A distinctive new species of *Hermeuptychia* Forster, 1964 from the eastern tropical Andes (Lepidoptera: Nymphalidae: Satyrinae)

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Abstract: A distinctive new species from montane forest in the eastern tropical Andes is described in the taxonomically complex genus *Hermeuptychia* Forster, 1964. Unusually for the genus, the new species, *H. clara* Nakahara, Tan, Lamas & Willmott **n. sp.** is readily distinguished from all other *Hermeuptychia* on the basis of the ventral wing pattern. A summary of the morphology, biology, distribution and relationships of the species is provided.

Key words: Neotropical, *Hermeuptychia*, *Hermeuptychia clara* **n. sp.**, Ecuador, Peru, montane forest

Resumen: Una nueva especie distintiva del bosque montano del oriente de los Andes tropicales, es descrita para el género taxonómicamente complejo *Hermeuptychia* Forster, 1964. Inusualmente para el género, la nueva especie, *H. clara* Nakahara, Tan, Lamas & Willmott **n. sp.** se distingue fácilmente de todas las otras *Hermeuptychia* sobre la base del patrón de coloración ventral. Se proporciona un resumen de la morfología, biología, distribución y relaciones de la especie.

Palabras clave: Neotropical, *Hermeuptychia*, *Hermeuptychia clara* **n. sp.**, Ecuador, Perú, bosque montano

INTRODUCTION

The Neotropical butterfly genus *Hermeuptychia* Forster, 1964 is one of the most taxonomically complex genera of common butterflies in the world, and certainly the most challenging in the butterfly subtribe Euptychiina. Although the genus itself appears to be monophyletic (e.g., Seraphim *et al.*, 2014), the species-level classification is greatly complicated both by morphological homogeneity and high intraspecific variability. Adults of all of the known members of *Hermeuptychia* are small with almost uniformly brown wings, with only a few darker lines and ocelli to provide external clues to species identity. The genus extends throughout the southeastern USA and Neotropics as far as northern Argentina, and some species are very common in the field (pers. obs.).

Forster (1964) described *Hermeuptychia* based on its somewhat distinct male genitalia and similar overall appearance, recognizing eight species in this genus, and designated *Papilio hermes* Fabricius, 1775 as the type species. Lamas (2004) also listed eight described species in the genus and four undescribed species, and Seraphim *et al.* (2014) attempted to define species using both DNA "barcodes" and genitalic characters. That paper provided an important impetus for additional research on the genus, and shortly afterwards an additional two cryptic species that are locally common in the southeastern USA were described by Cong & Grishin (2014). These two species were also identified partly based on DNA barcodes, and partly on genitalic and wing pattern differences (Warren *et al.*, 2014). Nevertheless, these studies suggest that the recent descriptions of *Hermeuptychia* represent just the proverbial tip of the iceberg, with ongoing molecular study by DT, N. Grishin, N. Seraphim and other collaborators suggesting that the true species diversity of this genus is seriously underestimated (Tan, unpubl. data).

Compounding the problems of species delimitation is the correct application of existing names, with about twice as many names described as the number of currently recognized taxa (Lamas, 2004), and three names dating from the late 1700s. A large scale study of DNA barcodes, genomic-level sequence data, morphology, and type specimens is therefore underway in an attempt to improve our understanding of the taxonomy and evolution of *Hermeuptychia*.

Despite the taxonomic problems within *Hermeuptychia*, one of the new species listed by Lamas (2004), which occurs from Colombia to Peru, is readily identifiable based on wing pattern, and clearly distinct from all other known species, both described and undescribed. The purpose of this paper is, therefore, to describe this distinctive species and summarize its distribution and biology, at the same time contributing to faunistic inventories of both Ecuador and Peru that are in progress by the authors.

MATERIALS AND METHODS

Morphological study. Adult legs, labial palpi, and abdomens were soaked in hot KOH solution for 5–10 minutes prior to dissection, dissected, and subsequently stored in glycerin. Drawings of genitalia and other appendages were done using a camera lucida attached to a Leica MZ 16 stereomicroscope. Terminology for wing venation and pattern elements, in addition

to genitalia terminology follows that in Nakahara *et al.* (2015), and we use DFW, VFW, DHW and VHW to refer to dorsal and ventral forewing and hindwing, respectively.

Specimens of *Hermeuptychia* species were studied in collections to collect distribution data, examine variation, and locate type specimens, and the following codens are used:

MECN Museo Ecuatoriano de Ciencias Naturales, Quito, Ecuador
MGCL McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, FL, USA
MUSM Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru

Molecular study. DNA was extracted from two legs of *Hermeuptychia* specimens using the Qiagen DNeasy blood & tissue kit (Qiagen, Valencia, CA, USA). Part of the Cytochrome Oxidase (COI) gene (the 'barcode' region, Hebert *et al.*, 2003) was amplified using the following primers: LCO_nym (forward, TTTCTACAAATCATAAAGATATTGG) and HCO_nym (reverse, TAAACTTCAGGGGTGACCAAAAAATCA). Polymerase Chain Reactions were conducted using standard procedures (e.g., Willmott & Hall, 2013) and PCR products were checked using a 1.2% agarose gel stained with ethidium bromide. Purification and sequencing were done at the Interdisciplinary Center for Biotechnology Research (ICBR) at the University of Florida. To study the relationships and status of this species, we compared its DNA barcode with additional sequences available through Genbank and BOLD databases. The final dataset consisted of 335 *Hermeuptychia* sequences (11 of these were generated in this study) and 8 outgroup sequences (see Seraphim *et al.* (2014) for details on outgroup choice). All 343 sequences were aligned using MAAFT v7 (FFT-NS-i iterative refinement method; Katoh & Standley 2013) and trimmed to minimize missing data (final alignment was 684 base pairs in length). Amino acid sequences were checked to ensure there were no stop codons present. A maximum likelihood analysis was performed using RAxML v8.2.9 (partitioned by codon positions, GTR+G, 500 replicates for rapid bootstrapping; Stamatakis, 2014), implemented on the CIPRES Science Gateway portal (Miller *et al.*, 2010). Resulting phylogenetic trees were visualized and edited in Figtree v1.4.3 (http://tree.bio.ed.ac.uk/software/figtree/). Several hundred additional, new DNA barcodes from ongoing research on Ecuadorian *Hermeuptychia* were also included to test the robustness of conclusions derived using published data. Since addition of these data did not affect our conclusions, results are not shown here, and only sequences from the new species have been uploaded to Genbank (Table 1; for a list of all sequences included in this analysis please see Appendix).

Table 1. Genbank accession numbers for COI barcode sequences of *H. clara* **n. sp.** specimens studied here.

Tissue voucher number	Locality	Genbank accession number
LEP-04287	Ecuador, Z. Ch., Quimi-Cóndor Mirador rd.	KY236307
LEP-04289	Ecuador, Z. Ch., km 13 Los Encuentros-Zarza	KY236308
LEP-04290	Ecuador, M. Sant., Cóndor Mirador	KY236309
LEP-04292	Ecuador, Z. Ch., Quimi-Cóndor Mirador rd.	KY236310
LEP-14801	Ecuador, Z. Ch., km 16 Yacuambí-Saraguro, Corral Pamba	KY236311
LEP-14802	Ecuador, Z. Ch., km 16 Yacuambí-Saraguro, Corral Pamba	KY236312
LEP-14803	Ecuador, Z. Ch., km 16 Yacuambí-Saraguro, Corral Pamba	KY236313
LEP-14804	Ecuador, M. Sant., km 3 Chigüinda-Gualaceo rd.	KY236314
LEP-14805	Ecuador, Z. Ch., Yacuambí-Tutupali rd., Casc. Tres Chorros	KY236315
LEP-18086	Ecuador, Tungurahua, km 20 Puyo-Baños rd.	KY236316
LEP-18087	Ecuador, Tungurahua, km 20 Puyo-Baños rd.	KY236317

TAXONOMY

Hermeuptychia clara
Nakahara, Tan, Lamas & Willmott, **new species**
(Figs 1–6)

Hermeuptychia [n. sp.] Lamas, MS; Lamas, 2004: 220 (#1381)

