

### Column 3

## Vertebrate Fossils from the Islands

We discovered vertebrate (mainly reptile and mammal) fossils on many islands of Kagoshima Prefecture (NAKAYA 2010).

We found two sites from the Cretaceous (145-66 million years ago) strata on islands in Kagoshima. We recorded elasmosaurian plesiosaur (marine reptile) and herbivorous hadrosaurian dinosaur fossils from the Cenomanian (ca. 100 million years ago) Goshonoura Group in Shishijima Is. (NAKAYA *et al.* 2006, TANIMOTO and UTSUNOMIYA 2010). We discovered carnivorous theropods dinosaur, pterosaur (flying reptile), turtle, crocodile, and fish fossils from the Campanian (ca. 70 million years ago) Himenoura Group in Shimo-Koshikijima Is. (MIYAKE *et al.* 2012).

We found a single site from the Paleogene (66-23 million years ago) strata on islands in Kagoshima. We recorded primitive mammals (*i.e.* condylarths, bronthoeres, miacids and pantodonts) were found from the early Middle Eocene Kami-Koshikijima Group in Kami-Koshikijima Is. (MIYATA and TOMIDA 2003, MIYATA *et al.* 2011).

We found a single site from the Neogene (23-2.5 million years ago) strata on islands in Kagoshima. We recorded turtle and terrestrial mammal fossils from the Middle Miocene Kukinaga Group in Tanegashima Is (TAKAHASHI *et al.* 2010, ITOH *et al.* 2013).

We found two sites from the Quaternary (2.5 million years ago to the present) strata on islands in Kagoshima. We recorded elephant, deer, frog, and large number of fish fossils from the Early Pleistocene Masuda Formation in Tanegashima Is (Nishinoomote City Board of Education 1990, OTSUKA and KUWAYAMA 2000). We also recorded a very large number of the Oriental mammal (deer, rabbit and rodent) turtle and snake fossils from the Late Pleistocene fissure sediments in Tokunoshima Is. (OTSUKA *et al.* 1980, OTSUKA 1990, TOMIDA and OTSUKA 1993, MATSUMOTO and OTSUKA 2000).

Terrestrial vertebrate fossil taxa from islands in Kagoshima before the Late Miocene (12 million years ago) are similar to Eurasian taxa, because the Inner



Fig. 1. Replica of a mandible and teeth of elasmosaurian fossil from Shishijima Is. Scale: 10 cm.

Zone of Southwest Japan was part of the Eurasian continent before this period. After the Middle Pleistocene (a few hundred thousand years ago), terrestrial vertebrate fauna were separated by the Tokara Strait.

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