Pliocene Foraminifera from the Kôonzi Formation in the Takanabe Group, Miyazaki-ken

By

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The fossil material reported here was collected by Assistant Professor T.

	1C	2		1C	2
Textulariidae			Polymorphinidae		
1. <i>Textularia agglutinans</i> d'ORBIGNY	R	—	29. <i>Guttulina sadoensis</i> (CUSHMAN et OGAWA)	R	—
2. <i>T. gramen</i> d'ORBIGNY	R	—	30. <i>Sigmoidella kagaensis</i> CUSHMAN et OGAWA	—	R
Vernuulinidae			Nonionidae		
3. <i>Gaudryina ogasaensis</i> ASANO	R	—	31. <i>Nonion japonicum</i> ASANO	R	R
Valvulinidae			32. <i>N. manpukujiensis</i> OTUKA	R	R
4. <i>Clavulina yabei</i> ASANO	R	—	33. <i>N. pompilioides</i> (FICHTEL et MOLL)	—	R
5. <i>Listerella bradyana tarukiensis</i> ASANO	C	R	34. <i>Elphidium advenum</i> CUSHMAN	R	—
Miliolidae			35. <i>E. crispum</i> (LINNÉ)	R	—
6. <i>Quinqueloculina contorta striata</i> ASANO	R	R	36. <i>E. subgranulosum</i> ASANO	—	R
7. <i>Q. lamarkiana</i> d'ORBIGNY	R	C	Buliminidae		
8. <i>Q. seminulum</i> (LINNÉ)	R	R	37. <i>Buliminoides williamsoniana</i> (BRADY)	—	R
9. <i>Q. vulgaris</i> d'ORBIGNY	R	R	38. <i>Uvigerina mediterranea</i> FOKKER	—	R
10. <i>Spiroloculina canaliculata</i> d'ORBIGNY	—	R	39. <i>Siphogenerina raphana</i> (PARKER et JONES)	R	R
Nodosariidae			Rotaliidae		
11. <i>Lenticulina totomiensis</i> MAKIYAMA	C	—	40. <i>Discorbis bradyi</i> CUSHMAN	—	R
12. <i>Vaginulina bradyi</i> CUSHMAN	C	—	41. <i>Eponides haidingerii</i> (d'ORBIGNY)	R	C
13. <i>Glandulina loevigata</i> d'ORBIGNY	—	R	42. <i>E. karstenii</i> (REUSS)	R	—
14. <i>G. rotundata</i> REUSS	—	R	43. <i>Rotalia japonica</i> HADA	R	R
15. <i>Dentalina subsoluta</i> (CUSHMAN)	R	—	44. <i>R. papillosa</i> BRADY (+ <i>compressiuscula</i> BRADY)	C	C
16. <i>Nodosaria pyrula semirugosa</i> d'ORBIGNY	R	—	45. <i>Baggina totomiensis</i> MAKIYAMA	R	—
17. <i>Lagenodosaria hirsuta</i> (d'ORBIGNY)	R	—	Chilostomellidae		
18. <i>L. scalaris</i> (BARTSCH) (+ <i>sagamiensis</i> ASANO)	R	R	46. <i>Sphaeroidina bulloides</i> d'ORBIGNY	R	1
19. <i>Lagena striata strumosa</i> REUSS	R	—	Globigerinidae		
20. <i>L. hyugaensis</i> OINOMIKADO n. sp.	R	—	47. <i>Globigerina bulloides</i> d'ORBIGNY	C	R
21. <i>Robulus abensis</i> ASANO	R	—	48. <i>G. inflata</i> d'ORBIGNY	C	R
22. <i>R. calcar</i> (LINNÉ)	C	C	49. <i>Globigerinoides sacculifera</i> (BRADY)	R	—
23. <i>R. costatus</i> (FICHTEL et MOLL)	R	—	50. <i>Orbulina universa</i> d'ORBIGNY	R	—
24. <i>R. costatus subdecoratus</i> (CUSHMAN)	R	—	Globorotaliidae		
25. <i>R. depressus</i> ASANO	R	—	51. <i>Globorotalia menardi</i> (d'ORBIGNY)	—	R
26. <i>R. limbosus</i> (REUSS)	R	C	52. <i>G. tumida</i> (BRADY)	R	—
27. <i>R. sagamiensis</i> ASANO	R	—	Anomalinidae		
28. <i>R. cf. chitanii</i> YABE et ASANO	R	—	53. <i>Planulina wuellerstorfi</i> (SCHWAGER)	R	R

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Fig. 1 shows a road cut near Hagenosita, Kamie-mura, Koyu-gun, Miyazaki-ken. Three beds, namely (1) silt, (2) alternation of sand and silt, and (3) gravel, are recognized in the road cut. There is a small stratigraphic interval between the Bed 1 and the Bed 2, but these beds are combined into a single formation, the Kôonzi. In the Bed 1 there are some interbedded lentils of fossil molluscs, and IC in the faunal list is one of these lentils (C in the Fig. 1). The fossils of the Bed 2 are commonly found in the basal part, and 2 in the faunal list indicates this bed.

