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Neogene Shells from Yamashiro

By

Matajiro YOKOYAMA, *Rigakuhakushi*

With 1 Text figure

Mr. K. Ishii, geologist of the Imperial Geological Survey, while surveying the area included in the sheet-map of Fushimi, collected fossil shells in a Tertiary Formation found in a limited extent around Okuyamada, Tsuzuki County, Yamashiro Province.[1] These fossils he sent to me for examination, the results of which are set forth in the following lines.

Ishii divides the said formation into the three following beds:

1. *Upper Beds.* Consisting of conglomerate, arkose sandstone and tufaceous shale. Barren of fossils.

2. *Middle Beds.* Mostly made up of sandstone and shale with thin subordinate layers of tuffite and conglomerate. Fossils occur in shale and tuffite at three places, Nishinotani,[2] Ishizume[3] and Miyamura.[4]

3. *Lower Beds.* Consisting of conglomerate, arkose sandstone, tuffite and shale, the last two of which contain shells, rarely some plant leaves. The fossil localities are a place about one kilometre northeast of Chaya[5] and also Yuyantani.[6]

The fossil shells which are mostly of ill preservation number thirty-seven in all as given in the following table:

1) 山城國綴喜郡宇治田原村奥山田　2) 同村西ノ谷　3) 同村石諧　4) 同村奥山田宮村　5) 同村茶屋　6) 同村湯屋谷

Names of Fossils	Middle Beds: Nishinotani	Middle Beds: Ishizume	Middle Beds: Miyamura	Lower Beds: Near Chaya	Lower Beds: Yuyantani	Geological Occurrence
1. Mitra pristina Yok.	+					Pliocene
2. Nassa (Hima) verbeeki Mart.				+		Pliocene. Up. a. Low. Byoritz
3. Triton ? sp.				+		
4. Turritella nipponica Yok.				+		Recent. Pleistocene. Pliocene
5. Turritella perterebra Yok.	+		+			Pliocene
6. Capulus badius Dkr.		+				Recent. Upper Musashino
7. Calyptraea mammilaris (Brod.)	+	+				Recent. Up. Musashino—Miocene
8. Crepidula navia Yok.	+			+		Pliocene
9. Crepidula sp.					+	
10. Natica colliei Recl.				+		Recent. Up. a. Low. Byoritz
11. Umbonium ishiianum n. sp.	+	+	+			Miocene.
12. Dentalium sp.				+		
13. Corbula sp.		+				
14. Mactra sulcataria Desh.				+		Recent. Up. Musashino, Pliocene
15. Cultellus izumoensis Yok.				+		Pliocene.
16. Soletellina violacea Lam.				+		Recent. Up. Musashino.
17. Macoma inquinata (Desh.)				+		Recent. Up. Musashino.—Miocene
18. Macoma praetexta (v. Mart.)				+		Recent. Up. Musashino—Miocene
19. Macoma nipponica (Tok.)				+		Recent. Upper Musashino.
20. Dosinia angulosa (Phil.)			+	+		Recent. Up. Mus.—Lower Byoritz.
21. Chione casinaeformis Yok.	+		+			Recent. Pliocene. Miocene.
22. Tapes sp.	+	+				
23. Tapes? sp.		+				
24. Gomphina? sp.		+				
25. Cardium? sp.			+			
26. Diplodonta usta (Gld.)			+			Recent. Up. Musashino. Pliocene
27. Phacodes borealis (L.)				+		Recent. Musashino—Miocene.
28. Venericardia ferruginea Ad.				+		Recent. Musashino—Miocene
29. Crassatellites sp.		+			+	
30. Thracia pubescens Pult.				+		Recent. Pliocene.
31. Anomia lischkei F. et. D.	+					Recent. Up. Mus.—Low. Byoritz
32. Pecten heteroglyptus Yok.				+	+	Up. Musashino
33. Ostrea gigas Thunb.				+		Recent. Up. Mus.—Low. Byoritz
34. Arca sp.	+		+			
35. Arca sp.			+			
36. Leda confusa Hanl.				+		Recent. Up. Musashino. Pliocene
37. Nucula (Acila) mirabilis A. et R.				+		Recent. Up. Musashino. Pliocene

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Middle Beds

The number of species found in these beds are eighteen of which the accurately determined ones are the following ten:

1. Mitra pristina Yok.
2. Turritella perterebra Yok.
3. Capulus badius Dkr.
4. Calyptraea mammilaris Brod.
5. Crepidula navia Yok.
6. Umbonium ishiianum n. sp.
7. Dosinia angulosa Phil.
8. Chione casinaeformis Yok.
9. Diplodonta usta Gld.
10. Anomia lischkei F. et D.

