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**Revision of the Nearctic species of the caddisfly genus  
*Wormaldia* McLachlan (Trichoptera: Philopotamidae)**

FERNANDO J. MUÑOZ-QUESADA & RALPH W. HOLZENTHAL



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## Revision of the Nearctic species of the caddisfly genus *Wormaldia* McLachlan (Trichoptera: Philopotamidae)

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## Abstract

The genus *Wormaldia* McLachlan 1865 (Trichoptera: Philopotamidae: Philopotaminae) is one of eight Philopotamidae genera found in the New World. In the Nearctic Region five genera are reported: *Chimarra*, *Dolophilodes*, *Fumonta*, *Sisko*, and *Wormaldia*. This last genus is diverse and widely distributed from Canada to South America; for the Nearctic Region the following species are reported: *W. anilla* (Ross, 1941), Canada, USA; *W. arizonensis* (Ling, 1938), Mexico, USA; *W. gabriella* (Banks, 1930), Canada, USA; *W. gesugta* Schmid, 1968, USA; *W. hamata* Denning, 1951, USA; *W. lacerna* Denning, 1958, USA; *W. laona* Denning, 1989, USA; *W. moesta* (Banks, 1914), Canada, USA; *W. mohri* (Ross, 1948), USA; *W. occidea* (Ross, 1938), Canada, USA; *W. oconee* Morse, 1989, USA; *W. pachita* Denning, 1956, USA; *W. planae* Ross and King, 1956, USA; *W. shawnee* (Ross, 1938), USA; *W. strota* (Ross, 1938), USA; and *W. thyria* Denning, 1950, USA. Diagnoses, redescrptions, and illustrations of the forewing, the hind wing, and the male genitalia of the 16 species are provided. New state distribution records are given for *W. anilla*, *W. gabriella*, *W. occidea*, *W. planae*, and *W. shawnee*. Two undescribed Nearctic species are diagnosed, described, and illustrated: *Wormaldia birneyi*, new species, from USA (California) and *W. clauseni*, new species, from Canada (British Columbia). A key for identification of males of these 18 species of *Wormaldia* is provided, as well as maps of their Nearctic distributions.

**Key words:** aquatic insects, new species, descriptions, identification key, distribution

## Resumen

El género *Wormaldia* McLachlan 1865 (Trichoptera: Philopotamidae: Philopotaminae) es uno de los ocho géneros conocidos de la familia Philopotamidae en el Nuevo Mundo. En la región Neártica están presentes cinco géneros de esta familia de tricópteros: *Chimarra*, *Dolophilodes*, *Fumonta*, *Sisko* y *Wormaldia*. El género *Wormaldia* es diverso y ampliamente distribuido desde Canadá hasta América del Sur, para la región Neártica son conocidas las siguientes especies: *W. anilla* (Ross, 1941), Canadá, EUA; *W. arizonensis* (Ling, 1938), México, EUA; *W. gabriella* (Banks, 1930), Canadá, EUA; *W. gesugta* Schmid, 1968, EUA; *W. hamata* Denning, 1951, EUA; *W. lacerna* Denning, 1958, EUA; *W. laona* Denning, 1989, EUA; *W. moesta* (Banks, 1914), Canadá, EUA; *W. mohri* (Ross, 1948), EUA; *W. occidea* (Ross, 1938), Canadá, EUA; *W. oconee* Morse, 1989, EUA; *W. pachita* Denning, 1956, EUA; *W. planae* Ross y King, 1956, EUA; *W. shawnee* (Ross, 1938), EUA; *W. strota* (Ross, 1938), EUA; y *W. thyria* Denning, 1950, EUA. Se proveen diagnosis, redescrpciones e ilustraciones de alas anterior y posterior, y de estructuras del aparato genital de los machos de las 16 especies conocidas especies de *Wormaldia*. Además, nuevos registros de distribución estatal en la región Neártica son dados para las siguientes especies: *W. anilla*, *W. gabriella*, *W. occidea*, *W. planae* y *W. shawnee*. Dos especies no descritas de la región Neártica son diagnosticadas, descritas e ilustradas: *Wormaldia birneyi* presente en EUA (California) y *W. clauseni* en Canadá (British Columbia). Una clave para la identificación de los machos de las especies es suministrada, así como también mapas que ilustran la distribución conocida de las 18 especies conocidas de *Wormaldia* en la región Neártica.

**Palabras clave:** insectos acuáticos, especies nuevas, descripciones, clave de identificación, distribución

## Introduction

At present, the caddisfly family Philopotamidae contains five genera in the Nearctic Region, *Chimarra* Stephens, 1829, *Dolophilodes* Ulmer, 1909, *Fumonta* Ross, 1956, *Sisko* Ross, 1956, and *Wormaldia* McLachlan, 1865 (Blahnik 2005). After *Chimarra*, *Wormaldia* is the second largest genus in the family for the New World and Nearctic region. In 1949, Ross published a taxonomic study of the known Nearctic species of the genus *Wormaldia*. In this work, he described a new species of *Wormaldia*, and also established various species groups. In the same work, Ross considered *Dolophilus* McLachlan, 1868 a synonym of *Wormaldia*. Later, Ross (1956) provided an exhaustive taxonomic review of the World fauna, where he also considered phylogenetic relationships and biogeographic aspects of *Wormaldia* and the family Philopotamidae.

Numerous recent authors, including Flint (1991, 1995), Malicky (1993a, b, 1994, 1995), Malicky and Chantaramongkol (1993a, b, 1996), Mey (1993, 1996), Morse (2008), Morse *et al.* (1989), Neboiss (1999), Schmid (1968, 1989, 1991, 1998), and others (see Morse 2008) considered *Wormaldia* and *Doloclans* Banks