

A Taxonomic Note on *Natica saitoi* Kuroda and Habe in Kuroda, Oyama and Habe, 1971 (Gastropoda, Naticidae)

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Abstract This paper resolves a taxonomic problem for *Natica saitoi* Kuroda and Habe in Kuroda, Habe and Oyama, 1971. This name was proposed in a bilingual publication, and the Japanese and English descriptions are shown to be based on specimens of different species. The English description is correctly based on the specimen illustrated as the holotype of *N. saitoi*, whereas the Japanese description is probably based on a specimen of *N. buriasiensis*. The Japanese and English texts agree on the identity of the holotype and the composition of the type series, so only a single new name was introduced. The specimen that is the basis of the Japanese description is here excluded from the type series.

Key words: Naticidae, *Natica saitoi*, *Natica buriasiensis*.

Introduction

Natica saitoi is one of 104 specific or subspecific nominal taxa proposed by Kuroda *et al.* (1971) in a comprehensive taxonomic work on the shell-bearing mollusks of Sagami Bay, based on the collection compiled by His Majesty, the Showa Emperor Hirohito, and deposited in the Biological Laboratory Imperial Household (BLIH). This publication adopts an irregular bilingual format. Japanese and English sections (741 and 487 pp., respectively, with independent paginations) are separated in the middle by photographic plates. The Japanese section provides a description of every specific and supraspecific taxon, together with measurements of some representative specimens, type locality, locality of specimens examined, distribution, and taxonomic remarks if necessary for each species. In contrast, the English section provides descriptions only for the new taxa proposed in this publication, together with detailed synonymies—which

are omitted in the Japanese part—, measurements, type locality, and distribution for each species. The Japanese and English descriptions of the new taxa are generally equivalent, with a remarkable exception for *Natica saitoi*, documented herein. Although the Japanese description of this taxon comprises 448 characters in 11 lines, the English description of this taxon consists of only 70 words in 6 lines. A brief comparison of the descriptions revealed that they are based on different specimens belonging to different species.

The biological collection, including a large number of primary types, and library of the BLIH were transferred to the National Museum of Nature and Science (NSMT) in 1993–1994, and housed in the Showa Memorial Institute, newly built in the Tsukuba campus of the museum for this purpose. It thus became easier to examine type and voucher materials, including those from Kuroda *et al.* (1971). Careful comparison of the descriptions of *N. saitoi* with other

naticid specimens in the collection resulted in the discovery of two naticid specimens that agree with, respectively, the English and Japanese descriptions. In this paper, both voucher specimens are illustrated, compared with corresponding the description, and their nomenclatural status is discussed. The *International Code of Zoological Nomenclature* is cited as the “Code”.

Comparison of English and Japanese descriptions

In both the English and Japanese descriptions, a specimen with dimensions of “height 8.8 mm and breadth 9.2 mm”, which refers to the figure in “pl. 19, fig. 12”, was designated as the “type specimen” or “moshiki-hyohon [=holotype]”. The illustrated specimen (NSMT-MoR 18164; Fig. 1) actually measures 8.9 mm in shell length (SL) and 9.2 mm in shell width (SW), which agrees with the published measurement. However, the descriptions in both languages remarkably differ from each other. The English description is quoted below, and compared with the Japanese description, which is herein translated into English.

English original description. “Shell small, solid, rather thin, smooth and polished, globular in shape, pale brown except yellowish white hyposutural band and the whitish base of the body whorls. Spire small and low, with five whorls. Protoconch dark brown. Body whorl very large, well rounded. Aperture semicircular. Outer margin rounded and thin at the edge. Parietal wall covered by thick callus and columellar margin also thick, partly covering the deep and narrow umbilicus.”

