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LOCALITIES IN JAPAN**

Part III.

Revised by
Jirô MAKIYAMA

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Corrigenda

For Part I.

Pl. 5, f. 1: "*Decatopecten*" was in error; should be "*Lyropecten*".

For Part II.

Pl. 26, f. 1: for "**grayana**" read "**grayanus**".

Pl. 26, f. 2: for "**Volsella**" read "**Vulsella**".

Pl. 50, f. 12: "*Oliva erythrostroma*" will be changed to "*Oliva mustellina*".

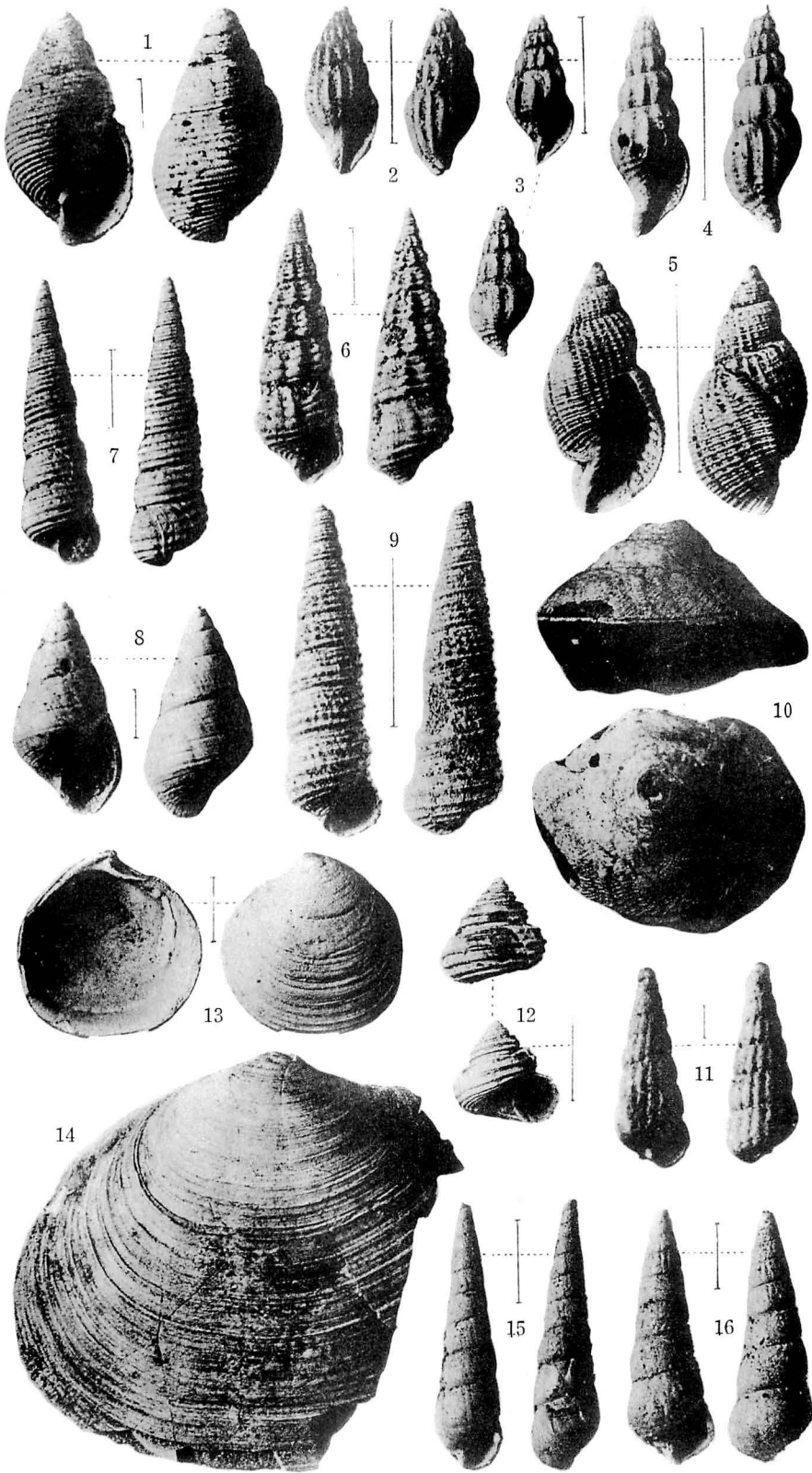
Pl. 50, f. 17: "*Ancilla angusta suavis*", a new combination "*Turrancilla angustata suavis*" is offered with a correction.

Pl. 56, f. 8: "*laperousei*" is the right spelling.

1. *Leucosticta* sp. (Gen. nov.) (XX, 171). (Omsk (not Omsk).)
2. *Leucosticta* sp. (Gen. nov.) (XX, 172). (Omsk (not Omsk).)
3. *Leucosticta* sp. (Gen. nov.) (XX, 173). (Omsk (not Omsk).)
4. *Leucosticta* sp. (Gen. nov.) (XX, 174). (Omsk (not Omsk).)
5. *Leucosticta* sp. (Gen. nov.) (XX, 175). (Omsk (not Omsk).)
6. *Leucosticta* sp. (Gen. nov.) (XX, 176). (Omsk (not Omsk).)
7. *Leucosticta* sp. (Gen. nov.) (XX, 177). (Omsk (not Omsk).)
8. *Leucosticta* sp. (Gen. nov.) (XX, 178). (Omsk (not Omsk).)
9. *Leucosticta* sp. (Gen. nov.) (XX, 179). (Omsk (not Omsk).)
10. *Leucosticta* sp. (Gen. nov.) (XX, 180). (Omsk (not Omsk).)
11. *Leucosticta* sp. (Gen. nov.) (XX, 181). (Omsk (not Omsk).)
12. *Leucosticta* sp. (Gen. nov.) (XX, 182). (Omsk (not Omsk).)
13. *Leucosticta* sp. (Gen. nov.) (XX, 183). (Omsk (not Omsk).)
14. *Leucosticta* sp. (Gen. nov.) (XX, 184). (Omsk (not Omsk).)
15. *Leucosticta* sp. (Gen. nov.) (XX, 185). (Omsk (not Omsk).)
16. *Leucosticta* sp. (Gen. nov.) (XX, 186). (Omsk (not Omsk).)
17. *Leucosticta* sp. (Gen. nov.) (XX, 187). (Omsk (not Omsk).)

PLATE 58.

1. **Leucotina diana** (ADAMS, 1854), (XX, 171). Onma (not Ookuwa).
2. **Bela kagana** YOKOYAMA, 1927 (XX, 172, n. sp.). Kakuma. **Oenopota kagana** (YOKOYAMA), *fide* H. & N., 1952; *Lora kagana* auct.
- 3, 4. **Raphitoma ozawai** YOKOYAMA, 1927 (XX, 172, n. sp.). Nagaya. **Plicifusus yanamii tenuis** (HATAI & NISIYAMA, 1939), *fide* KANEHARA, 1940 for f. 4; **Plicifusus ozawai** (YOKOYAMA), for f. 3, *fide* H. & N., 1952.
5. **Mitra kobayashii** YOKOYAMA, 1927 (XX, 173, n. sp.). Kamitauye. **Cancellaria (Merica) kobayashii** (YOKOYAMA), *fide* H. & N., 1952.
6. **Bittium binodulosum** YOKOYAMA, 1920, (XX, 174). Onma. **Bittium (Stylidium) horinjiense** OINOMIKADO & IKEBE, 1939, subgenus *fide* H. & N.
7. **Bittium venustellum** YOKOYAMA, 1927 (XX, 175, n. sp.). Nagaya. **Tachyrhynchus venustellus** (YOKOYAMA), *fide* ONOYAMA MS.
8. **Littorina incisa** YOKOYAMA, 1927 (XX, 175, n. sp.). Nagaya. **Algaroda incisa** (YOKOYAMA), *fide* H. & N., 1952.
9. **Bittium? tuberculosum** YOKOYAMA, 1927 (XX, 175, n. sp.). Nagaya. *Halloysis (Trypanaxis?) tuberculosa*, *fide* H. & N., 1952; **Tachyrhynchus tuberculosus** (YOKOYAMA), *fide* KURODA, verbally.
10. **Xenophora exuta** (REEVE, 1842), (XX, 176). Nagaya. **Tugurium exutum** (REEVE).
11. **Turbonilla (Chemnitzia) infantula** DALL & BARTSCH, 1906 (XX, 176). Nagaya.
12. **Solariella pseudobscura** YOKOYAMA, 1927 (XX, 177, n. sp.). Onma. **Minolia pseudobscura** (YOKOYAMA), *fide* H. & N., K. & H., 1952.
13. **Thyasira crassiuscula** YOKOYAMA, 1927 (XX, 179, n. sp.). Onma.
14. **Tellina kakumana** YOKOYAMA, 1927 (XX, 177, n. sp.). Kakuma. **Thracia kakumana** (YOKOYAMA), *fide* KURODA, verbally.
- 15, 16. **Turbonilla (Ptycheulimella) inscitula** YOKOYAMA, 1927 (XX, 176, n. sp.). Nagaya and Onma. HATAI & NISIYAMA designate the individual of f. 16 for the holotype; most probably f. 15 belongs to a different species.



XX. Fossil Mollusca from Kaga.

1. *Cladonia* (part) *Yoshida* 1931 (X, 178, n. 10); Kami-Tanaka, *F. subulnatica* var.
 2. *Cladonia* (part) *Yoshida* 1931 (X, 179, n. 11); Kami-Tanaka, *F. subulnatica* var.
 3. *Cladonia* (part) *Yoshida* 1931 (X, 180, n. 12); Kami-Tanaka, *F. subulnatica* var.
 4. *Cladonia* (part) *Yoshida* 1931 (X, 181, n. 13); Kami-Tanaka, *F. subulnatica* var.
 5. *Cladonia* (part) *Yoshida* 1931 (X, 182, n. 14); Kami-Tanaka, *F. subulnatica* var.
 6. *Cladonia* (part) *Yoshida* 1931 (X, 183, n. 15); Kami-Tanaka, *F. subulnatica* var.
 7. *Cladonia* (part) *Yoshida* 1931 (X, 184, n. 16); Kami-Tanaka, *F. subulnatica* var.
 8. *Cladonia* (part) *Yoshida* 1931 (X, 185, n. 17); Kami-Tanaka, *F. subulnatica* var.
 9. *Cladonia* (part) *Yoshida* 1931 (X, 186, n. 18); Kami-Tanaka, *F. subulnatica* var.
 10. *Cladonia* (part) *Yoshida* 1931 (X, 187, n. 19); Kami-Tanaka, *F. subulnatica* var.

Remarks

(1) *Cladonia* (part) *Yoshida* 1931 (X, 178, n. 10); Kami-Tanaka, *F. subulnatica* var.
 (2) *Cladonia* (part) *Yoshida* 1931 (X, 179, n. 11); Kami-Tanaka, *F. subulnatica* var.
 (3) *Cladonia* (part) *Yoshida* 1931 (X, 180, n. 12); Kami-Tanaka, *F. subulnatica* var.
 (4) *Cladonia* (part) *Yoshida* 1931 (X, 181, n. 13); Kami-Tanaka, *F. subulnatica* var.
 (5) *Cladonia* (part) *Yoshida* 1931 (X, 182, n. 14); Kami-Tanaka, *F. subulnatica* var.
 (6) *Cladonia* (part) *Yoshida* 1931 (X, 183, n. 15); Kami-Tanaka, *F. subulnatica* var.
 (7) *Cladonia* (part) *Yoshida* 1931 (X, 184, n. 16); Kami-Tanaka, *F. subulnatica* var.
 (8) *Cladonia* (part) *Yoshida* 1931 (X, 185, n. 17); Kami-Tanaka, *F. subulnatica* var.
 (9) *Cladonia* (part) *Yoshida* 1931 (X, 186, n. 18); Kami-Tanaka, *F. subulnatica* var.
 (10) *Cladonia* (part) *Yoshida* 1931 (X, 187, n. 19); Kami-Tanaka, *F. subulnatica* var.

PLATE 59.

- 1, 2. *Meretrix tauyensis* YOKOYAMA, 1927 (XX, 178, n. sp.). Kami-Taue. **Pseudamiantis tauyensis** (YOKOYAMA), *fide* KURODA.
- 3, 4. *Cardium civicum* YOKOYAMA, 1927 (XX, 179, n. sp.). Nagaya. *Linga civica* (YOKOYAMA), *fide* K. & H., 1952; **Bellucina civica** (YOKOYAMA), *fide* KURODA, verbally.
5. *Cardium fastosum* YOKOYAMA, 1927 (XX, 178, n. sp.). Nagaya. *Clinocardium fastosum* (YOKOYAMA), *fide* H. & N., 1952; **Clinocardium californiense** Deshayes, 1839, *fide* KURODA, verbally.

Remarks.

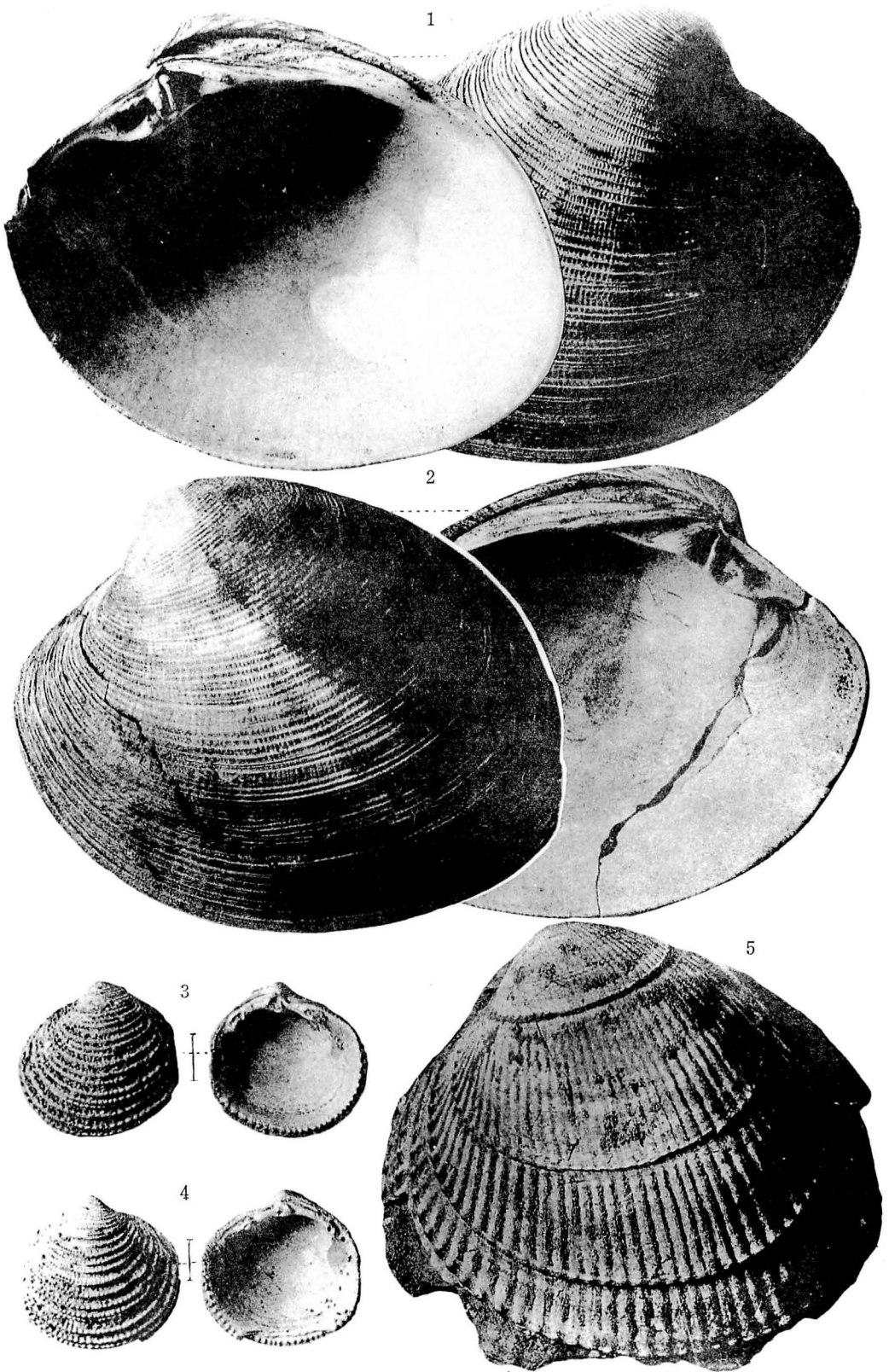
Geography—Onma (not Ookuwa): Kaigarabuchi in Onma, the river-side exposure of Sai, near Kanazawa, 36°31.3' N, 136°41.2' E.

Kakuma: creek bottom or exposure along the village road, in Kakuma, Asakawa, north of Kanazawa, 36°32.7' N, 136°42.4' E.

Nagaya: wayside, 140 m east of bridge and 300 m north of shrine at Nagaya in Kosaka near Kanazawa (north), 36°34.4' N, 136°41.8' E.

Kami-Taue: wayside on the river Asano at Kami-Taue, Asakawa, 36°31.5' N, 136°42.2' E.

Kaga: old name of province around Kanazawa, Ishikawa prefecture.



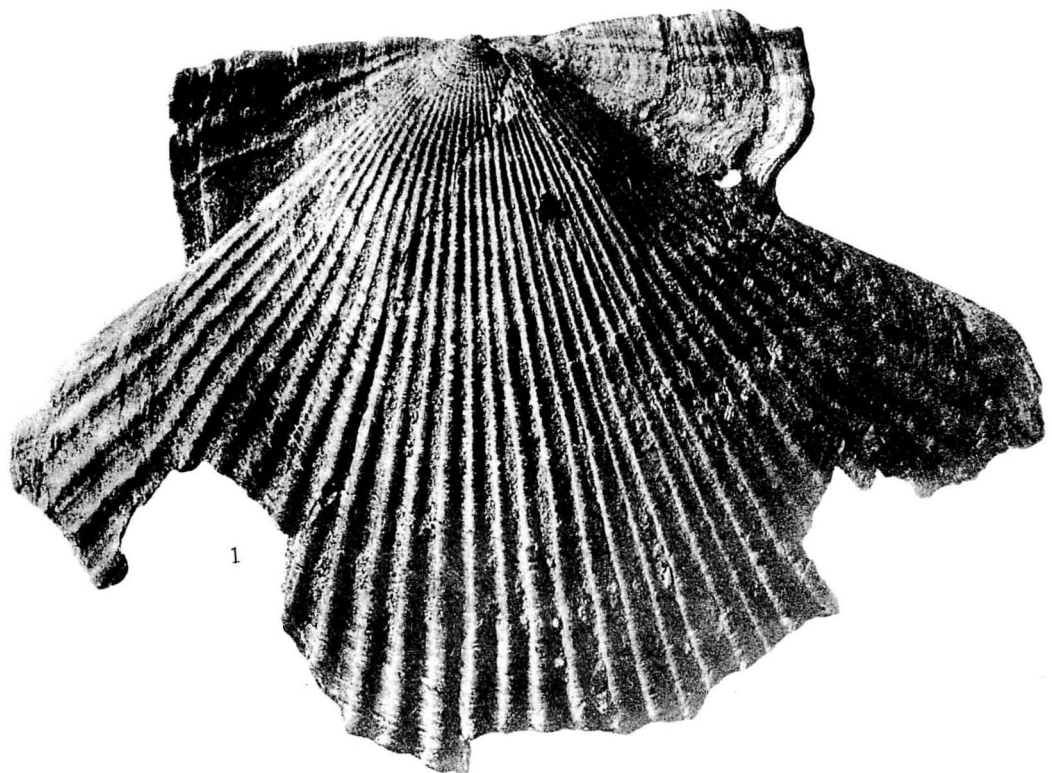
XX. Fossil Mollusca from Kaga.

PLATE 60.

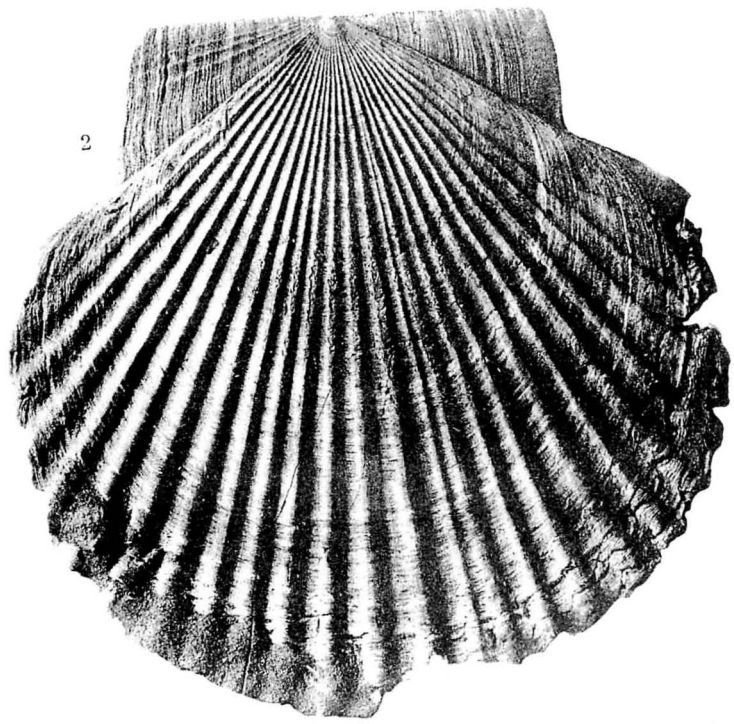
1, 2. *Pecten kurosawensis* YOKOYAMA, 1926, (XX, 180). Onma. See pl. 57, f. 3.

