CYCLOCYPRIS VINYARDI N. SP. (OSTRACODA) DESCRIBED FROM A RHEOCRENE SPRING IN NEVADA (U.S.A.)

BY

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This paper is dedicated to the memory of Dr. Gary L. Vinyard (1949-1998).

ABSTRACT

A new freshwater ostracode, Cyclocypris vinyardi n. sp., belonging to the family Cyclocyprididae is described from a slow flowing rheocrene spring in Nevada, U.S.A. The new species is distinguished from the other 12 extant species of the genus in the United States based on the double rows of pore openings on the anterior end of the carapace, differences in the shape of the hemipenis, and asymmetry in the clasping organs.

INTRODUCTION

The genus Cyclocypris is represented in the U.S.A. by 12 living species: C. ampla Furtos, 1933; C. cruciata Furtos, 1935; C. forbesi Sharpe, 1897; C. globosa (G. O. Sars, 1863); C. laevis (O. F. Müller, 1776); C. modesta (Herrick, 1887); C. nahcotta Dobbin, 1941; C. ovum (Jurine, 1820); C. serena (Koch, 1838); C. sharpei Furtos, 1933; C. washingtoniensis Dobbin, 1941; and C. wyomingensis Ferguson, 1966. Where C. ovum, C. globosa, C. serena, and C. laevis show a wide geographical distribution in the Holarctic region, the others (i.e., C. modesta, C.

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forbesi, C. ampla, C. sharpei, C. cruciata, C. nahcotta, C. washingtoniensis, and C. wyomingensis) have only been rarely reported from North American freshwater habitats (Ferguson, 1952; Tressler, 1959; Delorme, 1970, 1991). However, this number (i.e., twelve) is much lower than the ca. 35 Cyclocypris species known in the literature (Meisch, 2000; Matzke-Karasz et al., 2004). One possible reason for the rare reports of these species is due to the low number of studies performed in certain regions. For example, C. forbesi has been reported so far from Illinois, Massachusetts, and South Carolina, while C. cruciata was only reported from Massachusetts and New York (Tressler, 1959). Besides, C. wyomingensis was only found in Minnesota and Wyoming (Ferguson, 1966). Similarly, two other species were only reported from limited areas: C. ampla from Ohio (Furtos, 1933), Canada (Delorme, 1970), and British Columbia (Green, 1994), and C. sharpei from Ohio, Illinois, Indiana, New York, and British Columbia, Canada (Furtos, 1933; Delorme, 1970; and Green, 1994, respectively). Living specimens of two other species C. nahcotta and C. washingtoniensis have not been reported from anywhere else in the world since their first description from Washington (Dobbin, 1941). The aim of this study is to describe a new species, Cyclocypris vinyardi n. sp., for the Ostracoda fauna of North America.

MATERIAL AND METHODS

Biological material was collected from the source of Cane Spring with a plankton net on 2 July 1997 and fixed with 70% ethanol in glass jars at the study site. In the laboratory, the material was filtered through U.S. Standard Sieves (0.25 : 0.5 : 1.0 : 2.0 mm mesh size) under tap water. After washing, the ostracodes were separated from the debris and mud with a stereomicroscope, and stored in 70% ethanol. The soft body parts of the specimens examined were preserved in lactophenol under a glass cover, while the dried carapaces were kept in micropalaeontological slides. Drawings of the species were made with the aid of a camera lucida. Descriptions are based on soft body parts and valve morphology. The methodology follows the model proposed by Broodbakker & Danielopol (1982) to describe the chaetotaxy of the limbs, revised for the second antenna by Martens (1987). Besides, other important sources such as Kempf (1980, 1997) and Meisch (2000) were used during species identification.

Temperature and dissolved oxygen values were measured with a DO-meter (YSI Model 57), while a pH-meter of Hanna Instruments (HI-9025) and a HI 8733 conductivity meter were used to record pH and EC (µS/cm) values, respectively. Latitude, longitude, and elevation were recorded with a geographical positioning system (GPS) device. All material (except 5 non dissected paratypes, see below) is