Fossil uncinidean and anomalan Decapoda (Crustacea) in the Kitakyushu Museum and Institute of Natural History

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Introduction

Two undescribed decapods in the collections of the Kitakyushu Museum and Institute of Natural History are examined. Uncina sp. (Euzygida: Uncinidea: Uncinidae) is described from the lower Jurassic Toyora Group of Yamaguchi Prefecture. This is the first and oldest recorded occurrence of a Jurassic decapod in Japan. Pagurus (s.l.) sp. (Reptantia: Anomala: Paguridae) preserved within a gastropod, Turritella infrifirata NAGAO, is reported from the upper Oligocene Ashiya Group of Fukuoka Prefecture. Pagurus (s.l.) sp. represents the first record for the genus from Oligocene deposits of Japan.

Systematics

Suborder Euzygida Burkenroad, 1981
Infraorder Uncinidea Beurlen, 1930
Family Uncinidae Beurlen, 1928
Genus Uncina Quenstedt, 1850 [1854]

Uncina sp.
Pl. 2, Fig. 1


Description: Distal half of large left chela of pereiopod 3 preserved. Dactylus strongly curved ventrally; tip acutely pointed and hooked ventrally; dorsal margin with small, forwardly directed spines; occulsal margin smooth; lateral surface sparsely granulated. Fixed finger about 2/3 higher than long; tip acutely pointed dorsally, separated from broad occulsal tooth by deep, V-shaped notch; ventral margin strongly convex with small, forwardly spines; lateral surface sparsely covered with granules. Remaining palm sparsely granulated on lateral surface with
small, forwardly directed spines on dorsal margin.

**Discussion:** The present species possesses chela characters most like those of *Uncina posidoniae* Quenstedt, 1850 [1854] from the lower Jurassic of Germany; however, *U. posidoniae* bears well defined spines on the dorsal margin of the dactylus and the ventral margin of the fixed finger. Schweigert (October 13, 2000, per. com.) suggested that *Eryma ollerenshawi* Feldmann and Copeland, 1988 from the lower Jurassic of Canada is referred to *Uncina*. *Uncina* sp. differs from *E. ollerenshawi* in that a tip of the fixed finger is separated from a broad occulsal tooth by a deep, V-shaped notch. The specific identification of this species awaits the discovery of more better material remaining well preserved chelipeds.

Previously known members of *Uncina* are reported from the lower Jurassic of Germany (Quenstedt, 1850 [1854]) and of Canada? (Schweigert, October 13, 2000, per. com.). The discovery of *Uncina* sp. from Japan extends the known geographic range for the genus to the west side of the North Pacific realm.

Suborder Reptantia Boas, 1880  
Infraorder Anomala Boas, 1880  
Superfamily Paguroidea Latreille, 1802  
Family Paguridae Latreille, 1802  
Genus *Pagurus* Fabricius, 1775

**Pagurus (s.l.) sp.**  
Pl. 2, Figs. 2, 3


**Description:** Pereiopods 1-3 poorly preserved in *Turritella infralirata* Nagao. Fingers of right pereiopod 1 opening a horizontal plane; dactylus with acutely pointed tip and gently curved dorsal margin; fixed finger coarsely granulated on lateral margin with acutely pointed tip, finely denticate occulsal margin and gently convex ventral margin. Merus of left pereiopod 1 sparsely covered with granulose spines on lateral surface and dorsal margin. Meri of pereiopods 2-3 ovate in cross section; surfaces covered with irregular tubercles.

**Discussion:** The definition of the extant pagurids includes detailed characters of maxillipeds 3, pereiopods 4, uropods, pleurobranchs and so on, which are not available for study in fossil specimens. The single incomplete specimen renders the generic placement obscure and it is considered best to place the specimen in *Pagurus* (s.l.).

The present specimen is preserved in a gastropod, *Turritella infralirata* Nagao. Fragments of chelipeds of pagurids are usually preserved, but the in situ fossil
pagurids have been rarely discovered in gastropods. The records of the in situ pagurids are *Diacanthurus clifdenensis* (Hyden and Forest, 1980) from the lower Miocene of New Zealand (McLaughlin and Forest, 1997), *Pagurus* sp. A from the Holocene from Taiwan (Hu and Tao, 1996), and *Pagurus* sp. B from the upper Miocene of Taiwan (Hu and Tao, 1996). This is the forth record of a in situ fossil pagurid of the world.

Previously known fossil pagurids from Japan are recorded from the middle Pleistocene Shimosa Group (Kato and Karasawa, 1998) and the Pliocene Kakegawa Group (Karasawa, 1993).

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References


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Plate 2
Explanation of Plate 2

Fig. 1. *Uncina* sp. Outer mould of left chela of pereiopod 3, lateral view. ×1.6.

Figs. 2, 3. *Pagurus* (s.l.) sp.
- Fig. 2, the specimen within a gastropod, *Turritella infalirata* NAGAO, ×1.6; fig. 3, pereiopods 1-3, ×5.5.