Remarks.

Stratigraphy—All places (see *Geography* in pl. 59): Onma formation, Pliocene, *Manganjian* stage.



1



2

XX. Fossil Mollusca from Kaga.

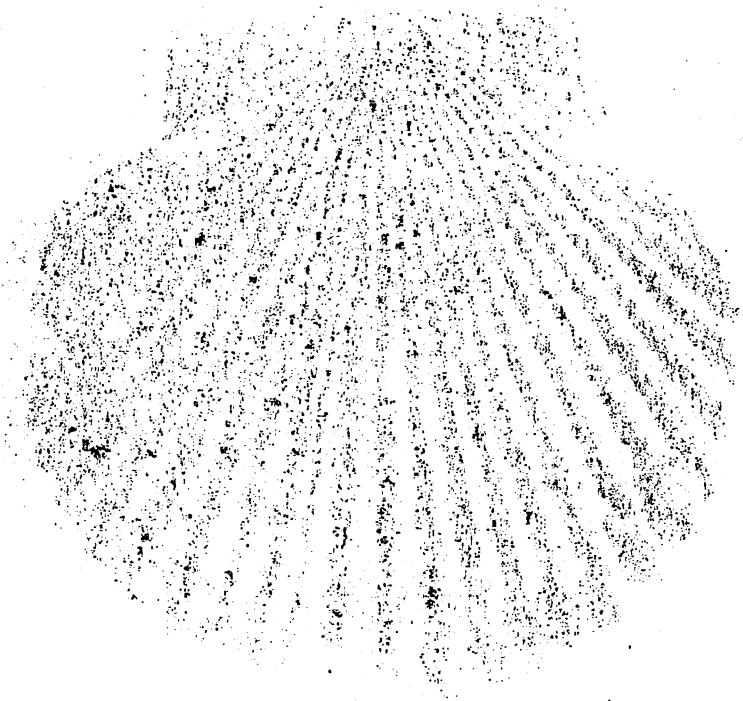
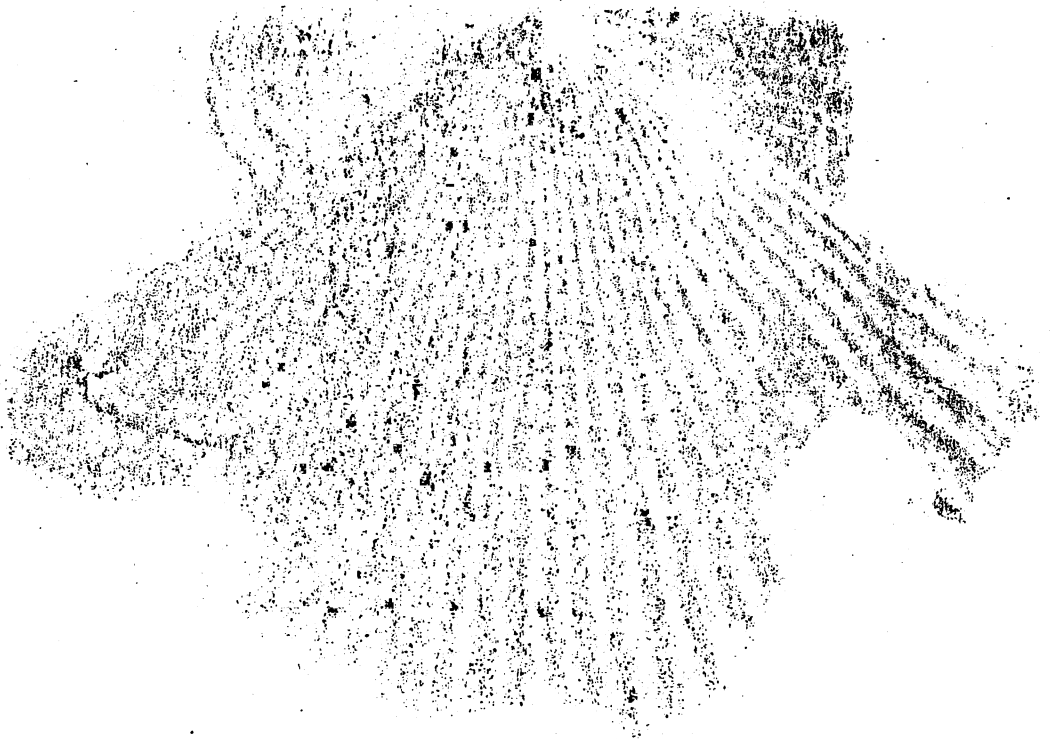


PLATE 11.

- 1. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 2. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 3. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 4. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 5. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 6. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.
- 7. *Leucaena glauca* (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu.

Remarks.

Leucaena glauca (L.) WATSON & BRIDGES (not *S. glauca* (L.) WATSON & BRIDGES) (XXI, 1932). West coast of Oahu. This is a very common tree in the lowland areas of Oahu, especially in the western part of the island. It is a member of the Leguminosae family and is native to the Pacific Islands. The tree is characterized by its large, pinnately compound leaves and its dense, upright growth habit. The flowers are small and white, and the fruit is a long, slender, cylindrical pod. The tree is widely distributed throughout the Pacific region, including Hawaii, the Philippines, and the South Pacific Islands.

PLATE 61.

1. *Lima goliath* SOWERBY, 1883 (not SMITH nor LAMARCK), (XXI, 188). West coast of Ooshima, Hizen. **Lima (Acesta) aff. goliath** SOWERBY.
2. *Scala maculosa* (ADAMS & REEVE, 1850), (XXI, 185). Sakitajima, Hizen. **Epitonium submaculosum** NAGAO, 1928.
- 3, 4. *Mytilus hirsutus* LAMARCK, 1819, (XXI, 187). Hakoijima, Hizen. *Septifer yokoyamai* H. & N., 1952, *nom nud.*; not *Trichomya hirsuta* (LAMARCK).
5. *Chione casinaeformis* YOKOYAMA, 1926, (XXI, 186). Uhama, Ooshima, Hizen. **Pitar yokoyamai** (NAGAO, 1928).
6. **Heterocyathus** sp., (XXI, 189). Ooshima, Hizen.
7. **Cardium sagawai** YOKOYAMA, 1927 (XXI, 186, n. sp.). Matsushima, Hizen.

Remarks.

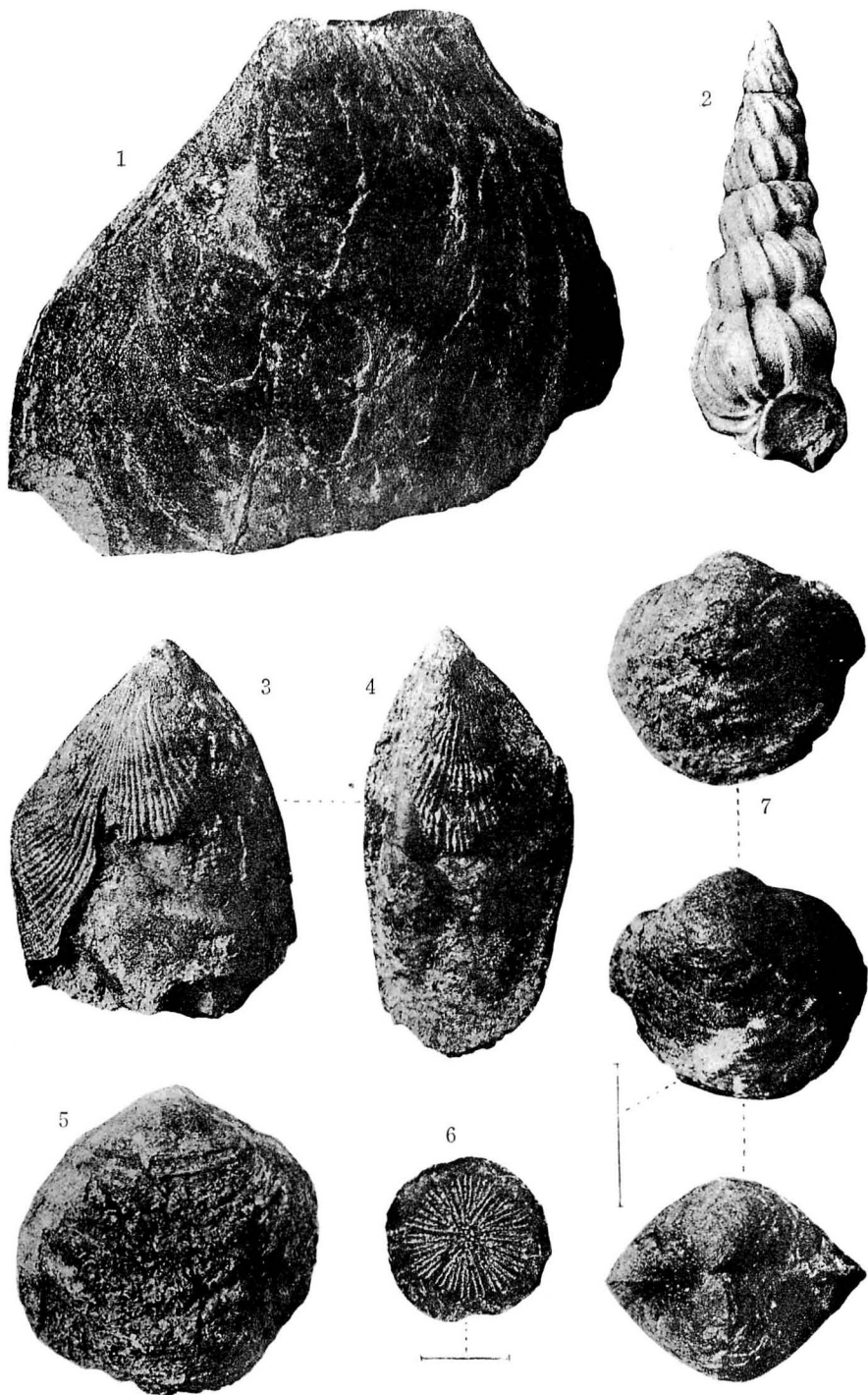
Geography and Stratigraphy—West coast of Ooshima: west shore of Ooshima island, Nagasaki pref., exact loc. unknown; Nishisonogi Oligocene (YOKOYAMA thought of Pliocene).

Sakitajima: island in Nagasaki pref., exact loc. unknown; Oligocene.

Hakoijima: island in Nagasaki pref.. Oligocene.

Matsushima: another island in the same area; Oligocene.

Uhama: another locality on Ooshima island; Oligocene.



XXI, Tertiary Fossils from Western Hizen,

PLATE 62.

1. *Meritrix (Callista) chienensis* (HOLTEN, 1803), (XXII, 200). Haboro (first loc.). *Paphia haboroensis* H. & N., 1952, *nom. nnd.*, not *Callista chinensis* HOLTEN, 1803,=*C. sinensis* (SOWERBY).
2. *Mya arenaria* LINNAEUS, 1758, (XXII, 198). Haboro-gawa. ***Mya cuneiformis*** (BÖHM, 1916).
- 3, 4. *Chione chitaniana* YOKOYAMA, 1926, (XXII, 201). Eperapt. ***Mercenaria chitaniana*** (YOKOYAMA).
- 5, 6, 7. *Cardium ainuanum* YOKOYAMA, 1927 (XXII, 202, n. sp.). Rôrenai. ***Clinocardium ainuanum*** YOKOYAMA, *vide* H. & N., 1952.
8. ***Yoldia sagittaria*** YOKOYAMA, 1926, (XXII, 203). Eperapt. See pl. 43, f. 4.
- 9, 10, 11, 12, 13. *Tapes ? uyemurai* YOKOYAMA, 1927 (XXII, 201, n. sp.). Loc. unknown, Haboro Beds in Teshio district. f. 12: *Clementia ? uyemurai* (YOKOYAMA), *vide* H. & N., 1952. f. 9, 10: *Pitar ?* sp.; f. 11: *Serripes ?*; f. 13: gen. & sp. indet.
14. ***Dentalium exaratum*** YOKOYAMA, 1927 (XXII, 198, n. sp.). Rôrenai.

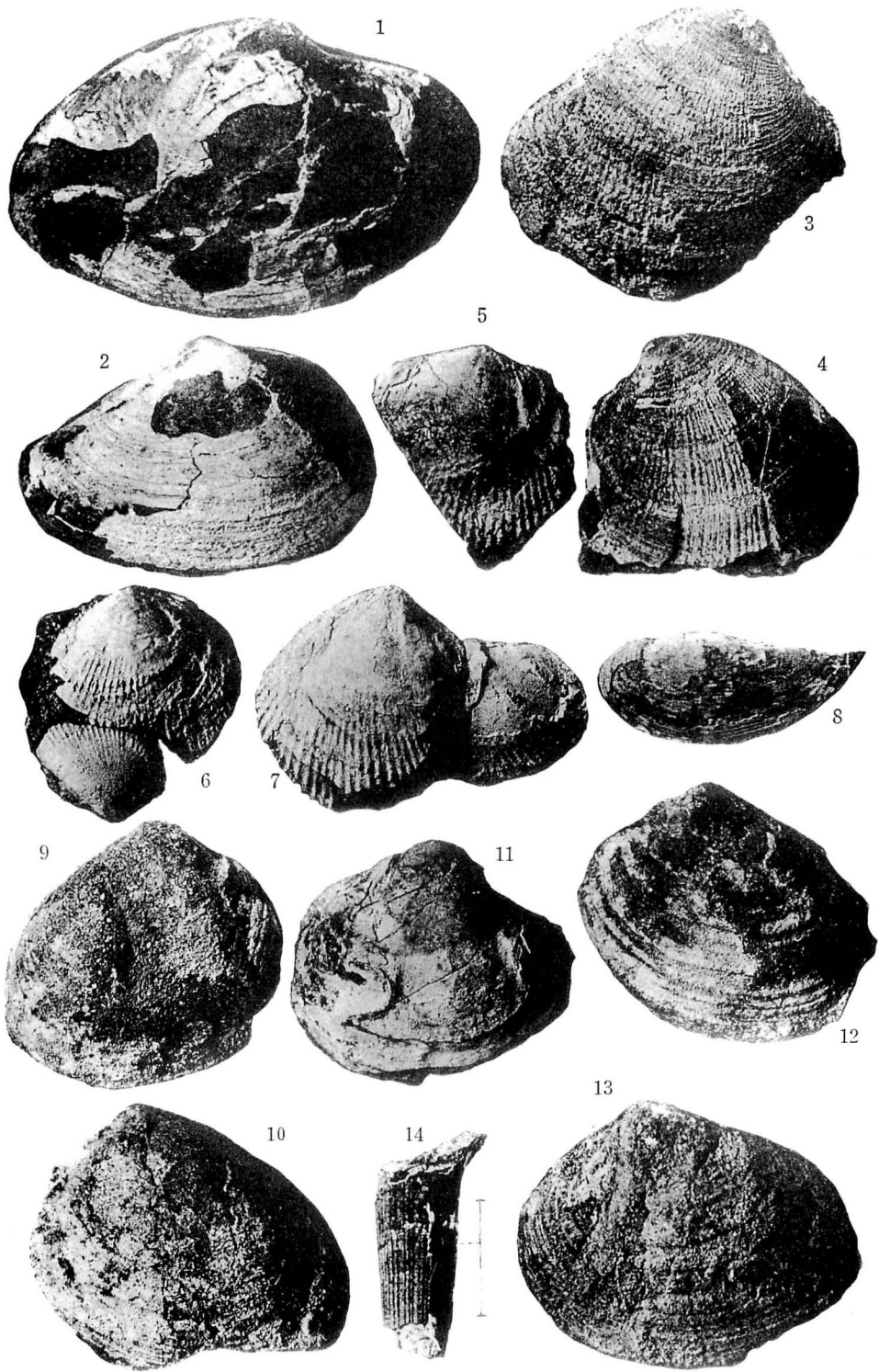
Remarks.

Geography and Stratigraphy—Haboro, first loc.: a tributary of the Haboro, Hokkaidô, Upper Chikbets formation, Miocene (not Plicene).

Haboro-gawa: wayside cutting on the river Haboro, near Shinkukaku in Haboro, Teshio district, Hokkaidô, Lower Chikbets formation, Miocene, 44°18.6' N, 141°54.1' E.

Eperapt: bank of Nijunisen brook a tributary of the Haboro, Lower Chikbets.

Rôrenai: bank of Rôrenai a tributary of the Haboro, 1.5 km SW of Otap in Haboro, Teshio district, Hokkaidô, Haboro formation, Miocene, 44°16.6' N, 141°54.6' E.



XXII. Tertiary Shells from the Coal-Field of Haboro.

PLATE 63.

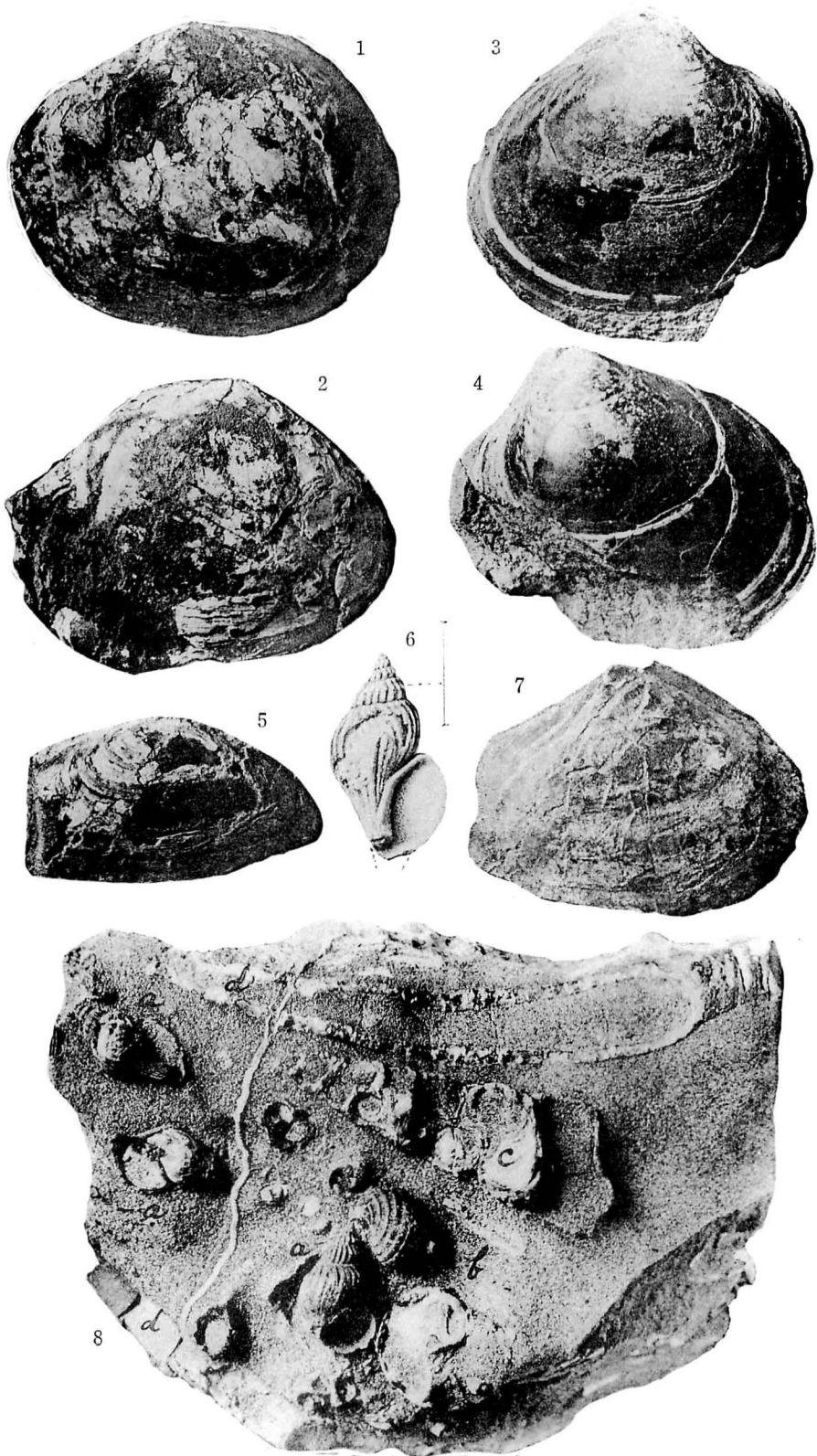
- 1, 2. *Tellina izurensis* YOKOYAMA, 1925, (XXII, 200). Eperapt (f. 1); Chebotsnai (f. 2). **Macoma optiva** YOKOYAMA, 1923), *fide* H. & N., 1952, see Pt. 1, pl. 6, f. 3, 4.
- 3, 4. **Mactra haboroensis** YOKOYAMA, 1927 (XXII, 198, n. sp.). Eperapt.
5. **Tellina venulosa** SCHRENCK, 1887, (XXII, 199). Haboro, first loc., but from the Lower Chikbets. *Peronidia venulosa*, H. & N., 1952.
6. *Trophon felix* YOKOYAMA, 1927 (XXII, 196, n. sp.). Rôrenai. **Troponopsis (Boreotrophon) felix** YOKOYAMA, *fide* H. & N., 1952.
7. **Spisula grayana** (SCHRENCK, 1867), (XXII, 199). Chikbets. See Pt. 1, pl. 17, f. 11.
8. A piece of septarian nodule from Rôrenai, enlarged twice.
- 8a. *Trophon felix*, see f. 6.
- 8b. *Cancellaria* cf. *lischkei* YOKOYAMA, 1926, see pl. 44, f. 16, 17, **Ademete** cf. **japonica lischkei** (YOKOYAMA).
- 8c. **Turritella** sp.
- 8d. **Dentalium** cf. **weinkauffi** DUNKER, 1877.

