

Takashi KANEKO* & Tomitaro MASAKI** : *Schizoseris*
minima, a new species of marine algae from
 Rishiri Island, Hokkaido

金子 孝*・正置富太郎** : 北海道利尻島産紅藻の新種
 エゾヒメベニヤハズ

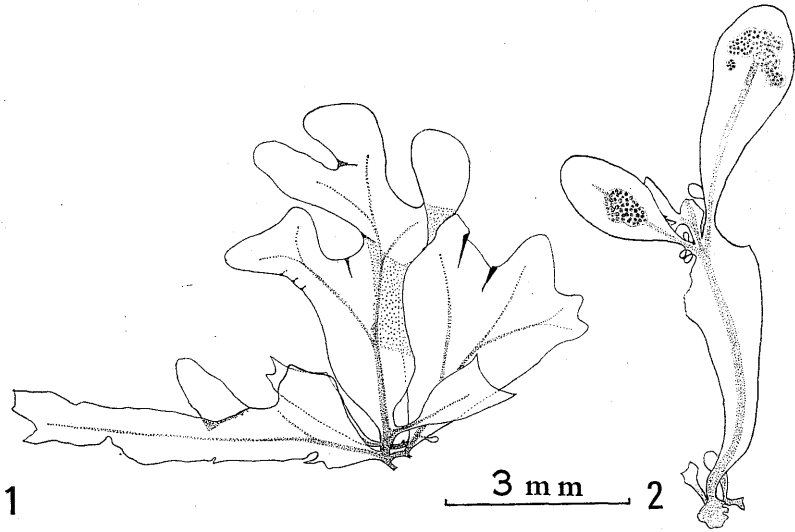
The red algal genus *Schizoseris* belonging to the Delesseriaceae of the Ceramiales was established by Kylin⁶⁾ in 1924 with *S. laciniata* (= *Delesseria laciniata* Kützing 1866⁶⁾) as the type species, and was distinguished from other members of the *Myriogramme*-Group by its "tief zersplittert" habit and having dichotomously branching midribs. Up to the present nine species have been reported from various parts of the world. Seven of these species are distributed in subantarctic waters and adjacent regions: in the South Atlantic-Antarctic region at Cape Horn⁶⁾, Falkland Islands⁶⁾, Tristan da Cunha¹⁾ and in the South Pacific-Antarctic from New Zealand⁷⁾, Kerguelen and Macquarie Islands.¹¹⁾ On the other hand, two species are distributed in warmer waters, viz., *S. subdichotoma* (Segawa) Yamada¹⁰⁾ from the Pacific coast of middle Honshû, Japan, and South Korea,⁴⁾ and *S. pygmaea* Dawson from Pacific Mexico.²⁾³⁾

Recently the first author collected a small delicate red alga in Rishiri Island in the northern Japan Sea, north-west of Hokkaido. The authors wish to report it herein as a new species of *Schizoseris*.

The authors are greatly indebted to Dr. Isabella A. Abbott of Hopkins Marine Station of Stanford University for her kindness in reading and criticizing the manuscript and in sending them necessary literature. Appreciation is also expressed to Mr. H. Yamamoto of Hokkaido University and Prof. H. Mikami of Sapporo College for their kind advices. The authors wish to acknowledge the loan of specimens from Prof. J. W. Kang of Pusan Fisheries College, Korea.

* Hokkaido Wakkanai Fisheries Experimental Station, Wakkanai, 097 Japan. 北海道立稚内水産試験場.

** Faculty of Fisheries, Hokkaido University, Hakodate, 040 Japan. 北海道大学水産学部.



Figs. 1, 2. Habit of *Schizoseris minima*, sp. nov. 1. Type specimen. 2. Tetrasporic plant.

Schizoseris minima Kaneko et Masaki, sp. nov.

