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Awaji（淡路）, Fukagochi（深河内）, Fukaushi（深牛）, Fukuoka（福岡）, Hakobuchi（函淵）, Heitaro（平太郎）, Hetonai（ヘトナイ）, Hobetsu（穂別）, Horosaru（幌去）, Hokkaido（北海道）, Izumi（和泉）, Kiusu（キウス）, Monshizu（門靜）, Mukawa（鵡川）, Nadamura（灘村）, Ohmagari（大曲）, Otamura（大田村）, Oita（大分）, Panke-opiraruka（パンケオピラルカ）, Panke-rusa（パンケルサ）, Penke-opiraruka（ペンケオピラルカ）, Sanushibe（サヌシベ）, Shutta（シュッタ）, Sumigama（スミガマ）, Tomiuchi（富内）, Tonbetsu（頓別）, Tosa（トサ）, Tsukuba（つくば）, Ume-no-sawa（梅の沢）, Yezo（蝦夷）

(和文要旨)

北海道穂別地域産白亜紀マストリヒチアンのイノセラムス種 *Sphenoceramus hetonaianus* について

松本達郎・利光誠一・野田雅之

Inoceramus hetonaianus Matsumotoは田中・松本・前田(1952)の論文の付録で設立された.北海道穂別地域の数地点から松本が採取したかなりの数の標本に基づいたが,記載が短い和文であった.1990年の穂別町道工事の際に,キウス北方の地点H311の切り通しで,函淵層群深牛砂岩層から多数の標本が産出し,穂別博物館に保存されている.それらと九州大学にある総模式標本等と併せて研究した結果,本種の特質と変異の様相が以前より明確になった.

本種は等殻で,中くらいないし緩い凸面の殻主要部（本文では便宜上diskと記す）と平坦な後翼とが構造上区別され,内型では段差があり境に溝がある.蝶番線（hinge line）が長くその後端の角度(γ)が大きい.他方前耳がある.殻頂角(β)は約90°～100°あり,殻主要部は斜め後方に延びた太い楔形である.後翼を含めた全輪郭は概略菱形だが,変異がある.特に成長軸方向の長さとそれに直交の幅(L/H)や斜めの程度(δ)には個体差がある.殻主要部後部の放射溝はごく浅いかほとんど認定されない.装飾は成長初期には規則正しい共心肋だが,中～後期には周期的にやや強い肋が現われたり,その周期に合わせて低い主肋が認められたり,さらに明確な主肋が発達して細肋と組むことも多い.総じて不規則で変異が著しい.

上記の特質により本種は *Sphenoceramus* に属する.北太平洋区のコニアシアン～下部カンパニアンの諸種の中には類似点のある若干種が認められるが,一部の特性により識別される.産

出層位と伴うアンモナイトからマストリヒチアンの種で，西欧では例がない．上記の類似種とは時代・形質に隔たりがあり，進化系列は未詳で，いわば突然に多産し化石帯を特徴づける．興味深いのは個体群の中にごく弱い放射状小肋が出現するものがあり，これがさらに上位の地層では固定化していく(?) と示唆される試料を若干得ている．しかしこれらは西欧の*S. cardissoides*等とは異なる．

Explanation of Plate I

Figs. 1-12. *Sphenoceramus hetonaianus* (Matsumoto).