Japanese original description (translated herein into English). “Shell small, smooth, polished, globular to oval in shape, and covered by dull, light brown periostracum. Spire low conical, consisted of 5 rather inflated whorls. Protoconch dark brown and consisted of two strongly inflated whorls, with deeply impressed suture. Subsequent initial teleoconch whorls with opaquely white hyposutural band and dark brownish or-

ange, irregular maculation in other parts. Later teleoconch whorls decorated with brownish orange fine net-like lines that form irregular or triangular maculation, and obscure white band on periphery. Body whorl with two white bands both on periphery and around umbilicus, and slightly declined near aperture. Aperture semicircular, inclined and white inside. Outer lip curved, light brown in color; inner lip with developed callus that fills posterior end of aperture, dark cream in color, with shallow groove. Columella straight, dark orange to light reddish brown in color; umbilical pad located in upper position of columella, triangular in shape, with inclined shallow groove at junction to body whorl. Umbilicus deeply perforated, peach brown in color, and forming angulation at edge, with ridge-like projection connecting to umbilical pad. Operculum calcareous, smooth and polish, with one groove and periostracum-like tuft along the outer margin. Columellar margin serrated, being finer in lower portion.”

Remarks. The Japanese description is more detailed than is the English description. There are several significant differences both in coloration and morphology, especially in the shape of the columellar callus, between the Japanese and English descriptions. Furthermore, it is notable that the morphology of the operculum is described only in the Japanese description. The specimens pertaining to these descriptions are summarized in Table 1.

The English description agrees well with the illustrated specimen (NSMT-MoR 18164; Fig. 1) in coloration, *i.e.* “pale brown except yellowish white hyposutural band and the whitish base of the body whorls”, which best characterizes this specimen, as well as in all the other conchological characters, including the simple columellar callus. In contrast, the Japanese description is inconsistent with the illustrated specimen since it describes a complex color pattern on the teleoconch, *i.e.* “brownish orange fine net-like lines that form irregular or triangular maculation, and obscure white band on periphery”, and also describes the shell as having a “ridge-like projec-

Table 1. List of specimens treated in connection with the description of *Natica saitoi* and *N. buriasiensis* in Kuroda *et al.* (1971; KHO). “Stated page” and “Stated locality” show what is said on KHO pages 176–177 (Japanese) and 116–117 (English). “Labeled name” and “Labeled locality” show what is said on original labels with the lots.

NSMT-Mo number	Taxon	Labeled name	KHO pl. 19	Stated size (mm)	Actual size (mm)	Stated locality	Labeled locality	Status	Note
R18164	<i>Natica saitoi</i>	<i>Natica saitoi</i>	fig. 12	8.8×9.2	8.9×9.2	Sagami Bay	Sagami Bay	holotype	
R18165	<i>Natica saitoi</i>	<i>Natica saitoi</i>	—	—	8.1×9.0	—	Sagami Bay	paratype	1
R20705 (ex 44485)	<i>Natica saitoi</i>	<i>Natica saitoi</i>	—	—	10.0×9.3 8.3×8.9	Jogashima W 5.5 km (100–110 m)	Jogashima W 5.5 km (100–110 m)	paratypes	
not found	[<i>Natica saitoi</i>]	unknown	—	—	unknown	Jogashima WSW 4 km (100 m)	unknown	paratype of <i>Natica saitoi</i>	
R20706	<i>Natica saitoi</i>	—	—	—	8.1×8.9	Jogashima SW 4 km (83–97 m)	Jogashima SW 4 km (83–97 m)	paratype	
R20707	<i>Natica saitoi</i>	—	—	—	7.7×8.0	Kamekisho WNW 4 km (70–75 m)	Kamekisho WNW 4 km (70–75 m)	paratype	
R20708	<i>Naiticarius</i> sp.	—	—	—	6.5×6.6 5.3×5.2	Kamekisho WNW 4 km (70–75 m)	Kamekisho WNW 4 km (70–75 m)	paratypes of <i>Natica saitoi</i>	2
R18166	<i>Natica buriasiensis</i>	<i>Natica buriasiensis</i>	fig. 13	8.8×9.2	12.0×10.9	Sagami Bay	Sagami Bay	voucher	
R18167	<i>Natica buriasiensis</i>	<i>Natica buriasiensis</i>	—	—	7.0×7.3	—	Shurane-bank, 30–40 m	voucher	3

Notes: 1, separated from R18164, measurement given under *N. buriasiensis* in Japanese and English text; 2, separated from R20000, which originally comprised 3 specimens in total; 3, basis of Japanese description of *N. saitoi*.

tion" in the umbilicus.

