

Four New Buccinid Species from the Seas around Hokkaido and Saghalien

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Northern Pacific whelks or buccinid snails are very important for fisheries purposes. Although many species have been reported in the North Pacific Region until today, the writers have found some additional new species from the seas around Hokkaido and Saghalien, as described in the following lines.

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Buccinum fukureum sp. nov.

(Pl. 1, fig. 5)

Shell large for the genus, thick and heavy but fragile, roundly ovate in shape, rapidly increasing the breadth of whorls, about 7 in number, from the apex to aperture, whose surface is covered with a light greenish periostracum. Whorls well inflated and densely and finely sculptured all over by equal-sized threads. Suture distinctly constricted and surrounded by rather flat hyposutural area. Body whorl large, two-thirds of shell height, strongly rounded at the periphery. Periostracum slightly fibrous along the growth lines, deciduous at earlier whorls and hyposutural in fully grown specimens. Aperture wide, roundly ovate in shape, white within. Outer margin roundly arcuate, showing an obtuse angle at the shoulder, thickened and somewhat reflexed. Columellar margin thickened, rather straight, and bordered by the fasciole. Siphonal canal rather wide and short, roundly sinuated backwards.

Operculum rather small for the aperture, ovate in shape, thin, yellowish brown in color. Nucleus situated subcentrally.

Height 92.8 mm and breadth 69.7 mm (figured holotype specimen preserved in the National Science Museum, NSMT-Mo 51275).

Height 107.4 mm and breadth 68.3 mm (paratype female specimen preserved in the National Science Museum, NSMT-Mo 51276).

Height 102.2 mm and breadth 72.5 mm (paratype specimen preserved in the National Science Museum, NSMT-Mo 51277).

Type-locality. Off Nakashiretoke (Cape Aniwa), on the east coast of Saghalien at the fine sandy and muddy bottom of 175 m deep (45°50' N, 143°41' E).

Distribution. East coast of Saghalien. Fine sandy and muddy bottom of 150–350 m deep.

Remarks. This is closely related in general features to *Buccinum kinukatsugi* HABE et ITO, 1968 (Fig. 4) from Rausu, Shiretoke Peninsula, the northeast coast of Hokkaido, but has larger and more inflated shell sculptured with more densely set spiral threads and covered by light greenish velvety periostracum.

***Buccinum shiretokoensis* sp. nov.**

(Pl. 1, fig. 6)

Shell thin and fragile, elongated oval in shape, white, covered with a yellowish hirsute and distinctly lamellate periostracum along the growth lines, and sculptured with densely set spiral grooves all over. Spire rather tall; whorls 7 in number and well convex with deeply constricted sutures. Body whorl large, two-thirds of shell height, rounded at the periphery. Aperture widely rounded, white within. Outer margin well roundly arcuate; columellar margin rather straight and oblique, and bordered by the fasciole. Siphonal canal short and rather wide.

Operculum small for the aperture, thin, yellowish brown, roundly ovate. Nucleus placed subcentrally.

Height 85.3 mm and breadth 49.4 mm (figured holotype specimen preserved in the National Science Museum, NSMT-Mo 51272).

Height 92.0 mm and breadth 30.7 mm (paratype specimen preserved in the National Science Museum, NSMT-Mo 51273).

Height 85.3 mm and breadth 49.2 mm (paratype specimen preserved in the National Science Museum, NSMT-Mo 51274).

Type-locality. Off Shiretoke Peninsula, northeast coast of Hokkaido at muddy bottom of about 500 m deep.

Distribution. Off Abashiri and Shiretoke Peninsula, Hokkaido. Muddy bottom of 300–500 m deep.

Remarks. This is *Buccinum rhodium* SHIKAMA et HORIKOSHI, 1963, not of DALL, 1919. *Buccinum acutispiratum* DALL, 1907 (Fig. 2) from the Sea of Japan to the east coast of Saghalien is closely allied to this new species in general features, but differs from the latter in lacking the lamellate periostracum and bearing more densely set spiral grooves.

***Buccinum ochotense declivis* subsp. nov.**

(Pl. 1, fig. 1)

Shell elongated fusiform, thick and solid, with highly elevated spire of 10 whorls,

of which the embryonic ones are purplish brown, smooth and polished. Other teleoconch whorls rather convex, strongly ribbed by 13–18 longitudinally and obliquely placed costae on the body whorl, and covered by a thick brown periostracum. Body whorl rather high, three-fifths of shell height, moderately convex at the periphery. Aperture roundly ovate with a short siphonal canal, white within. Outer margin thickened and somewhat expanded.

Operculum, small for the aperture, roundly ovate in shape, thin and brown in color. Nucleus situated subcentrally.

Height 113.8 mm and breadth 48.7 mm (holotype adult specimen preserved in the National Science Museum, NSMT–Mo 51268).

Height 101.7 mm and breadth 38.7 mm (paratype subadult female specimen preserved in the National Science Museum, NSMT–Mo 51270).

Height 90.2 mm and breadth 36.8 mm (figured paratype young specimen preserved in the National Science Museum, NSMT–Mo 51269).

Type-locality. Off Wakkanai, northernmost of Hokkaido at the gravelly bottom of 20–65 m deep.

Remarks. This new subspecies differs from true *Buccinum ochotense* (MIDDENDORFF, 1851) in having larger shell with more numerous longitudinal ribs and distinct brown periostracum.

***Buccinum kushiroensis* sp. nov.**

(Pl. 1, fig. 3)

Shell rather small for the genus, thin and fragile, white, covered with a bluish gray colored periostracum. Spire elevated, consisting of 7 whorls. Each whorl moderately convex and flattened in front of the constricted suture. Body whorl large, higher than broad, two-thirds of shell height and moderately convex at the periphery. Aperture roundly ovate and white within. Outer margin thin, gently curved; columellar margin slightly curved and bordered by the stout fasciole. Siphonal canal short and sinuated backwards.

Operculum thin, yellowish brown, roundly ovate. Nucleus centrally placed.

Height 68.6 mm and breadth 38.2 mm (figured holotype specimen preserved in the National Science Museum, NSMT–Mo 51278).

Height 49.0 mm and breadth 28.7 mm (paratype specimen preserved in the National Science Museum, NSMT–Mo 51279).

Height 53.4 mm and breadth 31.6 mm (paratype specimen deposited in the National Science Museum, NSMT–Mo 52262).

Type-locality. Off Kushiro, Hokkaido, at the bottom of about 300 m deep.

Remarks. This new species closely resembles *Buccinum kinukatsugi* HABE et ITO, 1968 (Fig. 4) in general features, but has smaller and thinner shell densely sculptured with many equal-sized spiral striations and covered all over with bluish gray thin periostracum.

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Explanation of Plate 1

1. *Buccinum ochotense declivis* subsp. nov. (paratype specimen). 90.2 × 36.8 mm.
2. *B. acutispiratum* DALL, from off the east coast of Saghalien. 92.7 × 54.0 mm.
3. *B. kushiroensis* sp. nov. (holotype specimen). 68.6 × 38.2 mm.
4. *B. kinukatsugi* HABE et ITO, from off Rausu, Hokkaido. 85.7 × 51.5 mm.
5. *B. fukureum* sp. nov. (holotype specimen). 92.8 × 69.7 mm.
6. *B. shiretokoensis* sp. nov. (holotype specimen). 85.3 × 49.4 mm.



