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**Fossils of terrestrial turtles indicate the Late Pleistocene mass extinction
in the East Asian Islands**

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Extant terrestrial turtle fauna of the East Asian Islands consists of seven species (six geoemydids and one trionychid). Of these, *Geoemyda japonica* and *Mauremys japonica* are endemic to the Okinawa Group of the Ryukyu Archipelago and Japan mainland, respectively, whereas *Cuora flavomarginata* and *M. mutica* are distributed in the Yaeyama Group of the southern Ryukyus, Taiwan, and the eastern part of the continent. The southern Ryukyu populations of the latter two species are distinguished from their conspecific Taiwanese and continental populations as endemic subspecies (*C. f. evelynae* and *M. m. kami*). *Chinemys reevesii* and *Pelodiscus sinensis* occur in Japan mainland, Taiwan, and the continent. The remaining species, *Ocadia sinensis*, ranges from southeastern continent to Taiwan. Based on the zoogeographic and physical information, it is very likely that Taiwan was connected to the continent in the Last Glacial Maximum in the Late Pleistocene, whereas the other islands remained isolated from the continent, as well as from each other during this period. Terrestrial turtles do not seem to be tolerant to seawater for oversea dispersals, because their natural ranges do not include oceanic islands at all. Thus, it is obvious that the ancestors of the current terrestrial turtles of the East Asian Islands had colonized from the continent to these islands through landbridges.

Recently, taxonomic studies on terrestrial turtle fossils from the Quaternary of the East Asian Islands have been rapidly progressing, showing that the turtle fauna in this region was much more diverse in the Pleistocene than in the present. For example, from the Upper Pleistocene of the central Ryukyus (i.e., the Amami and Okinawa Groups, and a few southern islands of the Tokara Group), two extinct geoemydids (i.e., *Cuora* sp., obviously different from *C. flavomarginata*; *G. amamiensis*, endemic to the Amami Group and closest to *G. japonica*) have recently been found. Besides these, one more geoemydid species, for which generic status has not yet been determined with certainty, but obviously different from extant turtles of the archipelago, was also found from one island (Kumejima) of the central Ryukyus. From the southern Ryukyus, one extinct geoemydid, *Mauremys* sp. has been discovered from comparable deposits on Miyakojima Island. Moreover, an endemic testudinid (*Manouria oyamai*) was recently described from both the southern and central Ryukyus. In Japan mainland, three extinct endemic geoemydids, *C. miyatai*, *M. yabei*, and *O. nipponica*, have been recorded from the Middle to Late Pleistocene deposits. These Pleistocene turtles of Japan mainland and the Ryukyus had probably been differentiated through insular isolation mainly caused by sea level changes during the Pleistocene. Majority of such terrestrial turtles of the East Asian Islands had gone extinct in the latest Pleistocene, leaving only a few species surviving to the present. The abrupt extinction of those turtles is most likely a part of the mass extinction of terrestrial vertebrates during this period, which seems to have been caused by prominent climate change, or human activities, or both.

**The Late Pleistocene snake fauna (Reptilia: Squamata) of the Ryukyu Archipelago,
Japan, as inferred from recently discovered fossils**

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The Ryukyu Archipelago is a chain of continental islands located in the subtropical East Asia between Japan mainland and Taiwan. This archipelago is usually divided into three regions, the northern Ryukyus, the central Ryukyus, and the southern Ryukyus, by the Tokara Tectonic Strait in northeast and the