In both English and Japanese descriptions, the type locality was stated merely as "Sagami Bay", and 4 lots of specimens with precise locality data were recorded in addition to the holotype. The "type" lot, which actually comprises two dead-collected empty shells, is accompanied by a label with the locality as "Sagami Bay". Although no other specimens of the same species were found in the BLIH collection, three lots of specimens collected in Sagami Bay from "Jogashima W 5.5 km (100–110 m)", "Jogashima SW 4 km (83–97 m)" and "Kamekisho WNW 4 km (70–75 m)", which correspond to the mentioned records, were located in Dr. Habe's collection in NSMT. All of these lots comprise only empty shells, which agrees with the absence of the description of the operculum in the English description.

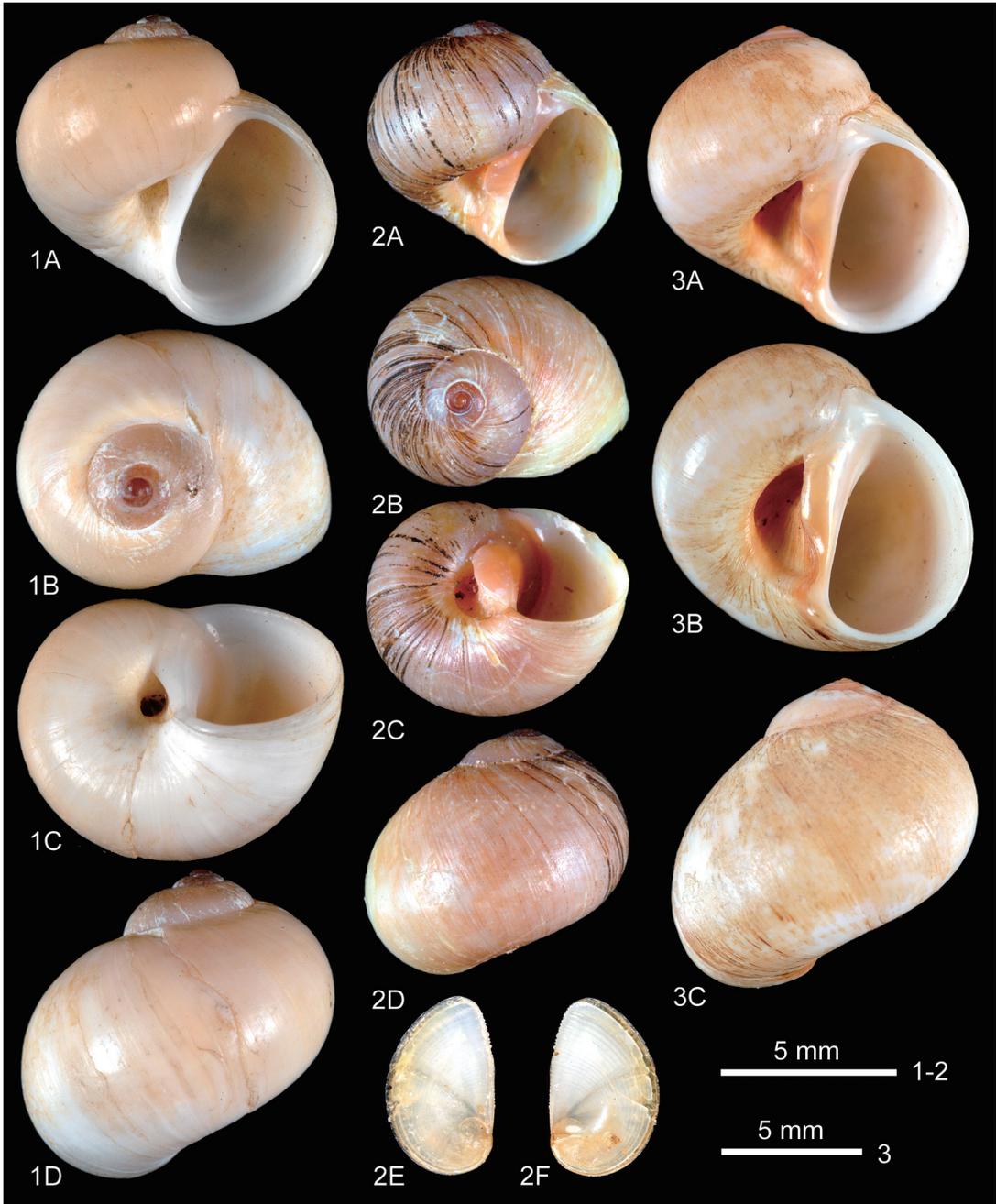
On the other hand, a search in the molluscan collection in the BLIH resulted in finding of a specimen with an operculum (NSMT-MoR 18167; Fig. 2) that agrees with the Japanese description. It was collected alive from "Shuranebank, 30–40 m, 24 July 1956" in Sagami Bay, and identified as "*Natica buriasensis* [sic=*buriasiensis*]" on the attached label. "*Natica buriasensis*" was listed and described just after *Natica saitoi* in the publication, with measurements of two specimens from "Sagami Bay (alive)", and one of the specimens was illustrated in pl. 19, fig. 13 (NSMT-MoR 18166; Fig. 3). Inexplicably, the dimensions of the figured specimen were erroneously given as "Height 8.8 mm and breadth 9.2 mm", exactly the same as those of the holotype of *N. saitoi*, although the actual specimen (NSMT-MoR 18166) is significantly larger with the dimensions of 12.0 mm SL and 10.9 mm SW. Furthermore, the dimensions (8.1 mm SL and 9.0 mm SW) of another measured specimen cited under *N. buriasiensis* in both the Japanese and English text exactly agree with those of the specimen contained in the same lot as the holotype of *N. saitoi* (NSMT-MoR 18165; separated from 18164). There are only two specimens identifiable with *N. buriasiensis* in the BLIH collection: the illustrated specimen (NSMT-MoR