1. GK.H629a (LV, composite internal mould for the major part of the disk; anterior margin broken; posterior wing incomplete, with calcareous shelly material in part remained). Lateral view. 2 and 6: GK.H634a (RV, mainly internal mould with a nacreous layer in patches and prismatic layer remained on the anterior part; posterior wing partly covered by sandy matrix). Later-al (2) and posterior (6) views. 3, 4: GK.H626a, lectotype (LV, mainly inter-nal mould, with shelly substance on the posterior wing). Lateral (3) and posterior (4) views, ×1.2. 5: GK.H629b (LV, internal mould, posterior wing covered by sandy matrix). Lateral view. 7, 8: GK. H634c (RV, composite inter-nal mould in which posterior wing was cut away). Lateral (7) and anterior (8) views. A cross-section of the hinge plate is shown partly in Fig. 8. 9: GK.H634b (LV, internal mould, showing the posterior wing and ligamental structure; beak broken), ×1.5. 10: GK.H8400 (LV, deformed internal mould, showing posterior wing and ligamental structure), ×1.2. 11: GK.H634e (BV, with a nacreous layer well preserved on the disk and calcareous substance on the posterior wing; juvenile), ×2. 12: GK.H8402a (BV, internal mould; juvenile), ×1.2.

Figs. 13, 14. *Sphenoceramus* aff. *hetonaianus* (Matsumoto).

13: GK.H633b (RV, internal mould). 14: GK.H633a (LV, internal mould).

Figs. 15, 16. *Sphenoceramus* cf. *hetonaianus* (Matsumoto).

15, 16: GK.H8401 (LV, plaster cast). Lateral (15) and posterior (16) views.

Explanation of Plate II

Figs. 1-8. *Sphenoceramus hetonaianus* (Matsumoto).

1-4: HMG 937 (BV). Lateral views of LV (1) and RV (2), anterior (3) and dorsal (4) views of BV. 5-8: HMG 938 (BV). Lateral views of LV (6) and RV

(8); dorsal (5) and anterior (7) views of BV.

In both specimens the shell layers are preserved along the anterior margin and on the posterior wing; the disk is mainly internal mould and partly covered by nacreous layer.

Explanation of Plate III

Figs. 1-10. *Sphenoceramus hetonaianus* (Matsumoto).

1-3: HMG 942 (RV, prismatic layer unpreserved, except along the hinge line where ligamental structure is shown). Lateral (1), anterior (2) and dorsal (3) views. 4-7: HMG 940 (BV, similar to HMG 937 in the mode of preservation). Right (4) and left (5) lateral, anterior (6) and dorsal (7) views. HMG 939 is partly shown in Figs. 4, 6, 7. 8-10: HMG 953 (LV, mainly internal mould, with shelly layers preserved on some parts of the disk and calcareous shelly substance remaining on a portion of the wing near the beak. The disk is secondarily compressed). Lateral (8), dorsal (9) and anterior (10) views. 11, 12: HMG 959 (RV, injured young shell, enlarged: ×2). Lateral (11) and dorsal (12) views.

Explanation of Plate IV

Figs. 1-9. *Sphenoceramus hetonaianus* (Matsumoto).

1: HMG 998 (BV, opened but conjoined, probably juvenile, showing the anteri-or ear at this growth-stage). 2, 3: HMG 999(LV, internal mould in the main part, with some shelly material remained on the disk and recrystallized calcite on the posterior wing and anterodorsal part). Lateral (2) and ante-rior (3) views. 4-6: HMG 993 (BV, similar to HMG 938 in the mode of preser-vation). Dorsal (4), right lateral (5) and anterior (6) views. 6 (central part): HMG 994 (RV), lateral view. 7: HMG 994 (RV in which beak is broken), showing ligamental pits along partly preserved hinge line, × 1.9. 8: HMG 953 (LV), enlarged dorsal part, showing posterior wing, ×1.5 (see Pl. III, Fig. 8). 9: HMG 942 (RV), enlarged umbonal part and posterior wing (see Pl. III, Fig. 1), ×2.0.

Figures in Plates I-IV are natural size, unless otherwise stated.

Photos in Plate I by M.N. and those in Plates II-IV by S.T., without whitening.

See Table 1 for the abbreviations and localities.