The distinguished forms are shown in the above list:

Fig. 1. Showing the road cut near Hagenosita, Kamie-mura, Koyu-gun, Miyazaki-ken.

It is interesting that the following characteristic forms of the Kakegawa group and the Pliocene of Tosa province are found in the Kôonzi formation; namely *Gaudryina ogasaensis*, *Clavulina yabei*, *Listerella bradyana tarukiensis*, *Lenticulina totomiensis*, and *Baggina totomiensis*.

The fauna of IC is characterized by the occurrence of many species of Nodosariidae, and contains more numerous pelagic forms than that of the Bed 2. *Quinqueloculina lamarckiana* is commonly found in the Bed 2, while in the Bed 1 *Quinqueloculina* is rare in species and individuals. Judging from the foraminiferal assemblage, the Bed 1 might had been deposited in a moderately deep open-sea, and the Bed 2 in a shallow water.

Fig. 2. *Lagena hyugaensis* OINO-MIKADO +64. Holotype. a: Side view, b: Apertural view.

Description of New Species

Lagena hyugaensis OINOMIKADO

Figs. 2a, b.

Holotype : Preserved in the Institute of Geology, Kyûsyû Imperial University.

Description : Test flask-shaped, body portion subglobular, upper end extending into a long cylindrical neck with a few transverse plate-like costae, apical end drawn into a stout spine. Surface ornamentation of the test consisting of plate-like costae. The costae about seventeen in number, some of them often more prominent than others, largely confined to the basal portion, ending in spines at the apical end.

Dimensions : Length of the test 0.445 mm., breadth 0.31 mm., diameter of the neck 0.016 mm., diameter of the costae on the neck 0.064 mm.

Comparisons : This species differs from *Lagena sulcata* (WALKER et JACOB) in that the costae are largely confined to the basal portion of the test and the apical end is drawn out into a stout spine. In possessing the spine at the apical end it resembles *Lagena sulcata apiculata* CUSHMAN, but CUSHMAN's subspecies has numerous plate-like costae running the length of the test likewise *Lagena sulcata* (WALKER et JACOB).

Type locality : Kôonzi formation (Pliocene). In a silt, on east side of road near Hagenosita, Kamie-mura, Koyu-gun, Miyazaki-ken.

宮崎縣高鍋層群光音寺層の有孔蟲化石 (摘要)

大 炊 御 門 經 輝

宮崎縣兒湯郡上江村^{ヘガ}元ノ下(小丸川沿ひ國道の東側の崖)に於いて九州帝國大學助教授松本達郎氏及び同大學地質學科學生諸君が採集した有孔蟲化石を松本氏の御好意に依り調査したので此處に簡単に報告する。

化石産地の地質は松本氏に依れば 3 層に區別する事が出来る。即ち下部より (1) 細土, (2) 砂・細土の互層, (3) 礫である。(1) 細土の中に貝化石は全般に産するが, 特にレンズ狀に更に多産する部分がある。化石表中の 1C は是等のレンズの 1 つである。(2) 層の化石は下底部にレンズ狀に集積してゐて, 何れかと云ふと掃寄せ式の産狀に近い。化石表の 2 は此の (2) 層の下底部の化石を示してゐる。(1) 層と (2) 層との間には第 1 圖に示す様に小層序間隙があり, 堆積の杜絶がある。此の點は大塚彌之助博士も認めて居られるが, (1) 層及び (2) 層は共に光音寺層に含められてゐる。

1C と 2 の有孔蟲群を比較すると 1C では Miliolidae が種類, 個體數共に少いが, Nodosariidae は可なり多

く、*Globigerina* の個體數も可なり多い事から (1) 層堆積當時の状態は可なり深い外海を思はせる。是に反し (2) 層に於いては *Miliolidae* は 1C に比べ個體數が多く、*Nodosariidae*, *Globigerinidae* の少い事より淺海、灣内中に堆積した事を思はせる。*Gaudryina ogasaensis*, *Listerella bradyana tarukiensis*, *Lenticulina totomiensis*, *Robulus abensis*, *Baggina totomiensis* 等を産し、1C 及び 2 の有孔蟲群は遠江の掛川層群及び土佐安藝郡の鮮新統の有孔蟲群と著しい類似を示してゐる。