ABSTRACT
Phylogenetic relationships among the Troidini butterflies in Taiwan were analyzed by comparing 830 nucleotide sequence of mitochondrial gene encoding cytochrome oxidase I (COI). The phylogenetic analysis reconstructed by neighbor-joining (NJ) and maximum-parsimony (MP) method suggested that the genera Byasa and Atrophaneura were closely related. The Atrophaneura horishana is the conservative butterfly in Taiwan, The Atrophaneura spp. is predominantly tropical, distributed in the low latitude area in South-East Asia, and the low altitude area in temperate Asia. Atrophaneura horishana is an endemic species in Taiwan, distributing at an altitude from 1500 to 2500 meters, mainly at mountains in central Taiwan. Atrophaneura horishana in Taiwan must be suffered from the environmental changes during glacial periods. It is unknown that the implication of conservation of Atrophaneura horishana though such the evolutionary process. For understanding the post-glacial recolonization history of Atrophaneura horishana, it might be possible to study comparative phylogeography of Atrophaneura horishana the sympatric species Byasa polyeuctes termessus. The results show that the gene flow of low altitude populations of Byasa polyeuctes termessus is very frequently. The population differentiation of Byasa polyeuctes termessus distributed at high altitude is not significant because of flying abilities. Comparatively, the populations of Atrophaneura horishana in high altitude mountain area are more differentiated, but gene flow is still frequently. From the results, we suggest that the populations of Atrophaneura horishana in Taiwan is an Evolutionary Significant Unit (ESU), and it will be very important for the conservation strategy of Atrophaneura horishana to monitor population dynamics and population genetic structure compared with Byasa polyeuctes termessus.

Keywords : Triodini, Atrophaneura horishana, Byasa polyeuctes termessus, mitochondrial DNA, phylogeographic.
Phylogeography of the mole-shrew (Anourosorex yamashinai) in Taiwan: implications of interglacial refugia in a high-elevation small mammal.


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