge on the inside, marking a thin ridge along the exterior side with the basal tooth; the gap between cucullus basal tooth and ampulla is narrower. Valva broader, its costa angled apically. Appears darker: dorsal hindwing with a small and diffuse pale spot in discal cell basad of the origin of Rs, narrower, almost rectangular pale area distad of discal cell, base of cell M_3-Cu_1 is darker; dorsal forewing with pale-brown or yellowish costal cell, white spots in cells M_3-Cu_1 and Cu_1-Cu_2 are separated by an area of brown scales. Ventral forewing with the darkest apical spots in cells R_5-M_1 and M_1-M_2. Peru (north & central)..... .....***P. lamasi*** n.sp.

4b. Cucullus with more elongated and rounded distal end, groove is absent or residual along its dorsal edge; the gap between cucullus basal tooth and ampulla is wider. Valva narrower, its costa rounded apically. Appears paler: dorsal hindwing with a larger pale spot in discal cell basad of the origin of Rs, broader, trapezoidal and extending posterordistad pale area distad of discal cell, base of the cell M_3-Cu_1 is pale; dorsal forewing with whitish distal half of costal cell, white spots in cells M_3-Cu_1 and Cu_1-Cu_2 touch at the origin of Cu_1. Ventral forewing with the darkest apical spots in cells R_4-R_5 and R_5-M_1. Peru (cent ral).....***P. fuma***

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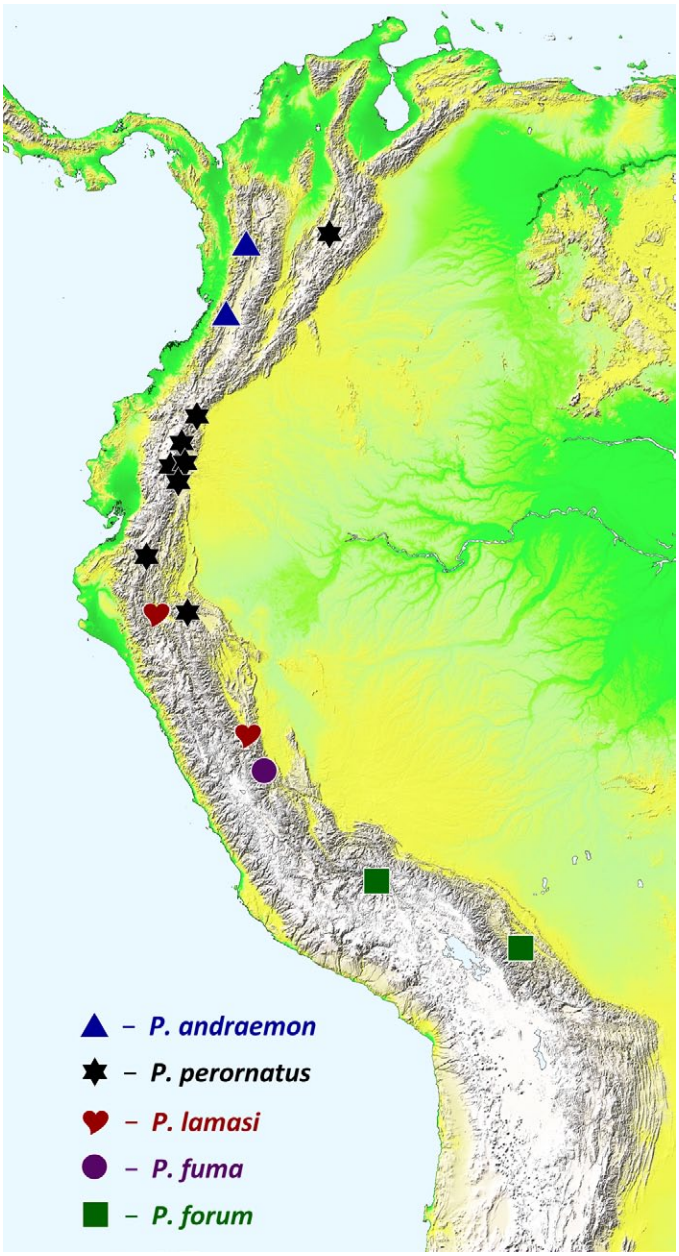

Fig. 60. Distribution of *Potamanaxas andraemon* group species. *P. andraemon* − blue triangles, *P. perornatus* − black stars, *P. lamasi* − red hearts, *P. fuma* − purple disk, *P. forum* − green squares.

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