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PS-32 Genetic comparisons of populations of two widely distributed lizard species from the Senkaku Group with those from Taiwan and the Ryukyu Arc islands:an allozyme study

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The Senkaku Group is an assemblage of ten uninhabited islets, ca. 150 km NNW of the Yaeyama Group and ca. 160 km ENE of Taiwan. Unlike the other islands of the Ryukyus, the Senkaku Group lies on the northwestern side of the Okinawa Trough (i.e., the southeastern margin of the East China Continental Shelf). Because the part of the trough lying between the Senkaku Group and the Ryukyu Arc much exceeds 1,500 m in depth, it is obvious that they were consistently isolated from each other during the Late Pleistocene Glacial Maxima (ca. 17,000 years ago) when the sea level should have dropped only by 120 m or so. On the other hand, whether or not the Senkaku Group was connected to the continent and Taiwan then remains equivocal, because the deepest area of the sea that separates this island assemblage from the latter two land masses is around 120 m in depth. Genetic comparisons of conspecific populations of non-volant terrestrial animals between the Senkaku Group and the continent or Taiwan is expected to be quite effective, but no attempts have hitherto been made for any animal species commonly occurring in these regions. We estimated for two widely distributed lizards, *Gekko hokouensis* and *Plestiodon elegans*, the degree of genetic differentiation between the Senkaku and Taiwan populations by use of allozyme electrophoresis. For the genetic analysis of *G. hokouensis*, samples from Kyushu and several islands of the Ryukyus were also incorporated. *Plestiodon elegans* does not occur in the Ryukyu Arc region. So, an Iriomotejima sample of *P. stimpsoni* was incorporated, because among the Ryukyu Arc species of *Plestiodon*, *P. stimpsoni* is known to be closest to *P. elegans* phylogenetically. In both species, substantial genetic differentiations were recognized between the Senkaku and Taiwan populations, with complete allelic displacement at a few loci. This result does not support the view that the Senkaku Group was connected to the continent-Taiwan landmass during the Late Pleistocene Glacial Maxima.