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日本産ヒザラガヒ類の研究 (3)

Studies on Japanese Chitons. (3)

瀧 庸, 瀧 巖

(By ISAO TAKI and IWAO TAKI, brothers.)

Lepidopleurus hirasei, new species.

(Textfigs. 44-58)

General appearance: Shell small, rather flat, elliptical, twice as long as broad, valves smoothly arcuate, yellowish brown. Girdle narrow, encroached at the sutures, scaly. All the valves are of uniform width, and with a minutely undulated outline. The surface decoration is insufficiently shown due to erosion. The posterior margin of each valve, except the tail valve, is irregularly eroded and broken.

Head valve (*cf.* textfig. 45): Semicircular, the anterior margin minutely and weakly undulated, posterior angle very obtuse, side slope straight; about 50 radial rows of inconspicuous, flat pustules covering the tegmentum, traversed by about 15 concentric, incremental lines.

Median valve (*cf.* textfigs. 46, 47): Very broad and short, the anterior margin conspicuously waved, posterior margin almost straight, both lateral margins well arcuate; it is smoothly arched but rather flat, and not carinated; jugum indiscriminate. Central area is ornamented with 12-14, longitudinal or slightly oblique, rows of minute, elliptic granules on each side, which are ap-

parently longitudinally connected together. Lateral area scarcely bounded from the central area, hardly elevated and very faintly convex, traversed by 6 or more radial rows of low, but conspicuous granules, which, when traced longitudinally, are arranged in some 15 somewhat inwardly arcuate, longitudinal rows.

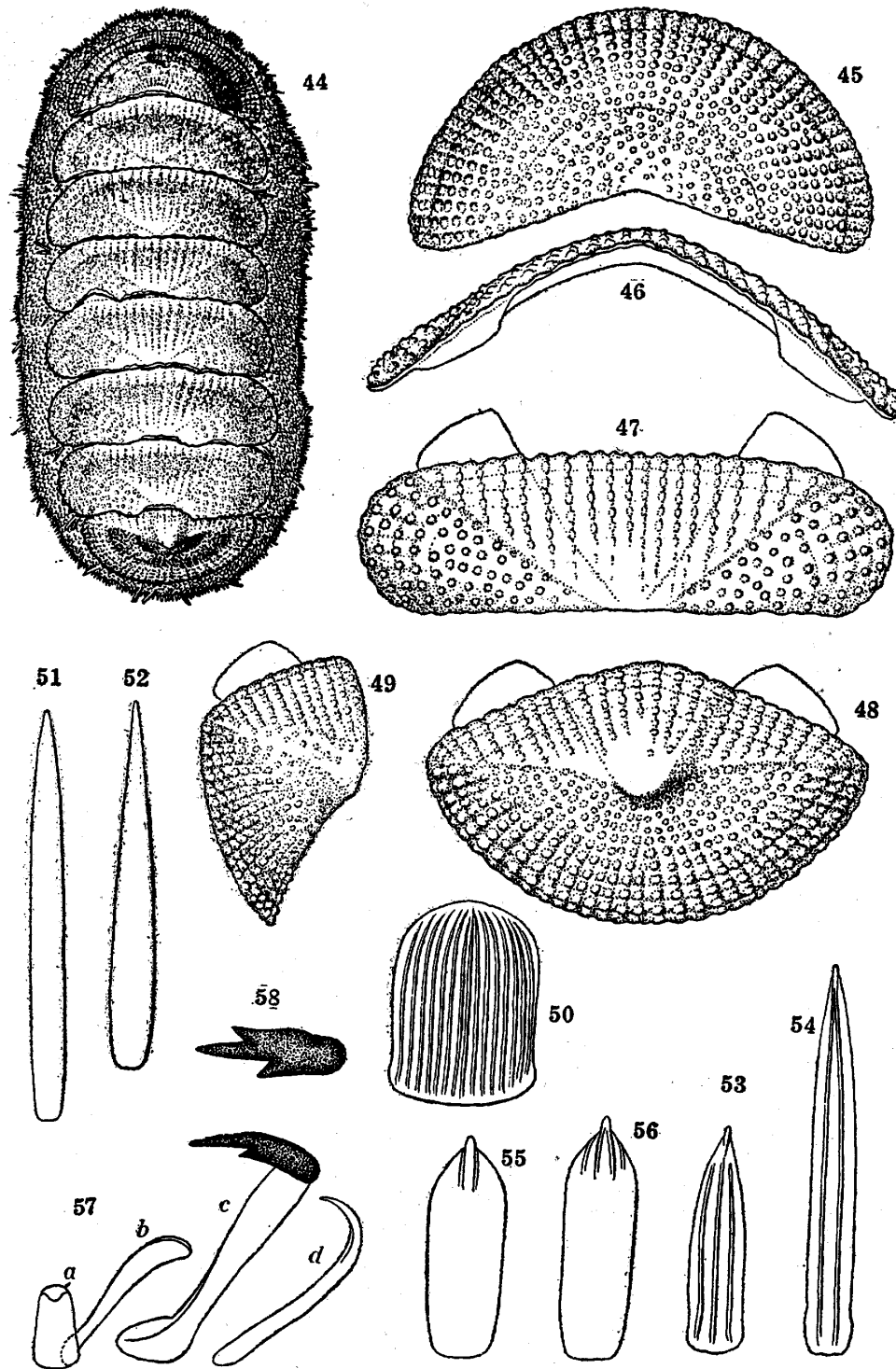
Tail valve (*cf.* textfigs. 48, 49): Mucro situated in front of the center, bluntly pointed, the part in front of which is slightly convex; and the slope behind the mucro moderately concave; in the central area the sculptures are rather inconspicuous, but in a scheme similar to that of the median valves; posterior area marked with faint, about 50 radial rows of pustules as seen in the head valve, but the granules are much less conspicuous.

