THREE NEW SPECIES OF MESOCYCLOPS G. O. SARS, 1914 (COPEPODA, CYCLOPOIDA) FROM AUSTRALIA AND BURMA, WITH COMMENTS ON THE MESOCYCLOPS FAUNA OF AUSTRALIA

BY

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ABSTRACT

Three new species of Mesocyclops G. O. Sars, 1914 are described: M. acanthoramus sp. nov. and M. pubiventris sp. nov. from northern Queensland, and M. kayi sp. nov. from northern Burma.

Mesocyclops papuensis Van de Velde, 1987 and M. woutersi Van de Velde, 1987 are reported from Australia for the first time. Other Australian records include: M. aspericornis (Daday, 1906) from Queensland; M. brooksi Pesce, De Laurentiis & Humphreys, 1996 from Queensland and Western Australia; M. darwini Dussart & Fernando, 1988 from Queensland and Western Australia; and M. notius Kiefer, 1981 from Queensland and Western Australia. A key to all Australian species of Mesocyclops, as well as a short discussion on the composition and distribution of the Australian fauna, are provided.

RÉSUMÉ

Trois espèces nouvelles de Mesocyclops G. O. Sars sont décrites: M. acanthoramus sp. nov. et M. pubiventris sp. nov. du nord de Queensland, et M. kayi sp. nov. du nord de la Birmanie.

INTRODUCTION

Recent epidemiological studies in SE Asia and Australia put special emphasis on the inventarization of the local *Mesocyclops* fauna, in order to choose the species best adapted for the biological control of disease vector mosquitoes (*Anopheles*, *Aedes*, and *Ochlerotatus* spp.). This approach provided valuable data on the habitat preferences, the geographical distribution, and also on the taxonomy of the genus *Mesocyclops* (cf. Holýnska, 1998; Vu et al., 2000; Holýnska & Vu, 2000). A team under the leadership of Dr. B. H. Kay has been conducting investigations on the use of these predator copepods in the northern Queensland subterranean urban environment (service manholes, pits) for several years, i.e., where mosquito larvae may find refuge in cool and dry periods (Kay et al., 2000, 2002). The two new species here described from Queensland were found during a survey of the local copepod fauna living in subterranean sites in northern Queensland, and *Mesocyclops* inoculation experiments in Townsville, Hughenden, and Richmond (northern Queensland). A new species was also found during the collections made to evaluate the potential for ‘dengue’ and its control by copepods in northern Burma (Myanmar).

So far, eight species of *Mesocyclops* have been reported from Australia: *M. annae* Kiefer, 1930, *M. aspericornis* (Daday, 1906), *M. australiensis* (G. O. Sars, 1908), *M. brooksi* Pesce, De Laurentis & Humphreys, 1996, *M. cuttacuttae* Dumont & Maas, 1985, *M. darwini* Dussart & Fernando, 1988, *M. notius* Kiefer, 1981, and *M. pehpeiensis* Hu, 1943. Yet, records of *Mesocyclops annae* (cf. Tait et al., 1984; Dussart & Fernando, 1986) and *M. pehpeiensis* (cf. Dussart & Fernando, 1986) are presumably referable to their close Australasian relatives, *M. pseudoannae* Van de Velde, 1987 and *M. papuensis* Van de Velde, 1987, respectively, and *M. annae* and *M. pehpeiensis* probably do not occur on the Australian continent (Holýnska, 2000). Very little is known about the freshwater cyclopids of Burma (Lindberg, 1949; Dussart & Fernando, 1985). Altogether, six *Mesocyclops* species are known from the country: *M. aspericornis*, *M. granulatus* Dussart & Fernando, 1988, *M. ogunnus* Onabamiro, 1957, *M. pehpeiensis*, *M. restrictus* Dussart & Fernando, 1985, and *M. thermocyclopoides* Harada, 1931 (cf. Dussart & Fernando, 1985; Kay et al., in press a). However, being in the contact zone of the Indian and Southeast Asian faunae, the real species diversity is supposedly significantly higher (27 *Mesocyclops* spp. have been recorded already from tropical Asia!).

MATERIAL AND METHODS

From northern Queensland 151 samples, collected from service manholes and pits in 9 tropical and drier inland towns, were examined. Locality data are given