Soldier Crabs from Australia and Japan

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During four weeks in February to March, 1977, I visited several coastal places of Tasmania, Victoria and New South Wales, and collected many Australian crabs including *Mictyris* species which are called the soldier crabs in view of their habits with congregation of immense individuals. At the sandy mud flats, in reality, the huge "armies" of *Mictyris* attracted my attention. The specimens collected in Tasmania are surprisingly different from the Japanese species, "*M. longicarpus* LATREILLE," and without doubt identified with *M. platycheles* H. MILNE EDWARDS. On the other hand, the specimens from New South Wales were seemingly different from the Japanese species. Through the kind information of Dr. D. J. G. GRIFFIN of the Australian Museum, I was able to consult the excellent paper on *Mictyris* by MCNEILL (1926), and convinced that the two are different from each other. The present short note is the result of direct comparison of the specimens of three Australian species and the Japanese "*M. longicarpus.*"

A discussion on the aberrant characters of *Mictyris*, the unique genus of the Mictyridae, was given by KEMP (1919), and subsequently the genus was thoroughly reviewed by MCNEILL (*op. cit.*). In his important contribution were described and figured *M. longicarpus* LATREILLE, 1806, *M. longicarpus* var. *brevidactylus* STIMPSON, 1858, *M. platycheles* H. MILNE EDWARDS, 1852, and a new species, *M. livingstonei.* Their geographical distributions were summarized as follows: *M. longicarpus* ranges from the southern New South Wales coast, and Perth, Western Australia, to New Caledonia, the islands in the Banda and Java Seas, Singapore, the Andaman and Nicobar Islands, and Akyab, Burma, facing the Bay of Bengal, and *M. longicarpus* var. *brevidactylus* from the Ryukyu Islands to Hong Kong and the Philippines. *M. platycheles* and *M. livingstonei* are endemic to Australia, being restricted to the east coast of Australia. The boundary between *M. longicarpus* and its variety is, though not always distinct, in the vicinity of the Sulu Sea or the Celebes Sea, to the south of the Philippines. Of the two species endemic to Australia, *M. livingstonei* ranges from Cooktown, northern Queensland, to Trial Bay, northern New South Wales, and *M. platycheles* is more southern, viz., from Moreton Bay, southern Queensland, to Melbourne, Victoria, and the north coast of Tasmania.

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1) *Mictyris longicarpus* LATREILLE, 1806, and *M. brevidactylus* STIMPSON, 1858

Many specimens referable to true *M. longicarpus* were collected at Port Stephens, Broken Bay, Burill Lake and Batemans Bay, New South Wales, and otherwise some specimens collected by Dr. T. HABE at Dunwich, near Brisbane, southern Queensland, were disposed for study.

In the field these specimens appeared in general much larger and more beautiful than the specimens from the Ryukyu Islands. As Japanese carcinologists have hitherto been unaware of MCNEILL's paper, Japanese specimens of *Mictyris* are still known as *M. longicarpus* even in monographs dealing with the carcinological systematics. Its northern limit is Tanega-shima Island, Southwest Japan, as mentioned by TAKEDA (1976).

A direct comparison of the specimens from Australia and Japan revealed that they are specifically distinct from each other, partly confirming the result of MCNEILL's study. The differences are, though rather small, constant and easily detected, as mentioned below.

The Australian species, *M. longicarpus*, is apparently much larger than the Japanese species, *M. brevidactylus*. The largest specimen of *M. longicarpus* mentioned by MCNEILL bears the carapace measuring 23 mm across the branchial regions of both sides and 28 mm from the front to the posterior margin. In the specimens examined at present the largest is a male from Dunwich, with 26.2 mm in length and 22.4 mm in breadth. Contrary to this, the Japanese specimens are much smaller, and it seems not always correct that MCNEILL considered the small size in the variety to be caused from their existence in an unfavourable environment. The largest specimens at hand from Ishigaki-jima Island, the Ryukyu Islands, is 16.5 mm in length and 15.0 mm in breadth.

The dorsal areolation is similar in both the species, but the branchial regions are more distinctly delimited with linear furrows in *M. longicarpus*. The posterior border of the carapace is, as already noted by MCNEILL, strongly developed as a prominent plate with basal constriction in *M. longicarpus*, and weakly without constriction in *M. brevidactylus*. *M. longicarpus* bears without doubt larger corneae with stouter stalks. In general, the lateral borders of the front are, as illustrated by MCNEILL, less strongly concave in *M. longicarpus*, but this feature seems somewhat variable and in some larger specimens of *M. longicarpus*, they are rather strongly concave as in *M. brevidactylus*. The anterolateral spine at each side is directed obliquely outward and only weakly upward in *M. longicarpus*, while that of *M. brevidactylus* is distinctly upward and only weakly outward. Thus, the general appearance of the carapace in the two species is markedly different from each other mainly due to the differences in the formation of the eyes and the posterior border of the carapace.