Interior. Insertion plate missing. The interior of valves rather smooth; the point just below the granules on the tegmentum is slightly pitted; the valve callus not thickened. Sutural laminae thin, low and narrow, subtriangular in outline, acute in front, slope toward the sinus rather steep, while the outer inclination is smooth and more or less arcuate; separated by a broad, smoothly-edged sinus. The marginal region of all valves moderately calloused.

Girdle densely clothed with imbricating, minute (ca. $60\mu \times 40\mu$), oblong, 15- to 17-striated scales (textfig. 50), their under surface smooth; scattered here and there with a number of strong, needle-like, smooth spines (ca. $100\mu \times 12\mu$) (textfigs. 51, 52). Sutures between the valves armed with a few longer spines ($130\mu \times 30\mu$), directed somewhat backward. The marginal spicules show a series of variation from flat, $55\mu \times 18\mu$, sharply pointed ones (textfig. 53), to longer, ca. $100\mu \times 12\mu$, dagger-like ones (textfig. 54), all of the spicules being 2- to 6-striated; mingled with them there are several deciduous calcareous needles, $200\mu \times 25\mu$, which project out of the margin (*cf.* textfig. 44). Spicules on the hyponotum (textfigs. 55, 56) are flat, $70\mu \times 20\mu$, elongate, with acute points, and distal parts faintly 2- to 4-striated.

Ctenidia: Merobranchial, adanal, 5 on each side, occupying the posterior $1/4$ of the length of the foot.

Colouration: The animal is brownish yellow; on the teg-



Lepidoplenrus hirasei, n. sp. サメハダヒザラガヒ
(For explanation of figures, see text)

mentum the interspaces between the granular rows brownish, though very often they are cut into irregular patches or into very minute punctations. The median part of both the end-valves is marked with a concentric brownish band, while on the median valves a similar band is coloured very lightly. The marginal region of the valves grey. Girdle mottled with brown, marginal spicules buff.

Radula (textfigs. 57,58) very small (ca. 1 mm. long by 0.13 mm. wide) and remarkably different from that hitherto reported by others, each element being extremely slender and elongated. The central tooth (57 *a*) is elongate-oblong in outline, the cusp slightly curved backward and simple. Centro-lateral (57 *b*) oar-shaped, approximately $\frac{3}{5}$ as long as the stalk of the major lateral, with a smoothly pointed and curved, outwardly-extending, simple cusp; tapering toward the base; major lateral (57 *c*, 58) well developed, stalk rather delicate, its proximal part curved inward, with a sharply tridentate, in profile slightly arcuate, cusp; major uncinus (57 *d*) thin, slender and elongated, the distal part strongly curved inwardly and the apex sharply pointed.

Measurements: Length 4.5, width 2.2 mm. (Type, the largest specimen, textfig. 44).

Divergence about 115° or more.

Locality: Near Yuzaki-Ôjima, in Seto-kanayama-mura, Prov. Kii (7 specimens, including type, by Iw. TAKI, in July 1928); Ôshima, near Kushimoto, Prov. Kii (by Mr. T. KURODA, in June 1929). Under stones on the rocky shores.

