XI. AGE ASSIGNMENTS FOR SEDIMENT SAMPLES CORED AND DREDGED

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The geological ages of sediments recovered by coring and dredging during the present cruise (see Fig. I-1 and Table I-4), were determined from their marine, planktonic diatoms assemblages.

Diagnostic calcareous assemblages are restricted to the Pleistocene horizon due to the subarctic to cool temperate late Neogene conditions prevailing in the Sea of Japan and to the dissolution of carbonate sediments by aggressive bottom water (INGLE JR. *et al.*, 1975; ICHIKURA and UJIIÉ, 1976). A diatom zonation has been developed using land based sections in Japan (KOIZUMI, 1973a, 1977; KOIZUMI and KANAYA, 1976, 1977; KOIZUMI and UJIIÉ, 1976) and the DSDP cores at various sites in the North Pacific (KOIZUMI, 1973b, 1975a, b). Radiometric ages assigned to these diatom zones are made by correlation with the paleomagnetically analysed piston cores from the North Pacific (BURCKLE, L. H. and OPDYKE, N. D., 1977) and with radiometric dates land from based sections in Japan (KOIZUMI, 1977).

All samples were treated with hydrogen peroxide and hydrochloric acid. Slide preparation procedures are the same as described by KOIZUMI (1975a). The study focused on the occurrence of marine planktonic taxa selected by KOIZUMI (1975a) as stratigraphically important in dealing with Neogene diatom flora of the North Pacific region.

Diatoms were not observed in the following 15 samples: P125 and D263, 263-1, 268, 269-1, 269-2, 270, 271, 281, 288-1, 288-2, 291-3, 293, 294, and 300.

Fig. XI-1 illustrates the geological ages of 13 samples based on diatom zonation leading to the following conclusions:

D291-2 and P128; upper Miocene (ca. 7 Ma)

D282, 290 and 298; lower Pliocene (3.0–4.5 Ma)

RC24 and D279; upper Pliocene (2.0–3.0 Ma)

D295; Pleistocene (0–1.8 Ma)

P124, 127, 129 and 130 and RC25; upper Pleistocene (0–0.25 Ma)

These new data should be added to the previous results in the Sea of Japan (KOIZUMI, 1978).

References

BURCKLE, L. H. and OPDYKE, N. D. (1977) Late Neogene diatom correlations in the circum-Pacific. *In* N. IKEBE *et al.* (*eds.*), *Proceedings of the First International Congress on Pacific Neogene Stratigraphy, Tokyo 1976*, Kaiyo Shuppan Co. Ltd., Tokyo, p. 255–284.

ICHIKURA, M. and UJIIÉ, H. (1976) Lithology and planktonic foraminifera of the Sea of Japan piston cores. *Bull. Natn. Sci. Mus., ser. C (Geol.)*, vol. 2, no. 4, p. 151–178.

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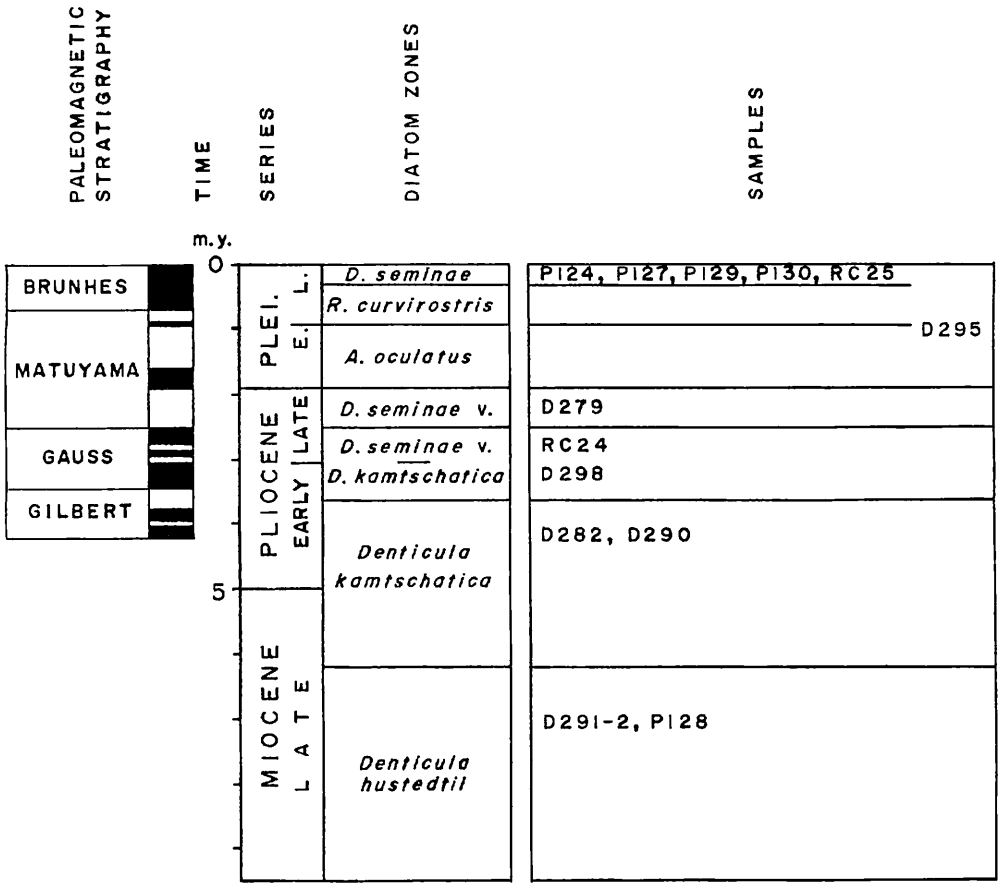

