

Morphology of *Uca formosensis* Rathbun, 1921 (Crustacea: Decapoda: Ocypodidae), an Endemic Fiddler Crab from Taiwan, with Notes on its Ecology

Hsi-Te Shih^{1,*}, Hin-Kiu Mok¹, Hsueh-Wen Chang² and Sin-Che Lee³

¹Institute of Marine Biology, National Sun Yat-sen University, Kaohsiung, Taiwan 804, R.O.C.

²Department of Biological Sciences, National Sun Yat-sen University, Kaohsiung, Taiwan 804, R.O.C.

³Institute of Zoology, Academia Sinica, Nankang, Taipei, Taiwan 115, R.O.C.

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Hsi-Te Shih, Hin-Kiu Mok, Hsueh-Wen Chang and Sin-Che Lee (1999) Morphology of *Uca formosensis* Rathbun, 1921 (Crustacea: Decapoda: Ocypodidae), an endemic fiddler crab from Taiwan, with notes on its ecology. *Zoological Studies* 38(2): 164-177. *Uca formosensis* Rathbun, 1921, is an endemic fiddler crab species from Taiwan. The taxonomy of this species has long been constrained by the paucity of study material. Crane (1975) placed *U. formosensis* as a member of the subgenus *Thalassuca*, but important characters, like its handedness, presence of enlarged teeth on the fingers of the female's minor chela, structures of the anterolateral margin, suborbital margin, orbital floor, degree of arching of the carapace, and habitat preference, suggest that this classification is incorrect. It is suggested that *U. formosensis* should be excluded from the subgenus *Thalassuca*. In this study, a historic review is provided of the species and notes on its distribution, variation of morphology (chela types), live coloration, and taxonomy are included.

Key words: Handedness, Chela type, Coloration, Distribution, Study history.

The fiddler crab *Uca formosensis* Rathbun, 1921, is one of the few endemic species of marine crabs known from Taiwan and Penghu Island (the Pescadores). However, the species is not well known, despite many reports about it. Previous reports of this species are almost wholly taxonomic, and in those which include ecological and/or distributional information, data are either too brief or incorrect, for example, studies on its handedness (Barnwell 1982), the structure of the minor cheliped of the female (Crane 1975), and the construction of its burrow and habitat (Crane 1975). Morphological variation in this species is also not well reported. Considering the endemism of *U. formosensis*, there is a need to better understand the taxonomy of this species as well as to ascertain its ecological habitats and distribution.

In the present paper, the distribution and morphological characters of *U. formosensis* are revised.

Related ecological and behavioral studies on *U. formosensis* will be published elsewhere.

HISTORIC REVIEW

Uca formosensis was first found in 1918 at Lukang (as Rokko) by Moichiro Maki. Subsequently Masamitsu Oshima of the Institute of Science, Government of Formosa, sent specimens collected in 1919 at Lukang by students of Taihoku Normal School to Mary J. Rathbun of the US National Museum for identification. This information was published as a new species *Uca formosensis* in 1921. An important monograph on the crustacean fauna of Taiwan was published in 1923 by M. Maki and Kwan Tsuchiya. In this monograph, *U. formosensis* was recorded in Ilan, Yungan (as Hsinchuangtzu), and Lukang. Photographs of *U. formosensis* and its ma-

*To whom correspondence and reprint requests should be addressed. Tel: 886-7-5252000 ext. 3614. Fax: 886-7-5253614. E-mail: shihht@gate.sinica.edu.tw