Remarks: All the specimens from Seto show a strong erosion on the valves; and the girdle armatures are also eroded, and coloured brownish. But all of the specimens from Kushimoto, which are smaller and possibly juvenile, have clean and regular valves, and the shell is thoroughly pure white. So that it was doubtful, at first, whether these two sets of specimens belong to the same species or not. But by treating several pieces of both the valves and girdle of the Seto specimens with caustic potash, we have found that the sculpture and girdle armatures of those specimens correspond well to the same of the Kushimoto

specimens, the former being merely eroded or coated with dirty deposits. Finally the comparison of the radulae has led us to the conclusion that the specimens of these two localities are conspecific.

The illustrations of the disarticulated valves and the girdle armatures were taken from the Kushimoto examples, so that some disagreement with the foregoing descriptions may be found, *e.g.* the number of the granular rows on the tegmentum is less than that given in the description.

We have the pleasure of dedicating this species to Prof. SHINTARÔ HIRASÉ of Tokyo.

In conclusion we should like to express our sincere thanks to Prof. S. NAKAMURA, of the Geological Institute of the Kyoto Imperial University, for his kindness in consulting the literature. We are also very grateful to Mr. T. KURODA, who generously placed at our disposal the materials which he collected.

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Some notes on the Japanese species of *Lepidopleurus*.

Hitherto the following 7 species of *Lepidopleurus* have been recorded by previous writers from the Japanese and adjacent waters.

Genus *Lepidopleurus* RISSO, 1826.

Section *Lepidopleurus* s. str.

- (1) *Lepidopleurus fuliginatus* (ADAMS & REEVE, 1847). *Chiton* f., Conch. Icon., vol. 6, pl. 26, f. 174; *Leptochiton* f., CARPENTER, MS, p. 4, 5; 1878 *Leptochiton* f., DALL, Proc. U. S. Nat. Mus., p. 318, 316 (*fide* PILSBRY); 1882 *Callochiton* f., DUNKER, Index Moll. Mar. Japon., p. 157; 1892 *Lepidopleurus* f., PILSBRY, Man. Conch., vol. 14, p. 10, pl. 4, f. 88; 1895 *L* f., PILSBRY, Cat. Mar. Moll. Jap., p. 113.

"Korean Archipelago."

- (2) *Lepidopleurus "concinus"* (GOULD, 1859). *Chiton* (*Leptochiton*) c., Proc. Boston Soc. Nat. Hist. vol. 7, p. 164; 1862 *Otia* Conch., p. 117; *Leptochiton* c., CARPENTER MS, p. 3; 1867 SCHRENCK, Reis. u. Forsch. Amur-Lande, vol. 2, Zool.,

p. 599; 1878 DALL, *l. c.*, p. 318, 316 (*vide* PILSBRY); 1882 DUNKER, *l. c.*, p. 158; 1892 *Lepidopleurus c.*, PILSBRY, *l. c.*, p. 11; 1895 PILSBRY, *l. c.*, p. 113; 1909 *L. "concinus"*, THIELE, Zoologica, Bd, 22, Heft 56, S. 10.

"Hakodadi,¹ Japan; laminarian zone, on shells and stones."

- (3) *Lepidopleurus hakodatensis* THIELE, 1909. *L. h.*, *l. c.*, S. 10, Taf. I, Fig. 11-20.

"Hakodate; Yokohama; Golf von Amur (3-4 Faden)."

- (4) *Lepidopleurus japonicus* THIELE, 1909. *L. j.*, *l. c.*, S. 11, Taf. I, Fig. 21-29.

"Enoshima (ca. 300 Meter); Kajiya, Kogoshima."

- (5) *Lepidopleurus assimilis* THIELE, 1909. *L. a.*, *l. c.*, S. 11-12, Taf. I, Fig. 30-39.

"Sachalin; Wladiwostock."

(The present species also belongs to this section)

Section *Deshayesiella* CARPENTER, 1878.

- (6) *Lepidopleurus curvatus* PILSBRY, 1892. 1878 *Leptochiton (Deshayesiella) c.* CARPENTER, DALL, *l. c.*, p. 314 (name and generic characters only); *Deshayesiella c.*, CARPENTER, MS., p. 10; 1892 *Lepidopleurus (Deshayesiella) c.*, PILSBRY, *l. c.*, p. 16, pl. 4, figs. 78-81; 1895 PILSBRY, *l. c.*, p. 113.

