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## Taxonomic revision of *Cumbre* Evans, 1955 (Hesperiidae: Hesperiinae: Moncini), with the description of two new species

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### Abstract

The genus *Cumbre* Evans, 1955 (Hesperiidae: Hesperiinae: Moncini) and its respective species are revised. Two new species are described, *Cumbre haywardi* sp. nov. from Peru and Argentina (type locality) and *Cumbre lamasi* sp. nov. from Ecuador and Peru (type locality). A lectotype for *Phanis cumbre* Schaus, 1902 is designated. The examination of the *Phanes triumviralis* Hayward, 1939 and *Phanes belli* Hayward, 1939 holotypes indicates that these taxa are new synonyms (**n. syn.**) of *Poanes meridionalis* Hayward, 1934, which is a valid species (**stat. rev.**).

**Key words:** butterfly, new species, Neotropical, skippers, systematic, taxonomy

### Resumo

O gênero *Cumbre* Evans, 1955 (Hesperiidae: Hesperiinae: Moncini) e suas respectivas espécies são revisados. Duas novas espécies são descritas, *Cumbre haywardi* sp. nov. do Peru e Argentina (localidade tipo) e *Cumbre lamasi* sp. nov. do Equador e Peru (localidade tipo). Um lectótipo para *Phanis cumbre* Schaus, 1902 é designado. O exame dos holótipos de *Phanes triumviralis* Hayward, 1939 e *Phanes belli* Hayward, 1939 indicou que estes taxa são novos sinônimos (**n. syn.**) de *Poanes meridionalis* Hayward, 1934, que é uma espécie válida (**stat. rev.**).

**Palavras chave:** borboleta, novas espécies, Neotropical, hesperídeos, sistemática, taxonomia

### Introduction

*Cumbre* Evans, 1955 is a small Neotropical genus of Hesperiidae with three species and two recognized subspecies, which is widely distributed from southeastern and southern Brazil, eastern Paraguay, northeastern Argentina to Uruguay (Schaus 1902; Hayward 1934, 1939a, b; Evans 1955; Biezanko & Rufinelli 1962; C. Mielke 1995; Iserhard & Romanowski 2004; Núñez 2008, 2009, 2011; Iserhard *et al.* 2010; Dolibaina *et al.* 2011; Mielke *et al.* 2012). Evans (1955) characterized the genus by having antennae longer than a half of the forewing costal margin, nudum with 13 segments, slender palpi with a short and conical third segment, spined mid tibia, males with a sagittate brand over the origin of vein 2 (CuA<sub>2</sub>), and an undivided uncus.

During his classification of the Neotropical Hesperiidae, Evans (1952, 1953, 1955) organized the genera in groups and subgroups based on characters from antennae, palpi, legs, wings, and male genitalia. Recently, Warren *et al.* (2008, 2009) provided the first phylogenetic hypothesis for all the Hesperiidae, testing the monophyly of Evans' groupings (Evans 1937, 1949, 1952, 1953, 1955) and revising the classification at all levels, from family to tribe. As a result, most of the Evans groupings were not monophyletic (Warren *et al.* 2008, 2009).

any other species of the genus due to the enlarged and overlapping median hyaline spots of the forewing. Furthermore, the morphology of the male and female genitalia clearly distinguishes this species from other taxa.

**Examined material.** Holotype male with the following labels: /HOLOTYPE/ PERU, Pi[ura], Canchaque 1200 m, 18.V.[19]82 G. Lamas & E. Perez/ HOLOTYPE *Cumbre lamasi* Dolibaina, Mielke & Casagrande det. 2012./ BC-DZ/ (MUSM). The holotype is deposited at the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM).

Allotype female with the following labels: /ALLOTYPUS/ PERU, CA[JAMARCA], Hacienda Monteseco 1200–1400m 17.v.[19]82 G. Lamas y E. Pérez/ gen. prep. Mielke 1990/ ALLOTYPUS *Cumbre lamasi* Dolibaina, Mielke & Casagrande det. 2012/. The allotype is deposited at the Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM).

Paratypes: the same data of the allotype 3 ♂ (MUSM), PERU—Cajamarca: 7 Km S de **Hacienda Udimá**, 2000 m, 24.III.1985, Lamas leg. 1 ♂ (MUSM). ECUADOR—Loja: **Cariamanga**, 1860 m, II-1973, R. de Lafébre leg. 1 ♂ (MGCL); **Vilcabamba**, 1600 m, III-1974, R. de Lafébre leg. 1 ♂ (MGCL).