Plate I (Matsumoto, Toshimitsu and Noda)

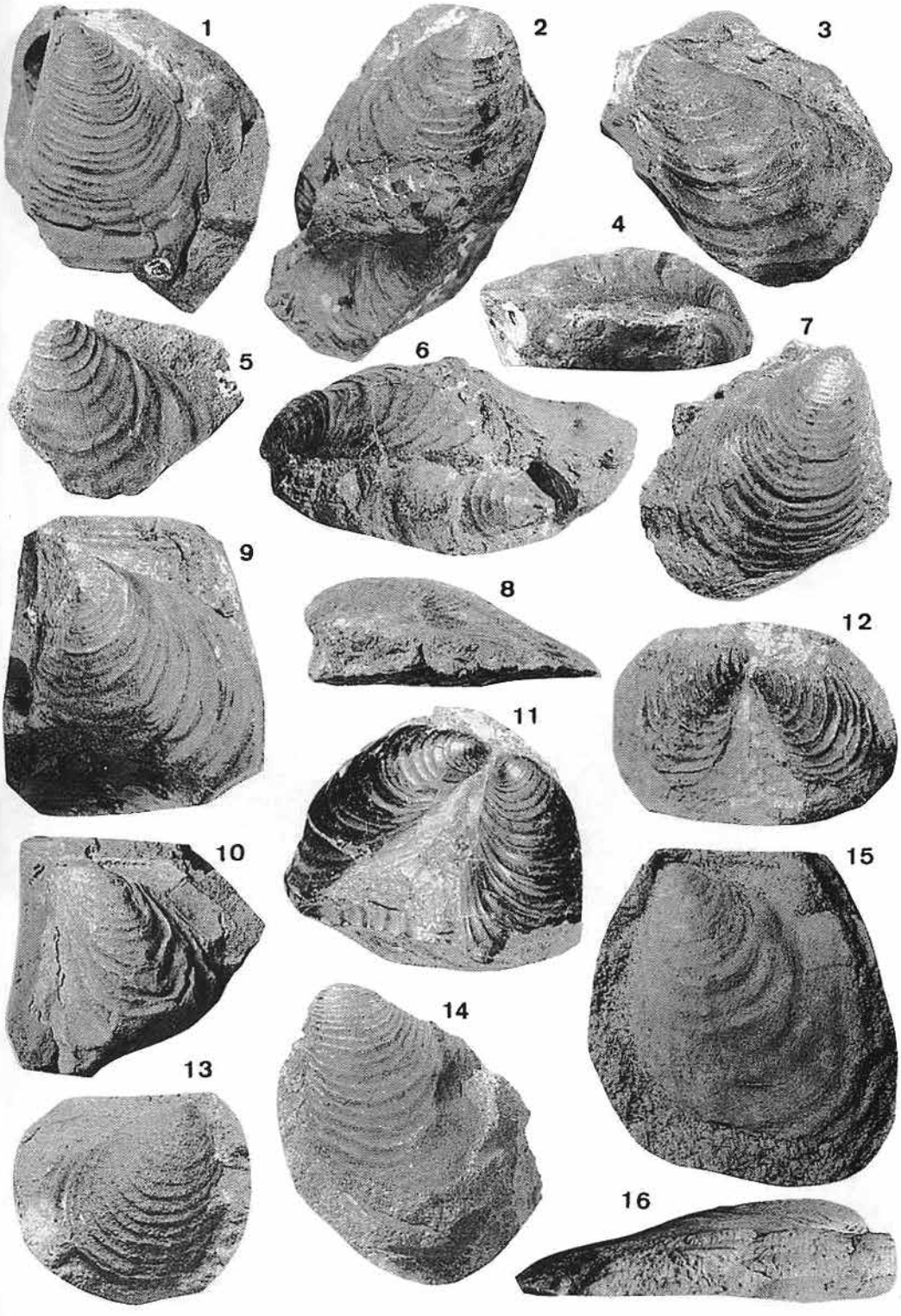

Plate Ⅱ (Matsumoto, Toshimitsu and Noda)