MALE (Figs 1A,B,2,3A–C): FW length 18 – 19 mm (mean 18.8 mm, n=6). **Head:** Eyes naked, white scales at base; labial palpi first segment short, covered with long white or black hair-like modified scales ventrally, covered with white scales partially with black laterally and dorsally; second segment slightly longer than long eye diameter, ventrally covered with long white or black hair-like modified scales 3–4 times as long as segment width, laterally covered with black scales, distal end of dorsal surface covered with black scales, middle section of dorsal surface covered with hair-like modified scales about same length as segment width, basally covered with creamy-white scales; third segment about half that of second segment in length, covered with black scales dorsally, creamy-white scales laterally, ventrally covered with black short hair-like modified scales; antennae approximately two-fifths of forewing in length, with about 34 segments (n=2), pedicel about half of scape in length, flagellum lighter than scape and pedicel, first segment relatively long, distal 12–13 segments composing club. **Thorax:** Dorsally covered with grayish scales and long multi-colored hair-like modified scales; ventrally scattered with grayish scales. **Legs:** Foreleg tarsus, tibia and femur similar in length, small subsegment present at distal end of tarsus; tarsus and tibia of prothoracic legs adorned with spines ventrally, tibial spurs present at distal end of tibia. **Abdomen:** Eighth tergite reduced, somewhat like a stripe restricted to very basal side of eighth abdominal segment; eighth sternite divided into two sclerotised portions in ventral view. **Wing venation** (Fig. 2A): Forewing recurrent vein absent; forewing cubital vein with basal thickening present, origin of vein M_3 closer to Cu_1 than M_2; hindwing humeral vein developed. **Wing shape** (Figs 1A,B): Forewing outer margin relatively straight; hindwing rounded. **Wing pattern** (Figs 1A,B): *Dorsal forewing*: ground color brown, apex and distal area darker; indistinct, thin dark submarginal line traversing from apex to tornus. *Dorsal hindwing*: ground color same as forewing; dark submarginal line extending from apex to tornus, very slightly undulating; concolorous marginal line, traversing from apex to tornus, parallel to submarginal line, bordered distally by scattered pale brown scales; submarginal ocelli in cells Cu_1 and M_1 of ventral surface faintly visible as dark spots. *Ventral forewing*: ground color yellowish brown, except with paler scattered whitish scales in distal half of postdiscal band; reddish brown discal band extending from R to cell Cu_2, crossing discal cell in a slightly inward diagonal direction; narrow dark scaling along m_1-m_2 and m_2-m_3, concolorous and almost parallel to discal band; concolorous postdiscal band traversing from cell R_5 to 2A; brown submarginal line, slightly undulating, traversing from apex to 2A; marginal band concolorous, slightly undulating from apex to 2A, parallel to submarginal band; fringe yellowish brown; submarginal ocelli in cells R_5, M_1, M_2, M_3 and Cu_1, ocellus in cell R_5 smallest, ocellus in cell M_3 largest, all ocelli with yellow ring, ocellus in cell M_1 black inside yellow ring with white pupil in center (presence/absence of black coloration and white pupil in other ocelli variable); ocelli surrounded by dark grey shading along area between postdical and submarginal band. *Ventral hindwing*: ground color same as forewing; dark discal band almost same width as forewing discal band, straight, extending from costal margin to inner margin; postdiscal band parallel to discal band, concolorous, almost same in width, extending from costal margin to inner margin; area between post discal band and submarginal ocelli with scattered whitish scales, appearing to form an even, whitish band; dark wavy submarginal line traversing from apex to tornus, narrower than postdiscal band, area basal to submarginal band greyish in cells M_2, M_3 and partially in cell Cu_1; area between submarginal band and marginal band grayish; marginal line, concolorous, almost same width as submarginal line, extending from apex to tornus, parallel to submarginal line; area distal to marginal line grayish; fringe yellowish brown; submarginal ocelli in cells R_5, M_1, M_2, M_3, Cu_1 and Cu_2, ocellus in cell Rs smallest, ocelli in cells M_1 and Cu_1 largest and often similar in size, ocelli in cells Rs, M_1, Cu_1 and Cu_2 black with white pupil in center, ringed in yellow, ocelli in cells M_2 and M_3 with yellow

ring and central white pupil, without black coloration; ocelli surrounded by dark gray shading along area between postdiscal and submarginal band.

Male genitalia (Fig. 3A-C): Tegumen rounded in dorsal view, anterior half of dorsal margin curved in lateral view, ventral margin almost straight in lateral view; uncus narrow, slightly curved, without setae, slightly tapered posteriorly, almost same as tegumen in length; brachia freely articulated, almost same as uncus in length in dorsal view, apical point above uncus in lateral view and hooked inwards in dorsal view; ventral arms of tegumen from posterior margin of tegumen and medially divided, middle section roughly straight; appendices angulares present; saccus about same as tegumen in length, dorsal arms of saccus combined with ventral arms of tegumen; juxta present as very inconspicuous, simple band; valvae with seteae at distal half positioned at approximately 30º angle to horizontal, basal two-thirds of ventral margin concave in lateral view, distal one-thirds narrow, tapering towards apex, apex rounded; aedeagus about as same length as valva, slightly hooked upwards posteriorly, open anterodorsally, posteriorly bifid, cornuti absent.

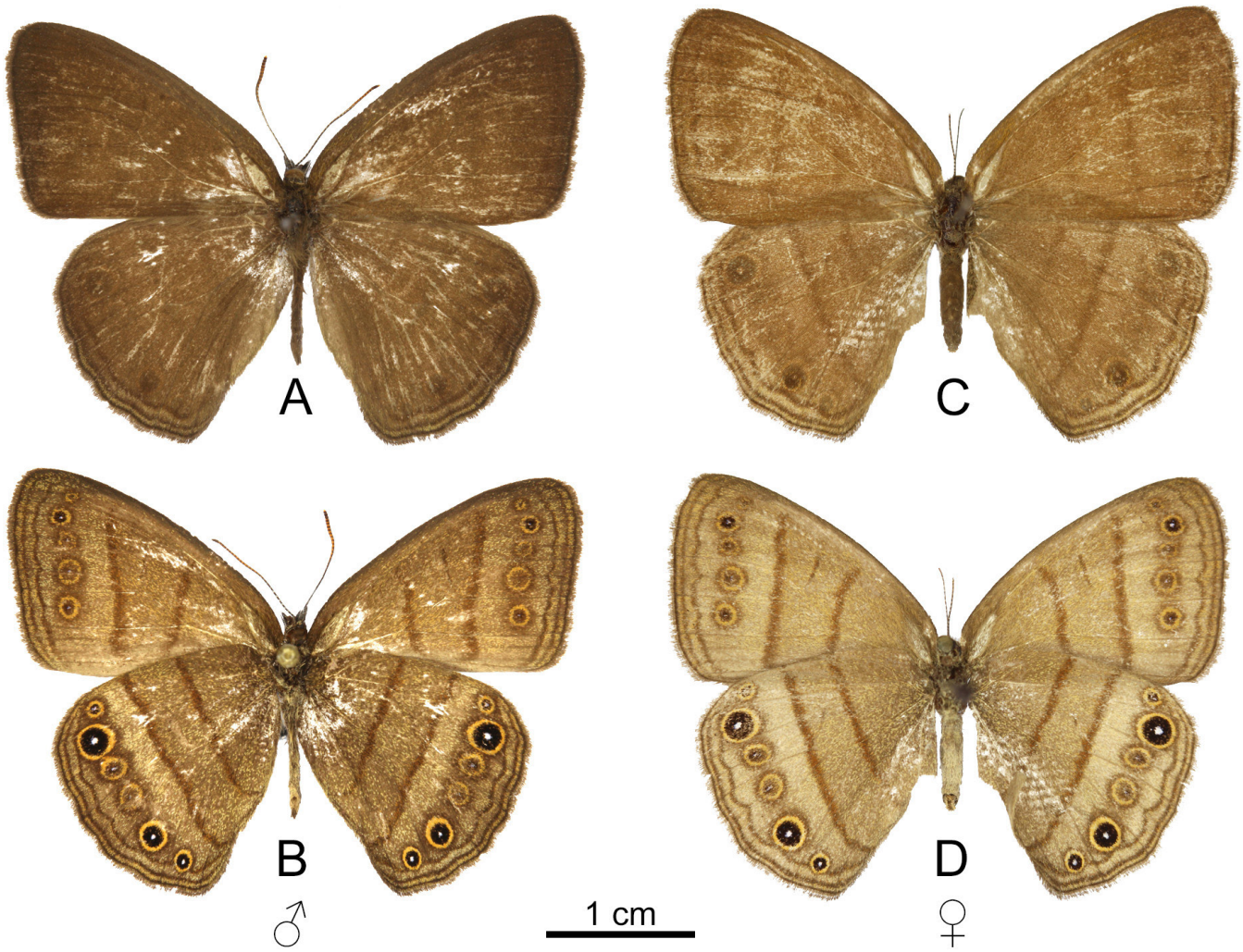

Fig. 1. *Hermeuptychia clara* **n. sp.** specimens. **A**) **Holotype** ♂ (FLMNH-MGCL-147887), eastern Ecuador (dorsal surface); **B**) ventral surface of (A); **C**) Paratype ♀, eastern Ecuador (dorsal surface); **D**), ventral surface of (C).

