Geographical Variation of Mandible Size and Shape in the Wild Pig (Sus scrofa) from Taiwan and Japan

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Hideki Endo, Yoshihiro Hayashi, Kyomi Yamazaki, Masaharu Motokawa, Jai-Chyi Kurtis Pei, Liang-Kong Lin, Cheng-Han Chou and Tatsuo Oshida (2002) Geographical variation of mandible size and shape in the wild pig (Sus scrofa) from Taiwan and Japan. Zoological Studies 41(4): 452-460. We examined osteometrical characters in the mandibles of the wild pigs (Sus scrofa) from Taiwan, and compared them with those from the Japanese mainland and Iriomote Island (Okinawa Prefecture). Mandibles from Iriomote Island were smaller in size than those from the other localities. Specimens from the Taiwanese population significantly differed from the Mie or Tanba (Honshu) samples in some important measurements such as length of the mandible, although the Mie samples were similar to the Taiwanese ones in many measurements especially in males, while the principal component charts showed that the Taiwanese population is separated from the Oita and Miyazaki (Kyushu) populations for older age classes. Therefore, we concluded that the morphology of the wild pig from Taiwan relatively resembles that of the Japanese wild pig from the Honshu area (Mie and Hyogo (Tanba) Prefectures). The osteological characters in the mandibles of the Taiwanese population have been affected and determined by the following 3 geographical and climatic factors in the habitat: 1) being from 22° to 25° north latitude, 2) being from about 2000 m in elevation, and 3) having experienced the isolation effect on an island of 36 000 km². We suggest that these factors make the mandibles from Taiwan similar to those from the Japanese mainland such as those from Mie. http://www.sinica.edu.tw/zool/zoolstud/41.4/452.pdf

Key words: Wild pig, Mandible, Osteometry, Taiwan.

The wild pig (Sus scrofa) is distributed from Tohoku and Hokuriku Districts to the Nansei Islands, the southwesternmost part in Japan. The osteometrical characters of both the Japanese mainland and Nansei Island populations have been examined by many authors (Hayashida 1960, Senba 1960 1964, Imaizumi 1973, Hayashi 1975, Hayashi et al. 1983, Endo et al. 1994 1998a,b 2000). Some reports have pointed out that the population on Iriomote Island is obviously smaller than that of the Japanese mainland in skull size (Imaizumi 1973, Endo et al. 1994 1998a,b). So, the population on the Nansei Islands including Iriomote Island has been considered to be an independent subspecies, the Ryukyu wild pig (Sus scrofa riukiuanaus), and is distinguished from the Japanese mainland population (Sus scrofa leucomystax) (Kuroda 1940, Ellerman and Morrison-Scott 1951, Haltenorth and Trense 1956, Miura 1997). We suggested that the island-isolation

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