



Four new species of the interstitial family Cobanocytheridae (Crustacea: Ostracoda) from central Japan

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Abstract

Four interstitial cobanocytherid species are described from central Japan: *Cobanocythere ikeyai* **sp. nov.**, *Cobanocythere lata* **sp. nov.**, *Paracobanocythere watanabei* **sp. nov.** and *Paracobanocythere grandis* **sp. nov.** The reports of the two new *Paracobanocythere* species are the second and third for this genus since the original description of *P. hawaiiensis* Gottwald, 1983. *Cobanocythere ikeyai* **sp. nov.**, and *C. lata* **sp. nov.**, from Japan are morphologically more similar to the species of the “*lanceolata* group” by Gottwald (1983) and *C. guttaeformis* Gottwald, 1983 from the Galapagos Islands, respectively, rather than to other *Cobanocythere* species from Japan. The Japanese archipelago (eastern Eurasian Continent) and the Galapagos Islands (north-western South America) are separated by about 15,000 km from each other, and have never been adjoined throughout geological history. This fact, and also the morphological similarities between *Cobanocythere* species from Japan and the Galapagos Islands, suggests that this genus may have undergone global dispersal at several times in the past. Conversely, the genera *Cobanocythere* and *Paracobanocythere* are distributed not only around continents and continental islands but also around oceanic islands such as the Hawaiian and Galapagos Islands. We conclude, therefore, that the cobanocytherids seem to have been able to disperse long distances across oceans.

Key words: Podocopa, Cytheroidea, *Cobanocythere*, *Paracobanocythere*, taxonomy, dispersal

Introduction

The diagnosis of the family Cobanocytheridae by Schornikov (1975) (type species: *Cobanocythere subterranea* Hartmann, 1959) mentions a dorso-ventrally depressed carapace, broad anterior vestibula, one distal claw on the antennal endopodite, maxillular branchial plate bearing a small number of setae, and sixth limb remarkably reduced only in the male (Schornikov 1975; Gottwald 1983). This family is composed of two genera: *Cobanocythere* Hartmann, 1959 and *Paracobanocythere* Gottwald, 1983. All living species of the family are known as interstitial dwellers, inhabiting sediments interstices.

The genus *Cobanocythere* is mainly characterised by three adductor muscle scars in the valves, absent or undeveloped mandibular exopodite and short copulatory duct of the male copulatory organ (Gottwald 1983). So far, 22 living and two fossil species have been described; the following three species are known from Japan: *C. japonica* Schornikov, 1975 and *C. tokiokai* (Schornikov, 1975) as living species; and *C. pulchra* Yajima, 1987 as a fossil species. The features of the carapace morphology in this genus are more conspicuous than in other marine interstitial ostracods, for example its cigar- or drop-like shape in dorsal view, the degree and pattern of surface ornamentation and the presence/absence of a lip-like protrusion (Gottwald 1983). Gottwald (loc. cit.) recognised three morphological groups in this genus: namely, the *subterranea*, *lanceolata* and *labiata* groups, according to the shape of carapace, the outline of the anterior area of the valve in lateral view and the appendage morphology.

The genus *Paracobanocythere* is characterised by four adductor muscle scars, seta-like mandibular exopodite and very long copulatory duct in male (Gottwald 1983). The type species *Paracobanocythere hawaiiensis* Gottwald, 1983 is the only known species in this genus.

The geographic distribution of the genus *Cobanocythere* is worldwide, from low to mid latitudes: the Pacific (Japan, the Hawaiian Islands, the western coasts of North America, the Galapagos Islands, El Salvador and Chile),