## Conclusion

The genus *Cumbre* Evans, 1955 has the following taxonomic arrangement:

*Cumbre cumbre* (Schaus, 1902)

*Cumbre meridionalis* (Hayward, 1934), stat. rev.

*Phanes triumviralis* Hayward, 1939, n. syn.

*Phanes belli* Hayward, 1939, n. syn.

*Cumbre haywardi* Dolibaina, Mielke & Casagrande, sp. nov.

*Cumbre lamasi* Dolibaina, Mielke & Casagrande, sp. nov.

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## Literature cited

- Beattie, J.R. (1976) *The Rhopalocera Directory. Insecta Directory*. JB Indexes, Berkeley, xiv + 365 pp.
- Biezanko, C.M. (1963) Hesperiidae da Zona Sueste do Rio Grande do Sul (Contribuição ao conhecimento da fisiografia do Rio Grande do Sul). *Arquivos de Entomologia. Escola de Agronomia 'Eliseu Maciel'*, Series A, 1–24.
- Biezanko, C.M. & Mielke, O.H.H. (1973) Contribuição ao estudo faunístico dos Hesperiidae Americanos. IV. Espécies do Rio Grande do Sul, Brasil, com notas taxonômicas e descrições de espécies novas. (Lepidoptera). *Acta biologica paranaense*, 2, 51–102.
- Biezanko, C.M. & Ruffinelli, A. (1962) Lepidópteros Americanos de la colección de la Cátedra de Entomología. Estudio sobre la colección Herborn. *Revista de la Facultad de Agronomía, Montevideo*, 50, 119–166.
- Bridges, C.A. (1983) *Lepidoptera: Hesperiidae. Notes on species-group names*. Urbana, Author, Introduction: I + II pp., Part I: 129 pp., Part II: 41 pp., Part III: 62 pp., Part IV: 30 pp., Part V: 13 pp.
- Bridges, C.A. (1988) *Catalogue of Hesperiidae (Lepidoptera: Rhopalocera)*. Urbana, Author, Introduction: I–VII pp., Part I: 205 pp., Part II: 67 pp., Part III: 78 pp., Part IV: 54 pp., Part V: 20 pp., Part VI: 7 pp., Appendix I: 1 pp., Appendix II: 8 pp., Annotations 1: 1 pp., Annotations 2: 1 pp., Annotations 3: 4 pp., Annotations 4: 2 pp., Annotations 5: 6 pp.

