



## Phylogeny and biogeography of the genus *Pelinoides* Cresson (Diptera-Ephydriidae)

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### Abstract

A phylogenetic analysis of the 21 species of genus *Pelinoides* using 44 discrete morphological characters is presented. From the previous proposed three groups, *pallipes*, *sulcatus* and *cyclocerus*, the first is recovered. The *sulcatus* group appears as paraphyletic in terms of *cyclocerus*. *Pelinoides* is present in the Neotropical and Andean Regions and in the Transitional South American Zone. Four areas of maximum endemicity were found. Eleven vicariant events are described and discussed, using the areas of endemisms and biogeographic provinces where *Pelinoides* occurs.

**Key words:** *Pelinoides*, Phylogeny, Biogeography, Andean and Neotropical Regions

### Resumen

Se presenta un análisis filogenético de las 21 especies del género *Pelinoides*, usando 44 caracteres morfológicos discretos. Se recupera al grupo *pallipes* de una propuesta anterior que definía tres grupos: *pallipes*, *sulcatus* y *cyclocerus*. El grupo *sulcatus* resulta parafilético en términos de *cyclocerus*. *Pelinoides* está presente en las Regiones Biogeográficas Neotropical y Andina y en la Zona de Transición de América del Sur. Se determinan cuatro áreas de máximo valor de endemicidad. Se describen y discuten once eventos vicarantes usando las áreas de endemismo y las provincias biogeográficas donde está presente el género *Pelinoides*.

**Palabras clave:** *Pelinoides*, Filogenia, Biogeografía, Regiones Andina y Neotropical

### Introduction

The shore-fly genus *Pelinoides* Cresson 1931 is placed in the subfamily Ilytheinae Cresson, tribe Hyadinini Phillips *et al.* (Mathis & Zatwarnicki, 1995). This group is appropriate for cladistic and biogeographic analysis because it is clearly a monophyletic group, with only 21 species that are distributed in very restricted areas — biogeographic provinces, ecoregions— of the Andean and Neotropical Regions and Transitional South American Zone (Morrone, 2004). Although the alpha taxonomy is fairly accurate (Cresson, 1934; Wirth, 1968; Lizarralde de Grosso, 1981, 1989; Mathis, 1977, 1985), relationships between the species are still unknown, and nothing has been published regarding the sequence of vicariant events in this genus. The only statement on the internal relationships in *Pelinoides* was given by Mathis (1985), who divided the genus in 3 species groups: the *pallipes* group, with two species (*P. pallipes* and *P. andinus*) distributed on both sides of the Andes in Perú, Ecuador and Colombia and, in Central America below 1000 m of altitude; the *cyclocerus* group, with a single