Genus	Vol. 19(3): 371-375	Wrocław, 30 X 2008

A new subspecies of *Hyposcada illinissa* (W.C. Hewitson, [1852]) from southeastern Ecuador (Lepidoptera: Nymphalidae: Ithomiinae)

Pablo Sebastián Padrón Martínez
Cuenca-Ecuador: sebastianpadronm@yahoo.com

Abstract. *Hyposcada illinissa tundayme* n. ssp. is named and described here from the Cordillera del Cóndor in southeastern Ecuador. The subspecies is most similar to *H. illinissa ida*, *H. i. ilerdinoides* and an additional undescribed taxon from northern Peru, and the new subspecies is compared with and diagnosed from these taxa.

resumen. *Hyposcada illinissa tundayme* n. ssp. Es nombrada y descrita de la Cordillera del Cóndor en el sur este del Ecuador. La subespecie es similar a *H. illinissa ida, H. i. ilerdinoides* y a un taxón no descrito del norte del Perú, la nueva subespecie es comparada y diagnosticada en base a estas subespecies.

Key words: entomology, taxonomy, Lepidoptera, Nymphalidae, Ithominae, *Hyposcada*, new subspecies, Cordillera del Cóndor.

INTRODUCTION

Ecuador is one of the most diverse countries in the world despite its small size, boasting a wide variety of ecoregions (Josse 2000). Some of these still remain unexplored, including the remote Cordillera del Cóndor. The Cordillera del Cóndor is located in the southeast of Ecuador and comprises a chain of mountains fragmented by the valleys of the Ríos Zamora, Santiago and Nangaritza, and relatively isolated from the main body of the Andes (Cecia 1998).

The Cordillera del Cóndor has been historically poorly studied (Neill 2001, Schulenberg & Awbrey 1997, Cecia 1998), with the few expeditions that have visited the region recording an impressive diversity and endemism of flora and fauna. During the Rapid Assessment Program (RAP) to the Peruvian side of the Cordillera (Amazonas),

several new species to science were recorded (Schulenberg & Awbrey 1997). These include a possible total of 26 species of orchids, a shrew-opossum, recently described as *Caenolestes condorensis (*Albuja & Patterson 1996), and approximately 21 out of 474 species of butterflies (Schulenberg & Awbrey 1997). In Ecuador, the Cordillera del Cóndor is considered a priority area for investigation because almost nothing is known of the butterfly fauna (Willmott & Hall 2007).

Between February and July of 2006 I made a comparative study of the diversity of butterflies (Papilionoidea) along altitudinal transects in the Cordillera del Cóndor and adjacent southeast Ecuadorian Andes. As a result of this research a total of 262 butterfly species were collected and identified from these two mountain ranges (Padron 2007). Among these species was an undescribed subspecies of *Hyposcada illinissa.*

The purpose of this paper is to describe and name this new subspecies and thus add to our knowledge of Ecuadorian butterfly diversity.

DESCRIPTION

Hyposcada illinissa tundayme n. ssp.

Type material

*Holotype***;** 1 male, Ecuador Morona Santiago Prov., Tundayme 03° 35´12" S 78°30´55" W 800 m s.n.m., 01-V-2006 (P. S. Padrón) (to be deposited in the MECN).

Paratype: 1 male, same data as holotype (author collection).

Diagnosis

This subspecies is easily distinguished from all other neighbouring *H. illinissa* subspecies, including *H. illinissa ida* R. Haensch, 1903, *H. illinissa ilerdinoides* (O. Staudinger, [1884]), and an other undescribed taxon *H. illinissa* n. ssp. by the distinctive wing pattern.

Hyposcada illinissa n. ssp. is slightly less melanic, has a small transparent spot in FW cell M3-Cu1, and the dorsal FW orange does not extend along the costal vein towards the base.

H. illinissa tundayme differs from *H. illinissa ida* and *H. illinissa ilerdinoides* by the broad, intense orange postdiscal-submarginal band on the DFW that broadens markedly in cell Cu2-Cu1; in *ida* and *ilerdinoides* this band is narrower in the tornus and does not extend so close to the costal margin as in *tundayme*, In *H, i. tundayme* the orange band extends basally to cover the white costal postidscal spots of *H. i. ida* and *H. i. ilerdinoides*, which both also have a white postdiscal spot in cell Cu1-M3 that is absent in *H. i. tundayme.*

On the DHW *H. illinisa tundayme* has a much narrower translucent postdiscal band than *H. illinissa ida* and *H. illinissa ilerdinoides*.

Description

MALE (Figs.1, 2), Holotype, FW length 28 mm.

Wings: Forewing elongate triangular, apex rounded, anal margin concave. Hindwing oval, apex rounded, anal margin straight.

