3. A New Inoceramid (Bivalvia) Species from the Upper Campanian (Cretaceous) of Hokkaido

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One of us (Matsumoto, 1954) has recently described an ammonite fauna from the Zone of *Metaplacenticeras subtilistriatum*, lower part of the Upper Campanian, of the Teshio Mountains (northern Hokkaido). For some reasons, few inoceramid species have been reported from the same or corresponding zone in Japan, whereas *Sphenoceramus schmidtii* Michael and its allied species and also *Inoceramus (Endocostea)* spp. of the *balticus* Böhm group occur abundantly from the underlying beds of the Lower Campanian. Therefore, we have endeavoured to find specimens from the zone under investigation to know what kind of inoceramid species is associated with *M. subtilistriatum*. In addition to poorly preserved or small, probably immature specimens of our acquisition, Mr. Toshio Shimanuki, a friend of ours in Iwamizawa (Hokkaido), has recently obtained fine specimens and donated them to Kyushu University for our study. This paper is to report the result of our study with a description below.

**Palaeontological description.**

**Family Inoceramidae Giebel, 1852**

**Genus Mytiloides Brongniart, 1822**

*Type species:* — *Ostracites labiatus* von Schlotheim, 1813.

*Remarks:* — See Kauffman & Powell in Kauffman et al. (1977) for the general account of this genus.

**Mytiloides shimanukii** sp. nov. (Figs. 1-3)

*Holotype:* — GK. H 10142 (Fig. 1, A, B) obtained by M. Shimanuki from loc. E 42 of Matsumoto (1982).

*Specific characters:* — Shell equivale, higher than long, oblique, with angle between growth-axis and hinge-line (δ) changing slightly with growth from about 50° to 60°, extended posteroventrally, gently convex along the axis of growth, steeply inclined on the anterior side and gradually flattened towards the posterior wing, but for young part, where flat, narrow wing is demarcated from the main convex part of the flank by a step-like inclination.

Test very thin; hinge-plate rather thin, with beak at its anterior end. Hinge-line short, slightly shorter than half of length; anterior margin gently arcuate, passing to asymmetrically rounded ventral margin, which is curved rather abruptly to long, nearly straight, posterior margin. Beak angle (β) about 70°, angle between hinge-line and anterior margin (α) somewhat obtuse (95°—100°), that between hinge-line and posterior margin (γ) much obtuse (about 140° to 150°).

Shell ornamented with concentric ribs of weak to moderate intensity and fine concentric lirae on its surface. They continue onto the posterior wing with weakening and approximation.

*Remarks:* — The holotype consists of the nearly complete right valve, but for
the damaged ventral extremity, and the left valve which is badly eroded on the main part; a very thin test is preserved on the umbonal part. The two paratypes, GK. H 10143 and H 10144, both obtained by T. Shimanuki from loc. E 42, are right valves, with thin test attached partly, but their ventral part is deficient. More numerous, smaller specimens are probably immature examples of the same species, because they resembles closely the young part of the above types. There are two poorly preserved specimens of intermediate size.

**Measurements of Holotype:**

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<th>h</th>
<th>l</th>
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<th>H/L</th>
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<th>α</th>
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<td>51.0</td>
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<td>1.38</td>
<td>15.0</td>
<td>0.38</td>
<td>18.0</td>
<td>0.45</td>
<td>95°</td>
<td>70°</td>
<td>140°</td>
<td>50–60°</td>
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h=height, l=length, b=breadth, s=hinge-line, H=maximum dimension from beak to posterodorsal extremity, L=maximum dimension of line perpendicular to H; α, β, γ, δ as explained in the text. Linear dimension in mm.

**Occurrence:**—Localities E 42 and E 33 of the Wembets-Rubeshbe (Enbetsu-Rubeshibe) and loc. T 5011 of the Uttsu, all in the Zone of *Metaplacenticeras subtilistriatum* in the Teshio Mountains, northern Hokkaido (see Matsumoto, 1984 for the location and stratigraphy).

**Comparison:**—This species is somewhat similar to *Mytiloides mytiloidiformis* (Tröger, 1967), from the Upper Turonian of Germany, but that species is more
extended towards the posterovertral extremity with a larger H/L (1.56 in the lectotype) and has less asymmetric and more narrowly rounded ventral margin.

The species called *M. africanus* by Kauffman (1977; in Herm et al., 1979) from the highest Turonian of Wyoming and the Lower Coniacian of Austria may be identical with *M. mytiloidiformis* and differs from *M. shimanukii* in the same respect as above. Incidentally, we regard *M. mytiloidiformis* as independent of *M. incertus* (Jimbo) [=*M. fiegei fiegei* (Tröger)] (see Matsumoto and Noda, 1983). We agree with Sornay (1964) in that *M. africanus* Heinz, 1933, from the Upper Santonian of Madagascar, is not referable to *Mytiloides* but assigned probably to *Sphenoceramus* Böhm, 1915. It is apparently similar to *M. mytiloidiformis*, but its posterior wing is distinctly demarcated from the main part of the flank throughout growth. Also its concentric rings are coarser and better marked almost at every growth-stage than the concentric lirae of *M. shimanukii*.

*M. striatoconcentricus* (Gümbel), including var. *carpathicus* (Simionescu), from the Upper Turonian and Lower Coniacian of Germany (see Tröger, 1967; Keller, 1982) and other places, has more prominent concentric lirae and weaker ribs which show more narrowly rounded and less asymmetric curvature than those of *M. shimanukii*.

To sum up, we expect that *Mytiloides shimanukii* would be a potential guide species of the Upper Campanian, since a species of *Mytiloides* is generally widespread. There should be a missing link between *M. shimanukii* and the hitherto known species of the Upper Turonian and Lower Coniacian. This should be worked out.

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**References**

2) Heinz, R. (1933) : ibid., 85, 241-258, pls. 16-20.