

MICROPALAEONTOLOGY NOTEBOOK

***Sanyuania cuneata* Zhao & Whatley, 1992 (Ostracoda, Cytheroidea, Cytherideidae) from Japan: morphology, distribution and environmental significance**

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Sanyuania cuneata Zhao & Whatley, 1992 was reported initially from Late Pleistocene core samples from the northern part of the Yellow Sea and Recent sediments collected from supra tidal pools (17 practical salinity unit (psu)) in Xiangshangang Bay, East China Sea (Zhao & Whatley, 1992). Later, specimens were discovered, but not identified, in Lake Nakaumi, Shimane Prefecture, SW Japan (Fig. 1) (as *Cytheridae* gen. et. sp. indet. by Tanaka *et al.* (1998) and *Sanyuania* sp. by Seto *et al.* (1999)). Further examination of these Japanese specimens has clarified that they are conspecific with the Chinese specimens. This has provided an opportunity to review the distribution (Fig. 1) and potential environmental significance of *Sanyuania cuneata* and, for the first time, to describe its appendages (Fig. 2).

Specimens figured herein were recovered from Lake Nakaumi (35°26' 50" N, 133°07'50" E) at a depth of 0.3–6.0 m and salinity of 8–17 psu on 9 September 1998. The surface of the sediment was covered by the byssus of the mussel *Musculista senhousia* (Benson, 1842).

Sanyuania cuneata is probably endemic to the East China Sea and the southwestern part of the Sea of Japan and is a potentially useful palaeoenvironmental indicator of brackish (steno-haline) environments in the area. By using the oxygen isotopic data from planktonic foraminifers and the estimated value of salinity flowing into the Japan Sea, Matsui *et al.* (1998) approximated that the salinity of the surface water of Japan Sea declined to about 20 psu during the Last Glacial Maximum (LGM) and indicated the probability of a land bridge connecting the Asian continent and the Japanese islands at that time. The limited environmental and geographical distribution and the recent fossil record of *S. cuneata* suggest that it took advantage of these shallow, brackish conditions and migrated to the Japanese islands during the LGM. Judging by the fact that

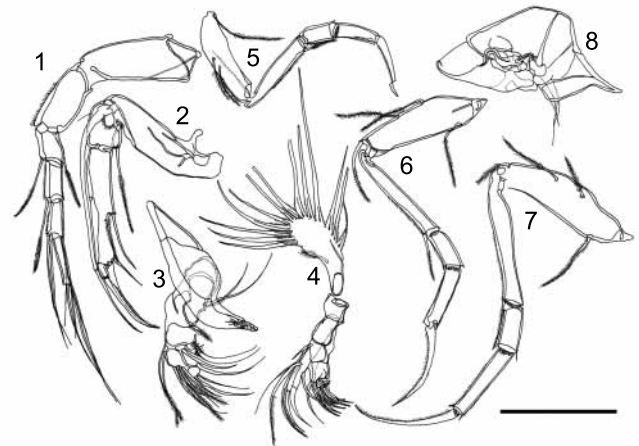


Fig. 2. The chitinous parts of *Sanyuania cuneata*. (1). Antennule. Six articulated segments. (2). Antenna. Four articulated segments. Second segment with long two-segmented exopodite. Fourth segment with two stout clawlike seta. (3). Mandible. Five segmented. Basal segment (coxa, first segment of protopodite) with about six teeth. Second segment of protopodite (basis) with exopodite consisting of two setae, and a plumose seta on posterior distal margin. (4). Maxilla. Branchial plate (exopodite) with 14 plumose setae. Basal podomere bearing palp and three masticatory process. (5). First thoracic leg. (6). Second thoracic leg. (7). Third thoracic leg. (8). Male copulatory organ. Basal capsule rather squared. Hook-shaped short ductus ejaculatorius. 1–8: SUM-CO-1420. Scale = 50 µm.

the global euryhaline genus *Cyprideis* (Jones) has not been reported in Japan, the Japanese late Cenozoic brackish-water ostracod communities must have connection with the eastern type of Chinese brackish-water ostracod faunas (Zhao & Whatley, 1992).

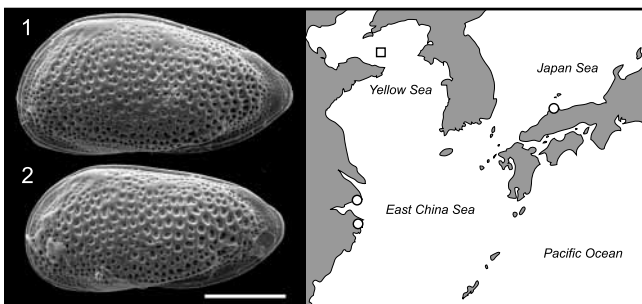


Fig. 1. Left: SEM photograph of left lateral view of the carapaces of *Sanyuania cuneata* Zhao & Whatley, 1992 (1, female, SUM-CO-1418; 2, male, SUM-CO-1419). Scale = 100 µm. Right: the distribution of *S. cuneata* in Far East. Fossil (□), Recent (○).

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