Remarks.

Geography and Stratigraphy—Rôrenai of f. 8: the piece derived from the Chikbets, but uncertain whether from the Lower or the Upper Chikbets.

Chikbets: a tributary of the river Chikbets, or Chuptaushnai, Lower Chikbets formation.

Chebotsnai: a tributary of the river Kotambets, near the waterfall, Lower Chikbets formation, 44°14.5' N, 141°54.2' E.



XXII. Tertiary Shells from the Coal-Field of Haboro.

PLATE 64.

1. *Terebra serotina* ADAMS & REEVE, 1849 (XXIII, 338). Zone B at Kōunji, Hyūga. Subgenus: *Myurella*, *vide* H. & N., 1952.
2. *Conus comatosa* PILSBRY, 1904, (XXIII, 338). Zone B at Uwae, Hyūga. **Conus (Asprella) comatosa** PILSBRY, var., H. & N., 1952, also living *vide* KURODA, verbally.
- 3, 4. *Cochliocnans gradatus* YOKOYAMA, 1928, (XXIII, 338, n. gen. n. sp.). Zone C at Takashiro, Hyūga *Thatcheria gradata* (YOKOYAMA, 1928), YOKOYAMA, 1930, **Thatcheria mirabilis** ANGAS, 1877, H. & N., 1952.
- 5, 6. *Pleurotoma subdeclivis* YOKOYAMA, 1926, (XXIII, 339, see Pt. II, pl. 50).
5: var. *glabra*, zone B at Uwae; 6: var. *striatotuberculata*, Zone B at Kōunji, Hyūga; besides, two more varieties, not figured. not *Spirotropis subdeclivis* (YOKOYAMA, 1926), but fig. 5: **Leucosyrinx coreanica** (ADAMS & REEVE, 1849), see pl. 50, f. 6, 7; fig. 6: **Bathytoma striatotuberculata** (YOKOYAMA).
- 7, 8. *Pleurotoma pervirgo* YOKOYAMA, 1928, (XXIII, 340, n. sp.). Zone B at Kōunji, Hyūga. *Orthosurcula mirabilis pervirgo*, H. & N., 1952; **Turricula pervirgo** (YOKOYAMA).
9. *Drillia hyugana* YOKOYAMA, 1928, (XXIII, 341, n. sp.). Zone B at Uwae, Hyūga. *Surcula hyugana*, H. & N., 1952; **Clathrodrillia hyugana** (YOKOYAMA).
10. *Pleurotoma askana* YOKOYAMA, 1926, (XXIII, 340). Zone B at Kōunji, Hyūga. Not *Clavatula (Paradrillia) asukana* (YOKOYAMA, 1926), see pl. 50, f. 18; cf. *Gemmula pseudogranosa* NOMURA, 1940.
11. *Olivella baetica* (CARPENTER, 1863), (XXIII, 343). Zone B, Uwae, Hyuga. **Olivella fortunei** (MARRAT, 1870), *vide* KURODA.
12. *Cancellaria limata* YOKOYAMA, 1928, (XXIII, 342, n. sp.). Zone C, Takashiro, Hyūga. **Trigonostoma (Scalpta) limatum** (YOKOYAMA), H. & N., 1952.
13. *Voluta koyuana* YOKOYAMA, 1928, (XXIII, 343, n. sp.). Zone B, at Kōunji, Hyūga. *Volutocorbis (Ternivoluta) koyuana*, H. & N., 1952; **Lyrta koyuana** (YOKOYAMA).
- 14, 15. *Drillia astuta* YOKOYAMA, 1928 (XXIII, 341, n. sp.). Zone B, Uwae, Hyūga. *Cryptogemma astuta*, H. & N., 1952; **Clavatula (Paradrillia) astuta** (YOKOYAMA).
16. *Ancilla miserula* YOKOYAMA, 1928 (XXIII, 343, n. sp.). Zone B, Uwae, Hyūga. **Ancilla angustata** SOWERBY, 1859, *vide* KURODA verbally.
17. *Drillia ? kobayashi* YOKOYAMA, 1928 (XXIII, 341, n. sp.). Zone C, Takashiro, Hyūga. **Clavatula (Paradrillia) kobayashii** (YOKOYAMA).

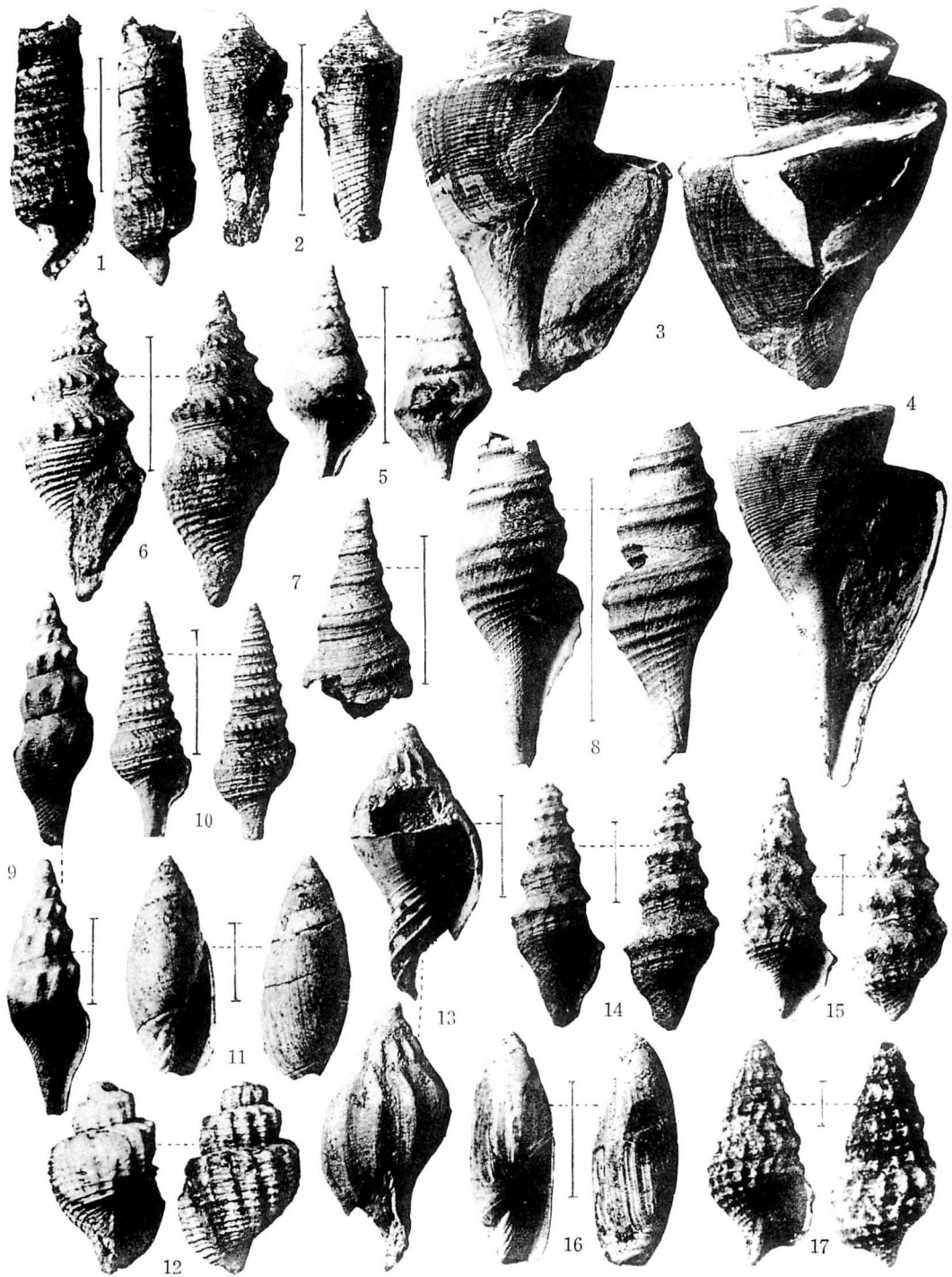
Remarks.

Stratigraphy—Zones A to D belong to the Miyazaki group, A be Kechienjian, B be Suchian, C & D be Yuian (middle Pliocene to late Miocene).

Geography—Uwae: left bank of the Komaru-gawa near Hagenoshita in Uwae, Miyazaki pref., 32°7.3' N, 131°31.3' E.

Kōunji: wayside cutting near west of bridge at Kōunji in Takanabe, Miyazaki pref., 32°7.3' N, 131°31.3' E.

Takashiro: bottom of the river Komaru, near bridge south of Takajo, Miyazaki pref., 32°9.5' N, 131°28.5' E.



XXIII. Pliocene Shells from Hyuga.

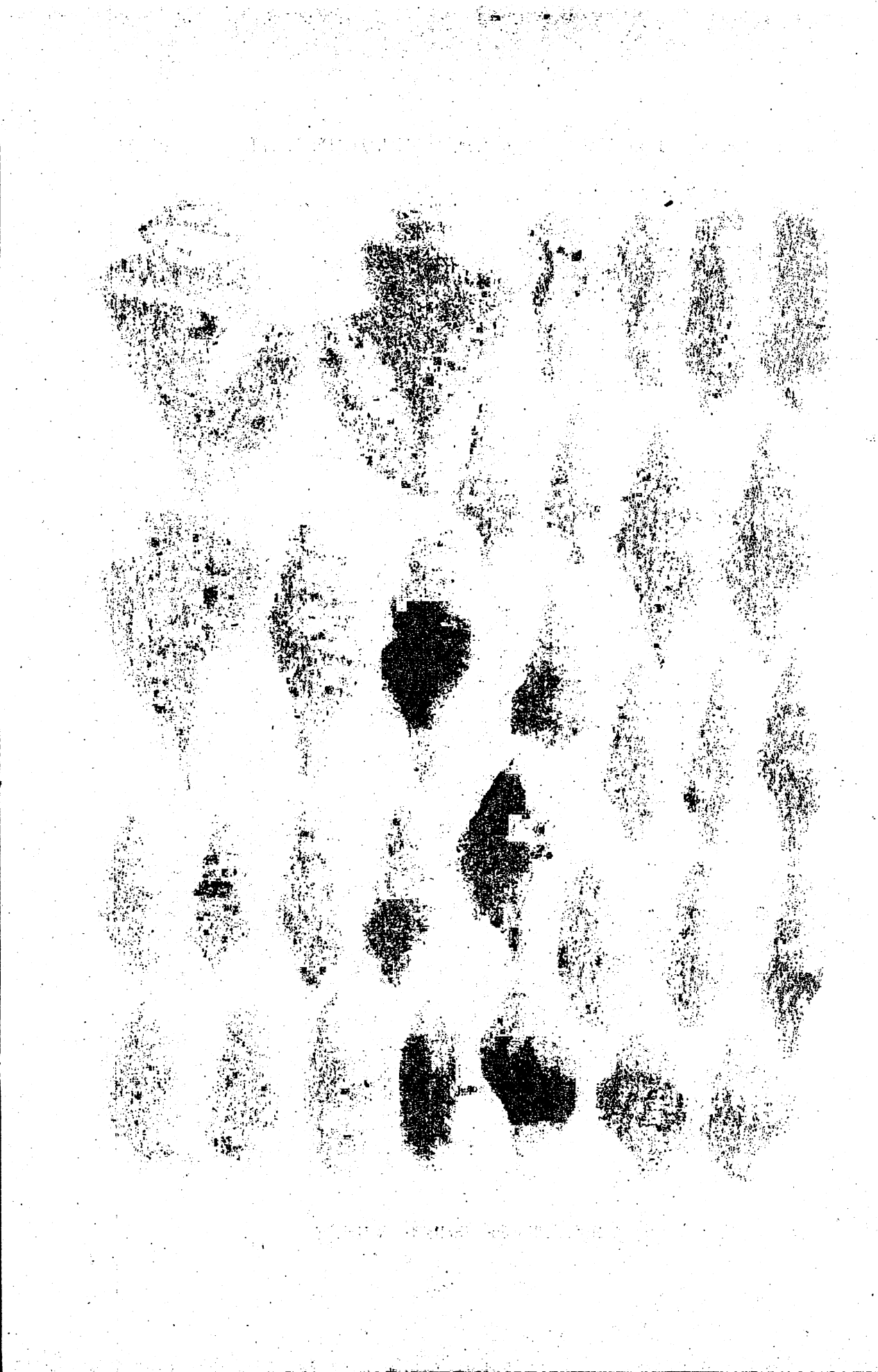


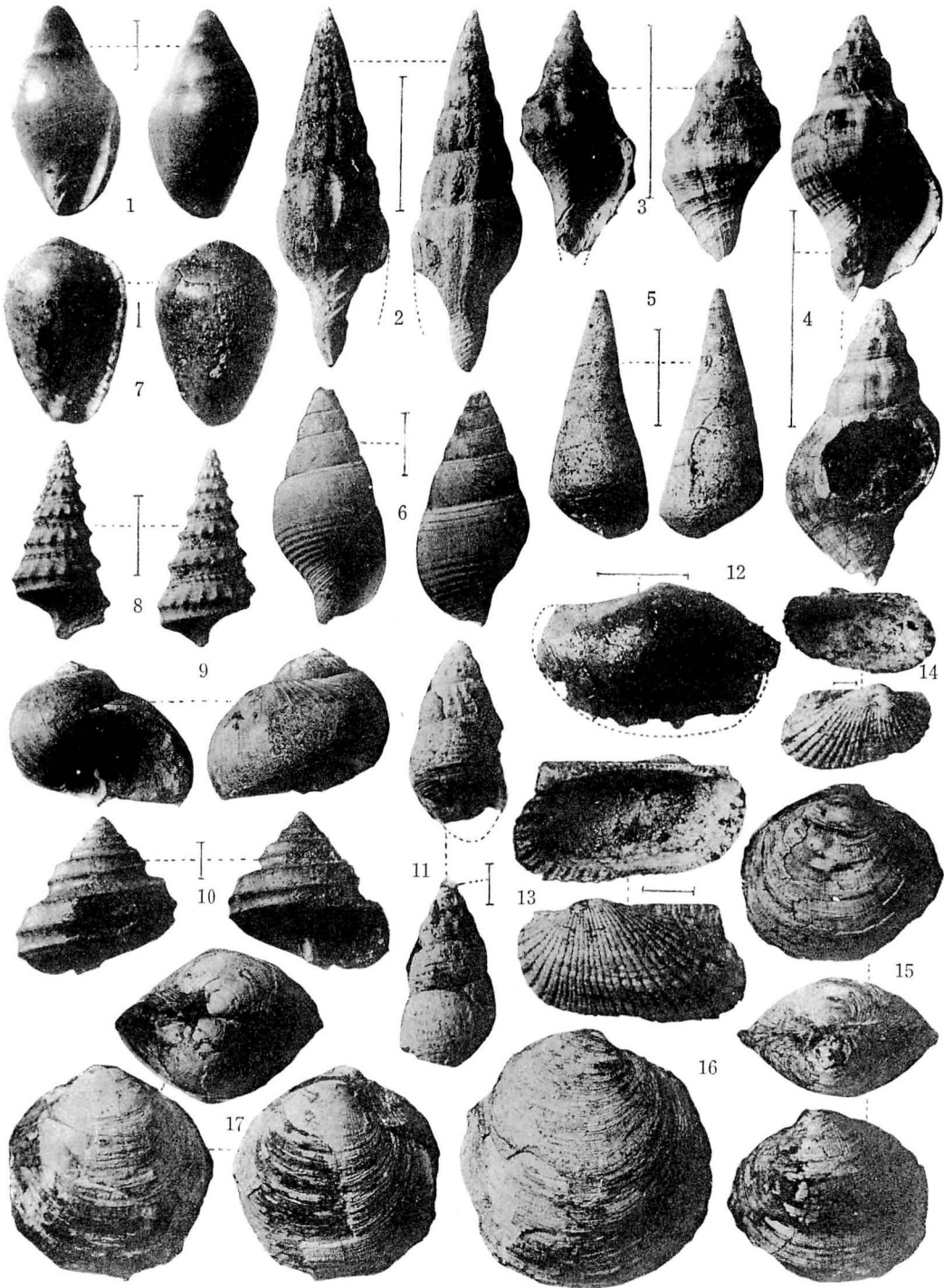
PLATE 65.

1. *Mitra flaccida* YOKOYAMA, 1928 (XXIII, 355, n. sp.). Uwae, Hyûga. **Marginella (Stazzania) flaccida** (YOKOYAMA), H. & N., 1952=*Marginella (Stazzania) totomiensis* MAKIYAMA, 1931.
2. *Mitra pauciplicata* YOKOYAMA, 1928, (XXIII, 344, n. sp.). Zone B at Kôunji, Hyûga. *Phenocoptygma pauciplicatum*, H. & N., 1952; **Benthovoluta pauciplicata** (YOKOYAMA), *fide* KURODA.
3. *Fusus dualis* YOKOYAMA, 1928 (XXIII, 344, n. sp.). Zone B, Kôunji, Hyûga. **Purpura dualis** (YOKOYAMA), *fide* KURODA.
4. *Siphonalia fusoides* (REEVE, 1846), (XXIII, 345). Zone B, Kôunji, Hyûga. **Siphonalia declivis tosensis** MAKIYAMA, 1941.
5. *Eulima musta* YOKOYAMA, 1928 (XXIII, 347, n. sp.). Zone B, Uwae, Hyûga. *Melanella (Balcis) musta*, H. & N., 1952; **Balcis musta** (YOKOYAMA),
6. *Columbella (Atilia) bicinctella* YOKOYAMA, 1928 (XXIII, 345, n. sp.) Zone A at Nihonmatsu, Hyûga. *Mitrella bicinctella*, H. & N., 1952; **Pyrene bicinctella** (YOKOYAMA), K. & H., 1952.
7. *Erato novemprovincialis* YOKOYAMA, 1928 (XXIII, 346, n. sp.). Kôunji, Hyûga. **Hyalina (Cystiscus) novemprovincialis** (YOKOYAMA), H. & N., 1952.
8. *Cerithium excelsum* YOKOYAMA, 1928 (XXIII, 346, n. sp.). Zone B, Kôunji, Hyûga. *Trochocerithium excelsum*, K. & H., H. N., 1952; **Orectospira excelsa** (YOKOYAMA), KURODA.
9. *Natica adamsiana* DUNKER, 1860, (XXIII, 346). Zone C, Takashiro. Not *Natica adamsiana* DUNKER, *fide* KURODA verbally: **Natica** sp.
10. *Calliostoma kounjianum* YOKOYAMA, 1928 (XXIII, 347, n. sp.). Zone B, Kôunji, Hyûga. **Calliostoma (Otukaia) kounjianum** YOKOYAMA, *fide* IKEBE, 1942.
11. *Odostomia (Menestho) exaratisima* DALL & BARTSCH, 1906 (XXIII, 347). Zone B, Uwae, Hyûga. **Menestho exarata** ADAMS, 1861.
12. *Yoldia japonica* (ADAMS & REEVE, 1850), (XXIII, 349). Zone A, Nihonmatsu, Hyûga. **Portlandia japonica** (ADAMS & REEVE), H. & N., K. & H., 1952.
- 13, 14. *Arca uwaensis* YOKOYAMA, 1928 (XXIII, 349, n. sp.). Zone B, Uwae, Hyûga. *Barbatia (Miratacar) uwaensis*, H. & N., 1952; **Hawaiarca uwaensis** (YOKOYAMA), K. & H., 1952, *fide* HABE.
- 15, 16, 17. *Diplodonta ? kobayashii* YOKOYAMA, 1928 (XXIII, 348, n. sp.). Heki, Hyûga, zone unknown. **Joannisiella ? kobayashii** (YOKOYAMA), H. & N., 1952.

Remarks.

Geography—Nihonmatsu: wayside crag along the main road near the bench mark (10.54 m), east of Nihonmatsu in Takanabe, Miyazaki pref., 32°6.7' N, 131°31.7' E.

Heki: cove 250 m north of shrine of Imabyu, 250 m SW of the bench mark (10.96 m) at Heki, Miyazaki pref., Miyazaki group (Heki Pliocene).



XXIII, Pliocene Shells from Hyuga.