The basic formation of the chelipeds are also common to both the species, but the fingers are comparatively longer in *M. longicarpus*. This fact is indicated by that the immovable finger of the adult male is about one and a half length of the lower border of the palm in *M. longicarpus*, and about equal to its lower border in *M.*

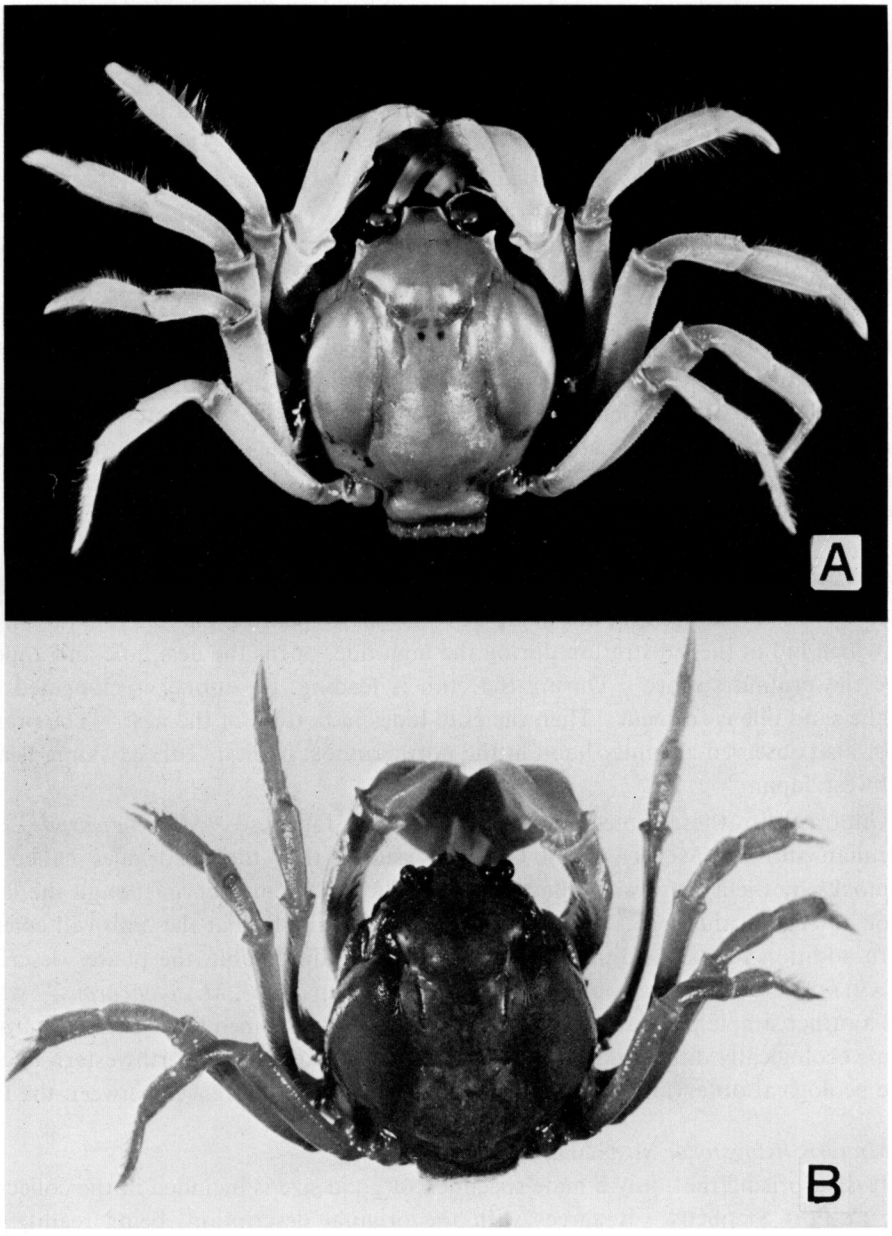

Fig. 1. *Mictyris longicarpus* LATREILLE (A), and *M. brevidactylus* STIMPSON (B).

brevidactylus. Thus, the chelae of *M. brevidactylus* is of appearance of considerable robustness. A tooth on the prehensile edge of the movable finger is not developed in the females and young males in both the species. The tooth in the adult males of