

First record of *Coleia* Broderip (Crustacea, Decapoda, Coleiidae) from the Upper Triassic of Japan

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Abstract

We record the discovery of *Coleia* Broderip (Eryonoidea: Coleiidae) from the Nakatsuka Formation, Mine Group, Upper Triassic of Japan. The specimens were collected from shales exposed at Tsubuta, Sanyo-cho (Yamaguchi Prefecture). *Coleia* co-occurs there with fragments of a penaeoid, bivalves, *Halobia* spp., ammonites, and plants.

Introduction

In his review of Mesozoic decapods from Japan, Karasawa (2001) listed 22 species in 17 genera from Lower Jurassic (Toarcian) to Upper Cretaceous (Maastrichtian) deposits. Amongst these, *Uncina* sp. ('Uncinidea Beurlen', Uncinidae Beurlen), described from the Toarcian Toyora Group in Yamaguchi Prefecture by Karasawa (2002), is the oldest record in Japan. The purpose of the present note is to record the discovery of *Coleia* Broderip (Eryonoidea de Haan, Coleiidae van Straelen) in the Nakatsuka Formation (Mine Group, Upper Triassic), deposited on the Akiyoshi Terrane (SW Japan). The specimens were collected from shales exposed at Tsubuta, Sanyo-cho (Yamaguchi Prefecture). *Coleia* co-occurs there with fragments of a penaeoid, bivalves, *Halobia* spp., ammonites, and plants. Tokuyama (1962) indicated, based upon bivalves, that the age of the Nakatsuka Formation was Carnian, i.e., Late Triassic. The presence of the ammonite *Trachyceras* cf. *desatoyense* Johnston in this formation also shows that it to be of Early Carnian date (Ishibashi et al., 1990).

Results

The Coleiidae comprises five genera, *Coleia*, *Hel-lerocaris* van Straelen, *Proeyon* Beurlen, *Pseudocoleia* Garassino & Teruzzi, and *Tropifer* Gould (Glaessner, 1969; Duffin, 1978; Garassino & Teruzzi, 1993; Schweigert, 2000). Hitherto, the known members of *Coleia* have been recorded from the Lower and Upper Jurassic, and possibly Lower Cretaceous. Two coleiid genera have previously been known Upper Triassic strata, viz., *Pseudocoleia* from the Norian-Rhaetian of Italy (Garassino & Teruzzi, 1993; Garassino et al., 1996) and *Tropifer* from the Rhaetian of England (Duffin, 1978). The discovery of *Coleia* sp. in Carnian strata of Japan represents the oldest record, not only for the genus but also for the family.

The Eryonoidea typically contain four families, Coleiidae, Eryonidae (Upper Triassic-Lower Cretaceous), Polychelidae Wood-Mason (Middle Jurassic-Recent), and Tetrachelidae Beurlen (Upper Triassic). All genera, excluding the polychelids, have been known from the western Tethyan realm. Fossil members of the Polychelidae have been recorded from the Middle-Upper Jurassic of Europe (Glaessner, 1969), the Upper Jurassic of Antarctica (Aguirre-Urreta et al., 1990), and the Lower Oligocene of western North America (Schweitzer & Feldmann, 2001). Extant polychelids are cosmopolitan in distribution (Galil, 2000). Amongst eryonoid genera, *Rosenfeldia* Garassino et al., *Pseudocoleia*, *Tetrachela* Reuss, and *Tropifer* are known from Upper Triassic deposits. The recognition of *Coleia* from