FEMALE (Figs 1C,D,2,3D–F): FW length 18 – 19 mm (mean 18.7, n=3): Similar to male except as follows: female foretarsus (Fig. 2E) divided into five segments; forewing shape broader; ventral surface ground color paler, thus making other wing elements somewhat pale.

Female genitalia (Figs 3D–F): Lamella antevaginalis sclerotized, cup-shaped, posterior dorsal margin of lamella antevaginalis forming a plate extending from right side of lamella antevaginalis in ventral view; lateral side of 8th abdominal segment sclerotized; ductus bursae membranous, sclerotized portion present inside basal side of ductus bursae, apparently connects with lamella antevaginalis; origin of ductus seminalis close to ostium bursae; corpus bursae ellipsoidal in dorsal view, extending to 4th abdominal segment, with signum absent.

Etymology. The specific epithet is derived from the Latin feminine adjective meaning ‘clear, distinct, notorious’, in reference to the fact that this is one of the more phenotypically distinct species among the genus.

Specimens examined. HOLOTYPE MALE: ECUADOR: *Zamora-Chinchipe*: Quimi-Cóndor Mirador rd., [3°36’1”S,78°28’31”W], 1000 m, (Willmott, K. R., Hall, J. P. W.), 7 Aug 2009, [FLMNH-MGCL-147887], (to be deposited in MECN).

PARATYPES (20 ♂, 9 ♀): ECUADOR: *Tungurahua*: km 20 Puyo-Baños rd., [1°25’19”S,78°10’30”W], 1250 m, (Nakahara, S.), 11 Jun 2014, 3 ♂, [LEP-18086; LEP-18087], (MGCL); Río Machay, [1°23’20”S,78°16’49”W], 1550 m, (Willmott, K. R., Hall, J. P. W.), 4–5 Feb 1995, 1 ♀, (MGCL); *Morona-Santiago*: 2 km SW Limón, [2°58’38”S,78°27’16”W], 1170 m, (Robert, J. H.), 10 Aug 1976, 1 ♂ [FLMNH-MGCL-280489], 1 ♂ [FLMNH-MGCL-280490], (MGCL); Cóndor Mirador, [3°21’43”S,78°23’35”W], 1810 m, (Hartley, E.), 24 Aug 2010, 1 ♀ [CON152], (MGCL) (CULEPEX Expedition, 2010); Cóndor Mirador, [3°38’29”S,78°23’35”W], 1800 m, (Willmott, K. R., Hall, J. P. W.), 7 Aug 2009, 1 ♂ [FLMNH-MGCL-147890], 1 ♀ [FLMNH-MGCL-147891; LEP-04290], (MGCL); Cóndor Mirador, [3°38’30”S,78°24’5”W], 1764 m, (Buckland, K.), 24 Aug 2010, 1 ♂ [CON154], (MGCL) (CULEPEX Expedition, 2010); Cóndor Mirador, [3°38’31”S,78°24’14”W], 1745 m, (Hartley, E.), 24 Aug 2010, 1 ♂ [CON151], (MGCL) (CULEPEX Expedition, 2010); Cóndor Mirador, [3°38’35”S,78°24’16”W], 1763 m, (Buckland, K.), 24 Aug 2010, 1 ♀

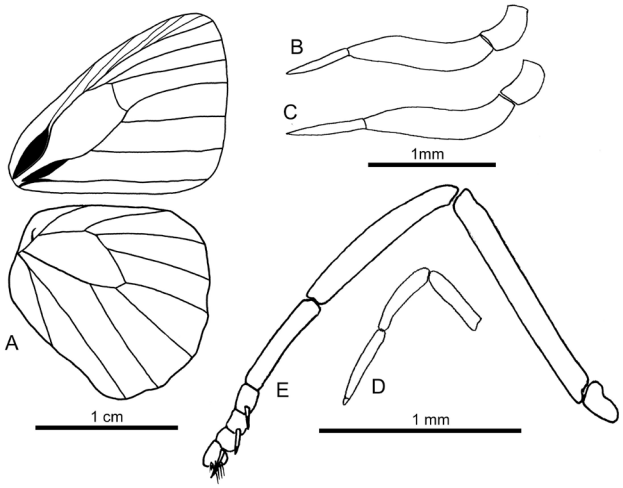

Fig. 2. *Hermeuptychia clara* **n. sp.** morphology. **A**) ♂ wing venation; **B**) ♂ labial palpus in lateral view; **C**) ♀ labial palpus in lateral view; **D**) ♂ foreleg; **E**) ♀ foreleg.

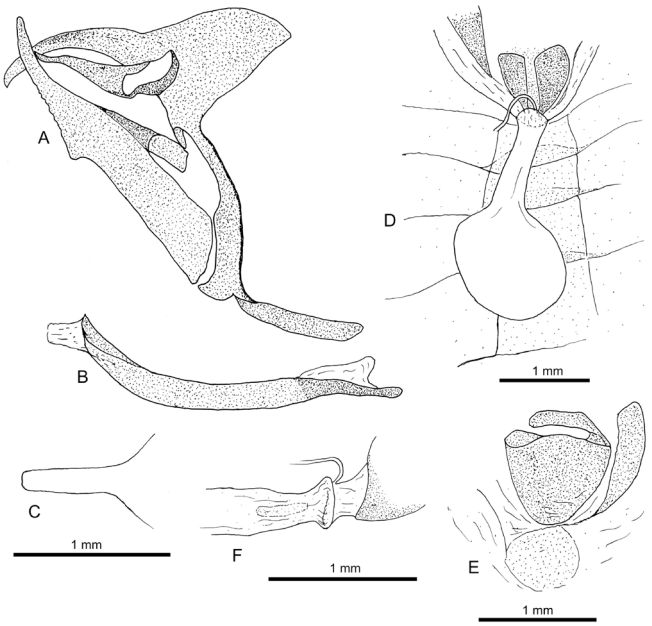

Fig. 3. *Hermeuptychia clara* **n. sp.** male and female genitalia. **A**) ♂ genitalia, lateral view, setae omitted from valva; **B**) ♂ aedeagus in lateral view; **C**) ♂ uncus in dorsal view; **D**) ♀ genitalia in dorsal view; **E**) ♀ genitalia, lamella antevaginalis in ventral view; **F**) ♀ genitalia, base of ductus bursae in lateral view (SN-15-137, SN-15-139).

