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Ostracods (Crustacea: Ostracoda) from the floodplain of the Chi River, Mahasarakham Province, Northeast Thailand, with the first record of male *Tanycypris siamensis* Savatenalinton & Martens, 2009

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Abstract

The species diversity of ostracods in the floodplain of the Chi River basin, Mahasarakham Province, Northeast Thailand was examined in this study. Twenty-two samples were collected in the cool season (February 2010). Twenty-six species belonging to 18 genera were recorded, three of which are new to the Oriental region (*Fabaeformiscandona subacuta* (Yang, 1982), *Ilyocypris monstrifica* (Norman, 1862) and *Limnocythere stationis* Vávra, 1891) and one (*Hemicypris ovata* Sars, 1903) is a new record for Thailand. The most common species were *Strandesia kraepelini* (G.W. Müller, 1906) and *Physocypria crenulata* (Sars, 1903) occurring in 77% and 64% of the sampled localities, respectively. Additionally, males of *Tanycypris siamensis* Savatenalinton & Martens, 2009 were found and are here described for the first time. This discovery shows that the morphology of the hemipenis and of the Zenker organs of *T. siamensis* is similar to that of species in the genus *Cypricercus*. Additional comments on chorology and ecology of several taxa are also given.

Key words: Ostracoda, *Tanycypris*, floodplain, Chi River, Thailand

Introduction

Thailand is a tropical country. The climate and water bodies of the country are affected by monsoons. The southwest monsoon results in a rainy season from June to October, while the northeast monsoon makes the country dry and cool from November to February. This results in the three distinct seasons: rainy, cool and summer. The average annual temperature is 27 ºC. The Northeastern part of Thailand, situated on the Khorat Plateau, comprises about 1/3 of the total surface of the country. The Chi River, which flows eastward towards the Mekong River, is one of four principle rivers (Songkhram, Pong, Chi and Mun) in this region. It runs through several provinces, including Mahasarakham. In the rainy season, the land along the river is flooded as a result from the annual southwest monsoon. There are several water bodies, both permanent and temporary, in this floodplain: oxbow lakes, pools and swamps.

Ostracods are bivalved microcrustaceans, which can be found in both aquatic (marine and freshwater) and (semi)-terrestrial ecosystems. Thus far, about 2000 species in c 200 genera of non-marine ostracods have been recorded worldwide (Martens *et al.* 2008, Martens & Savatenalinton 2011). The ostracod fauna of Thailand remains ill-known, this in spite of several recent studies, covering several habitat types (Savatenalinton *et al.* 2008, Savatenalinton & Martens 2008, 2009a,b,c, 2010). However, the ostracod fauna from floodplains has thus far not been studied in this country. The present contribution reports on the species diversity of ostracods in the floodplain of the Chi River in the Mahasarakham Province. This is the first survey of ostracods in this habitat type in the country.

Material and methods

A survey of ostracods in the floodplain of the Chi River in Mahasarakham province, Northeast Thailand was

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The genus *Tanycypris* so far comprises 10 species worldwide (Martens & Savatenalinton, 2011; Chang *et al.*, 2012). Four species are known from sexual populations: *T. clavigera* (G.W. Müller, 1898), the type species of the genus, *T. madagascarensis* (G.W. Müller, 1898), *T. marina* (Hartmann, 1965) and *T. siamensis* Savatenalinton & Martens, 2009. According to the types of hemipenes as proposed by Savatenalinton & Martens (2009), the morphology of the hemipenes of *T. siamensis* and *T. madagascarensis* belong to type C while in *T. marina* and *T. clavigera*, their hemipenes are of type A. There are two possibilities for this phenomenon: 1) if *T. marina* and *T. clavigera* are real *Tanycypris* species, then the genus *Tanycypris* comprises two types of hemipenes. This genus would then be different from all other genera of the subfamily Cypricercinae that comprise only one hemipenis type; 2) *T. marina* and *T. clavigera* possibly belong to *Nealecypris* as their hemipenis type, type A, is the same as in *Nealecypris*, presently a monospecific genus. However, thorough redescriptions are required to clarify the taxonomic position of these two species. Sexual populations of *Tanycypris* have thus far been reported from Neotropical and Afrotropical regions. The occurrence of male *T. siamensis* in the present study reveals the first sexual population of a species of this genus in the Oriental region.

All female populations of *Tanycypris siamensis* Savatenalinton & Martens, 2009 were reported from permanent water bodies in the period between rainy and cool season (October and November) with water temperatures ranging between 26.7–30.0 ºC (Savatenalinton & Martens 2009c) while the sexual population is encountered in a floodplain at the beginning of summer (21 February 2010) with a water temperature of 28.0 ºC (this study). There are several hypotheses regarding the differential occurrence of parthenogenetic and sexual populations of the same species, either with seasonal differentiation, as is the case here, or with geographic parthenogenesis (the occurrence of both reproductive modes in different geographic areas). Environmental conditions and habitat stability have often been cited as the causes of the latter phenomenon (see Horne & Martens 1999).

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