Dorsal surface: Forewing: ground colour opaque black; broad, intense orange postdiscal band extending along costa from mid-discal cell into submarginal area, then as broad submarginal-postdiscal band to cell Cu2-Cu1 near the tornus, with a black indentation at basal edge of postdiscal band in cell Cu1-M3. Two white translucent spots in subapex, one in cell R5-M1 and other in cell M1–M2; one white translucent postdiscal spot in cell Cu1-Cu2. Two white translucent bands in discal cell, one from basal area to subdiscal area and another in discal area.

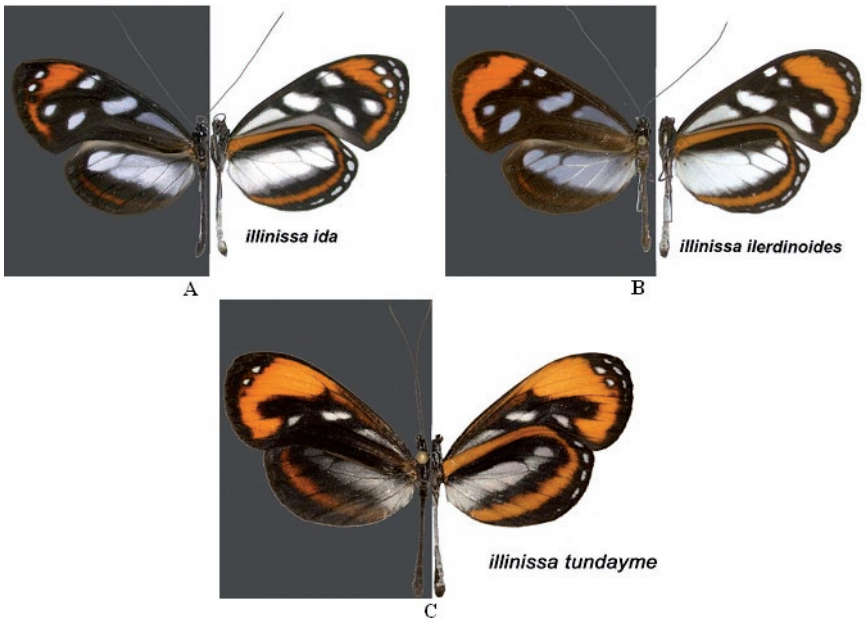
Hindwing: ground colour opaque black; orange submarginal band from M1 to 3A, narrow translucent discal band from M2-M1 to anal margin; discal and submarginal band both with scattered black scales throughout. Androconial hairs typical of Ithomiinae and *Hyposcada illinissa* present in male at anterior edge discal cell.

Ventral surface: Forewing: similar to dorsal surface, except with an additional three opaque white apical spots.

Hindwing: similar to dorsal surface but with five white opaque marginal spots in cells M1-Rs, M1-M2, M2-M3, M3-Cu1, Cu1-Cu2.

Body: thorax and abdomen black dorsally, white ventrally except where legs fold against thorax, black legs.

FEMALE: unknown.



1. Dorsal (left) and ventral (right) views of males of *Hyposcada illinissa* taxa: **A** – *H. illinissa ida*, Ecuador, Pastaza, Shell; B – *H. illinissa ilerdinoides*, Brazil, Amazonas, São Paulo de Olivença; C – *H. illinissa tundayme* n.ssp., Holotype male

Etymology

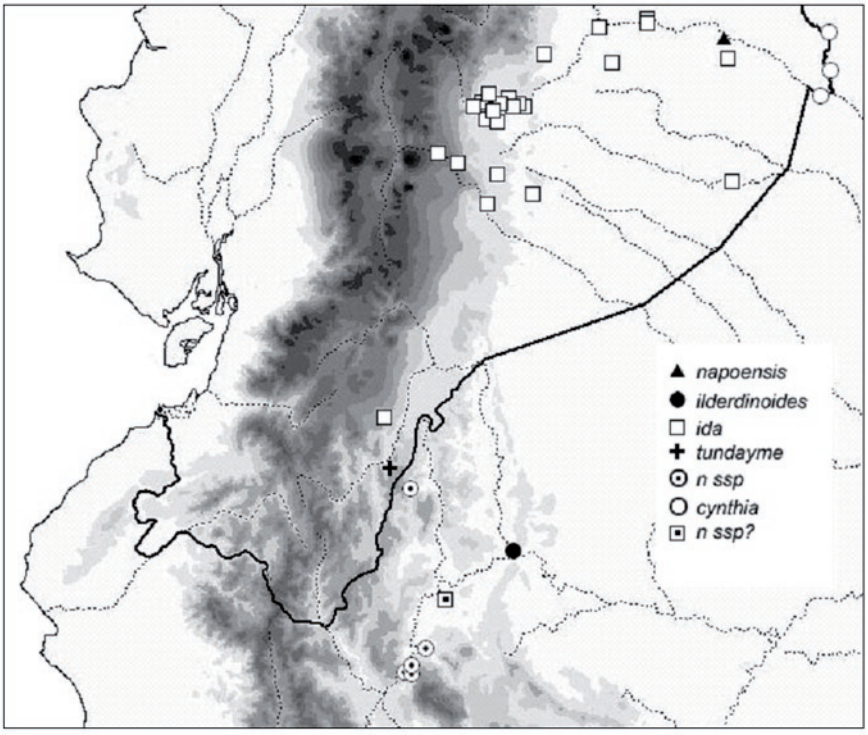
The subspecies name is derived from that of the town of Tundayme, which lies near the type locality and is the last settlement in the foothills of the Cordillera del Cóndor in this area.