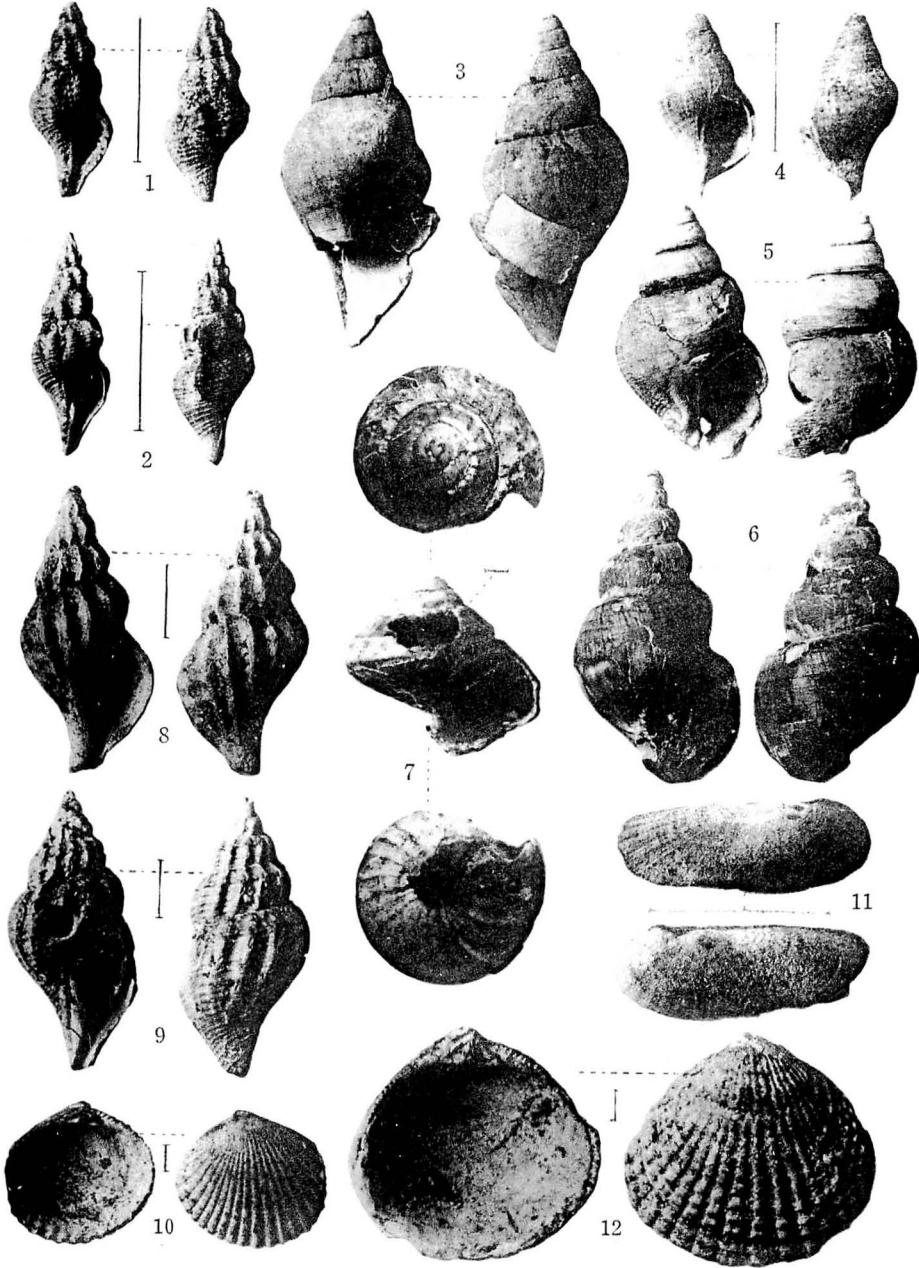
PLATE 66.

- 1, 2. *Fusus simplex* SMITH, 1879, (XXIV, 357). Beds II, Kaigasawa, Beds IV, Asahi, both in Higashiyama, Echigo. *Searlesia fuscolabiata*, H. & N., 1952; *Searlesia modesta fuscolabiata* K. & H., not *fuscolabiata*, fide KURODA, verbally.
- 3, 4, 5. *Volutopsis hirasei* PILSBRY, 1907, (XXIV, 357). Beds II, Kaigasawa, Higashiyama, Echigo. *Volutopsis middendorffi* DALL, 1891 subsp., fide KURODA.
6. *Beringius?* *hanzoganensis* YOKOYAMA, 1928 (XXIV, 358, n. sp.). Beds III, Hanzogane, Higashiyama, Echigo.
7. *Margarita lautiuscula* YOKOYAMA, 1928 (XXIV, 354, n. sp.). Beds II, Kaigasawa, Higashiyama, Echigo. *Margarites lautiusculus* YOKOYAMA.
8. *Trophon makiyamai* YOKOYAMA, 1928 (XXIV, 358, n. sp.). Beds II, Kaigasawa, Higashiyama, Echigo. *Trophonopsis* (*Boreotrophon*) *makiyamai* (YOKOYAMA), H. & N., 1952.
9. *Searlesia decessor* YOKOYAMA, 1928 (XXIV, 358, n. sp.). Beds II, Kaigasawa, Higashiyama, Echigo.
10. *Venus laetifica* YOKOYAMA, 1928 (XXIV, 369, n. sp.). Beds II, Kaigasawa, Higashiyama, Echigo. *Chione laetifica* (YOKOYAMA), H. & N., 1952.
11. *Solemya labeosa* YOKOYAMA, 1928 (XXIV, 361, n. sp.). Beds II, Kaigasawa, Higashiyama, Echigo. Subgenus: *Petrasm*, fide H. & N., 1952.
12. *Chione hizenensis* PILSBRY, 1904 (XXIV, 361). Beds II, Kaigasawa, Higashiyama, Echigo. *Chione* (*Timoclea*) *hizenensis*, H. & N., 1952; *Chione* sp, not PILSBRY'S species.

Remarks.

Geography and Stratigraphy—Beds II, Kaigasawa: Haizume formation, Pliocene, Kaigasawa (Shell creek), Higashiyama (east hills) of Nagaoka, Niigata pref, 37°28.5' N, 139°59' E.

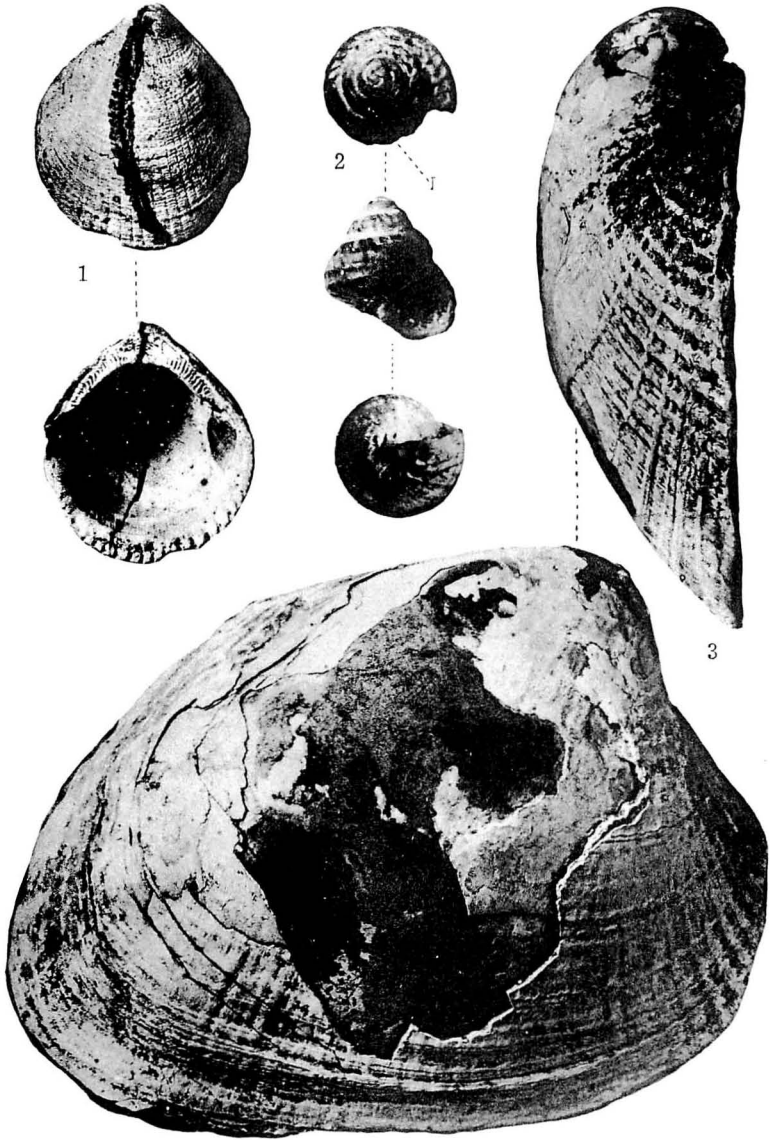
Beds III, Hanzogane: Teradomari formation, crag at Hanzogane village, Koshi district, Niigata pref., 37°23' N, 138°56.3' E.



XXIV. Neogene Shells from Echigo.

PLATE 67.

1. *Pectunculus derelictus* YOKOYAMA, 1928 (XXIV, 361, n.sp.). Beds II, Kaigasawa, Higashiyama, Echigo. **Glycymeris derelictus** (YOKOYAMA), reworked fossil?.
2. *Margarita kaigasawensis* YOKOYAMA, 1928 (XXIV, 357, n.sp.). Beds II, Kaigasawa, Higashiyama, Echigo. **Margarites kaigasawensis** YOKOYAMA,
3. *Mactra makiyamai* (YOKOYAMA), 1928 (XXIV, 360, n.sp.). Beds III, Hanzogane, Higashiyama, Echigo. **Serripes makiyamai** (YOKOYAMA). *vide* OTUKA.



XXIV. Neogene Shells from Echigo.

PLATE 68.

1. *Strombus mimasakensis* YOKOYAMA, 1929 (XXV, 366, n. sp.). A railway cutting in Inaoka-Minami, Mimasaka; Miocene. Not *Strombus*, nor *Pyrula*.
2. *Potamides ancisus* YOKOYAMA, 1929 (XXV, 367, n. sp.). Senjōjiki, Tatamigaura, Iwai; Miocene. **Proclava ancisa** (YOKOYAMA), H. & N., 1952.
3. *Cerithium proavitum* YOKOYAMA, 1929 (XXV, 366, n. sp.). Hataki in Mimasaka; Miocene. **Batillaria (Tateiwaia) yamanarii** MAKIYAMA, 1926.
4. *Cerithium sakamotoi* YOKOYAMA, 1929 (XXV, 367, n. sp.). Oharagawa in Mimasaka; Miocene. **Batillaria (Tateiwaia) tateiwai** MAKIYAMA, 1926.
5. *Arca* cf. *camuloensis* OSMONT, 1905 (XXV, 358). Arahoriya, Bitchū; Miocene. **Anadara daitokudoensis** MAKIYAMA, 1926.

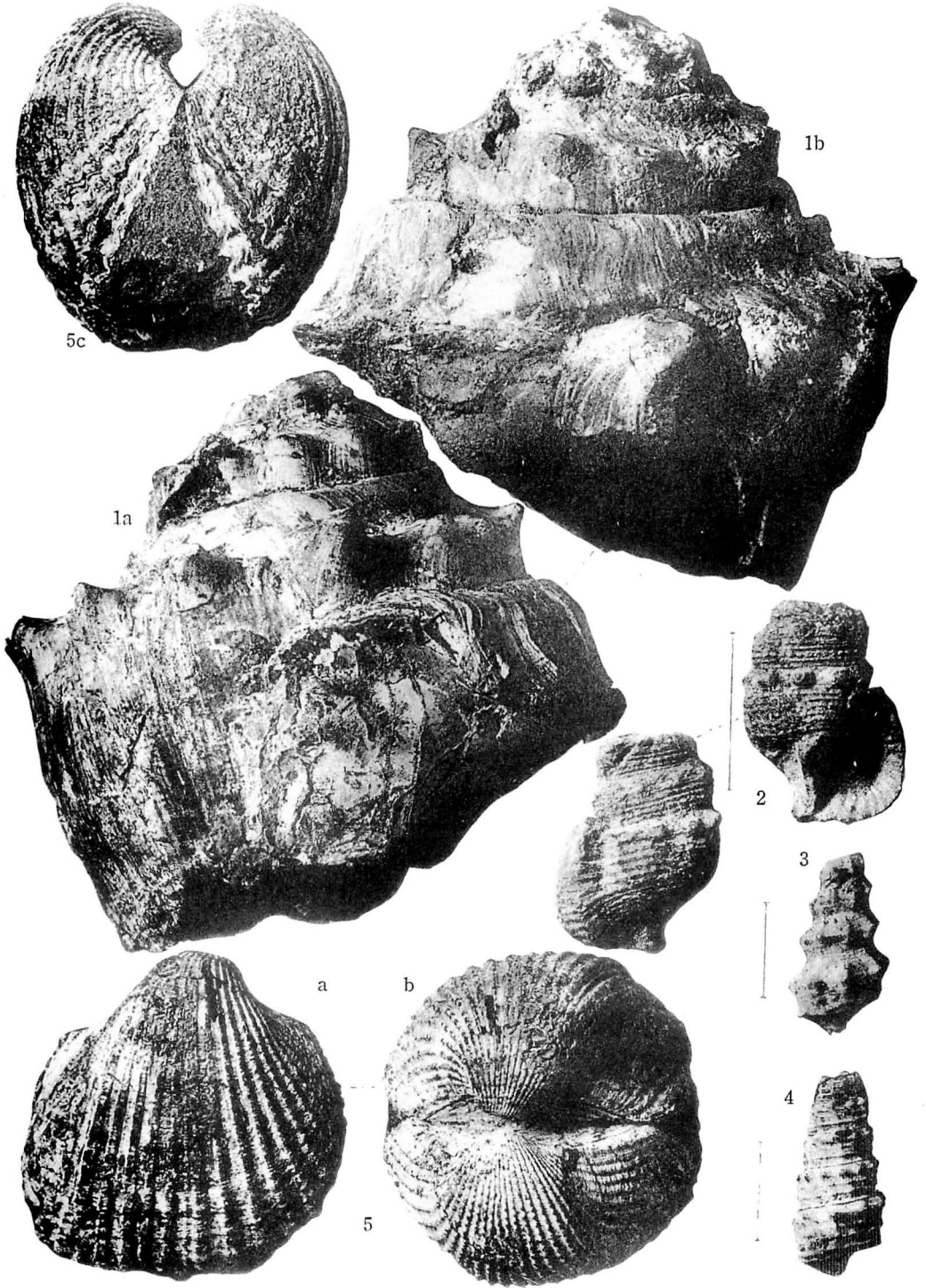
Remarks.

Geography—Senjōjiki: raised wave cut terrace of hard sandstone on sea-shore of Tatamiura 2 km NE of Shimoko station near Hamada, Shimane pref., 34°56.6' N, 132°6.6' E.

Oharagawa: bank of brook at south foot of hill in Ohama, Kume district, Okayama pref. 34°57.8' N, 133°57.9' E.

Hataki: hill side exposure 250 m W from the corner of Hataki in Atetsu district, Okayama pref., 34°54.6' N, 133°19' E.

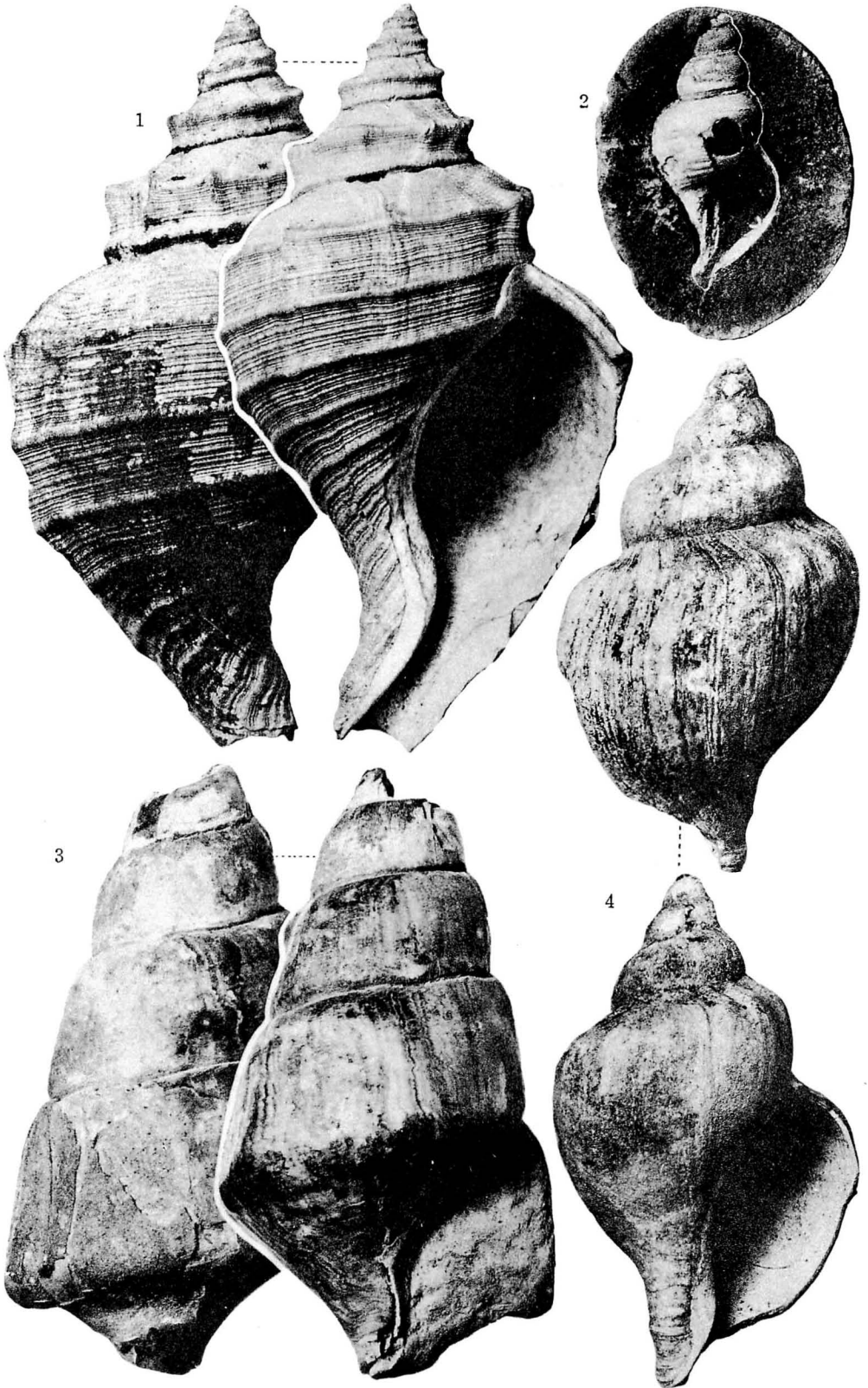
Arahoriya: erroneously spelt, "Araboridani" is the right name: exposure behind the temple at Araboridani in Atetsu district, Okayama pref., 34°56.6' N, 133°19.5' E.



XXV. Neogene Shells from Chugoku,

PLATE 69.

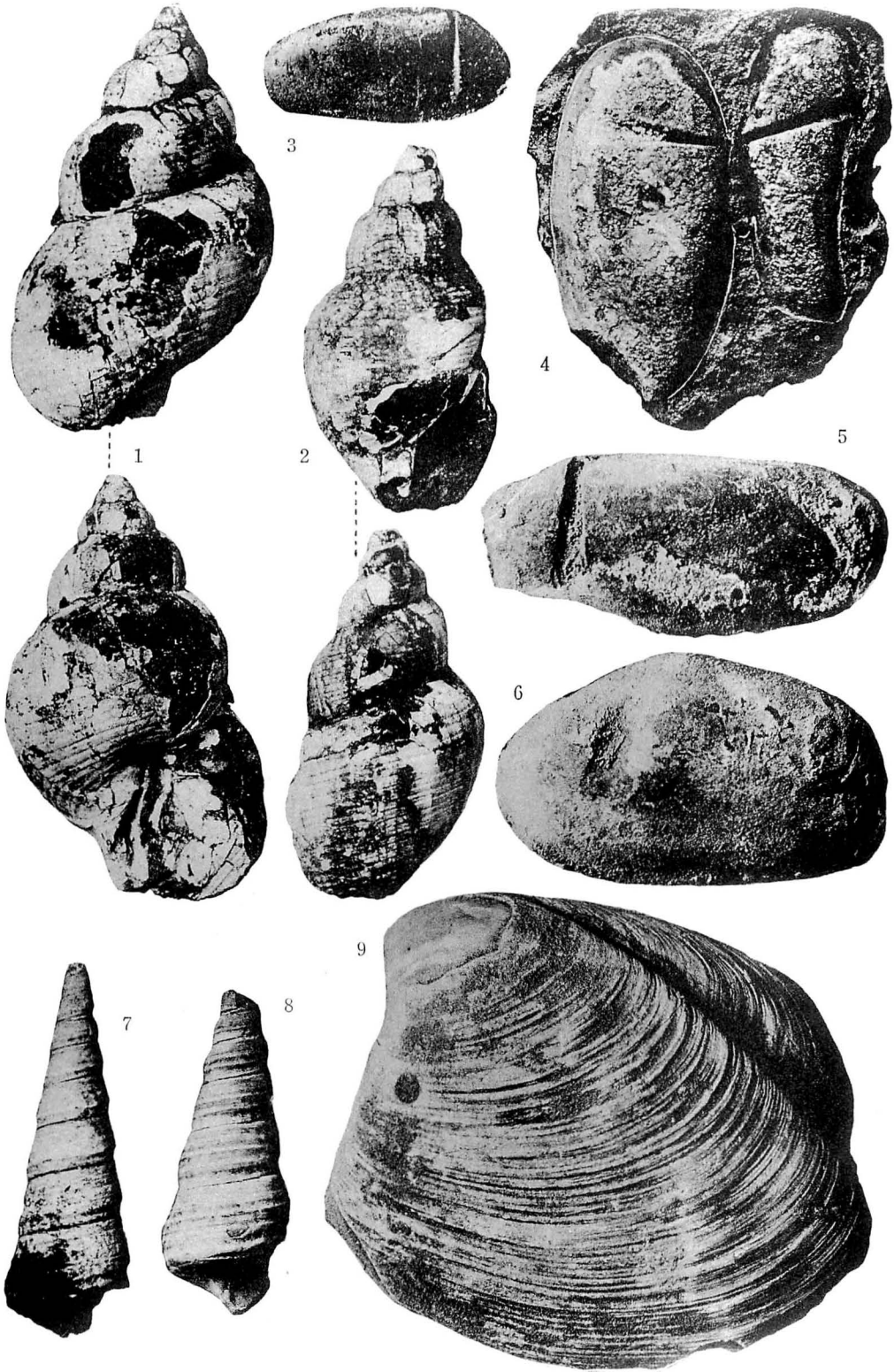
1. *Chrysodomus despectus* var. *tuberculata* YOKOYAMA, 1929 (XXVI, 382, n. var.). Pleistocene of Sannosawa, Chitose, Odomari, S. Karafto. **Neptunea tuberculata** (YOKOYAMA, 1929).
2. *Chrysodomus despectus* (LINNAEUS, 1758), (XXVI, 381). Sandy shale of the river Pohlé. **Neptunea** sp. aff. *modesta* KURODA, 1931.
3. *Potamides uyemurai* YOKOYAMA, 1929 (XXVI, 383, n. sp.). In the sandy shale of the sea-shore south of the river Kongas, S. Karafto. Certainly not a Potamid form.
4. *Chrysodomus arthriticus* (VALENCIENNE), (XXVI, 382). Pleistocene of Sannosawa, Chitose in Odomari, S. Karafto. **Neptunea arthritica** (BERNARDI, 1858)?



