Zootaxa 2412: 1–20 (2010)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Cryptotendipes Lenz from Manitoba, Canada, with keys to known immatures of the genus (Diptera: Chironomidae)

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Abstract

Cryptotendipes tuberosus **sp. n.** from Southern Indian Lake, Manitoba, Canada, is described in all stages and both sexes. Five additional species of *Cryptotendipes* Kieffer are recorded from Lake Winnipeg, and two from South Indian Lake. *C. ariel* (Sublette) is shown to be a senior synonym of *C. darbyi* (Sublette). The pupae and larvae of *C. emorsus* (Townes), *C. casuarius* (Townes), *C. darbyi* and *C. pseudotener* (Goetghebuer) are described or redescribed. The female of *C. emorsus* is described and additional information given on other male and female imagines. Keys are given to known pupae and larvae of *Cryptotendipes*. The distribution of *Cryptotendipes* in Lake Winnipeg is mapped and discussed. The separation of larval instars is shown approximately to follow Dyar's rule.

Keywords: Chironomidae, *Cryptotendipes*, new species, keys to immatures, Lake Winnipeg, Southern Indian Lake

Introduction

A limnological baseline survey of Lake Winnipeg was conducted in 1969 by the staff of the Freshwater Institute, Fisheries Research Board of Canada, in order to study the chemical limnology, phytoplankton, primary production, zooplankton and zoobenthos. The lake which is a remnant of Glacial Lake Agassiz has a surface area of 23,750 km^2, mean depth of 10.6 m, maximum depth of 32 m, Secchi disc visibility of 5–50 cm in the south basin and 1–3 m in the north basin, is essentially isothermal during the open water season and receives high nutrient loading from the rivers which enter it. Brunskill (1973) reported that 5,000 metric tons of phosphorus and 62,000 tons of nitrogen were being added annually to the lake over the period 1968–1970. At least in the south basin, however, primary production appeared to be limited by turbidity rather than nutrient supply. Three basins are delineated by the shape of the lake (Fig. 1). The South Basin is shallower, with a mean depth of 9.7 m, than the larger North Basin (mean depth 13.3 m) and the two basins are separated by a Narrows section (mean depth 7.2 m) subject to strong currents associated with seiches.

The results from the benthic studies of the chironomids is presented in Chang *et al.* (1993), while the results from light trap collections, emergence traps and rearings are given in Chang *et al.* (1994). The chironomid indicator communities in different areas of Lake Winnipeg are shown in Sæther (1979 fig. 3) (*Chironomus plumosus* f. *semireductus* Lenz has since been shown to be *Chironomus entis* Shobanov).

Species belonging to the *Harnischia* complex are among the dominant chironomids of Lake Winnipeg. *Cryptotendipes casuarius* (Townes) was the most common species in the benthic samples of the North Basin in 1969 and among the adults from the 1969 light samples in the South Basin, while *C. darbyi* was the second most common species among the larvae collected in the South Basin in 1969 (Fig. 1).

Southern Indian Lake (57^0N, 99^0W) is a large, shallow, multibasin lake on the Churchill River in northern Manitoba. The lake lies on Precambrian Shield but much of the bedrock is overlain by surficial deposits of glacial origin. Discontinuous permafrost is widespread throughout the region. Boreal forest interspersed with areas of muskeg, surrounds the lake. Because of its large basins and shallow depths, thermal stratification is weak to non-existent through the ice-free season. The lake was impounded in 1976 raising the lake level 3 m

Accepted by W. Gilka: 16 Feb. 2010; published: 29 Mar. 2010