Fig. XI-1 Ages and diatom zones of 13 sedimentary samples obtained during GH78-2 cruise.

INGLE JR. J. C., KARIG, D. E., and WHITE, S. W. (1975) Introduction and explanatory notes. *In* D. E. KARIG, J. C. INGLE JR. *et al.* (*eds.*), *Initial Reports of the Deep Sea Drilling Project*, vol. 31, U.S. Govt. Printing Office, Washington, D.C., p. 5–21.

KOIZUMI, I. (1973a) Diatom ranges and diatom biostratigraphy in Japan. *In* N. IKEBE *et al.* (*eds.*), Neogene biostratigraphic and radiometric time scale of Japan. *Mem. Geol. Soc. Japan*, no. 8, p. 35–44.

———— (1973b) The Late Cenozoic diatoms of sites 183–193, Deep Sea Drilling Project. *In* J. S. CREAGER, D. W. SCHOLL *et al.* (*eds.*), *Initial Reports of the Deep Sea Drilling Project*, vol. 19, U.S. Govt. Printing Office, Washington, D.C., p. 805–855.

———— (1975a) Neogene diatoms from the western margin of the Pacific Ocean, Leg 31, Deep Sea Drilling Project. *In* D. E. KARIG, J. C. INGLE JR. *et al.* (*eds.*), *Initial Reports of the Deep Sea Drilling Project*, vol. 31, U.S. Govt. Printing Office, Washington, D.C., p. 779–819.

KOIZUMI, I. (1975b) Neogene diatoms from the northwestern Pacific Ocean, Deep Sea Drilling Project. *In* R. L. LARSON, R. MOBERLY *et al.* (*eds.*), *Initial Reports of the Deep Sea Drilling Project*, vol. 32, p. 865–889.

———— (1977) Diatom biostratigraphy in the North Pacific region. *In* N. IKEBE *et al.* (*eds.*), *Proceedings of the First International Congress on Pacific Neogene Stratigraphy, Tokyo 1976*, Kaiyo Shuppan Co. Ltd., Tokyo, p. 235–253.

———— (1978) Neogene diatoms from the Sea of Japan. *Mar. Geol.*, vol. 26, no. 3–4, p. 231–248.

———— and KANAYA, T. (1976) Late Cenozoic marine diatom sequence from the Choshi district, Pacific coast, central Japan. *In* Y. TAKAYANAGI, and T. SAITO (*eds.*), *Progress in Micropaleontology-Selected Papers in Honor of Prof. Asano, K., Spec. Publ. Amer. Mus. Nat. Hist., Micropaleo. Press, New York*, p. 144–159.

———— and ———— (1977) Correlation of Late Neogene sections on the Akita City and Oga Peninsula, Japan *In* T. TAKAYASHU *et al.* (*eds.*), *Professor Kazuo Huzioka Memorial Volume*, Inst. Min. Geol., Akita Univ., p. 401–412.

———— and UJIIÉ, H. (1976) On the age of the Nobori Formation, Shikoku, shouthwest Japan—particularly based on diatoms. *Mem. Nat. Sci. Mus.*, vol. 9, p. 61–70.