

BOOK: Chironomidae of Central America: An Illustrated Guide to Larval Subfossils

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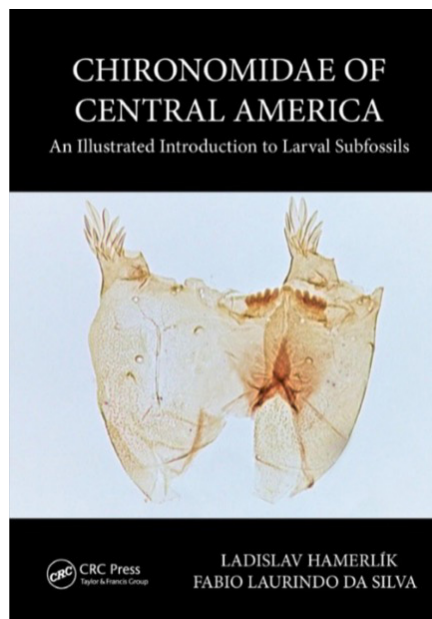
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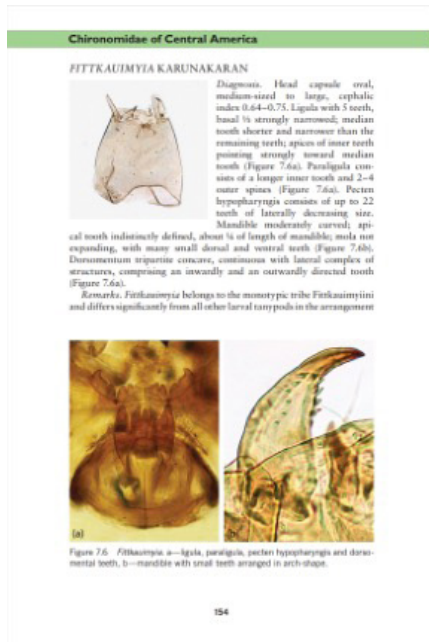
The illustrated introduction to Central American Chironomidae offers extensive photography material, as well as detailed morphological and ecological description of chironomid subfossils found in Central American lake sediments. The book uniquely provides two identification keys: one for living larvae occurring (or potentially to be found) in Central America, and one for the recorded subfossil remains, using limited morphological characters.

Paleolimnological investigations using chironomid remains have undergone a resurgence of interest, and this taxonomic guide will aid the thorough analysis of the diversity and distribution of the taxa encountered to date in Central America. On 189 pages, the book contains almost 300 original photographs of 64 genera (and more than 100 morphotypes), of which about a third are endemic to the Neotropical region, and absent in Brooks et al (2007). Plates are included for each taxon with



Subfossil Larval Remains	Chironomidae of Central America	Chironomidae of Central America
<p>3¹ Mentum with narrow ventromental plates with serrations, usually close to each other medially, anterior pedicel prominent, with or without spin, antenna, if present, usually very long.....4</p> <p>4² Antenna mounted on distinct pedicels, Lauterborn organs usually well developed and often situated on short to long pedicels. CHIRONOMINAE in part.....Tribe Tanytarsini³</p> <p>4³ Antenna not mounted on distinct pedicels, Lauterborn organs not placed on pedicels. CHIRONOMINAE in part.....Tribe Pseudochironomini⁴</p> <p>5¹ Premandible always present; mentum usually with 4-6 lateral teeth, mandible usually with 3-4 teeth.....ORFHOCEADINAE</p> <p>5² Premandible, ventromental plates and head absent, mentum with 7 lateral teeth, mandible with 5 and more teeth.....POTONOMINAE</p> <p>Keys to genera of subfossil subfamilies are ordered alphabetically and can be found on the following chapters:</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Chironominae Page 26</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Nesochironominae Page 67</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Tanytarsinae Page 89</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Orfhoceadinae Page 107</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Pseudochironominae Page 151</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">Potonominae Page 163</div> </div> <p>¹ The distinction between tribes Pseudochironominae and Tanytarsini is based on characteristics of the antenna, which is a feature that may be missing in subfossil remains. Therefore, in case of absence of antenna, the name of tribe is kept according to the full name in the text chapter.</p>	<p>GOELDICHIRONOMUS FITTKAU</p> <p>Diagnosis. Median mental tooth trifid or single (in that case, laterally crenate); number of lateral teeth may vary but usually with 4-7 pairs (Figure 4.12a); 2nd lateral may be reduced and fused with 1st lateral; 4th lateral subequal or significantly lower than 3rd and 5th. Ventromental plates characteristic, wide, ventrally tilted, pointing downward and almost touching medially (Figure 4.12a). Ventral occipital margin barely sclerotized, with a distinct, wide triangular occipital (Figure 4.12b). Premandible has 2-3 teeth. Mandible with apical tooth followed by 3 inner teeth, pale distal tooth present; seta subdentate remarkably large, comb-like (Figure 4.12b). Antenna 5-segmented, segments are diminishing in size distally; Lauterborn organs opposite on apex of 2nd segment (Figure 4.12g).</p> <p>Remarks. The combination of the distinctive shape of ventromental plates, well-developed triangular occipital, and the unique, large, sickle-shaped seta subdentate, which is toothed along its inner margin, will separate Goeldichironomus from other Chironomus.</p> <p>KEY TO MORPHOTYPES</p> <ol style="list-style-type: none"> Mentum with median tooth small, deeply sunken, 1st and 2nd lateral teeth nearly fused.....Goeldichironomus-type Chlonga Mentum with median tooth longer or subequal to 1st lateral one.....2 Mentum with 15 teeth, 4th lateral tooth minute.....Goeldichironomus carao-type Mentum with 13 teeth, 4th lateral tooth subequal to adjacent teeth.....3 Mentum with median tooth high and narrow, subequal in size to 1st lateral, 2nd lateral tooth subequal to 1st lateral with a broad gap between 2nd and 3rd lateral teeth.....Goeldichironomus fuliginosus-type Mentum with median tooth narrower than 1st lateral, lateral tooth subequal in size, outermost lateral tooth large and pointing outward.....Goeldichironomus amazonicus-type 	<p>Figure 4.12. Goeldichironomus. Goeldichironomus Chlonga-type: a—mentum (normal), b—mentum and mandible (wide), Goeldichironomus carao-type: c—mentum. Goeldichironomus fuliginosus-type: d—mandible. Goeldichironomus amazonicus-type: e—mandible, f—mandible showing well-developed triangular occipital, g—detail of head with mentum, mandible, pre-mandible, and antenna, h—detail of mandible showing toothed seta subdentate.</p>

Sample of pages from the book Chironomidae of Central America: An Illustrated Guide to Larval Subfossils.



Sample of pages from the book *Chironomidae of Central America: An Illustrated Guide to Larval Subfossils*.

generic characters. Keys to morphotypes are provided, if applicable, along with their specific diagnostic characters, distribution and ecology.

Authored by a (paleo)limnologist and a taxonomist, this guide draws on a thorough taxonomical knowledge of the region's recent chironomid fauna. It uses a paleolimnological approach to transmit this information to morphotypes that can be linked with ecology and used to reconstruct the past development of nature. The guide is primarily addressed to researchers working with both subfossil and recent larvae not only in Central America, but in the whole Neotropical region. Moreover, the guide will also be of interest to non-academic professionals working on applied research and biomonitoring of lakes, providing a comprehensive reference for aquatic ecologists, palaeolimnologists, students and researchers.

The book can be purchased here: <https://www.routledge.com/Chironomidae-of-Central-America-An-Illustrated-Introduction-To-Larval-Subfossils/Hamerlik-da-Silva/p/book/9780367076061>