- Bridges, C.A. (1994) *Catalogue of the family-group, genus-group and species-group names of the Hesperioidae (Lepidoptera) of the world*. Introduction: 7 pp., Part I: 1 pp., Part II: 1 pp., Part III: 1 pp., Part IV: 36 pp., Part V: 9 pp., Part VI: 20 pp., Part VII: 6 pp., Part VIII: 246 pp., Part IX: 76 pp., Part X: 90 pp., Part XI: 71 pp., Part XII: 28 pp., Part XIII: 9 pp., Appendix I: 1 pp., Appendix II: 2 pp., Appendix III: 1 pp.
- Brown Jr., K.S. (1992) Borboletas da Serra do Japi: Diversidade, habitats, recursos alimentares e variação temporal. In: Morellato, L.P.C (Ed.), *História natural da Serra do Japi: Ecologia e preservação de uma área florestal no sudeste do Brasil*. Editora da UNICAMP/ FAPESP, Campinas, pp. 142–187.
- Canals, G. (2003) *Mariposas de Misiones*. L.O.L.A, Buenos Aires, 476 pp.
- Dolibaina, D.R., Mielke, O.H.H. & Casagrande, M.M. (2011). Borboletas (Papilionoidea e Hesperioidae) de Guarapuava e arredores, Paraná, Brasil: um inventário com base em 63 anos de registros. *Biota Neotropica*, 11, 341–354.  
<http://dx.doi.org/10.1590/s1676-06032011000100031>
- Draudt, M.W.K. (1923) B. Grypocera, breitköpfige Tagfalter. In: Seitz, A. (Ed.), *Die Gross-Schmetterlinge der Erde*. Alfred Kernen, Stuttgart, pp. 833–1011, plates 113B–160–193.
- Ebert, H. (1969) On the frequency of butterflies in eastern Brazil, with a list of butterfly fauna of Poços de Caldas, Minas Gerais. *Journal of the Lepidopterists' Society*, 23, supplement 3, 1–48.
- Evans, W.H. (1955) *A Catalogue of the American Hesperiidae Indicating the Classification and Nomenclature Adopted in the British Museum (Natural History). Part IV. Hesperiinae and Megathyminae*. British Museum, London, 499 pp.
- Hayward, K.J. (1934) Lepidópteros argentinos. Familia Hesperiidae. *Revista de la Sociedad entomológica argentina*, 6, 97–181.
- Hayward, K.J. (1937) Hesperioidae argentina II. Insectos nuevos para la fauna y anotaciones sobre otros. *Revista de la Sociedad entomológica argentina*, 8, 65–75.
- Hayward, K.J. (1939a) Hesperioidae argentina VIII. *Anales de la Sociedad científica argentina*, 126, 429–459.
- Hayward, K.J. (1939b) Hesperioidae argentina IX. *Anales de la Sociedad científica argentina*, 127, 285–293.
- Hayward, K.J. (1941) Hesperiidarum Argentinae Catalogus. *Revista del Museo de La Plata (Zoología)*, 2, 227–340.
- Hayward, K.J. (1950) *Genera et Species Animalium Argentinorum* 2. *Insecta, Lepidoptera (Rhopalocera), familia Hesperiidaru m, subfamilia Hesperiinarum*. Guillermo Kraft Ltda, Buenos Aires, 388 pp., 26 plates.
- Hayward, K.J. (1964) Lista de los tipos de Insecta (exceptuando Diptera) conservados en el Instituto Miguel Lillo. *Acta Zoologica Lilloana*, 19, 297–334.
- Hayward, K.J. (1973) Catálogo de los rhopalóceros argentinos. *Opera Lilloana*, 23, 1–328.
- Hemming, A.F. (1967) The generic names of the butterflies and their type-species (Lepidoptera: Rhopalocera). *Bulletin of the British Museum (Natural History), Entomology*, 9 (Supplement), 1–509.
- Hijmans, R.J., Guarino, L., Jarvis, A., O'Brien, R. & Mathur, P. (2011) DIVA-GIS Version 5.4. Available from: <http://www.diva-gis.org> (accessed 5 October 2011)
- Hoffmann, F. (1934) Beiträge zur Lepidopterenfauna von St. Catharina (Südbrasilien). *Entomologische Rundschau*, 51, 13–15.
- Iserhard, C.A. & Romanowski, H.P. (2004) Lista de espécies de borboletas (Lepidoptera: Papilionoidea & Hesperioidae) da região do vale do Rio Maquiné, Rio Grande do Sul, Brasil. *Revista Brasileira de Zoologia*, 21, 649–662.  
<http://dx.doi.org/10.1590/S0101-81752004000300027>
- Iserhard, C.A., Quadros, M.T., Romanowski, H.P. & Mendonça, M.S. Jr. (2010) Borboletas (Lepidoptera: Papilionoidea e Hesperioidae) ocorrentes em diferentes ambientes na Floresta Ombrófila Mista e nos Campos de Cima da Serra do Rio Grande do Sul, Brasil. *Biota Neotropica*, 10, 309–320.  
<http://dx.doi.org/10.1590/S1676-06032010000100026>
- Kochalka, J.A., Torres, D., Garcete, B. & Aguilar, C. (1996) Lista de invertebrados de Paraguay pertenecientes a las colecciones del Museo Nacional de Historia Natural del Paraguay. In: Romero, M. (Ed.), *Colecciones de flora y fauna del Museo Nacional de Historia Natural del Paraguay*. Museo Nacional de Historia Natural del Paraguay, San Lorenzo, pp. 69–283.
- Lewis, H.L. (1973) *Butterflies of the World*. Follett, Chicago, xvi + 312 pp.
- Lewis, H.L. (1975) *Las mariposas del mundo*. Omega, Barcelona, 312 pp.
- Mielke, C.G.C. (1995) Papilionoidea e Hesperioidae (Lepidoptera) de Curitiba e seus arredores, Paraná, Brasil, com notas taxonômicas sobre Hesperiidae. *Revista Brasileira de Zoologia*, 11, 759–776.  
<http://dx.doi.org/10.1590/s0101-81751994000400018>
- Mielke, O.H.H. (1968) Contribuição ao estudo faunístico dos Hesperiidae Neotropicais. I - Resultados de uma excursão à Foz do Iguaçu, Paraná, Brasil, com notas taxonômicas (Lepidoptera). *Atlas da Sociedade Biológica do Rio de Janeiro*, 12, 73–78.
- Mielke, O.H.H. (1980) Contribuição ao estudo faunístico dos Hesperiidae Americanos. VI nota suplementar às espécies de Hesperiidae do Rio Grande do Sul, Brasil (Lepidoptera). *Acta Biológica Paranaense*, 8–9, 127–172.
- Mielke, O.H.H. (2004) Hesperiidae. In: Lamas, G. (Ed.), Checklist: Part 4A. Hesperioidae – Papilionoidea. In: Heppner, J.B. (Ed.), *Atlas of Neotropical Lepidoptera. Vol. 5A*. Association for Tropical Lepidoptera, Scientific Publishers, Gainesville, pp. 25–86.
- Mielke, O.H.H. (2005) *Catalogue of the American Hesperioidae: Hesperiidae (Lepidoptera) 4: Hesperiinae 1: Adlerodea - Lychnuchus*. Sociedade Brasileira de Zoologia, Curitiba, pp. 775–1055.
- Mielke, O.H.H., Carneiro, E. & Casagrande, M.M. (2012) Hesperiidae (Lepidoptera, Hesperioidae) from Ponta Grossa, Paraná, Brazil: 70 years of records with special reference to faunal composition of Vila Velha State Park. *Revista Brasileira de*