"Okosiri,² Japan."

- (7) *Lepidopleurus diomedae* (BERRY, 1917) *Leptochiton d.*, Proc. U. S. Nat. Mus., vol. 54, No. 2223, pp. 1-3, pl. 1, figs. 1-3; pl. 2, figs. 1-6.

"Off Shio Misaki Light,³ 244-253 fathoms."

In the point of geographical distribution, the present species appears to stand close to *L. hakodatensis* and *L. japonicus* of THIELE, but these three species are easily distinguished as the following features:

1) =Hakodate. 2) =Okushiri-shima, Hokkaido. 3) =Light-House in Shio-no-Misaki, Prov. Kii.

	<i>L. hakodatensis</i>	<i>L. japonicus</i>	<i>L. hirasei</i>
Divergence	(105°)	(75°)	115° or more
Size of end-valves	head valve smaller than tail valve	nearly equal	nearly equal
Beak	not beaked	beaked and carinated	not beaked
Lateral and central areas	defined	not defined	defined
Position of nuro	somewhat behind the middle	median	in front of the middle
Girdle scale	6-7-ribbed	ca. 10-ribbed	15-17-ribbed
Radula; major lateral	bidentate cusp	simple cusp	tridentate cusp

Although THIELE's descriptions of these species are accurate for the most part, but he deals with the arrangement of the pustules on the tegmentum only very briefly and with no illustrations, so that it is very difficult for us to compare his species with ours in regard to this point.

Some characteristic features of *L. diomedae* (BERRY), *e. g.* the median valves being strongly beaked, tail valve low, the girdle spiculate and not scaly, etc., suggest that it has a closer relation to *Deshayesiella* than to *Lepidopleurus* s. str., so that in the above list this species is included provisionally in the former section.

THIELE (*l. c.*, p. 10) gives in his description of a new form, *L. hakodatensis*: "Es ist zwar von Hakodate schon eine *Lepidopleurus*-Art beschrieben: *L. concinnus* (GOULD), indessen passt einerseits die Beschreibung nicht recht zu dem mir vorliegenden Exemplar, andererseits ist die Name *Chiton concinnus* schon vorher (1840) von SOWERBY¹ vergeben, so dass auch in dem Fall, dass meine Art mit der von GOULD zusammenfällt, doch ein neuer Name aufgestellt werden müsste."

It is apparently a sterile effort to try to compare GOULD's

1) = *Ischnochiton concinnus* (SOWERBY).

species with THIELE's, for not only is GOULD's description so short and imperfect as would enable nobody to grasp the specific characters, but no illustration is appended to it. It is highly desirable that GOULD's type specimen be examined.

Lepidopleurus hirasei, (新種) サメハダヒザラガヒ (新稱)

(挿畫, 44-58)

最も大きい標本の長さ 4.5 耗, 幅 2.2 耗といふ位の極めて小さい種類で, 頭板, 尾板及び中間板の側域には小圓形の放射狀顆粒列があり, 中間板の中央域には縦列の顆粒がある. この属の特徴の 1 として着生板といふものが全然發達してゐない. 肉帶上には縦肋ある鱗片と周邊の小針とを備へる. 淡褐色乃至白色. 産地: 紀伊瀬戸, 湯崎大島附近の岩礁 (瀧巖); 紀伊串本大島 (黒田徳米氏). 本属中には我國及び近海から既に 7 種知られてゐるが, 本種はその何れにも同定しがたいので新種とすることにした. 特に齒舌が特徴を有する様に思はれる.

Corrections.

p. 142 line 12 for be ked read beaked

p. 144 line 3

from bottom for latin read Latin

p. 148 line 20 for figs. read Fig.

A. ADAMS の貝を尋ねる記

槇 山 次 郎

ARTHUR ADAMS がどういふ人であつたかどういふ経歴の人であつたかといふ事から調べたなら面白いであらうけれども, その様な暇がなく, そうした方面には不得手な私には煩瑣な仕事に手をつけるだけの勇氣がない. ただ彼は明治になる前の日本に少くも 2 回来た事のある英國海軍軍醫であつた事だけは手近の文献によつて知ることができる. 第 1 回は 1843 より同 46 年に亘り英國軍艦 Samarang に乗務して東亞に來り多くの博物標本を採集し歸り, 其結果は彼自身 1850 に出版したる處の "The Zoology of the Voyage