[CON153], (MGCL) (CULEPEX Expedition, 2010); km 3 Chigüinda-Gualaceo rd., [3°13’10”S,78°44’22”W], 1630 m, (Willmott, K. R., J. C. R, J. I. R.), 14 Jun 2013, 1 ♀ [FLMNH-MGCL-157471; LEP-14804], (MGCL), 1 ♀, (MECN); *Zamora-Chinchipe:* km 10 Los Encuentros-El Panguí, ridge E San Roque, [3°42’11”S,78°35’36”W], 1050 m, (Willmott, K. R., Hall, J. P. W.), 4 Aug 2009, 1 ♀ [FLMNH-MGCL-147892], (MGCL); km 13 Los Encuentros-Zarza, [3°48’33”S,78°36’20”W], 1450 m, (Willmott, K. R., Hall, J. P. W.), 8 Aug 2009, 1 ♀ [FLMNH-MGCL-147893; LEP-04289], (MGCL); km 16 Yacuambí-Saraguro rd., Corral Pamba, [3°34’19”S,78°57’39”W], 1800 m, (Willmott, K. R., J. C. R, J. I. R.), 21 Jun 2013, 1 ♂ [FLMNH-MGCL-157473; LEP-14803], 1 ♂ [FLMNH-MGCL-157474; LEP-14802], 1 ♂ [FLMNH-MGCL-157475; LEP-14801], (MGCL), 1 ♂ (MECN); La Libertad, [3°47’47”S,78°36’35”W], 1250 m, (Nakahara, S.), 1–2 Jul 2014, 3 ♂ (one male dissected: SN-15-137), (MGCL); Quimi-Cóndor Mirador rd., [3°36’58”S,78°26’40”W], 1450 m, (Willmott, K. R., Hall, J. P. W.), 7 Aug 2009, 1 ♂ [FLMNH-MGCL-145633; LEP-04287], 1 ♂ [FLMNH-MGCL-147888], 1 ♂ [FLMNH-MGCL-147889; LEP-04292], (MGCL); Yacuambí-Tutupali rd., Cascada Tres Chorros, [3°32’43”S,78°57’54”W], 1525 m, (Willmott, K. R., J. C. R, J. I. R.), 18 Jun 2013, 1 ♂ [FLMNH-MGCL-157472; LEP-14805], (MGCL). **PERU**: *Huánuco*: ‘Huachipa El. 1200 Meters 32 klm. South’, [9°36’17”S,76°1’57”W], 1200 m, (Zeiger, C. F.), 25 Jun 1982, 1 ♀ [FLMNH-MGCL-280486; also labeled ‘Peru, Tingo María Leoncio Prado Prov. El. 600 Meters’], (MGCL); *Ucayali:* [East of] La Divisoria, [9°11’S,75°48’W], 1250 m, 09º11’S, 75º48’W (Peña, C.), 25 Oct 2002, 1 ♂ [MUSM-LEP-102870], (MUSM).

Other specimens examined (1 ♂, 1 ♀): COLOMBIA: *Putumayo:* km 130 route 10, Putumayo, [1°4’43”N,76°43’57”W], 1525 m, (Sullivan, J. B.), 4 Jul 1981, 1 ♂ [FLMNH-MGCL-280487], 1 ♀ [FLMNH-MGCL-280488], (MGCL).

Systematic placement and diagnosis. *Hermeuptychia clara* **n. sp.** is placed in *Hermeuptychia* based on the COI barcoding data, where it appears as a member of a monophyletic *Hermeuptychia* (Fig. 4). When Forster (1964) introduced *Hermeuptychia*, he suggested the elongate valva and the long, relatively thin aedeagus as diagnostic characters for the genus. Although the description of these diagnostic characters was somewhat vague, the narrow apical process of the valva of *Hermeuptychia* does seem to be distinctive, in addition to the posteriorly curved aedeagus, and further cladistic analysis may prove these characters to be synapomorphies for the genus.

Hermeuptychia clara is distinguished from all other species of *Hermeuptychia* (e.g., Warren *et al.*, 2016) by the straight dark postdiscal line on the VHW bordered by white scaling, forming a pale, even band. This wing pattern character, in combination with the strong clustering of individuals based on their COI barcode sequences and isolation from all other sampled *Hermeuptychia*, and the restricted montane forest habitat where the species is so far only known to occur (see below), provide strong support for describing this taxon as a new species. In addition, dorsally *H. clara* is paler than most other *Hermeuptychia* and the blackish spot on the DHW in cell Cu_1, reflecting the VHW submarginal ocellus, is rather distinctive, helping to identify museum specimens of *H. clara* pinned on the dorsal surface from other *Hermeuptychia.*

Distribution (Fig. 5). Eastern foothills of the Andes from southern Colombia to central Peru.

Biology. In Ecuador, this species occurs from 1000–1800 m in montane forest habitats (e.g., Fig. 6A). The majority of records come from roads through undisturbed forest, especially relatively new roads. However, along such roads the species seems to be very local, and confined to small areas of open grass, either on very poor soils on steep ridgetops, recent landslides or road edges (e.g., Fig. 6B), where both sexes may be common, flying and resting in low vegetation throughout the day (SN, KW, pers. obs.). Our only observation of feeding behavior in this species is of a single male feeding on sweat on a butterfly net handle (Fig. 6C).

Discussion. The genetic distinctiveness of *H. clara* **n. sp.** is clear in that it forms a highly supported monophyletic clade amongst all other previously published *Hermeuptychia* sequences (Fig. 4). However, the relationships of *H. clara* are currently uncertain. Our phylogenetic analysis suggests

Fig. 4. Phylogenetic tree, based on maximum likelihood analysis, demonstrating relationships between *Hermeuptychia clara* **n. sp.** and other congeners based on COI barcode sequence data (only bootstrap branch support > 50 indicated). Note: Sequence names have been included as is, and therefore the correct name of the sequenced specimen may require verification and should not be accepted as correct.

that *H. clara* could be sister to the '*H. atalanta* clade' *sensu* Seraphim *et al.* (2014), but this relationship is recovered with poor support (bootstrap branch support = 12, Fig. 4). The average pairwise genetic distance between *H. clara* and the '*H. atalanta clade*' is 4.78% (max = 5.76%, min = 4.21%; raw distances calculated using the ape package v3.5 for R (Paradis *et al.*, 2004). Indeed, the male genitalia of '*H. atalanta* clade' as illustrated in Seraphim *et al.* (2014: S3) resembles that of *H. clara*, and diagnostic male genitalic characters that might distinguish *H. clara* from other members of this clade cannot be confidently identified. At present, too little is known about female genitalic characters to provide meaningful comparisons of this new species with other known species.

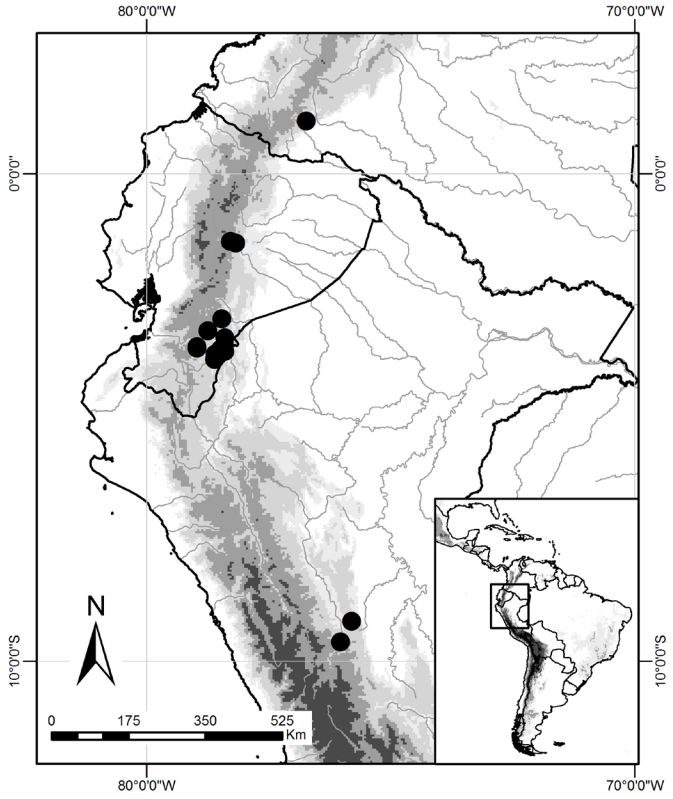

Fig. 5. Locality records for *H. clara* **n. sp.**

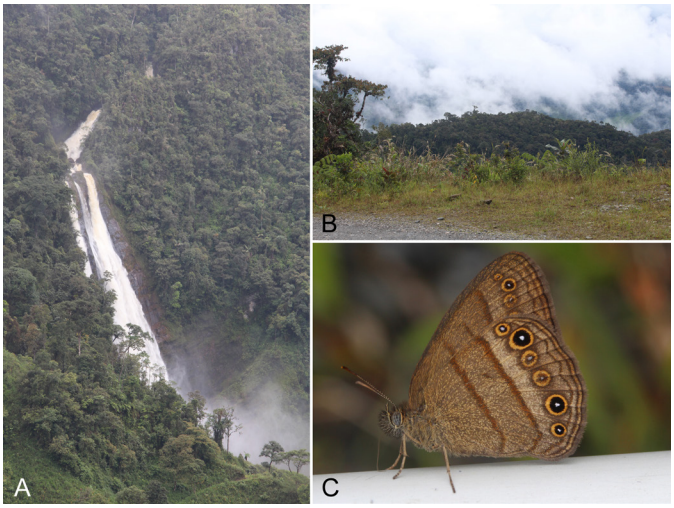

Fig. 6. Habitat and behavior of *H. clara* **n. sp.** in eastern Ecuador. **A**) Cascada Tres Chorros, Yacuambí-Tutupali rd., a montane forest locality where this species was recorded; **B**) Roadside grass where the species was locally common, km 16 Yacuambí-Saraguro rd.; **C**) Male feeding on sweat on a butterfly net handle at the site figured in (B).