Discussion

Hyposcada illinissa tundayme is treated as a subspecies of *H. illinissa* because it shares diagnostic wing pattern characters with that species, such as the white spots in the VFW apex and VHW margin that distinguish *H. illinissa* from the similar *H. zarepha.* In addition, the taxon appears to replace *H. i. ida* on the east bank of the Río Zamora. It is not rare to find new subspecies of *H. illinissa* confined to small regions like the isolated Cordillera del Condor. *Hyposcada illinissa* is one of the most polytypic ithomiine species with 26 known subspecies, many of which are still undescribed (Lamas 2004).

Range, habitat and ecology

This subspecies is known to date only from the southeast of Ecuador inside the Zamora river basin (Fig. 2). The type locality lies at around 800m in the western fo-



2. Map showing the collection sites of *Hyposcada illinissa tundayme* and its neighbouring subspecies *Hyposcada illinisa ida*, *Hyposcada illinissa ilerdinoides*, *Hyposcada illinissa* n. ssp

othills of the Cordillera del Cóndor, close to the Zamora river in Foothill Evergreen Forest (Sierra 1999). The holotype and paratype were collected in secondary forest close to a crop field. *H. illinissa ida* is known from Gualaquiza, on the opposite bank of the Río Zamora, suggesting that *H. i. tundayme* is confined to the eastern bank to the west of the Cordillera del Cóndor, with *H. illinissa* n. ssp. on the eastern slopes in Peru. *Hyposcada illinissa* is typically a member of a large lowland forest mimicry ring that includes numerous other species of *Oleria* Hübner, in addition to *Hyposcada zarepha*. It thus seems likely that additional undescribed subspecies of other co-mimetic species are still to be discovered in this region.

Acknowledgements

I am very grateful to Msc. Varsovia Cevallos for helping me to obtain the research permission to collect in this area .To my teacher and thesis director Ing. Walter Larriva, who always has been able to support me in all my endeavours.

I would like to express my sense of gratitude to my parents Dr. Hernán Padrón and Dr. Mariana Martínez who financed and assisted in the implementation of this thesis and who have also supported me unconditionally throughout my life.

To my friend and field assistant German Petzain for his willingness and dedication to carry out this investigation.

And finally I am deeply grateful to Dr. Keith Willmott who helped so unconditionally through this research and assisted with identification of this new taxon. I am also grateful for his encouragement to write this paper.

REFERENCES

Albuja, V. L., Patterson, B. D., 1996. A new species of northem shrew-opossum (Paucituberculata: Caenolestidae) from the Cordillera del Cóndor, Ecuador. Journal of Mammology, **77**:41-53.

CECIA Corporación Ornitológica del Ecuador, 1998. Diseño del Sistema Regional de Areas Protegidas y sus Estrategias de Manejo de las Provincias de El Oro, Loja, Zamora-Chinchipe y Morona-Santiago. Volumen II: Estudio de Alternativas de Manejo del Parque Nacional Cordillera del Cóndor. Global Environmental Facility (GEF) y la Dirección de Áreas Naturales y Vida Silvestre del Ministerio de Medio Ambiente del Ecuador, Quito.

Josse, C., 2000. La biodiversidad del Ecuador. Informe 2000. Ministerio del Ambiente, EcoCiencia y UICN, Quito.

Lamas, G., 2004. Ithomiinae. In J. B. Heppner (ed.), Atlas of Neotropical Lepidoptera. Checklist. Part 4A. Hesperioidea—Papilionoidea. Association for Tropical Lepidoptera/Scientific Publishers, Gainesville.

Neill, D., 2001. Botanical Exploration of the Cordillera del Cóndor Region. Missouri Botanical Garden, Quito.

Padrón, S., 2007. Estudio comparativo de mariposas diurnas (Papilionidae) entre la Cordillera del Cóndor y la Cordillera de los Andes ecuatorianos. Tesis de grado. Universidad del Azuay, Cuenca. PG 62.

Schulenberg, T. S., Awbrey, K. (editors), 1997. The Cordillera del Cóndor of Ecuador and Peru: A Biological Assessment. RAP Working Papers 7. Conservation International, Washington, DC. 232 pg.

Sierra, R., 1999. Propuesta preliminar de un sistema de clasificación de vegetación para el Ecuador Continental. Proyecto INEFANE/GEF y EcoCiencia, Quito.

Willmott, K. R., Hall, J. P. W., 2007. Butterflies of Ecuador.www.butterfliesofecuador.com/