

HQR022-P03

Room:Convention Hall

Time:May 24 10:30-13:00

## Stratigraphy and geologic structure of the Quaternary sediments in the Noda District (Quadrangle Series, 1:50,000)

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We discuss the basic stratigraphy and the geologic structure of the Quaternary successions of the Noda district, central Japan, on the basis of the geologic map "Noda" of the Quadrangle Series, 1:50,000, published by the Geological Survey of Japan, AIST. The Noda district is situated within the central part of the Kanto Sedimentary Basin and is underlain by thick Cenozoic successions. In the shallower part of the subsurface, the Lower to Middle Pleistocene Kazusa Group, Middle to Upper Pleistocene Shimosa Group, younger terrace deposits, Kanto Loam, and Alluvium are distributed.

**Kazusa Group:** The Lower to Middle Pleistocene Kazusa Group generally occurs in the subsurface deeper than an elevation approximately ?100m. The boundary between this group and the overlying Shimosa Group is defined by the base of the Jizodo Formation corresponding to MIS 12. The Kazusa Group comprises depositional cycles of non-marine and marine sediments in the Noda district, but its stratigraphic framework has not been established.

**Shimosa Group:** The Middle to Upper Pleistocene Shimosa Group which is distributed in the subsurface shallower than an elevation approximately ?100m in the Noda district is divided into 6 formations and a bed; they are the Jizodo, Yabu, Kamiizumi, Kiyokawa, Kioroshi, and Omiya formations and the Joso Clay in ascending order. Of them, the Omiya Formation is composed of fluvial sand and mud, and the Joso Clay consists of taffaceous clay, while each of other formations comprises a depositional cycle of non-marine and marine deposits. The widespread marker tephra layers such as TE-5, Km2, Km4, Ky3, KIP are intercalated. These tephra layers indicate that the depositional cycles of the Shimosa Group correspond to the sea-level fluctuations at MIS 12-5.3 of the Middle to Upper Pleistocene.

**Late Pleistocene terrace deposits and Kanto Loam:** The terrace deposits (Ohorigawa terrace deposits) younger than the Shimosa Group occur along the Ohori-gawa River, Kashiwa City in the southeastern part of the Noda district. These deposits comprise muddy sand which accumulated at MIS 5.2-5.1. The Younger Loam (Kanto Loam) bed is composed largely of brownish volcanic ash soil. The loam bed in the Noda district intercalate marker tephra layers of Hk-TP and AT.

**Alluvium:** The Alluvium in the Nakagawa Lowland, which distributes shallower than ?50 m, can be divided into A, B, C and D units in ascending order. The Alluvium in the Tonegawa Lowland, which distributes shallower than ?25 m, can be divided into A, C and D units in ascending order. The Alluvium in the small valley dissecting the upland thickens less than 5 m and it mostly consists of D unit.

The A unit distributes at about ?50 m and ?25 m in the Nakagawa and Tonegawa Lowlands, respectively. It mainly consists of braided river gravel. The B unit distributes at about ?50 to ?30 m in the Nakagawa Lowland and it primarily consists of sand?mud alternation without shells or burrows. This deposit can be interpreted as meandering river sediments. The C unit in the Nakagawa and Tonegawa Lowlands distributes at about ?35 to ?5 m, and it mostly consists of mud with abundant shells and burrows. The living habitats of shells show a deepening-upward and then shallowing-upward facies succession. Therefore this unit is interpreted as estuary and delta sediments. The D unit in the Nakagawa and Tonegawa Lowlands distributes shallower than ?5 m. The D unit consists of fining-upward sand without shells or burrows and artificial soil, in ascending order. The fining-upward sand is interpreted as modern fluvial sediments.

**Geologic structure:** The Middle to Upper Pleistocene and Holocene successions are almost horizontally distributed in the Noda district. However, a more detailed examination reveals that the successions slightly incline toward the northwestern part of the district with gentle undulations. The inclination decreases upward. No active fault is known in this district.

Keywords: Kanto Plain, Noda district, Shimosa Group, Alluvium, Pleistocene, Holocene