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Appendix. Accession numbers for all other COI sequences (previously published *Hermeuptychia* and outgroup sequences) included in the phylogenetic analysis. See Lamas (2004) for author and date information for taxonomic names.

	Sequence name	Genbank/BOLD accession no.		Sequence name	Genbank/BOLD accession no.
1	*Hermeuptychia fallax* voucher YPH0368	KU340868.1 GI:1039679796	85	*Hermeuptychia intricata* voucher NVG-1554	KJ025591.1 GI:591400421
2	*Hermeuptychia maimoune* voucher YPH0239	KR349479.1 GI:1015699547	86	*Hermeuptychia intricata* voucher NVG-1555	KJ025592.1 GI:591400423
3	*Hermeuptychia hermes* voucher YB-BCI63970	KP848968.1 GI:851776716	87	*Hermeuptychia intricata* voucher NVG-1556	KJ025593.1 GI:591400425
4	*Hermeuptychia hermes* voucher YB-BCI32750	KP848969.1 GI:851776719	88	*Hermeuptychia intricata* voucher NVG-1558	KJ025594.1 GI:591400427
5	*Hermeuptychia* sp. *hermes*DHJ02 voucher YB-BCI64448	KP848970.1 GI:851776722	89	*Hermeuptychia intricata* voucher NVG-1560	KJ025595.1 GI:591400429
6	*Hermeuptychia* sp. *hermes*DHJ02 voucher YB-BCI65784	KP848971.1 GI:851776725	90	*Hermeuptychia intricata* voucher NVG-1563	KJ025596.1 GI:591400431
7	*Hermeuptychia* sp. *hermes*DHJ02 voucher YB-BCI55870	KP848972.1 GI:851776728	91	*Hermeuptychia intricata* voucher NVG-1565	KJ025597.1 GI:591400433
8	*Hermeuptychia* sp. *hermes*DHJ02 voucher YB-BCI26610	KP848973.1 GI:851776731	92	*Hermeuptychia intricata voucher NVG-1629*	KJ025598.1 GI:591400435
9	*Hermeuptychia* sp. *hermesDHJ02 voucher YB-BCI8062*	KP848974.1 GI:851776734	93	*Hermeuptychia intricata* voucher NVG-1631	KJ025599.1 GI:591400437
10	*Hermeuptychia maimoune* voucher YB-BCI64605	KP848975.1 GI:851776737	94	*Hermeuptychia intricata* voucher 13385G07	KJ025600.1 GI:591400439
11	*Hermeuptychia maimoune* voucher YB-BCI56128	KP848976.1 GI:851776740	95	*Hermeuptychia intricata* voucher 13385H01	KJ025601.1 GI:591400441
12	*Hermeuptychia maimoune* voucher YB-BCI46143	KP848977.1 GI:851776743	96	*Hermeuptychia intricata* voucher 13385H02	KJ025602.1 GI:591400443
13	*Hermeuptychia maimoune* voucher YB-BCI64615	KP848978.1 GI:851776746	97	*Hermeuptychia intricata* voucher 13386A03	KJ025603.1 GI:591400445
14	*Hermeuptychia maimoune* voucher YB-BCI65723	KP848979.1 GI:851776749	98	*Hermeuptychia intricata* voucher 13385G08	KJ025604.1 GI:591400447
15	*Hermeuptychia* sp. 1YB voucher YB-BCI6980	HM406623.1 GI:300879326	99	*Hermeuptychia intricata* voucher 13385G09	KJ025605.1 GI:591400449
16	*Hermeuptychia* sp. 1YB voucher YB-BCI6182	HM406618.1 GI:300879316	100	*Hermeuptychia intricata* voucher 13385G11	KJ025606.1 GI:591400451
17	*Hermeuptychia sosybius* voucher NVG-696	KJ025523.1 GI:591400285	101	*Hermeuptychia intricata* voucher 13386A02	KJ025607.1 GI:591400453
18	*Hermeuptychia sosybius* voucher NVG-1632	KJ025524.1 GI:591400287	102	*Hermeuptychia hermes* voucher AV-91-0070	KF491784.1 GI:558477227
19	*Hermeuptychia sosybius* voucher NVG-1630	KJ025525.1 GI:591400289	103	*Hermeuptychia atalanta* voucher AC01	KF466003.1 GI:546241475
20	*Hermeuptychia sosybius* voucher NVG-1633	KJ025526.1 GI:591400291	104	*Hermeuptychia atalanta* voucher AC02	KF466004.1 GI:546241477
21	*Hermeuptychia sosybius* voucher NVG-1606	KJ025527.1 GI:591400293	105	*Hermeuptychia atalanta* voucher B01	KF466005.1 GI:546241479
22	*Hermeuptychia sosybius* voucher NVG-783	KJ025528.1 GI:591400295	106	*Hermeuptychia atalanta* voucher C01	KF466006.1 GI:546241481
23	*Hermeuptychia sosybius* voucher NVG-784	KJ025529.1 GI:591400297	107	*Hermeuptychia atalanta* voucher C02	KF466007.1 GI:546241483
24	*Hermeuptychia sosybius* voucher NVG-785	KJ025530.1 GI:591400299	108	*Hermeuptychia atalanta* voucher C12	KF466008.1 GI:546241485
25	*Hermeuptychia sosybius* voucher NVG-786	KJ025531.1 GI:591400301	109	*Hermeuptychia atalanta* voucher C13	KF466009.1 GI:546241487
26	*Hermeuptychia sosybius* voucher NVG-1537	KJ025532.1 GI:591400303	110	*Hermeuptychia atalanta* voucher C23	KF466010.1 GI:546241489
27	*Hermeuptychia sosybius* voucher NVG-1538	KJ025533.1 GI:591400305	111	*Hermeuptychia atalanta* voucher CE01	KF466011.1 GI:546241491
28	*Hermeuptychia sosybius* voucher NVG-1539	KJ025534.1 GI:591400307	112	*Hermeuptychia atalanta* voucher CE02	KF466012.1 GI:546241493
29	*Hermeuptychia sosybius* voucher NVG-1540	KJ025535.1 GI:591400309	113	*Hermeuptychia atalanta* voucher CJ01	KF466013.1 GI:546241495
30	*Hermeuptychia sosybius* voucher NVG-1542	KJ025536.1 GI:591400311	114	*Hermeuptychia atalanta* voucher CJ02	KF466014.1 GI:546241497
31	*Hermeuptychia sosybius* voucher NVG-1543	KJ025537.1 GI:591400313	115	*Hermeuptychia atalanta* voucher CJ03	KF466015.1 GI:546241499
32	*Hermeuptychia sosybius* voucher NVG-1544	KJ025538.1 GI:591400315	116	*Hermeuptychia atalanta* voucher CJ04	KF466016.1 GI:546241501
33	*Hermeuptychia sosybius* voucher NVG-1545	KJ025539.1 GI:591400317	117	*Hermeuptychia atalanta* voucher CJ05	KF466017.1 GI:546241503
34	*Hermeuptychia sosybius* voucher NVG-1546	KJ025540.1 GI:591400319	118	*Hermeuptychia* sp. NS-2013 voucher CO01	KF466018.1 GI:546241505
35	*Hermeuptychia sosybius* voucher NVG-1547	KJ025541.1 GI:591400321	119	*Hermeuptychia hermes* voucher CO02	KF466019.1 GI:546241507
36	*Hermeuptychia sosybius* voucher NVG-1549	KJ025542.1 GI:591400323	120	*Hermeuptychia maimoune* voucher CO03	KF466020.1 GI:546241509
37	*Hermeuptychia sosybius* voucher NVG-1550	KJ025543.1 GI:591400325	121	*Hermeuptychia maimoune* voucher CO04	KF466021.1 GI:546241511
38	*Hermeuptychia sosybius* voucher NVG-1552	KJ025544.1 GI:591400327	122	*Hermeuptychia gisella* voucher CO05	KF466022.1 GI:546241513
39	*Hermeuptychia sosybius* voucher NVG-1553	KJ025545.1 GI:591400329	123	*Hermeuptychia harmonia* voucher CO06	KF466023.1 GI:546241515
40	*Hermeuptychia sosybius* voucher NVG-1557	KJ025546.1 GI:591400331	124	*Hermeuptychia gisella* voucher H-GSM-3	KF466024.1 GI:546241517
41	*Hermeuptychia sosybius* voucher NVG-1559	KJ025547.1 GI:591400333	125	*Hermeuptychia hermes* voucher H-GSM-5	KF466025.1 GI:546241519
42	*Hermeuptychia sosybius* voucher NVG-1561	KJ025548.1 GI:591400335	126	*Hermeuptychia maimoune* voucher H-GSM-6	KF466026.1 GI:546241521