XXVI. Molluscan Fossils from Karafto.

PLATE 70.

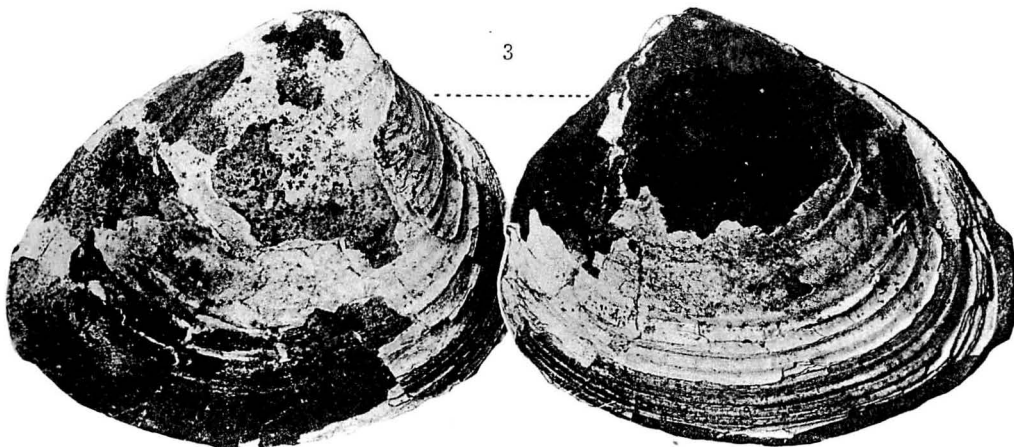
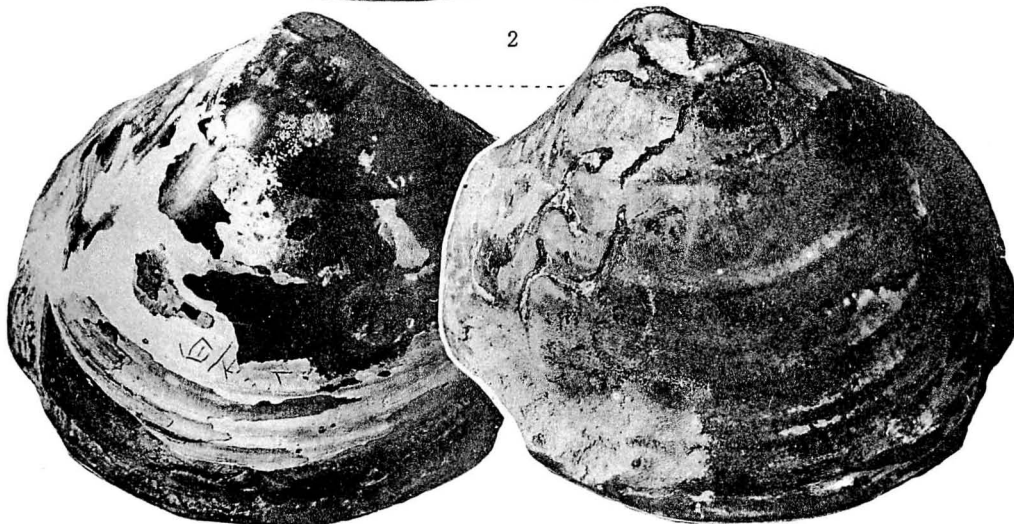
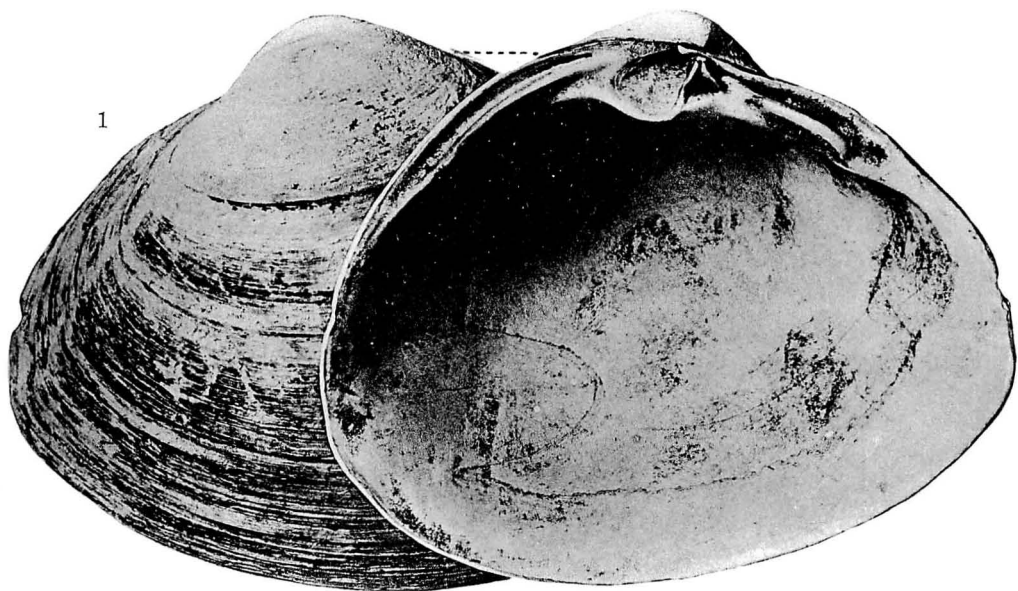
- 1, 2. *Buccinum leucostoma* LISCHKE, 1872, var. *sachalinensis* YOKOYAMA, 1929 (XXVI, 382, n. var.). In the upper sandstones (Nutovo Beds) of the river Uinii. Not *Buccinum leucostoma*; the subspecific name (n. var) is a junior homonym of the Dall's species (1907); aff. *B. schantaricum* (MIDDENDORFF, 1849); ***Buccinum matajiroi*** nom. nov.
- 3, 4, 5. *Siliqua costata* (SAY, 1833), (XXVI, 387). 3: in yellow and red sandstones of Paromai; 4, 5: in the middle zone of the Lower Quartz Sandstone of Etchesko hill, North Karafto. ***Siliqua alta*** (BRODERIP & SOWERBY, 1829), *vide* KURODA, verbally.
6. ***Tellina venulosa*** SCHRENCK, 1867, (XXVI, 387). In the middle zone of the Lower Quartz Sandstone of the mouth of the river Kyaylanii, N. Karafto.
7. ***Turritella nipponica*** YOKOYAMA, 1920, (XXVI, 384). In the sandy shale of the sea-shore, north of the river Pohlé.
8. *Turritella kiiensis* YOKOYAMA, 1923, (XXVI, 384). Nodules in the sandy shale of the sea-shore, south of the river Kongas. Not. *T. kiiensis*, most probably a variety of *Turritella nipponica* YOKOYAMA, 1920.
9. *Thyasira bisecta* (CONRAD, 1849) var. *nipponica* YABE & NOMURA, 1925, (XXVI, 391). Sandy shale of the river Pohlé (of the middle course). ***Thyasira bisecta*** (CONRAD), see Pt. I, pl. 13, f. 2.



XXVI. Molluscan Fossils from Karafto.

PLATE 71.

1. *Mactra sachalinensis* SCHRENCK, 1867, (XXVI, 386). Pleistocene of Sannosawa, Chitose near Odomari. **Spisula sachalinensis** (SCHRENCK).
- 2, 3. *Cardium groenlandicum* CHEMNITZ, (XXVI, 390). 2: Neogene dark grey sandstone of Siraishizawa, Kawakami Hot Spring, S. Karafto; 3: in the lower zone of the Upper Sandstone of Great Uinii, N. Karafto. **Serripes groenlandica** (BRUGUIÈRE, 1792).



XXVI, Molluscan Fossils from Karafto.

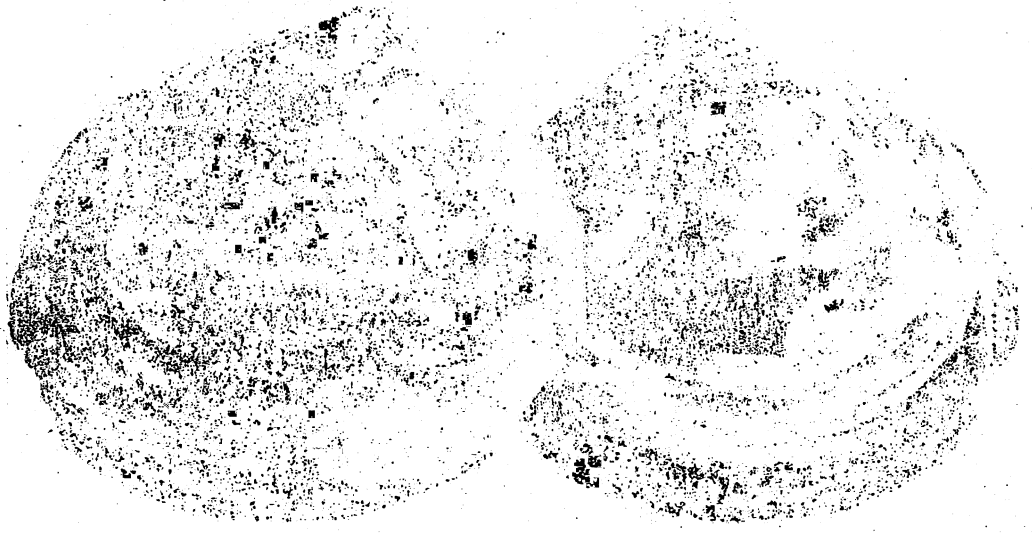
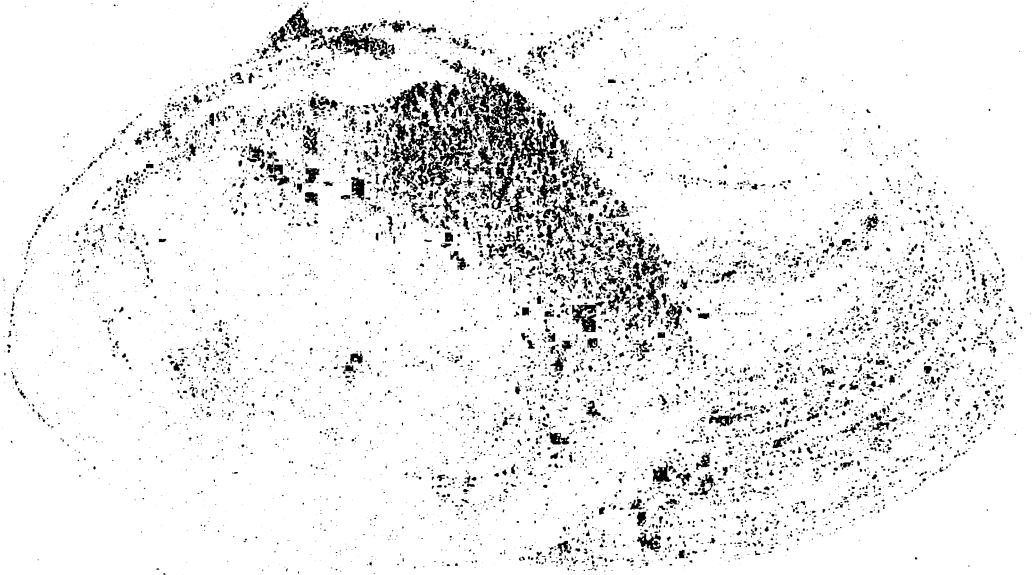
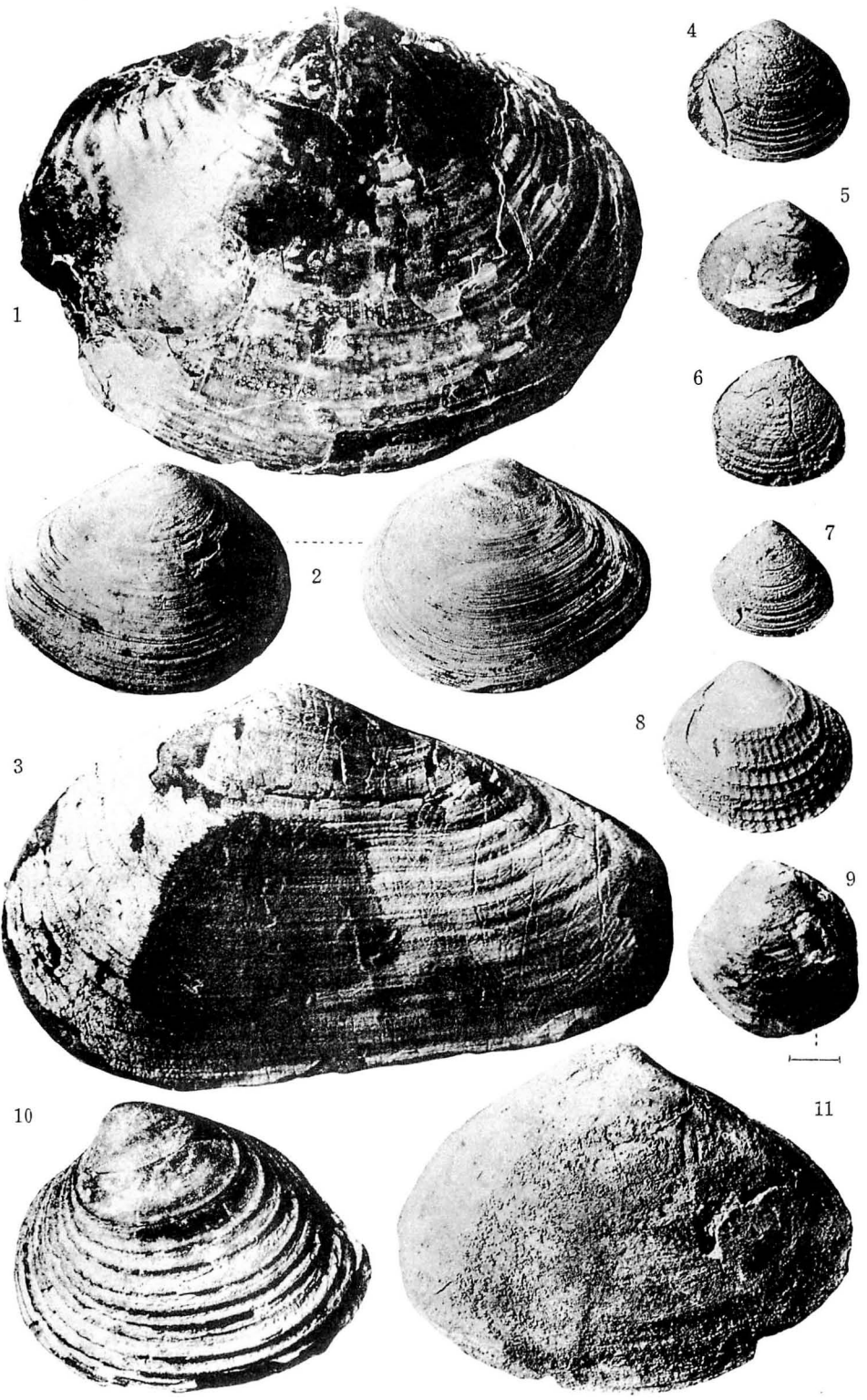


PLATE 72.

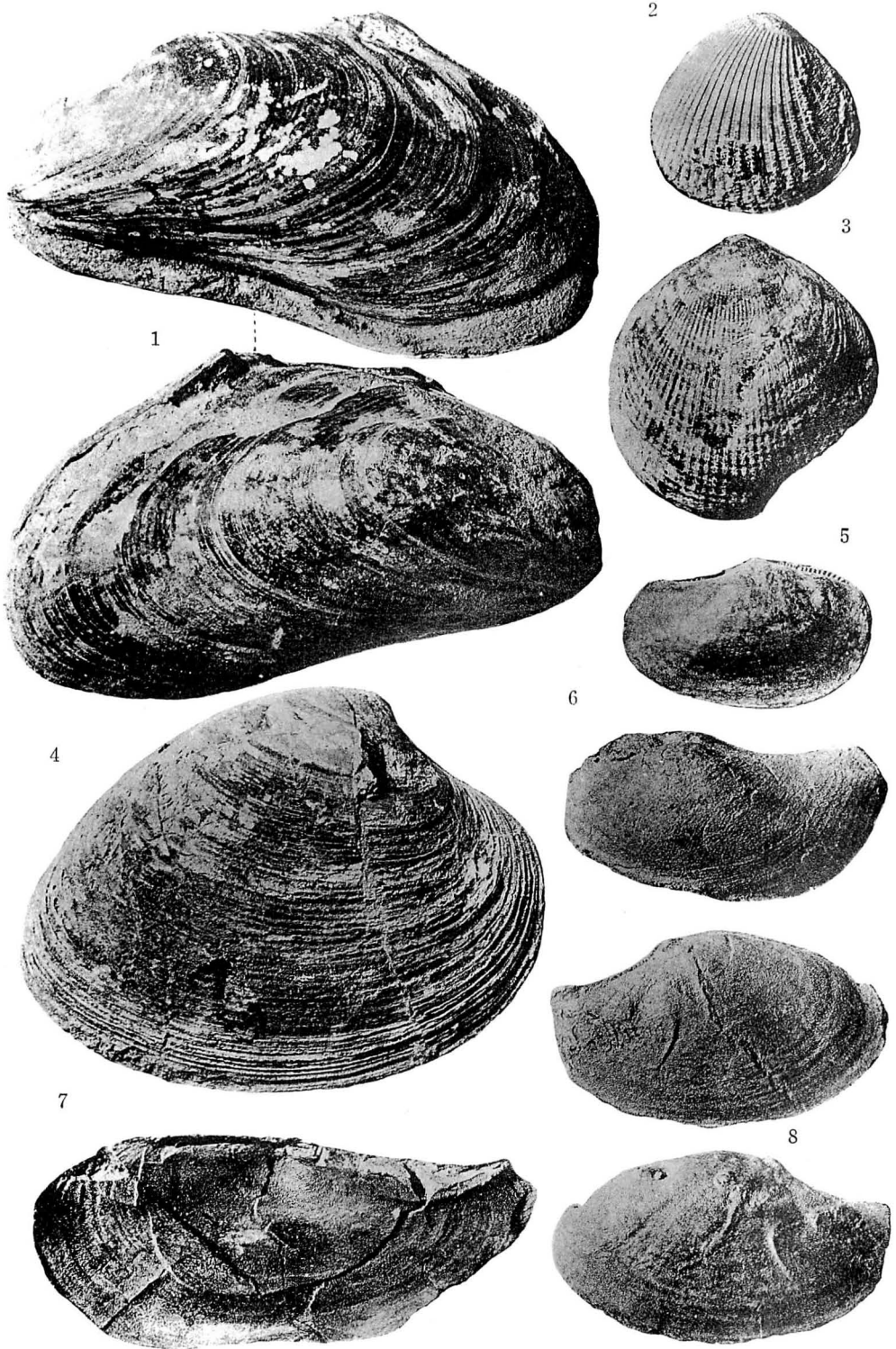
1. *Tellina besshoensis* YOKOYAMA, 1924, (XXVI, 388). Sandy shale of the river Pohlé, N. Karafto. **Periploma yokoyamai** MAKIYAMA, 1934.
2. *Macoma dissimilis* (MARTENS, 1865), (XXVI, 388). In the sandy shale of the lower course of the river Kongi (Lower Kongi Beds), N. Karafto. **Macoma tokyoensis** MAKIYAMA, 1927, see Pt. I, pl. 20, f. 9.
3. *Mya arenaria* LINNAEUS, 1758, (XXVI, 385). Neogene, a grey sandstone of Chagama, Shiratori, S. Karafto. **Mya (Arenomya) japonica** JAY, 1857, see Pt. I, pl. 21, f. 4.
- 4, 5, 6, 7. *Chione astartoides* (BECK), (XXVI, 389). 4: in the upper zone of the brown sandstones of the Mohktov river, N. Karafto; 4, 6, 7: in the middle zone of the Lower Quartz Sandstone of the Kydylanii River, N. Karafto. *Venus astartoides* MIDDENDORFF, 1849 (BECK MS) is a *Liocyma*, but these are not that species; **Liocyma fluctuosa** (GOULD, 1841), *fide* KURODA verbally.
8. *Cardium nuttallii* CONRAD, 1837, (XXVI, 390). Sandy shale of the river Pohlé, N. Karafto. *Cardium shinjiense* YOKOYAMA, 1923, *fide* YOKOYAMA, 1929, see Pt. I, pl. 6, f. 6, = *Clinocardium shinjiense*, more akin to *C. ciliatum*; **Clinocardium nuttalli** (CONRAD).
9. **Thyasira gouldii** (PHILIPPI, 1845), (XXVI, 391). Sandstone of the river Kongi, N. Karafto.
10. *Mactra semmiana* YOKOYAMA, 1925 (XXVI, 386). From a grey sandstone the so-called *Mactra* zone on the river Paromi, N. Karafto. **Spisula sachalinensis** (SCHRENCK, 1867).
11. **Spisula grayana** (SCHRENCK, 1867), (XXVI, 387). In the middle zone of the Lower Quartz Sandstone on the river Kydylanii, N. Karafto.