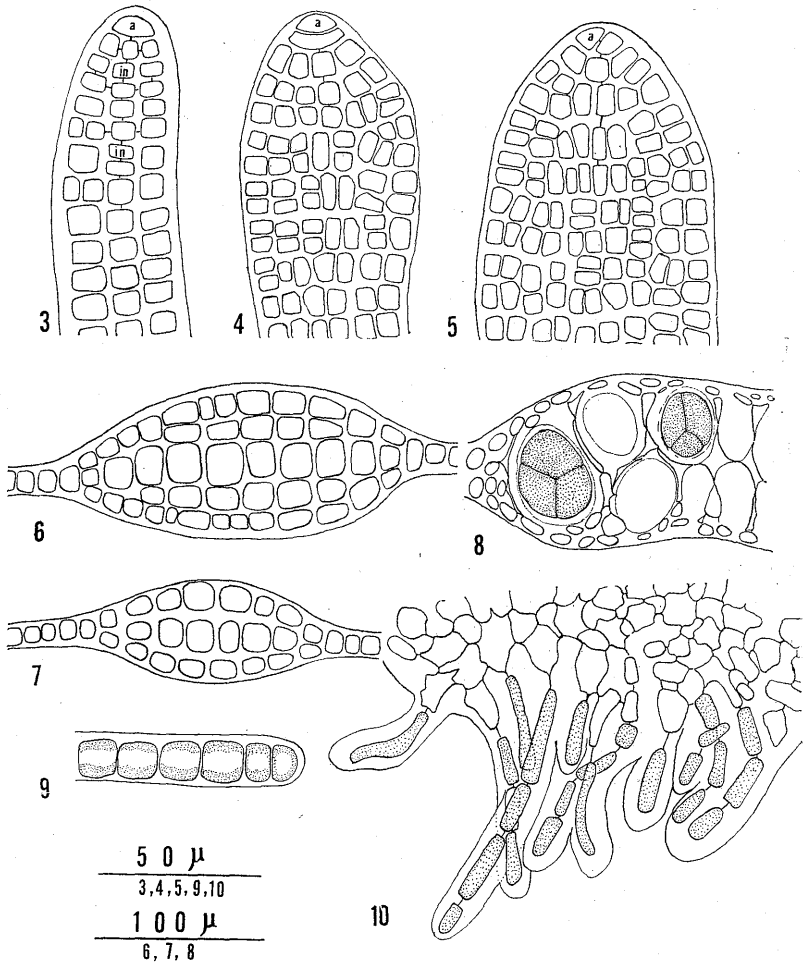
Thalli parvi, 1.0-1.4 cm alti, laminis monostromaticis, irregulariter subdichotomis vel subpalmatim ramosis, undulatis, 2-3 mm latis, semel vel pluries divisis, apice rotundatis instructis, margine laminae integro; costae subdichotome diversae, superne evanescentes ad apicem; sori tetrasporangiferi late elliptici, in partibus laminae superioribus dense sparsi; plantae sexuales ignotae.

Japanese name: Ezo-hime-beniyahazu (n. n.)

Type: On *Crenomytilus grayanus* (Dunker) at a depth of 1-3 meters. Numaura, Rishiri Island, Hokkaido, 30 Aug. 1968, leg. T. Kaneko.

Specimens collected. On rock at the same locality as the type specimen, 30 Aug. 1970, leg. T. Kaneko; on rock at a depth of 3-4 meters, Numaura, Rishiri Island, 9 Sept. 1972, leg. T. Kaneko; on crustaceous coralline algae at a depth of 2-3 meters, Misaki, Rishiri Island, 13 Sept. 1972, leg. T. Kaneko.

Thalli small, 1.0-1.4 cm high, from a disc-shaped base with a ramified prostrate rhizoid, consisting of irregularly subdichotomous to subpalmate branched blade; proliferations usually from the stipe and occasionally from



Figs. 3-10. Camera lucida drawing of microscopic details of *Schizoseris minima*, sp. nov. 3-5. Apex of blade showing apical cell (a) and intercalary cell division (in); 4 shows a transversely dividing apical cell in a young blade; 5 shows an obliquely dividing apical cell in an older blade. 6, 7. Transverse section through the midrib. 8. Transverse section through the tetrasporangial sorus. 9. Transverse section of a portion of a blade. 10. Surface view of marginal portion showing rhizoidal cells.

the upper part of the blades; blade dividing one to several times, undulate, 2-3 mm broad, with round apices, monostromatic except at the midrib and in the neighborhood of tetrasporangial sori; margin entire except for the occasional production of rhizoidal cells from the margins; blade apices with an evident apical cell which divides transversely in the early stage and obliquely in the more advanced one, but without any special dividing apical cell at the full grown portion; intercalary cell division occurring in the primary cell row; stipe ca. 160 μ diam., extending as a marked midrib which divides subdichotomously and runs to near the tip of each blade; color pinkish red, but often faint; plants firmly adhering to paper in drying; monostromatic portion of blade 15-20 μ thick, cells in surface view pentagonal to tetragonal, 5-12 μ diam., in section subquadrate, 11-13 \times 11-15 μ ; midrib consisting of 3-6 cells, 75-100 μ thick, cells in section subquadrate, 20-25 μ diam.; tetrasporangia 49 μ long, 39 μ diam., developing from the cortical cells, in separate or confluent sori which are broadly elliptical to irregularly circular in shape and which occupy the upper blade area; sexual plants unknown.