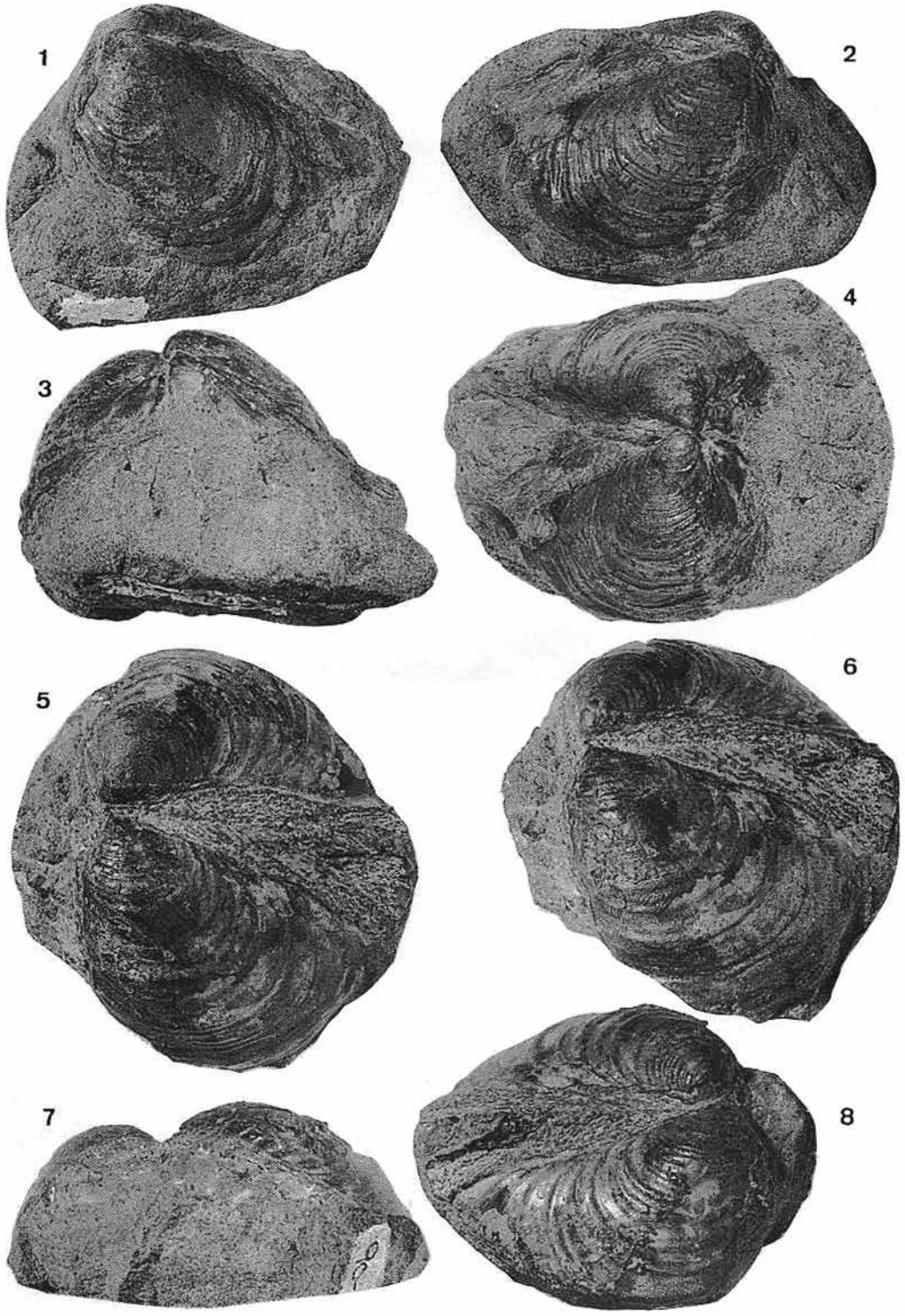

Plate Ⅲ (Matsumoto, Toshimitsu and Noda)