43	*Hermeuptychia sosybius* voucher NVG-1562	KJ025549.1 GI:591400337	127	*Hermeuptychia atalanta* voucher H-GSM-7	KF466027.1 GI:546241523
44	*Hermeuptychia sosybius* voucher NVG-1564	KJ025550.1 GI:591400339	128	*Hermeuptychia hermes* voucher H-GSM-8	KF466028.1 GI:546241525
45	*Hermeuptychia sosybius* voucher NVG-1566	KJ025551.1 GI:591400341	129	*Hermeuptychia maimoune* voucher H-GSM-9	KF466029.1 GI:546241527
46	*Hermeuptychia sosybius* voucher NVG-1567	KJ025552.1 GI:591400343	130	*Hermeuptychia maimoune* voucher H-GSM-10	KF466030.1 GI:546241529
47	*Hermeuptychia sosybius* voucher 13385H04	KJ025553.1 GI:591400345	131	*Hermeuptychia maimoune* voucher H-GSM-13	KF466031.1 GI:546241531
48	*Hermeuptychia sosybius* voucher 13385H11	KJ025554.1 GI:591400347	132	*Hermeuptychia maimoune* voucher H-GSM-14	KF466032.1 GI:546241533
49	*Hermeuptychia sosybius* voucher 13385H03	KJ025555.1 GI:591400349	133	*Hermeuptychia hermes* voucher H-GSM-15	KF466033.1 GI:546241535
50	*Hermeuptychia sosybius* voucher 13385H05	KJ025556.1 GI:591400351	134	*Hermeuptychia hermes* voucher H-GSM-16	KF466034.1 GI:546241537
51	*Hermeuptychia sosybius* voucher 13385H06	KJ025557.1 GI:591400353	135	*Hermeuptychia hermes* voucher H-GSM-17	KF466035.1 GI:546241539
52	*Hermeuptychia sosybius* voucher 13385H07	KJ025558.1 GI:591400355	136	*Hermeuptychia* sp. NS-2013 voucher H-GSM-23	KF466036.1 GI:546241541
53	*Hermeuptychia sosybius* voucher 13385H08	KJ025559.1 GI:591400357	137	*Hermeuptychia maimoune* voucher H-GSM-24	KF466037.1 GI:546241543
54	*Hermeuptychia sosybius* voucher 13385G12	KJ025560.1 GI:591400359	138	*Hermeuptychia maimoune* voucher H-GSM-25	KF466038.1 GI:546241545
55	*Hermeuptychia sosybius* voucher 13386A07	KJ025561.1 GI:591400361	139	*Hermeuptychia hermes* voucher H-GSM-26	KF466039.1 GI:546241547
56	*Hermeuptychia sosybius* voucher NVG-1845	KJ025562.1 GI:591400363	140	*Hermeuptychia harmonia* voucher GSM-235	KF466040.1 GI:546241549
57	*Hermeuptychia sosybius* voucher 15609E04	KJ025563.1 GI:591400365	141	*Hermeuptychia harmonia* voucher GSM-237	KF466041.1 GI:546241551
58	*Hermeuptychia sosybius* voucher 13385G10	KJ025564.1 GI:591400367	142	*Hermeuptychia hermes* voucher GSM-231	KF466042.1 GI:546241553
59	*Hermeuptychia sosybius* voucher 13385H09	KJ025565.1 GI:591400369	143	*Hermeuptychia harmonia* voucher GSM-455	KF466043.1 GI:546241555
60	*Hermeuptychia sosybius* voucher 13386A01	KJ025566.1 GI:591400371	144	*Hermeuptychia harmonia* voucher GSM-452	KF466044.1 GI:546241557
61	*Hermeuptychia sosybius* voucher 13386A04	KJ025567.1 GI:591400373	145	*Hermeuptychia harmonia* voucher GSM-453	KF466045.1 GI:546241559
62	*Hermeuptychia sosybius* voucher 13386A06	KJ025568.1 GI:591400375	146	*Hermeuptychia harmonia* voucher GSM-458	KF466046.1 GI:546241561
63	*Hermeuptychia hermybius* voucher NVG-1603	KJ025569.1 GI:591400377	147	*Hermeuptychia harmonia* voucher GSM-459	KF466047.1 GI:546241563
64	*Hermeuptychia hermybius* voucher NVG-1607	KJ025570.1 GI:591400379	148	*Hermeuptychia harmonia* voucher GSM-448	KF466048.1 GI:546241565
65	*Hermeuptychia hermybius* voucher NVG-1609	KJ025571.1 GI:591400381	149	*Hermeuptychia harmonia* voucher GSM-450	KF466049.1 GI:546241567
66	*Hermeuptychia hermybius* voucher NVG-1610	KJ025572.1 GI:591400383	150	*Hermeuptychia harmonia* voucher GSM-454	KF466050.1 GI:546241569
67	*Hermeuptychia hermybius* voucher NVG-1611	KJ025573.1 GI:591400385	151	*Hermeuptychia harmonia* voucher GSM-485	KF466051.1 GI:546241571
68	*Hermeuptychia hermybius* voucher NVG-1612	KJ025574.1 GI:591400387	152	*Hermeuptychia pimpla* voucher GSM-487	KF466052.1 GI:546241573
69	*Hermeuptychia hermybius* voucher NVG-1628	KJ025575.1 GI:591400389	153	*Hermeuptychia harmonia* voucher GSM-482	KF466053.1 GI:546241575
70	*Hermeuptychia hermybius* voucher NVG-1695	KJ025576.1 GI:591400391	154	*Hermeuptychia pimpla* voucher GSM-489	KF466054.1 GI:546241577
71	*Hermeuptychia hermybius* voucher NVG-1698	KJ025577.1 GI:591400393	155	*Hermeuptychia hermes* voucher GSM-254	KF466055.1 GI:546241579
72	*Hermeuptychia hermybius* voucher NVG-1699	KJ025578.1 GI:591400395	156	*Hermeuptychia hermes* voucher GSM-283	KF466056.1 GI:546241581
73	*Hermeuptychia hermybius* voucher NVG-1712	KJ025579.1 GI:591400397	157	*Hermeuptychia hermes* voucher GSM-314	KF466057.1 GI:546241583
74	*Hermeuptychia hermybius* voucher NVG-1714	KJ025580.1 GI:591400399	158	*Hermeuptychia atalanta* voucher GSM-297	KF466058.1 GI:546241585
75	*Hermeuptychia hermybius* voucher NVG-1726	KJ025581.1 GI:591400401	159	*Hermeuptychia sosybius* voucher GSM-299	KF466059.1 GI:546241587
76	*Hermeuptychia hermybius* voucher NVG-1727	KJ025582.1 GI:591400403	160	*Hermeuptychia atalanta* voucher DF02	KF466060.1 GI:546241589
77	*Hermeuptychia hermybius* voucher NVG-1735	KJ025583.1 GI:591400405	161	*Hermeuptychia atalanta* voucher DF03	KF466061.1 GI:546241591
78	*Hermeuptychia hermybius* voucher NVG-1737	KJ025584.1 GI:591400407	162	*Hermeuptychia atalanta* voucher DF04	KF466062.1 GI:546241593
79	*Hermeuptychia hermybius* voucher NVG-1747	KJ025585.1 GI:591400409	163	*Hermeuptychia atalanta* voucher DF10	KF466063.1 GI:546241595
80	*Hermeuptychia hermybius* voucher NVG-1635	KJ025586.1 GI:591400411	164	*Hermeuptychia atalanta* voucher DF11	KF466064.1 GI:546241597
81	*Hermeuptychia hermybius* voucher 13385H10	KJ025587.1 GI:591400413	165	*Hermeuptychia atalanta* voucher DF12	KF466065.1 GI:546241599
82	*Hermeuptychia intricata* voucher NVG-1541	KJ025588.1 GI:591400415	166	*Hermeuptychia pimpla* voucher kw-090605-4	KF466066.1 GI:546241601
83	*Hermeuptychia intricata* voucher NVG-1548	KJ025589.1 GI:591400417	167	*Hermeuptychia maimoune* voucher kw-090605-5	KF466067.1 GI:546241603
84	*Hermeuptychia intricata* voucher NVG-1551	KJ025590.1 GI:591400419	168	*Hermeuptychia harmonia* voucher kw-090605-8	KF466068.1 GI:546241605

Appendix, continued. Accession numbers for all other COI sequences (previously published *Hermeuptychia* and outgroup sequences) included in the phylogenetic analysis. See Lamas (2004) for author and date information for taxonomic names.