XXVI. Molluscan Fossils from Karafto.

PLATE 73.

1. **Mytilus edulis** LINNAEUS, 1758, (XXVI, 392). In the sandy shale on the river Pohlé, N. Karafto.
2. **Venericardia tokunagai** YOKOYAMA, 1924, (XXVI, 392). In a dark greenish grey sandstone on the river Dorogawa in Otomari, Noto, S. Karafto. **Cyclocardia tokunagai** (YOKOYAMA).
3. **Glycymeris chitanii** YOKOYAMA, 1929 (XXVI, 394, n. sp.). In the sandy shale of a sea-shore lying south of the river Petroleum, N. Karafto.
4. **Macrocallista brevisiphonata** (CARPENTER, 1865), (XXVI, 388). In a dark grey hard sandstone at Kawakami Hot Spring, S. Karafto. **Callista brevisiphonata** (CARPENTER, 1865).
- 5, 6. **Yoldia scapha** YOKOYAMA, 1926, (XXVI, 394). In a grey shale of Nankei near Odomari, S. Karafto. **Yoldia thraciaeformis** STORER, 1838.
7. **Yoldia sagittaria** YOKOYAMA, 1925 (XXVI, 395). In a grey shale (the Nampi Beds) of Tcharnikka, N. Karafto.
8. **Yoldia notabilis** YOKOYAMA, 1922, (XXVI, 395). From the upper zone of the Lower Quartz Sandstone of the river Moktov, N. Karafto. Probably not *Yoldia (Cnesterium) notabilis* YOKOYAMA, *vide* T. & O., 1954.



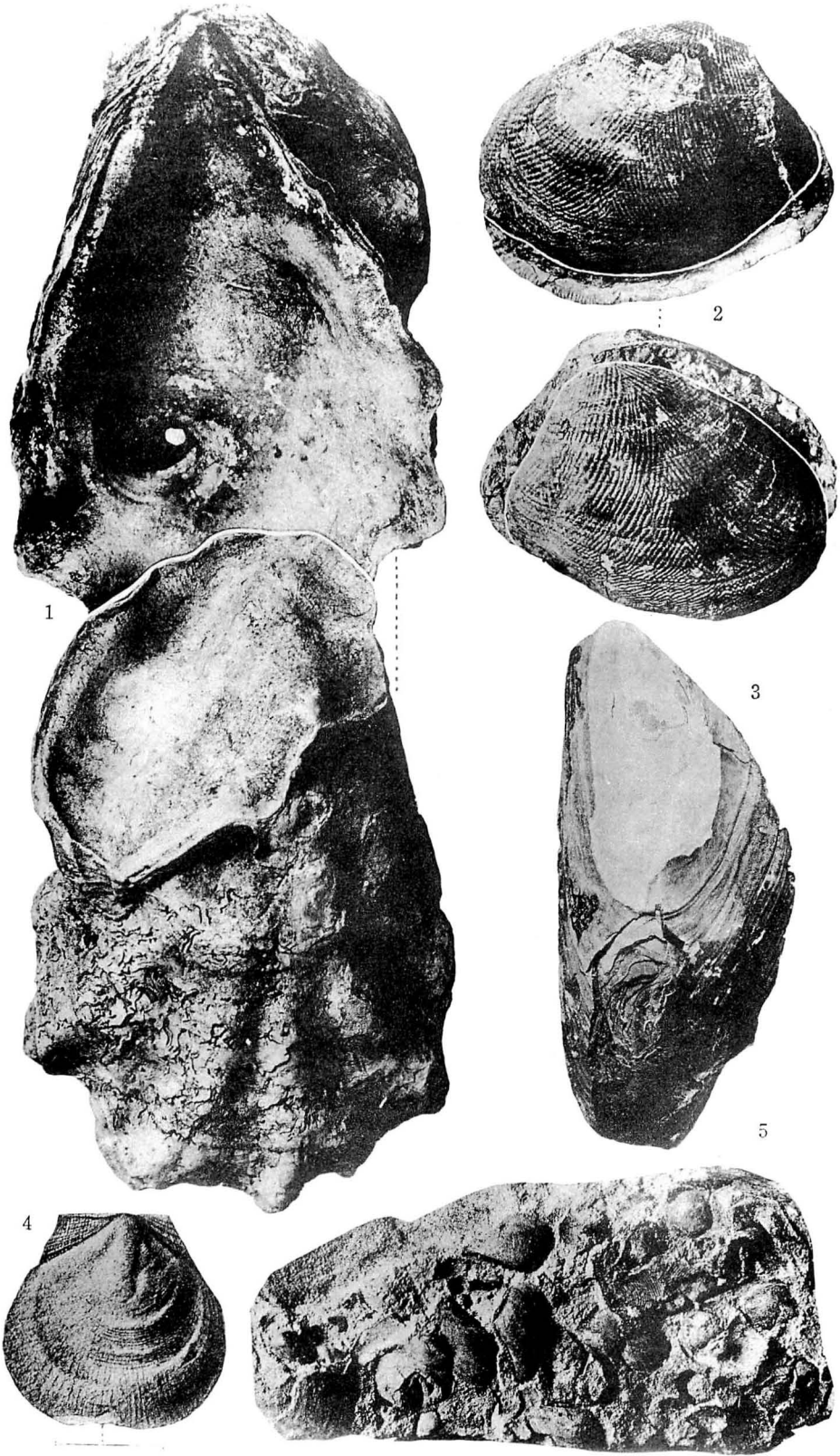
XXVI. Molluscan Fossils from Karafto.



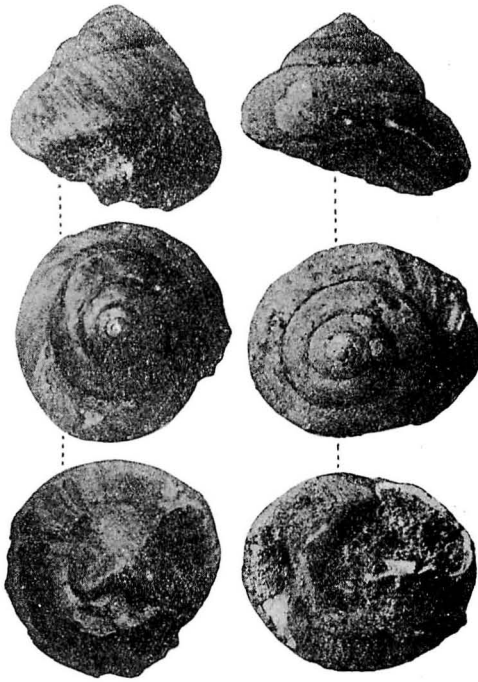
PLATE 1. SEEDS OF THE GENUS *Phaseolus*.

PLATE 74.

1. **Ostrea gigas** THUNBERG, 1793, (XXVI, 393). Pleistocene of Sannosawa, Chitose, S. Karafto.
2. *Acila mirabilis* (ADAMS & REEVE, 1850). Neogene (not Pleistocene) of Sannosawa, Chitose, in a marly nodule, S. Karafto. *Acila divaricata vigilia* SCHENCK, 1936; *Acila vigilia brevis* NAGAO & HUZIOKA, 1941; **Acila vigilia** SCHENCK, K. & H., 1952.
3. **Mytilus grayanus** DUNKER, 1853, (XXVI, 393). In the sandy shale of the Pohlé, N. Karafto. See Pt. I, pl. 17, f. 10, also Pt. II, pl. 26, f. 1 (erroneously spelt: *grayana*).
4. *Pecten watanabei* YOKOYAMA, 1929 (XXVI, 393, n. sp.). In a grey shale (Nampi Beds) on the river Tcharnikka. **Polynemamussium watanabei** (YOKOYAMA).
5. *Leda confusa* (HANLEY, 1860), (XXVI, 394). In the Lower Sandstode or the Lower Kongi Beds on the river Nampi, just above the trifurcation. Not *Sacella confusa* (HANLEY, 1860), **Nuculana pennula** (MÜLLER, 1779).



XXVI. Molluscan Fossils from Karafto.

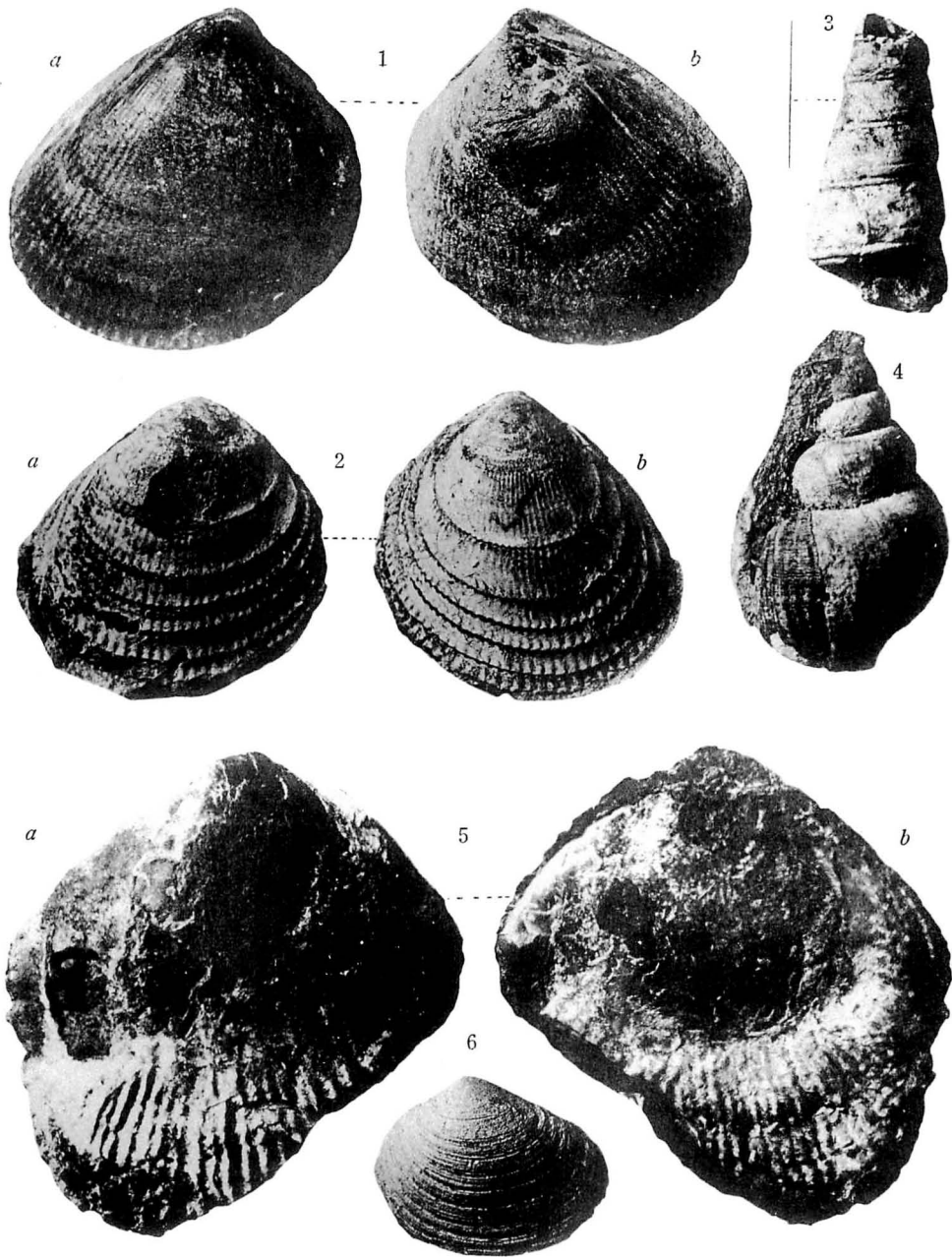


Umboonium ishiiianum YOKOYAMA, 1930, (XXVII, 402, n. sp.).
Nishitani, Ishizume near Uji, Kyoto Urban Prefecture,
Miocene.

Protorotella yuantaniensis MAKIYAMA, 1924.
(Enlarged three times)

PLATE 76.

- 1, 2. *Cardium taracaicum* YOKOYAMA, 1930 (XXVIII, 414, n. sp.).
 - 1: Lake Tobuchi. in a greenish grey sandstone.
 - 2: East Saktan, in a greenish grey sandstone. **Clinocardium taracaicum** (YOKOYAMA).
3. *Cerithium tokudai* YOKOYAMA, 1930 (XXVIII, 414, n. sp.). Naikawa Beds of the Nairo-Naikawa Coal-Field, Shiska, Karafto. **Bittium tokudai** (YOKOYAMA).
4. **Beringius ? hanzoganensis** YOKOYAMA, 1928, (XXVIII, 413). Isos, Karafto. See pl. 66, f. 6.
5. *Placunanomia* sp., (XXVIII, 416). Shiromizu Hot Spring, Toyohara Gun. Karafto. **Monia macrochisma** (DESHAYES, 1850).
6. *Chione astartoides* (BECK), (XXVIII, 414). Shirutor, in Motodomari district. **Liocyra hokkaidoensis** HABE, 1951, cf. pl. 72, f. 4-7.



XXVIII. Tertiary Mollusca from South Karafto,

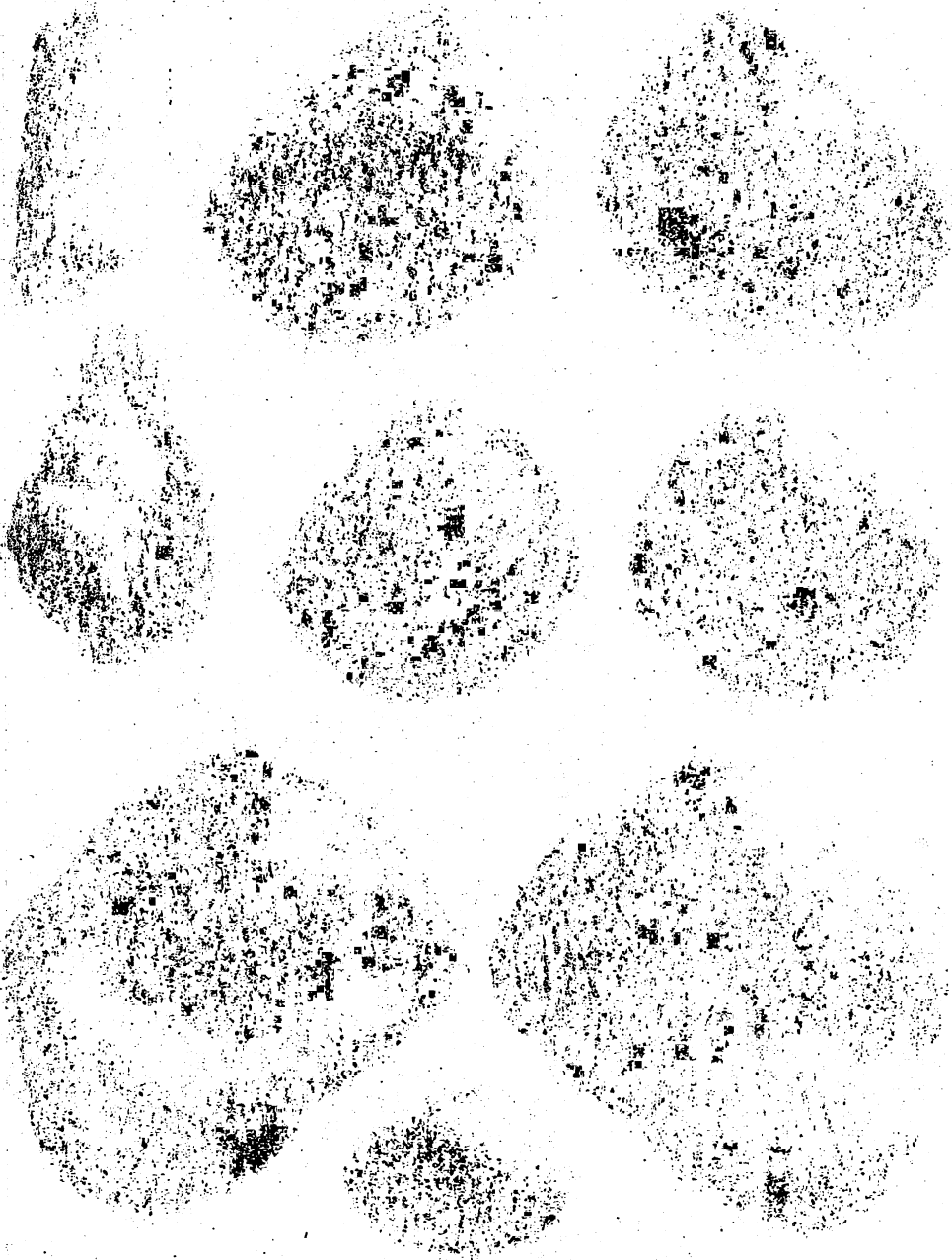
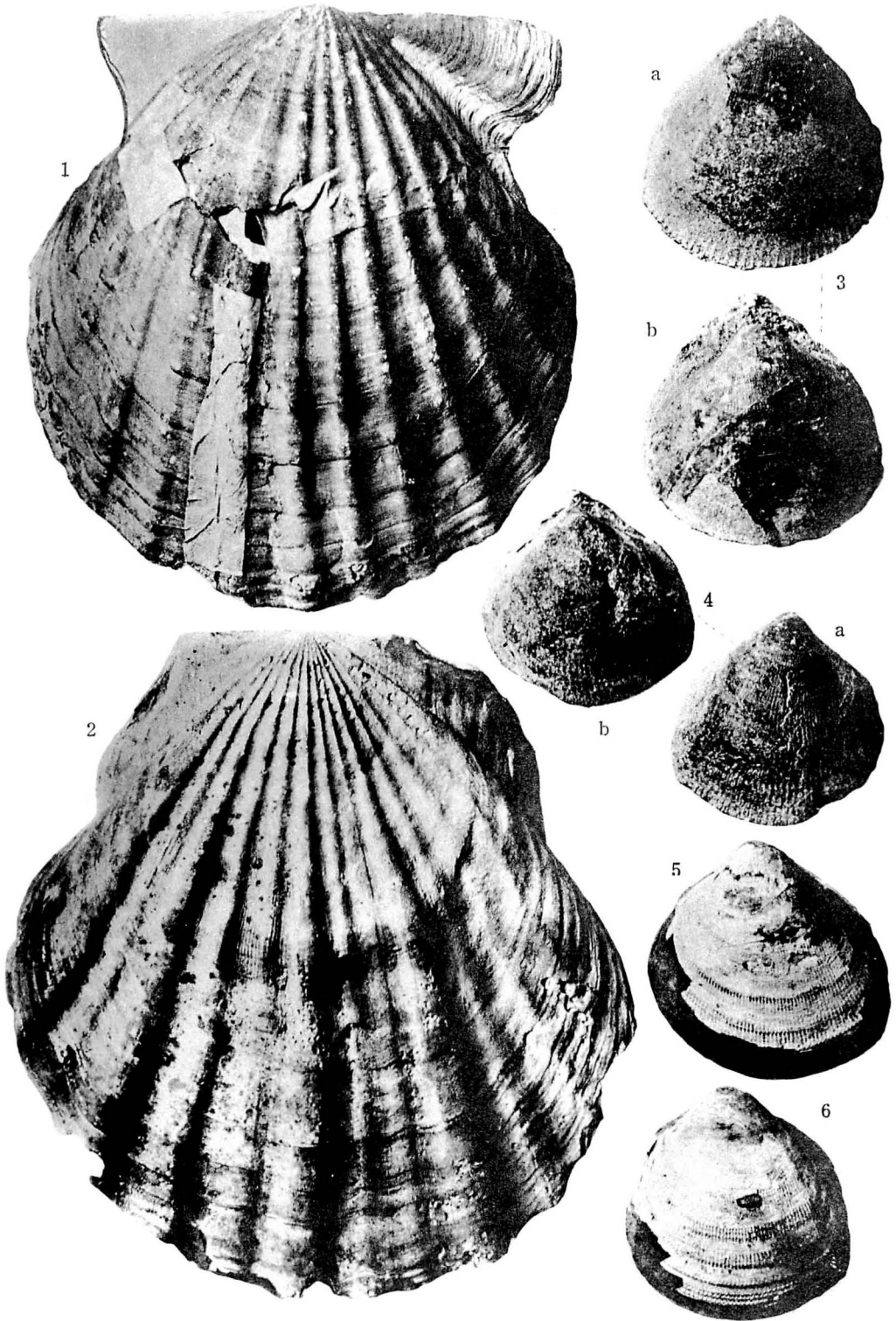


PLATE 77.