18166) and the specimen agreeing with the Japanese description of *N. saitoi* (NSMT-MoR 18167; 7.0 mm SL and 7.3 mm SW); both differ from the published dimensions. The latter specimen was not measured, or directly referred to in the text, although it was collected prior to the publication of the work. It is therefore concluded that there was some confusion by Kuroda and his co-authors in the treatment of *N. saitoi* and "*N. buriasensis*". The English description is correctly based on the specimen illustrated as the holotype of *N. saitoi* (Kuroda *et al.*, 1971, pl. 19, fig. 12; NSMT-MoR 18164; Fig. 1), whereas the Japanese description is probably based on the specimen of *N. buriasiensis* (NSMT-MoR 18167; Fig. 2).

Taxonomic Resolution

Because the English and Japanese descriptions of *Natica saitoi* are based on different species, it is necessary to discuss the nomenclatural status of this nominal taxon in order to avoid taxonomic confusion.

One might consider that the name pertaining to each description could be regarded as a distinct nominal taxon and thus enter into primary homonymy with the other. There are actually some instances where an author introduced homonymous names in the same work, for example, *Patella jamaicensis* Gmelin, 1791 (p. 3715, currently *Lottia jamaicensis*) and *Patella jamaicensis* Gmelin, 1791 (p. 3730, currently *Fisurella nodosa* (Born, 1778)). In all such cases that we are aware of, the type series did not overlap. In the present case, however, the holotype of *Natica saitoi* is referred to plate 19, figure 12, and the set of localities mentioned is the same in both the Japanese and English texts, so there is not disagreement about the contents of the type series. The *Code* does not require descriptions to be accurate, and it does not require all members of a type series to be conspecific. The stated holotype of *N. saitoi* in the Japanese text is eligible to be the holotype, even though it does not agree with the description. In the absence of un-



Figs. 1–3. Shell and operculum of *Natica* spp.— 1, *Natica saitoi*, holotype (NSMT-MoR 18164); 2, *Natica buriasiensis*, a specimen on which Japanese description of *Natica saitoi* was probably based, shell (A–D) and operculum (E, inner side; F, outer side) (NSMT-MoR 18167); 3, *Natica buriasiensis* Récluz, 1844, shell, Sagami Bay, voucher specimen of Kuroda *et al.* (1971: pl. 19, fig. 13; NSMT-MoR 18166).

ambiguous evidence that the authors intended to name different species in the Japanese and English texts, there is no mechanism in the *Code* to set aside the stated holotype, which would be necessary for the Japanese and English texts to be treated as independent introductions of homonymous names.

The information presented herein demonstrates that the Japanese description was probably based on a specimen from a locality not mentioned in the text (Shurane-bank). Under *Code* Article 72.4.1, this evidence can be taken into account in determining the contents of the type series of *Natica saitoi*. If the confusion in the text referring to *N. saitoi* and *N. buriasiensis* reflects that the authors misidentified the species, then the specimen from Shurane is a misidentified paratype of *Natica saitoi*. It is also possible that the confusion is clerical rather than biological: text intended to describe *N. buriasiensis* may have been accidentally inserted under *N. saitoi* and measurements for *N. saitoi* accidentally placed under *N. buriasiensis*. In this scenario, the specimen is not part of the type series of *Natica saitoi*. In favor of this interpretation, the label with NSMT-MoR 18167 says *Natica buriasensis*, not *Natica saitoi*, however we do not know when the label was written. In the interest of clarity we reject this specimen as being part of the type series of *N. saitoi* since it is from a locality not mentioned in the text. This is not a binding action under the *Code*, so if more evidence surfaces, its status might be reconsidered. The original manuscript of *The Seashells of Sagami Bay* is not known to exist, but if it were found, it might show how the confusion with these taxa occurred.

Taxonomy

Natica saitoi Kuroda and Habe in Kuroda,
Habe and Oyama, 1971

[Japanese name: Saito-tama-gai]

(Fig. 1A–D)

Natica saitoi Kuroda and Habe in Kuroda *et al.*, 1971 (part): 116–117 (English section), pl. 19, fig. 12; Oku-

tani, 1972: 87, fig. 25 (Takase, Izu Islands, 130 m); Okutani, 1975: 191 (Kurose, Izu Islands, 177 m); Saito, 2000: 261, pl. 130, fig. Naticidae-47.

Not *Natica saitoi* Kuroda and Habe in Kuroda *et al.*, 1971 (part): 176 (Japanese section) [is *Natica buriasiensis* Récluz, 1844]; Koyama, 2001: 149, pl. 1, fig. 18 [is *Natica* sp.].

Type material. Holotype, NSMT-MoR 18164; paratypes, NSMT-MoR 18165, 20705–20707, 20708 (separated from 20707; is *Naticarius* sp.) (Table 1), all from Sagami Bay.

Type locality. Sagami Bay.

Remarks. This species can be characterized and distinguished from congeneric species by the combination of characters including a relatively small adult shell size, monotone brownish coloration, and weakly developed parietal callus. Its known geographic distribution is restricted to a narrow area on the Pacific coast of central Honshu, from Sagami Bay south to the Kurose Bank of Izu Islands, within a depth range of 100–177 m. The narrow geographical distribution of this species might be related to direct development, which can be inferred from a relatively large, bulbous and paucispiral protoconch (Kabat, 1996). No live specimens of this species are known to have been collected.

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