	Sequence name	Genbank/BOLD accession no.
169	*Hermeuptychia maimoune* voucher kw-090605-9	KF466069.1 GI:546241607
170	*Hermeuptychia harmonia* voucher kw-090605-10	KF466070.1 GI:546241609
171	*Hermeuptychia harmonia* voucher kw-090605-14	KF466071.1 GI:546241611
172	*Hermeuptychia harmonia* voucher kw-090605-15	KF466072.1 GI:546241613
173	*Hermeuptychia gisella* voucher kw-090605-16	KF466073.1 GI:546241615
174	*Hermeuptychia gisella* voucher kw-090605-17	KF466074.1 GI:546241617
175	*Hermeuptychia hermes* voucher kw-090605-18	KF466075.1 GI:546241619
176	*Hermeuptychia pimpla* voucher kw-090605-20	KF466076.1 GI:546241621
177	*Hermeuptychia harmonia* voucher kw-090605-21	KF466077.1 GI:546241623
178	*Hermeuptychia harmonia* voucher kw-090605-22	KF466078.1 GI:546241625
179	*Hermeuptychia atalanta* voucher ES01	KF466079.1 GI:546241627
180	*Hermeuptychia sosybius* voucher EUA02	KF466080.1 GI:546241629
181	*Hermeuptychia sosybius* voucher EUA03	KF466081.1 GI:546241631
182	*Hermeuptychia sosybius* voucher EUA06	KF466082.1 GI:546241633
183	*Hermeuptychia sosybius* voucher EUA07	KF466083.1 GI:546241635
184	*Hermeuptychia sosybius* voucher EUA08	KF466084.1 GI:546241637
185	*Hermeuptychia atalanta* voucher GO01	KF466085.1 GI:546241639
186	*Hermeuptychia fallax* voucher J02	KF466086.1 GI:546241641
187	*Hermeuptychia atalanta* voucher J07	KF466087.1 GI:546241643
188	*Hermeuptychia fallax* voucher J08	KF466088.1 GI:546241645
189	*Hermeuptychia fallax* voucher J17	KF466089.1 GI:546241647
190	*Hermeuptychia gisella* voucher J19	KF466090.1 GI:546241649
191	*Hermeuptychia atalanta* voucher J27	KF466091.1 GI:546241651
192	*Hermeuptychia gisella* voucher J29	KF466092.1 GI:546241653
193	*Hermeuptychia gisella* voucher L01	KF466093.1 GI:546241655
194	*Hermeuptychia atalanta* voucher L04	KF466094.1 GI:546241657
195	*Hermeuptychia fallax* voucher L06	KF466095.1 GI:546241659
196	*Hermeuptychia fallax* voucher L08	KF466096.1 GI:546241661
197	*Hermeuptychia fallax* voucher L09	KF466097.1 GI:546241663
198	*Hermeuptychia fallax* voucher L10	KF466098.1 GI:546241665
199	*Hermeuptychia fallax* voucher L11	KF466099.1 GI:546241667
200	*Hermeuptychia fallax* voucher L14	KF466100.1 GI:546241669
201	*Hermeuptychia fallax* voucher L17	KF466101.1 GI:546241671
202	*Hermeuptychia fallax* voucher L20	KF466102.1 GI:546241673
203	*Hermeuptychia fallax* voucher L21	KF466103.1 GI:546241675
204	*Hermeuptychia fallax* voucher L22	KF466104.1 GI:546241677
205	*Hermeuptychia atalanta* voucher M02	KF466105.1 GI:546241679
206	*Hermeuptychia atalanta* voucher M18	KF466106.1 GI:546241681
207	*Hermeuptychia atalanta* voucher M24	KF466107.1 GI:546241683
208	*Hermeuptychia hermes* voucher MG08	KF466108.1 GI:546241685
209	*Hermeuptychia atalanta* voucher MG11	KF466109.1 GI:546241687
210	*Hermeuptychia atalanta* voucher MG12	KF466110.1 GI:546241689
211	*Hermeuptychia atalanta* voucher MG21	KF466111.1 GI:546241691
212	*Hermeuptychia atalanta* voucher MG22	KF466112.1 GI:546241693
213	*Hermeuptychia atalanta* voucher MS02	KF466113.1 GI:546241695
214	*Hermeuptychia atalanta* voucher MS03	KF466114.1 GI:546241697
215	*Hermeuptychia atalanta* voucher MS04	KF466115.1 GI:546241699
216	*Hermeuptychia atalanta* voucher MS05	KF466116.1 GI:546241701
217	*Hermeuptychia atalanta* voucher MS06	KF466117.1 GI:546241703
218	*Hermeuptychia atalanta* voucher MS07	KF466118.1 GI:546241705
219	*Hermeuptychia atalanta* voucher MS08	KF466119.1 GI:546241707
220	*Hermeuptychia hermes* voucher MT01	KF466120.1 GI:546241709
221	*Hermeuptychia atalanta* voucher MT06	KF466121.1 GI:546241711
222	*Hermeuptychia atalanta* voucher MT08	KF466122.1 GI:546241713
223	*Hermeuptychia atalanta* voucher MT09	KF466123.1 GI:546241715
224	*Hermeuptychia gisella* voucher MT10	KF466124.1 GI:546241717
225	*Hermeuptychia atalanta* voucher MT11	KF466125.1 GI:546241719
226	*Hermeuptychia gisella* voucher MT12	KF466126.1 GI:546241721
227	*Hermeuptychia gisella* voucher MT13	KF466127.1 GI:546241723
228	*Hermeuptychia gisella* voucher MT15	KF466128.1 GI:546241725
229	*Hermeuptychia gisella* voucher MT16	KF466129.1 GI:546241727
230	*Hermeuptychia* sp. n. 1 NS-2013 voucher MT17	KF466130.1 GI:546241729
231	*Hermeuptychia atalanta* voucher P06	KF466131.1 GI:546241731
232	*Hermeuptychia atalanta* voucher P07	KF466132.1 GI:546241733
233	*Hermeuptychia atalanta* voucher P14	KF466133.1 GI:546241735
234	*Hermeuptychia atalanta* voucher P15	KF466134.1 GI:546241737
235	*Hermeuptychia atalanta* voucher P21	KF466135.1 GI:546241739
236	*Hermeuptychia atalanta* voucher PA01	KF466136.1 GI:546241741
237	*Hermeuptychia hermes* voucher PA02	KF466137.1 GI:546241743
238	*Hermeuptychia atalanta* voucher PA03	KF466138.1 GI:546241745
239	*Hermeuptychia hermes* voucher PA04	KF466139.1 GI:546241747
240	*Hermeuptychia maimoune* voucher PA05	KF466140.1 GI:546241749
241	*Hermeuptychia atalanta* voucher PA07	KF466141.1 GI:546241751
242	*Hermeuptychia cucullina* voucher PE03	KF466142.1 GI:546241753
243	*Hermeuptychia cucullina* voucher PE04	KF466143.1 GI:546241755
244	*Hermeuptychia cucullina* voucher PE05	KF466144.1 GI:546241757
245	*Hermeuptychia fallax* voucher R18	KF466145.1 GI:546241759
246	*Hermeuptychia fallax* voucher R23	KF466146.1 GI:546241761
247	*Hermeuptychia fallax* voucher R25	KF466147.1 GI:546241763
248	*Hermeuptychia* sp. n. 2 NS-2013 voucher RS108	KF466148.1 GI:546241765
249	*Hermeuptychia* sp. n. 2 NS-2013 voucher RS109	KF466149.1 GI:546241767