- 1, 2. *Pecten takahashii* YOKOYAMA, 1930 (XXVIII, 416, n. sp.) $\times 2/3$. Isos, Higashi-Sakutan, Motodomari, S. Karafto. **Pecten (Fortipecten) takahashii** YOKOYAMA, YABE & HATAI, 1940; *Patinopecten (Fortipecten) takahashii* (YOKOYAMA), HABA, 1951.
- 3, 4, 5, 6. *Cardium (Laevicardium) tristiculum* YOKOYAMA, 1924 (XXVIII, 415). From a dark grey hard sandstone at Shiramizu Hot Spring, S. Karafto. **Nemocardium yokoyamai** TAKEDA, 1953, not *Keenaea? triscula* (YOKOYAMA, 1924), see Pt. I, pl. 23, f. 5, 6.



XXVIII. Tertiary Mollusca from South Karafto.

PLATE 78.

1, 2. *Pecten* (*Fortipecten*) *takahashii* YOKOYAMA, 1930, see pl. 77, f. 1, 2, paratypes $\times 2/3$.

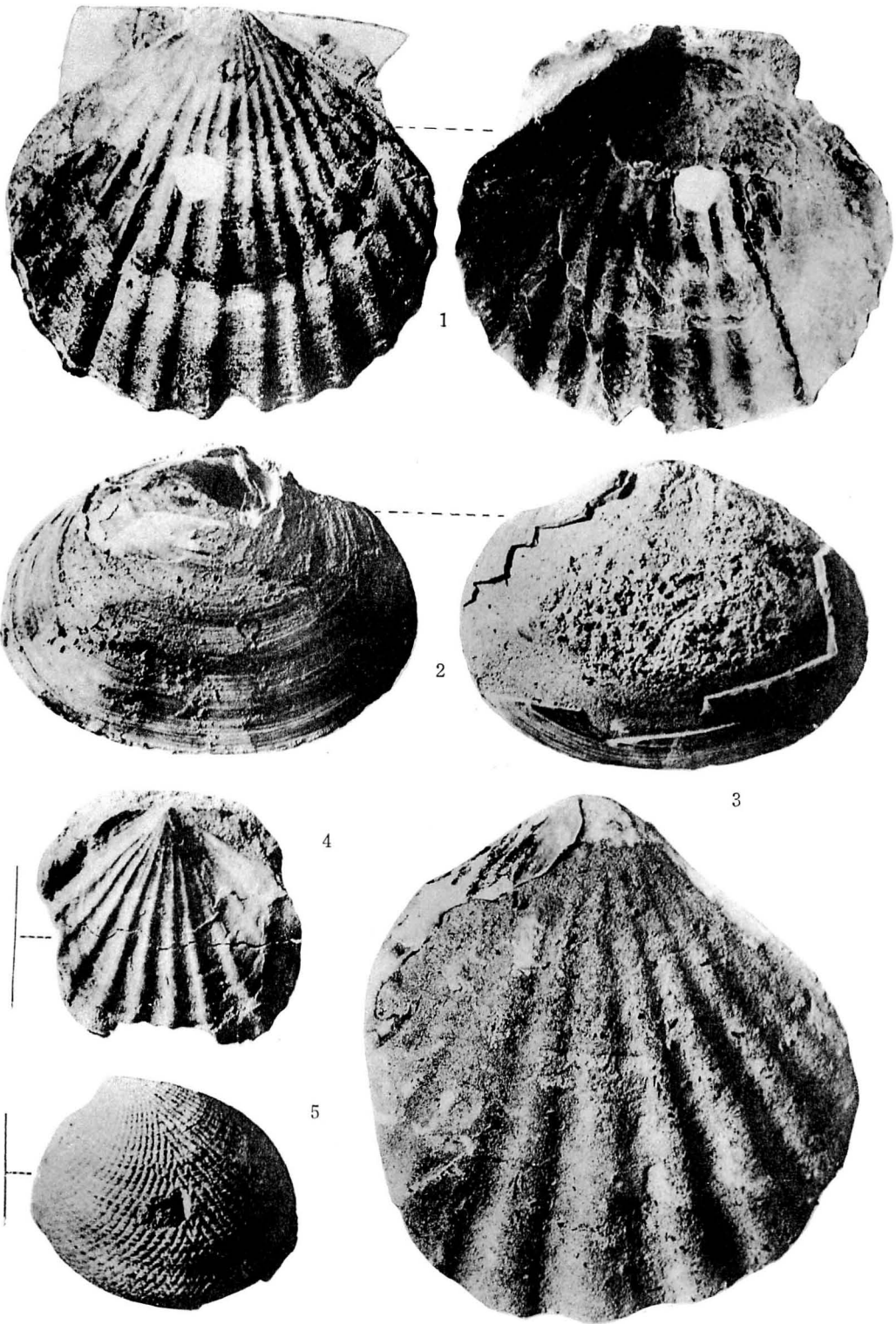


XXVIII. Tertiary Mollusca from South Karafto.



PLATE 79.

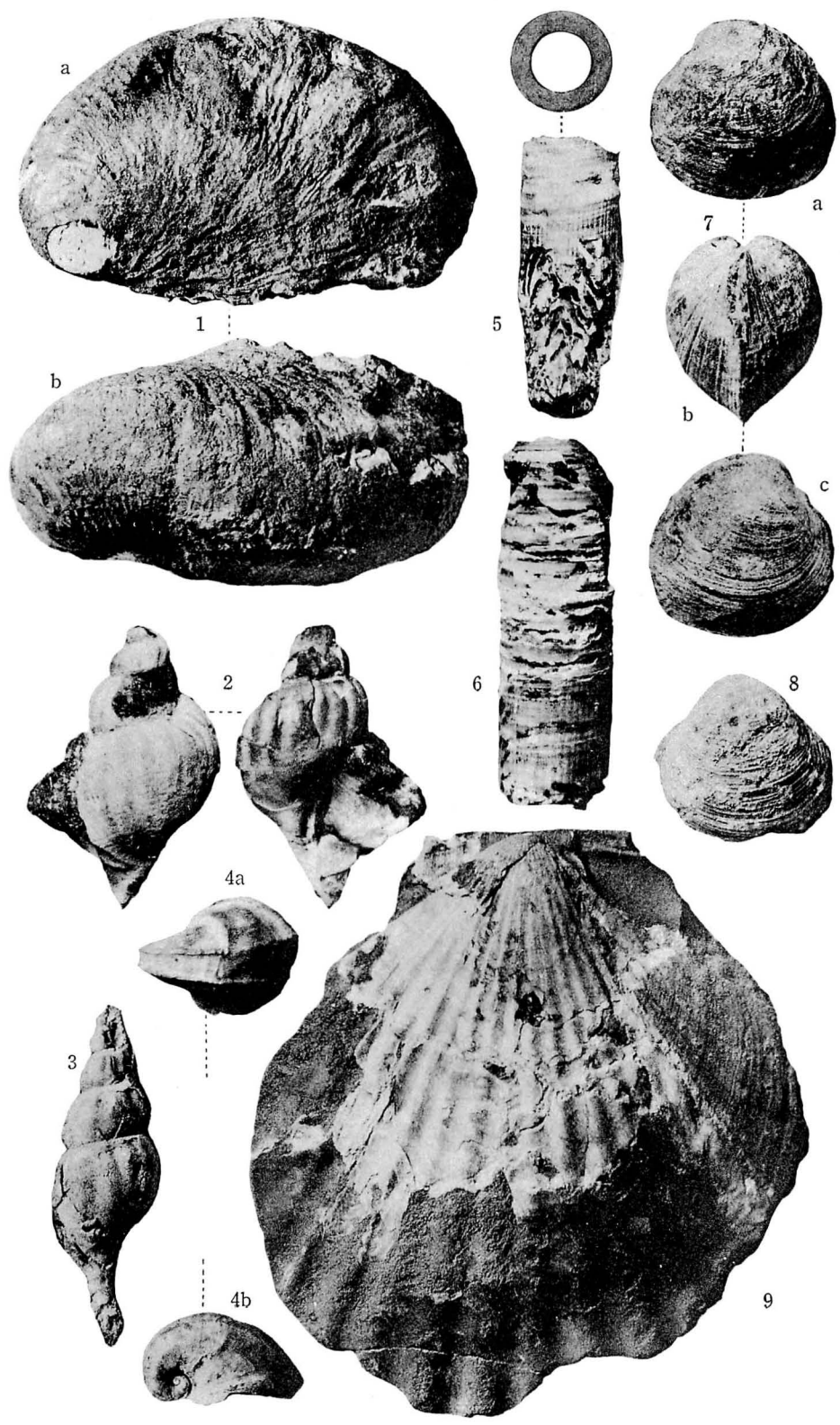
1. *Pecten agnatus* YOKOYAMA, 1930 (XXVIII, 417, n. sp.). Isos, Higashi-Sakutan, Motodomari, S. Karafto. **Pecten (Patinopecten) agnatus** YOKOYAMA.
2. **Thracia** sp., (XXVIII, 415). Shirutor, Motodomari, S. Karafto.
- 3, 4. *Pecten subyessoensis* YOKOYAMA, 1930 (XXVIII, 416, n. sp.). 3: Haushigawa; 4: Sakikawa: both the localities in Tomarigeshi of Shiska; the rocks belong to the Naikawa formation, Miocene? **Pecten yessoensis** JAY, 1857.
5. *Acila insignis* (GOULD, 1861), (XXVIII, 417). Isos, Higashi-Sakutan, Motodomari. **Acila (Truncacila) gottschei** (BÖHM, 1916), NAGAO & HUZIOKA, 1941.



XXVIII. Tertiary Mollusca from South Karafto.

PLATE 80.

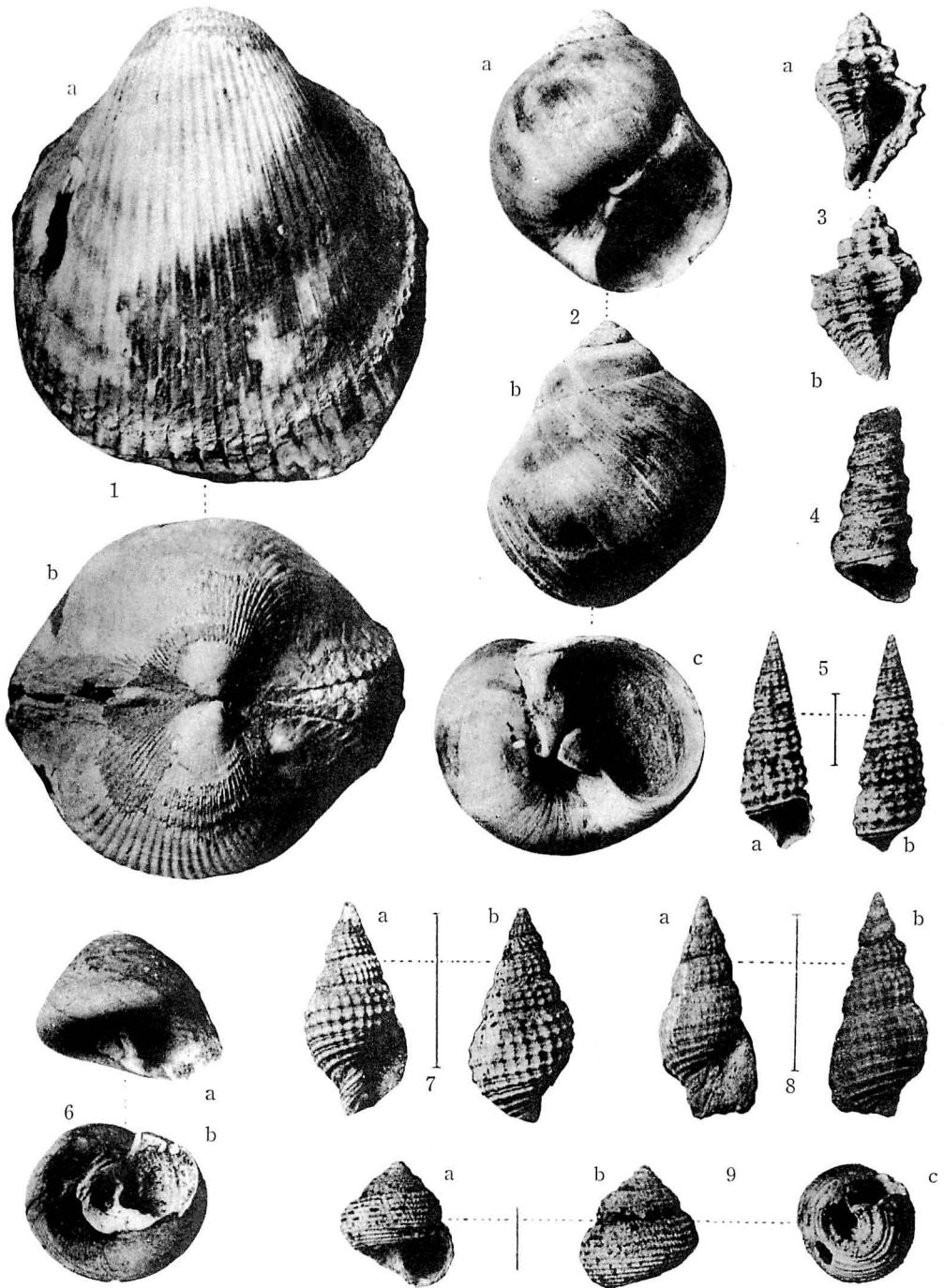
1. **Crepidula jimboana** YOKOYAMA, 1931 (XXIX, 194, n. sp.). Makubets, Tokachi, Hokkaido.
2. *Buccinum undatum* LINNAEUS, 1758, (XXIX, 193). Porodomari, S. Karafto. Not *B. undatum*, **Buccinum** sp., *fide* KURODA, 1935.
3. *Chrysodomus plicatus* (ADAMS, 1863), (XXIX, 193). Porodomari, S. Karafto. **Plicifusus plicatus** (ADAMS, 1863).
4. **Amathina nobilis** (ADAMS, 1867), (XXIX, 194). Suttu formation of Hokkaido.
- 5, 6. **Dentalium tigillum** YOKOYAMA, 1931 (XXIX, 194, n. sp.). 5: Unetomari, Teshio, Hokkaido; 6: Mōrai, Ishikari, near Atsuta, Hokkaido.
7. *Diplodonta? turgidula* YOKOYAMA, 1931 (XXIX, 195, n. sp.). Pankeseta, Iburi (a tributary of the Azuma in Yūfutsu district). *Taras turgidulus* (YOKOYAMA), H. & N., 1952: **Diplodonta turgidula** YOKOYAMA.
8. *Corbula iburica* YOKOYAMA, 1931 (XXIX, 194, n. sp.). Bank of the river Mukawa at its junction with a tributary Shikerepe, Iburi. Hokkaido. **Corbicula iburica** (YOKOYAMA), H. & N., 1952.
9. **Pecten yessoensis** JAY, 1857 (XXIX, 195) $\times 1/3$. Hokkaido, loc. not exactly known; probably from the Setana formation of Shiribeshi, *fide* H. & N., 1952. *Patinopecten yessoensis* auct.



XXIX. Neogene Shells from Karafto and the Hokkaido.

PLATE 81.

1. *Cardium shiobarense* YOKOYAMA, 1926, (XXX, 202). Hattomaki in Shirakawa district. **Trachycardium shiobarense** (YOKOYAMA), see Pt. II, pl. 38, f. 2.
2. *Natica kiritaniana* YOKOYAMA, 1931 (XXX, 201, n.sp.). Nishigô in Shirakawa district. **Neverita kiritaniana** (YOKOYAMA), H. & N., 1952.
3. *Murex polygonulus* LAMARCK, 1822, (XXX, 202). Hattomaki (road cutting) in Shirakawa district. **Ocenebra inornata** (Recluz, 1851), *fide Tritonalia inornata*, H. & N., 1952.
4. *Turritella* sp., (XXX, 201). Nishigô in Shirakawa district. *Turritella kadosawaensis* 1934, *fide* NOMURA & HATAI, 1936; **Turritella tanaguraensis** KOTAKA, 1951.
5. **Bittium intaminatum** YOKOYAMA, 1931 (XXX, 201, n.sp.) ×2. Nishigô in Shirakawa district.
6. *Chlorostoma xanthostigma* (ADAMS, 1853), (XXX, 202). The river bottom of Horikawa near Tanagura. *Tegula (Chlorostoma) yokoyamai* NOMURA & HATAI, 1936; **Tegula yokoyamai** NOMURA & HATAI.
- 7, 8. *Nassa iwakiana* YOKOYAMA, 1931 (XXX, 200, n.sp.). Hattomaki in Shirakawa district. *Nassarius nakamurai* KURODA, 1931, *fide* H. & N., 1952; **Phos (Coraeophos) iwakianus** (YOKOYAMA), MAKIYAMA, 1936.
9. *Solariella sakya* YOKOYAMA, 1931 (XXX, 202, n.sp.). Nishigô, in Shirakawa district. **Mino-
lia sakya** (YOKOYAMA), H. & N., 1952.



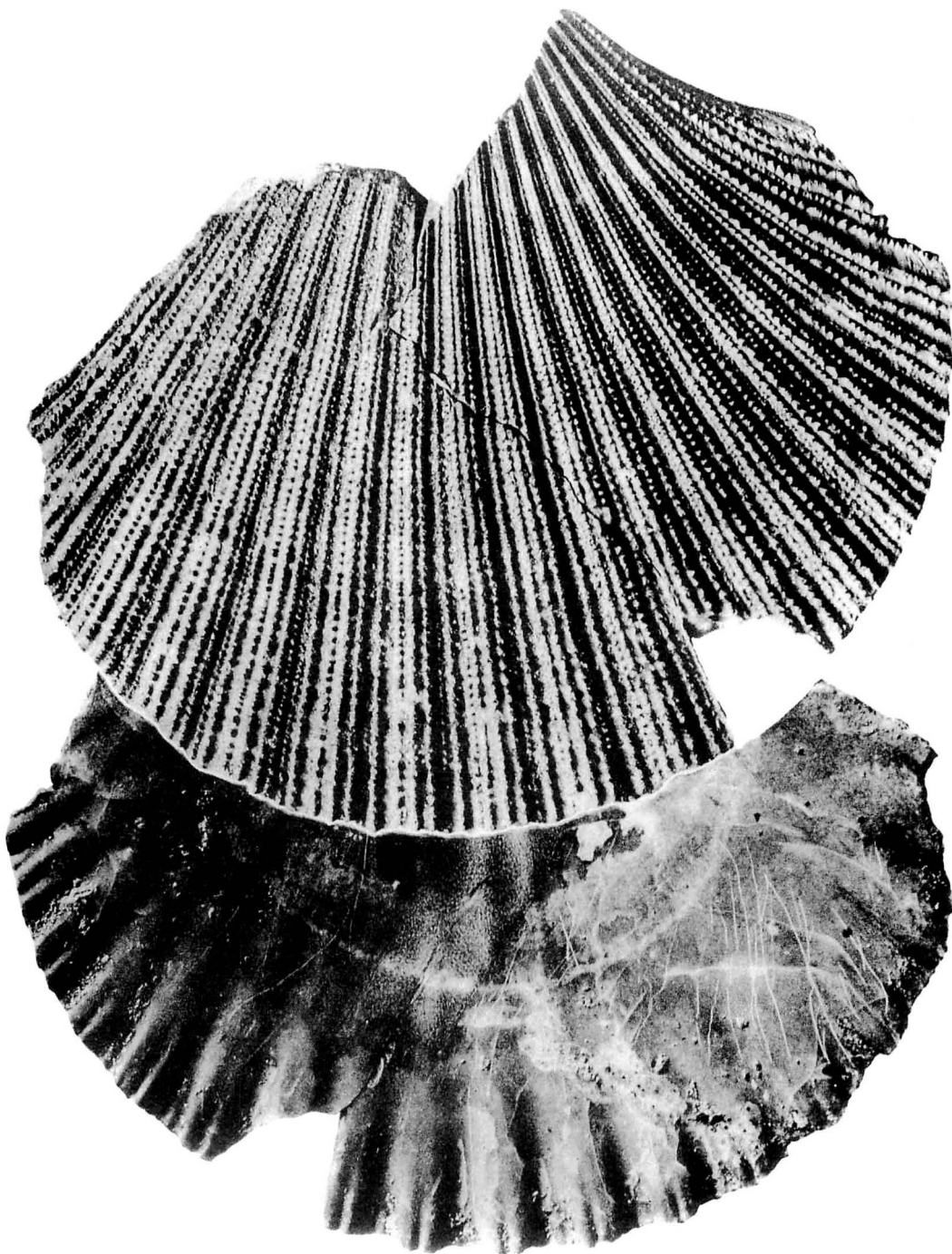
XXX. Tertiary Mollusca from Iwaj,

PLATE 82.

Pecten kaneharai YOKOYAMA, 1926 (XXX, 203). The Horikawa bottom, east of Tanagura.
Chlamys kaneharai (YOKOYAMA), H. & N., 1952, see Pt. II, pls. 36, 37.

Remarks.