- Entomología*, 56, 59–66.  
<http://dx.doi.org/10.1590/S0085-56262012005000009>
- Núñez Bustos, E.O. (2008) Diversidad de mariposas diurnas en la Reserva Privada Yacutinga, Provincia de Misiones, Argentina. *Tropical Lepidoptera Research*, 18, 92–101.
- Núñez Bustos, E.O. (2009) Mariposas diurnas (Lepidoptera: Papilionoidea y Hesperioidea) del Parque Nacional Iguazú, Provincia de Misiones, Argentina. *Tropical Lepidoptera Research*, 19, 71–81.
- Núñez Bustos, E.O., Favre, P., Bertolini, M.P., Turner, J.D. & Sourakov, A. (2011) Mariposas diurnas (Lepidoptera: Papilionoidea y Hesperioidea) de la Reserva Privada Osununú-Parque Provincial Teyú Cuaré y alrededores de San Ignacio, Provincia de Misiones, Argentina. *Tropical Lepidoptera Research*, 21, 34–42.
- Warren, A.D., Ogawa, J.R. & Brower, A.V.Z. (2008) Phylogenetic relationships of subfamilies and circumscription of tribes in family Hesperiidae (Lepidoptera: Hesperioidea). *Cladistics*, 24, 642–676.
- Warren, A.D., Ogawa, J.R. & Brower, A.V.Z. (2009) Revised classification of the family Hesperiidae (Lepidoptera: Hesperioidea) based on combined molecular and morphological data. *Systematic Entomology*, 34, 467–523.
- Schaus, W. (1902) Descriptions of new American butterflies. *Proceedings of the United States National Museum*, 24, 383–460.
- Warren, A.D., Ogawa, J.R. & Brower, A.V.Z. (2008) Phylogenetic relationships of subfamilies and circumscription of tribes in family Hesperiidae (Lepidoptera: Hesperioidea). *Cladistics*, 24, 642–676.
- Warren, A.D., Ogawa, J.R. & Brower, A.V.Z. (2009) Revised classification of the family Hesperiidae (Lepidoptera: Hesperioidea) based on combined molecular and morphological data. *Systematic Entomology*, 34, 467–523.
- Warren, A.D., Davis, K.J., Stangeland, E.M., Pelham, J.P. & Grishin, N.V. (2014) *Illustrated lists of American butterflies (North and South America)*. Available from: <http://butterfliesofamerica.com/L/Neotropical.htm> (Accessed 8 February 2014)
- Zikán, J.F. & Zikán, W. (1968) Inseto-fauna do Itatiaia e da Mantiqueira. III. Lepidoptera. *Pesquisa agropecuária brasileira (Agronomia)*, 3, 45–109.