250	*Hermeuptychia atalanta* voucher RS36	KF466150.1 GI:546241769
251	*Hermeuptychia atalanta* voucher RS70	KF466151.1 GI:546241771
252	*Hermeuptychia atalanta* voucher RS74	KF466152.1 GI:546241773
253	*Hermeuptychia atalanta* voucher RS75	KF466153.1 GI:546241775
254	*Hermeuptychia atalanta* voucher RS85	KF466154.1 GI:546241777
255	*Hermeuptychia atalanta* voucher RS95	KF466155.1 GI:546241779
256	*Hermeuptychia atalanta* voucher RS97	KF466156.1 GI:546241781
257	*Hermeuptychia atalanta* voucher RS98	KF466157.1 GI:546241783
258	*Hermeuptychia atalanta* voucher SII10	KF466158.1 GI:546241785
259	*Hermeuptychia atalanta* voucher SII12	KF466159.1 GI:546241787
260	*Hermeuptychia maimoune* voucher TO01	KF466160.1 GI:546241789
261	*Hermeuptychia atalanta* voucher TO02	KF466161.1 GI:546241791
262	*Hermeuptychia atalanta* voucher TO03	KF466162.1 GI:546241793
263	*Hermeuptychia atalanta* voucher TO04	KF466163.1 GI:546241795
264	*Hermeuptychia atalanta* voucher TO05	KF466164.1 GI:546241797
265	*Hermeuptychia hermes* voucher TO06	KF466165.1 GI:546241799
266	*Hermeuptychia fallax* voucher V01	KF466166.1 GI:546241801
267	*Hermeuptychia hermes* voucher H-GSM-1	KF466167.1 GI:546241803
268	*Hermeuptychia atalanta* voucher R01_CA_SP	JN109039.1 GI:354801733
269	*Hermeuptychia atalanta* voucher R10_CA_SP	JN109040.1 GI:354801735
270	*Hermeuptychia atalanta* voucher R15_CA_SP	JN109041.1 GI:354801737
271	*Hermeuptychia atalanta* voucher SI14_CA_SP2	JN109042.1 GI:354801739
272	*Hermeuptychia atalanta* voucher SI18_CA_SP2	JN109043.1 GI:354801741
273	*Hermeuptychia atalanta* voucher SI23_CA_SP2	JN109044.1 GI:354801743
274	*Hermeuptychia atalanta* voucher RS11_CA_RS	JN109045.1 GI:354801745
275	*Hermeuptychia atalanta* voucher RS32_CA_RS	JN109046.1 GI:354801747
276	*Hermeuptychia atalanta* voucher RS34_CA_RS	JN109047.1 GI:354801749
277	*Hermeuptychia atalanta* voucher J01_JU_SP	JN109048.1 GI:354801751
278	*Hermeuptychia atalanta* voucher J04_JU_SP	JN109049.1 GI:354801753
279	*Hermeuptychia atalanta* voucher J06_JU_SP	JN109050.1 GI:354801755
280	*Hermeuptychia atalanta* voucher MT03 _PA_MT	JN109051.1 GI:354801757
281	*Hermeuptychia atalanta* voucher MT04 _PA_MT	JN109052.1 GI:354801759
282	*Hermeuptychia atalanta* voucher MT05 _PA_MT	JN109053.1 GI:354801761
283	*Hermeuptychia atalanta* voucher RS42_PM_RS	JN109054.1 GI:354801763
284	*Hermeuptychia atalanta* voucher RS77_PM_RS	JN109055.1 GI:354801765
285	*Hermeuptychia atalanta* voucher RS80_PM_RS	JN109056.1 GI:354801767
286	*Hermeuptychia atalanta* voucher BA01_ST_BA	JN109057.1 GI:354801769
287	*Hermeuptychia atalanta* voucher BA02_ST_BA	JN109058.1 GI:354801771
288	*Hermeuptychia atalanta* voucher BA03_ST_BA	JN109059.1 GI:354801773
289	*Hermeuptychia hermes*	HM905320.1 GI:313748782
290	*Hermeuptychia* sp. *hermes*ECO01 voucher MAL-02845	HM431618.1 GI:301081207
291	*Hermeuptychia sosybius* voucher DNA-ATBI-4110	GU088393.1 GI:268631947
292	*Hermeuptychia sosybius* voucher DNA-ATBI-4109	GU088394.1 GI:268631949
293	*Hermeuptychia sosybius* voucher DNA-ATBI-0799	GU089906.1 GI:290545451
294	*Hermeuptychia sosybius* voucher DNA-ATBI-0847	GU089907.1 GI:290545453
295	*Hermeuptychia sosybius* voucher DNA-ATBI-0848	GU089908.1 GI:290545455
296	*Hermeuptychia sosybius* voucher DNA-ATBI-0849	GU089909.1 GI:290545457
297	*Hermeuptychia* sp. *hermes*ECO03 voucher MAL-02848	GU659457.1 GI:296727693
298	*Hermeuptychia* sp. *hermes*ECO02 voucher MAL-02846	GU659462.1 GI:296727708
299	*Hermeuptychia* sp. *hermes*ECO03 voucher MAL-02847	GU659463.1 GI:296727711
300	*Hermeuptychia* sp. *hermes*ECO02 voucher MAL-02840	GU659464.1 GI:296727714
301	*Hermeuptychia* sp. *hermes*ECO03 voucher MAL-02841	GU659465.1 GI:296727717
302	*Hermeuptychia* sp. *hermes*ECO03 voucher MAL-02843	GU659467.1 GI:296727723
303	*Hermeuptychia* sp. *hermes*ECO03 voucher MAL-02839	GU659471.1 GI:296727734
304	*Hermeuptychia cucullina* voucher CP04-11	GU205840.1 GI:290750787
305	*Hermeuptychia fallax* voucher CP04-37	GU205841.1 GI:290750789
306	*Hermeuptychia harmonia* voucher CP06-93	GU205842.1 GI:290750791
307	*Hermeuptychia pimpla* voucher CP04-10	GU205843.1 GI:290750793
308	*Hermeuptychia hermes* voucher CP01-07	GQ357207.1 GI:257133063
309	*Hermeuptychia hermes*	DQ338583.1 GI:85013486
310	*Hermeuptychia sosybius* voucher DNA99-202	AY508547.1 GI:55420534
311	*Hermeuptychia hermes* voucher DNA96-016	AY508548.1 GI:55420536
312	*Hermeuptychia harmonia* voucher DNA99-093	AY508549.1 GI:55420538
313	*Hermeuptychia maimoune*	BCIBT195-09
314	*Hermeuptychia maimoune*	BCIBT230-09
315	*Hermeuptychia maimoune*	BCIBT260-09
316	*Hermeuptychia hermes* DHJ04	MHAAB679-05
317	*Hermeuptychia hermes* DHJ01	MHMXM745-07
318	*Hermeuptychia hermes* DHJ01	MHMXM746-07
319	*Hermeuptychia hermes* DHJ04	MHMXR401-08
320	*Hermeuptychia hermes* BioLep06	BLPDM2115-10
321	*Hermeuptychia hermes* DHJ04	BLPDO859-10
322	*Hermeuptychia hermes* DHJ04	BLPDO860-10
323	*Hermeuptychia hermes* DHJ04	BLPDP260-10
324	*Hermeuptychia hermes* BioLep06	BLPDP681-10
	Outgroups	
1	*Godartiana muscosa*	DQ338582.1
2	*Pharneuptychia innocentia* voucher CP12-06	DQ338808.1
3	*Zischkaia pacarus* voucher CP14-02	GQ864819.1
4	*Splendeuptychia boliviensis* voucher CP02-48	GU205866.1
5	*Splendeuptychia itonis* voucher CP02-44	DQ338811.1
6	*Rareuptychia clio* voucher CP01-23	DQ338810.1
7	*Amphidecta calliomma* voucher NW126-21	DQ338879.1
8	*Euptychia ordinata* voucher CP01-14	GU205835.1