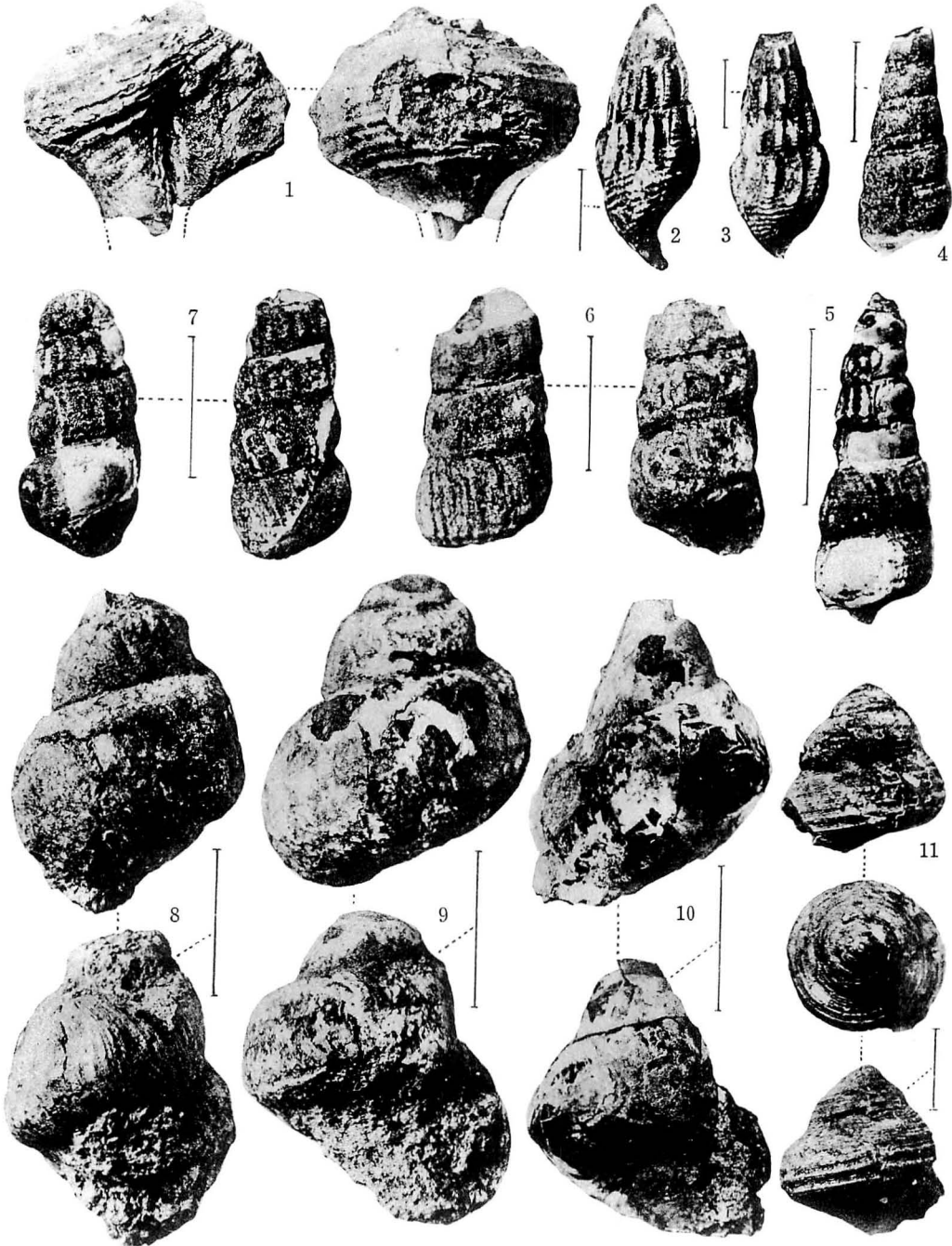
Geography—Hattomaki: Tsunetoyo near Shirakawa, 36°58' N, 140°25' E; Nishigô: Nishigô or Nishikôchi, road cutting 2 km NW of, on way to Kubota, 36°59' N, 140°22' E; Tanagura: bottom of the river Horikawa to the east of the town, 37°02' N, 140°26' E. All from the Tanagura Miocene.



XXX. Tertiary Mollusca from Iwaki.

PLATE 83.

1. **Perissolax lymani** YOKOYAMA, 1932 (XXXI, 235, n. sp.). Upper Okada Beks, Nankazawa a tributary of the Urashima in Uryû, Hokkaido. Exact locality unknown, H. & N.
- 2, 3. *Thiara fiscina* YOKOYAMA, 1932 (XXXI, 237, n. sp.). Upper Numata Beds, Yorikirizawa another tributary of the Urashima, Uryû Ishikari, Hokkaido. **Melanoides fiscinus** (YOKOYAMA).
- 4, 5, 6, 7. **Cerithium ishikariensis** YOKOYAMA, 1932 (XXXI, 236, n. sp.). Lower Okada Beds, 4-6: Okadazawa, 7: Tsumetazawa, branches of the Urashima, Uryû Ishikari, Hokkaido.
- 8, 9, 10. **Viviparus uryuensis** YOKOYAMA, 1932 (XXXI, 236, n. sp.). Upper Tachibets Beds, Akaganezawa a branch of the Okadasawa, in Ishikari, Hokkaido.
11. **Calliostoma subunicum** YOKOYAMA, 1932 (XXXI, 238, n. sp.). Middle Okada Beds, Gengorô-sawa a branch of the Urashima, Uryû, Hokkaido.



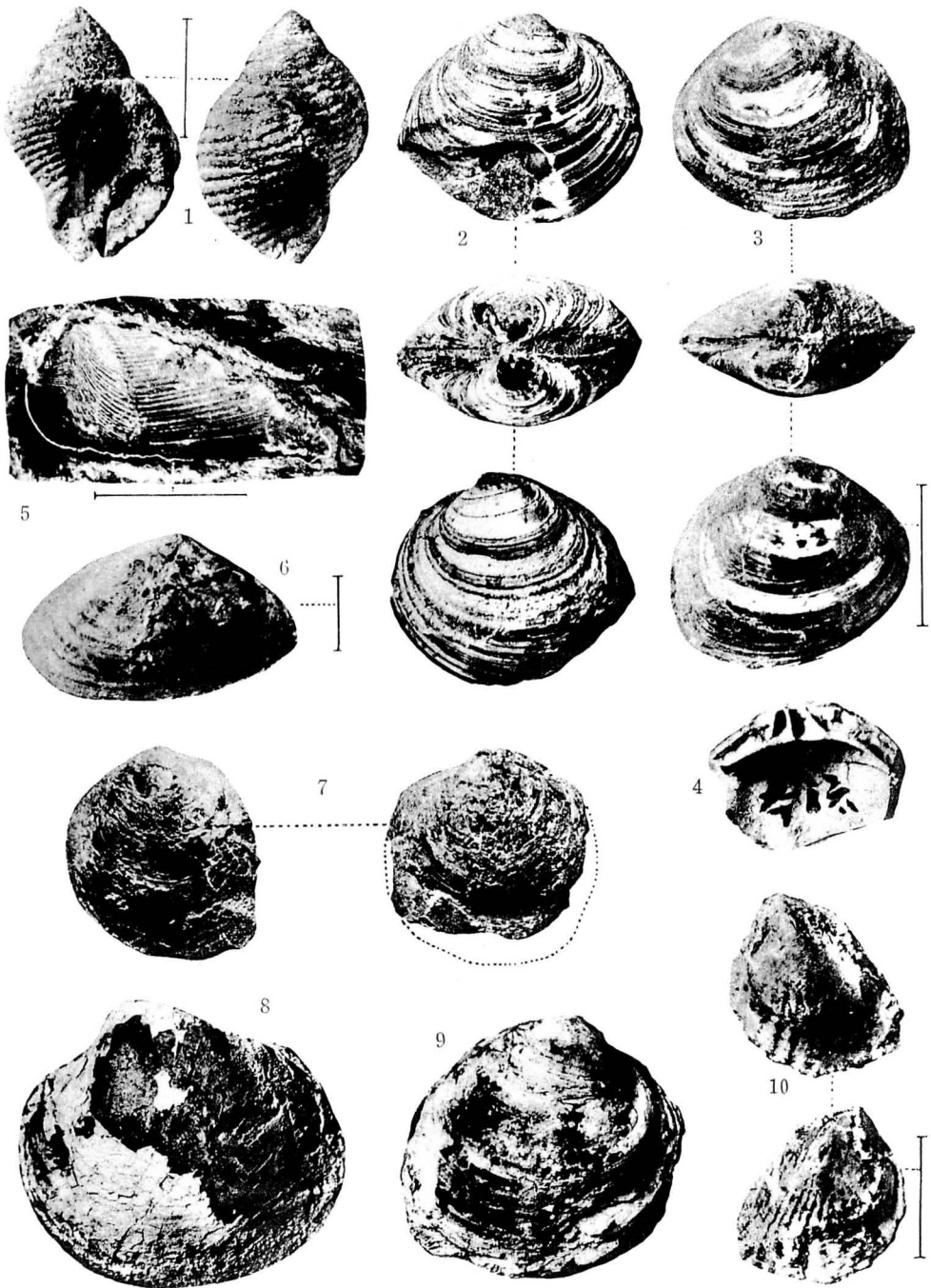
XXXI. Tertiary Mollusca from Uryu.

PLATE 84.

1. **Coralliophyla tokudai** YOKOYAMA, 1932 (XXXI, 235, n. sp.). Middle Okada Beds, Gengorô-sawa a branch of the Urashima, Ishikari, Hokkaido.
- 2, 3, 4. **Circe tokudai** YOKOYAMA, 1932 (XXXI, 240, n. sp.). 2, 4: Upper Okada Beds, Okada-sawa, "Lower Okada" in p. 240, and the table; 3: Upper Numata Beds, Yashikizawa a branch of the Urashima. HATAI and NISHIYAMA referred f. 2 to a species of *Venus* and f. 3 to a *Corbicula*. 2: **Venus tokudai** (YOKOYAMA); 3: *Corbicula atrata tokudai* HATAI & NISHIYAMA, 1952, *nom. nud.*
5. **Martesis pulchella** YOKOYAMA, 1932 (XXXI, 238, n. sp.). Lower Shiroki Beds (Eocene, H. & N.), Sannosawa a branch of the Shirokigawa, Ishikari, Hokkaido.
6. *Corbula pumpellyi* YOKOYAMA, 1932 (XXXI, 239, n. sp.). Rumoe Beds at Nakayamazawa a tributary of the Shisen (Miocene). **Aloides pumpellyi** (YOKOYAMA), H. & N, 1952.
7. **Cyclina ? shirokiana** YOKOYAMA, 1932 (XXXI, 239, n. sp.). Lower Shiroki Beds, Sannosawa a branch of the Shiroki (Eocene).
- 8, 9. *Venus ? okadana* YOKOYAMA, 1932 (XXXI, 240, n. sp.). 8: Lower Okada Beds Okadagawa; 9: Upper Okada Beds, 17-nen-zawa, Ishikari, Hokkaido. **Pitar okadana** (YOKOYAMA), HAYASAKA & UOZUMI, 1954.
10. **Cardita mandaica** YOKOYAMA, 1911, (XXXI, 242). Upper Morokoshi Beds Morokoshizawa a branch of the Shisen, Ishikari, Hokkaido. See Pt. I, pl. 2, f. 8.

Remarks.

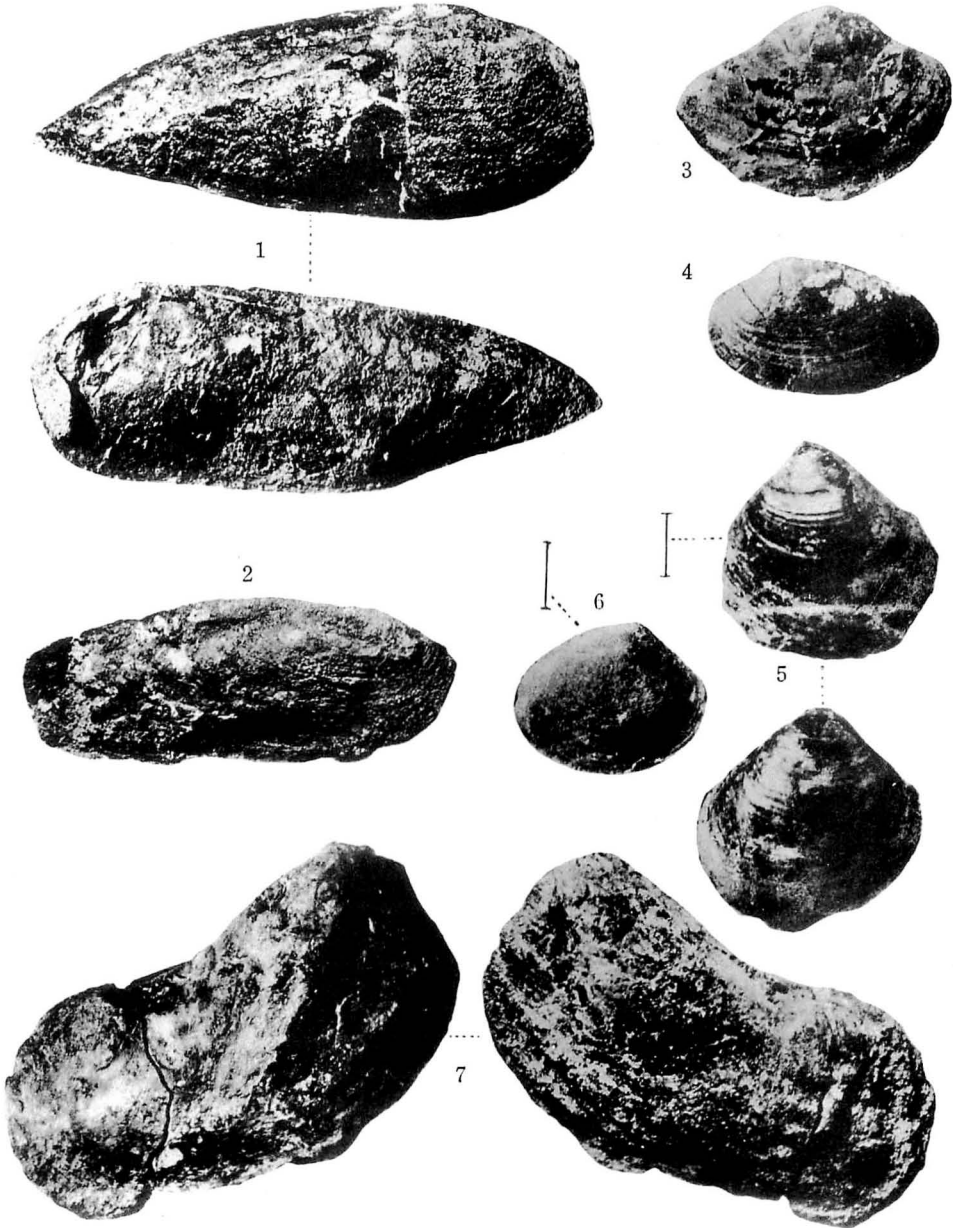
Geography—Exact localities not well known; Sannosawa: side of stream in a valley Sannosawa the third branch of the Shirokizawa, Eocene. 43°59.3' N, 141°51' E.



XXXI. Tertiary Mollusca from Uryu.

PLATE 85.

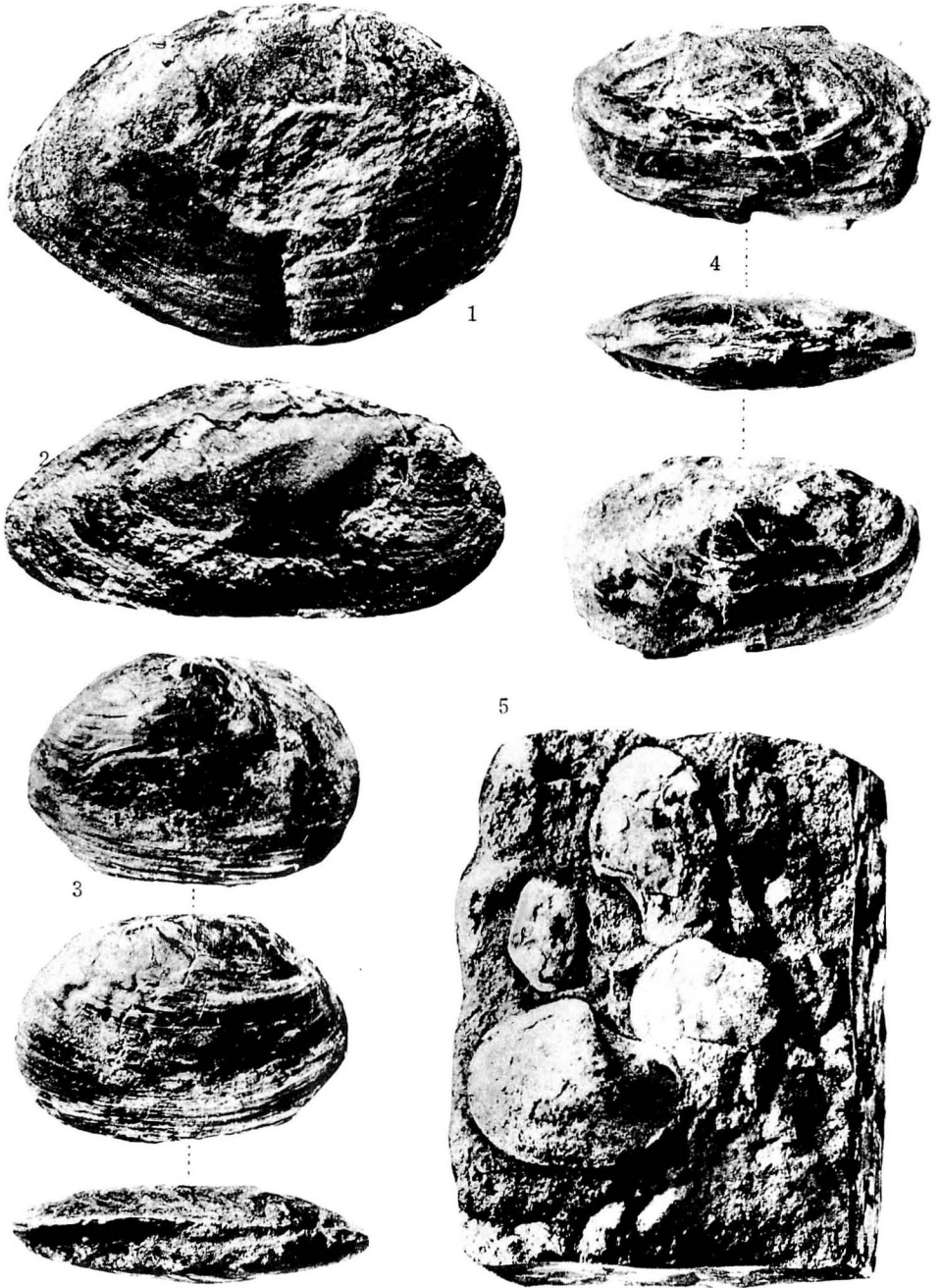
- 1, 2. *Nodularia pisciformis* YOKOYAMA, 1932 (XXXI, 233, n. sp.). Upper Tachibets Beds, Sasa-kigawa, Ishikari, Hokkaido. **Lanceolaria Pisciformis** (YOKOYAMA).
- 3, 4. **Paphia munroei** YOKOYAMA, 1932 (XXXI, 241, n. sp.). Lower Morokoshi Beds (Eocene), Shimodazawa a branch of the Shisen, Ishikari, Hokkaido.
5. **Cyrena verecunda** YOKOYAMA, 1932 (XXXI, 242, n. sp.). Lower Morokoshi Beds (Eocene), Shimodazawa a branch of the Shisen. *Astarte verecunda* (YOKOYAMA), H. & N., 1952.
6. *Venus ? sannosawensis* YOKOYAMA, 1932 (XXXI, 239, n. sp.), "*sannosawensis*" misprinted in expl. pl. Upper Shiroki Beds (Eocene), Sannosawa, Ishikari, Hokkaido. **Venus sannosawensis** (YOKOYAMA), H. & N., 1952.
7. **Pholadomya** sp., (XXXI, 245). Upper Morokoshi Beds (Eocene), Urushizawa a branch of the Shisen, Ishikari, Hokkaido.



XXXI. Tertiary Mollusca from Uryu.

PLATE 86.

1. **Anodonta suavis** YOKOYAMA, 1932 (XXXI, 244, n. sp.). Lower Morokoshi Beds (Eocene), Shimodazawa a branch of the Shisen, Ishikari, Hokkaido.
2. *Margaritana perdahurica* YOKOYAMA, 1932 (XXXI, 244, n. sp.). Upper Tachibets Beds, Rakkwanzawa a branch of the Shisen. **Unio perdahuricus** (YOKOYAMA).
3. *Nodularia subjapanensis* YOKOYAMA, 1932 (XXXI, 243, n. sp.). Upper Tachibets Beds, Sasaki-gawa, Ishikari, Hokkaido. **Anodonta subjapanensis** (YOKOYAMA).
4. *Nodularia* cf. *biwae* KOBELT, 1880, (XXXI, 243). Middle Numata Beds, Takahashizawa a branch of the Horonitachibets. **Lymnium** sp., not KOBELT's species.
5. **Yoldia breviscapa** YOKOYAMA, 1932 (XXXI, 245, n. sp.). Lower Tachibets Beds, Showagawa in Uryû, Ishikari, Hokkaido. *Portlandia* (*Megayoldia*) *breviscapa* (YOKOYAMA), H. & N., 1952.



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