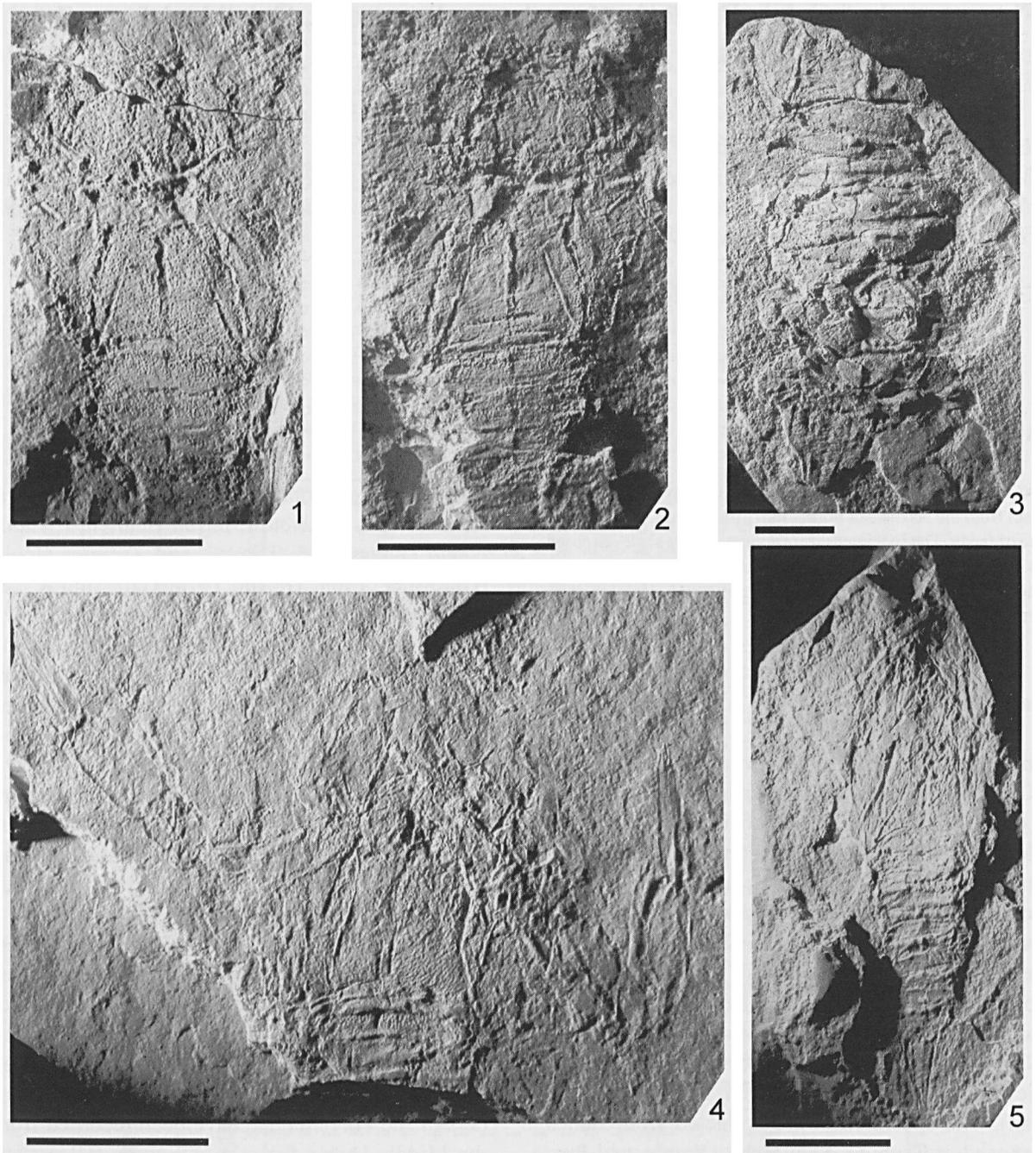


Fig. 1. *Coleia* sp. 1 – MMHF3-00039 (Mine City Museum of History and Folklore), external mould; 2 – MMHF3-00042, internal mould; 3 – MMHF3-00043, internal mould; 4 – MMHF3-00041, external mould; 5 – MMHF3-00040, external mould. Scale bars equal 10 mm.

Japan greatly extends the known geographic range for the Triassic Eryonoidea to the western end of the Panthalassic Ocean.

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