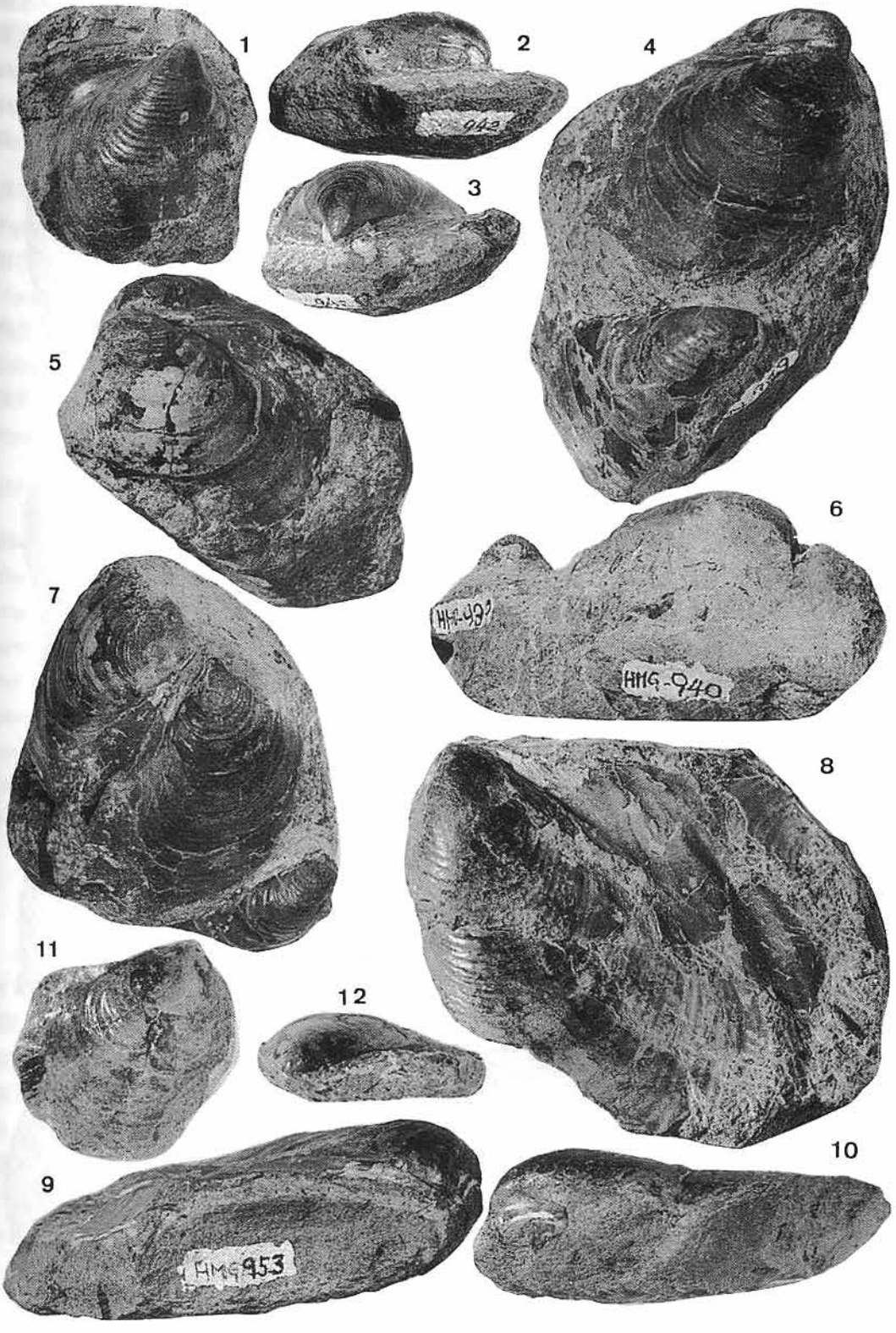

Plate IV (Matsumoto, Toshimitsu and Noda)