Of these, six (*Capulus badius, Calyptraea mammilaris, Dosinia angulosa, Chione casinaeformis, Diplodonta usta* and *Anomia lischkei*) are still living and the remaining four hitherto only fossil. Of the living ones, one (*Capulus badius*) dates back to the Upper Musashino, three (*Dosinia angulosa, Diplodonta usta* and *Anomia lischkei*) to the Pliocene, and two (*Calyptraea mammilaris* and *Chione casinaeformis*) to the Miocene. Of the fossil ones, three (*Mitra pristina, Turritella perterebra* and *Crepidula navia*) occur in the Pliocene and one (*Umbonium ishiianum*[1]) in the Miocene. Thus we see that the greatest weight falls on the *Pliocene*, so that the beds are to a great probability of that age.

Lower Beds

These beds yielded twenty-two species of which the following eighteen are exactly determined:

1. Nassa (Hima) verbecki Mart.
2. Turritella nipponica Yok.
3. Crepidula navia Yok.
4. Natica colliei Recl.
5. Mactra sulcataria Desh.

1) This species was described by me in 1924 as Umbonium sp. in my paper on the "Molluscan Remains from the Lowest Part of the Joban Coalfield," p. 12.

6. Cultellus izumoensis Yok.
7. Soletellina violacea Lam.
8. Macoma inquinata (Desh.)
9. Macoma praetexta (Mart.)
10. Macoma nipponica (Yok.)
11. Dosinia angulosa Phil.
12. Phacodes borealis (L.)
13. Venericardia ferruginea (Ad.)
14. Thracia pubescens Pult.
15. Pecten heteroglyptus Yok.
16. Ostrea gigas Thunb.
17. Leda confusa Hanl.
18. Acila mirabilis (Ad. et Rve.)

Of these eighteen, fourteen are still living and four hitherto only fossil. Of the former, two (*Soletellina violacea* and *Macoma nipponica*) date back to the Upper Musashino, eight (*Turritella nipponica, Natica colliei, Mactra sulcataria, Dosinia angulosa, Thracia pubescens, Ostrea gigas Leda confusa* and *Acila mirabilis*) to the Pliocene and four (*Macoma inquinata, Macoma praetexta, Phacodes borealis* and *Venericardia ferruginea*) to the Miocene. Of the latter, one (*Pecten heteroglyptus*) occurs in the Upper Musashino, and three (*Nassa verbeeki, Crepidula navia* and *Cultellus izumoensis*) in the Pliocene.

From these considerations it is highly probable that the Lower Beds also belong to the *Pliocene*.

Description of a New Species

Umbonium ishiianum, n. sp.

Umbonium sp. Yokoyama, Moll. Rem. Lowest Part Jôban Coalfield, p. 12, pl. I, figs. 18, 19.

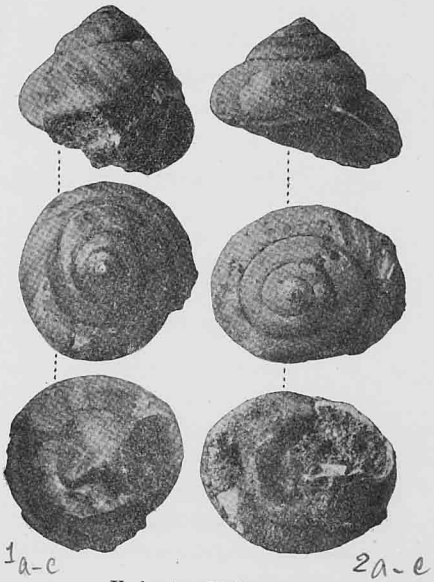
Shell moderate in size, conical, with apical angle approximating to a right angle. Whorls about six, flatly convex, smooth, only with coarse lines of growth which often make the surface uneven. Periphery rounded. Base flattish. Aperture rhomboidal.

The specimens are common, but all more or less imperfect.

This species has already been described by me from the Joban coalfield under the name of *Umbonium sp.*

The specimens of Yamashiro are all somewhat smaller than those of the Joban coalfield. The largest measures 10 millim. in height and diameter. It must here be mentioned that some forms are a little higher than others, as the annexed figures show.

Fossil occurrence.—*Middle Beds:* Nishinotani, Ishizume and Miyamura. Asagai Beds of the Joban Coalfield (Miocene).



Umbonium ishiianum
(Enlarged three times)

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p. 403, Text-fig (left)
" " (right)

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