As sexual plants were not available, the structure of the cystocarp is unknown. However, the structure of the blade with a monostromatic layer of cells, the dichotomously divided midrib, the rounded shape of the tetrasporangial sorus, the production of rhizoidal cells from the margin of the blade and the presence of intercalary cell division indicate this alga to have relationship to *Schizoseris*. Furthermore, the presence of macroscopic or microscopic veins and of a single apical cell of the blade reinforces the opinion that this is a species of *Schizoseris*. The present species has a great resemblance in general appearance to *S. subdichotoma* (Segawa) Yamada and *S. pygmaea* Dawson. As the result of the close examinations of *S. subdichotoma* from Korea and *S. pygmaea* from Pacific Mexico, *S. minima* is apparently different from these species in smaller size, thinner blade and manner of branching. These three species are generally distinguished from the other species in their smaller size and mode of branching. All specimens examined in this study including the type specimen are deposited in the Herbarium of Faculty of Fisheries, Hokkaido University, Hakodate.

References

- 1) Baardseth, E. 1941. Results of the Norwegian Sci. Exped. to Tristan da Cunha 1937-1938, (9): 1-173. 2) Dawson, E. Y. 1950. Amer. J. Bot. 37(2): 149-158. 3) — 1962. A. Hancock Pacific Exped. 26(1): 1-207, pls. 1-50. 4) Kang, J. W. 1966. Bull. Pusan Fish. Coll. 7(1/2): 1-125, pls. 1-12. 5) Kützing, F. T. 1866. Tabulae phycologicae oder Abbildungen der Tange. 16, i+35 p. 6) Kylin, H. 1924. Lunds Univ. Årsskr., N. F. Avd. 2, 20(6): 1-111. 7) — 1929. Ibid. 25(2): 5-14, pls. 1-12. 8) — 1956. Die Gattungen der Rhodophyceen. xv+673 p. Lunds. 9) Segawa, S. 1941. Sci. Pap. Inst. Alg. Res., Hokkaido Imp. Univ., 2(2): 251-271, pls. 55-58. 10) Yamada, Y. 1944. Ibid. 3(1): 11-25. 11) Zinova, A. D. 1963. Bot. Mater. Spor. Rast. Bot. Inst. Akad. Nauk SSSR. 16: 52-67.

* * * *

エゾヒメベニヤハズ (新称) は北海道利尻島沼浦および御崎に産し、水深 1~4m のエゾイガイの体上または無節石灰藻上に生ずる。ヒメベニヤハズ属 *Schizoseris* は、従来 9 種が世界の海から知られているが、本種は高さ 1.0~1.4 cm で、そのいずれの種よりも体が小さい。また体の厚さも薄く一層の部分で 15-20 μ , 中肋の部分 (3~6 層) で 75-100 μ , 莖部で 160 μ であり、体の分岐も簡単であることなどが主な特徴として上げられ新種として報告した。本種は四分孢子体のみで、有性体は未発見である。

□ Y. HORIKAWA: **Atlas of the Japanese Flora.** 12+500+viii pp., 学習研究社, 1972. ¥ 25,000. 著者の堀川博士はコケ植物の分類地理を研究されていたが、早くからコケ植物以上の高等植物の分布論にも仕事を広げられ、この方面の成果も多大なものがあった。今回出版された上記の著書 (日本語題名は日本植物分布図譜という由) は、植物分布地理の面での堀川博士の研究成果の集大成とみられる。取扱われたのは 500 種のコケ、シダ、種子植物で、各種について分布図と、生育型、ノートなどが英文で附されている。分布図は堀川博士考案になる三面立体法で示され、垂直分布と水平分布で 1 枚の図に示されている。分布図の作成方法が本書の最もユニークなところで、これをもとにして分布地理とか植物社会学などの種々なデータをも引き出すことができよう。近年における植物地理学上の大きな収かくといえる。なお、本書は 5 巻をもって完結する予定の由であるが、一日も早く 2 巻、3 巻と刊行されることを祈ってやまない。 (井上 浩)