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DIVERGENCE OF MORPHOLOGICAL CHARACTERS IN TWO SPECIES OF WHITE-EYE (PASSERIFORMES: ZOSTEROPIDAE) IN SYMPATRIC COMPARED TO ALLOPATRIC ZONES

Chaminda Wijesundara[1, 2]* and Leonard Freed[1]

[1]Department of Biology, University of Hawaii, Honolulu, Hawaii 96822, U.S.A.
[2]Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka
**chaminda@hawaii.edu*

When two ecologically similar, sympatric species compete in their zone of overlap, their traits are expected to diverge in the area of sympatry, while remaining more similar in the areas of allopatry. The objective of the present study was to determine the divergence of some morphological characters in two species of white-eye occurring in Sri Lanka, namely the Sri Lanka white-eye *Zosterops ceylonensis* (SLWE) and the Oriental white-eye *Z. palpebrosus* (OWE). The extent of the overlap zone may be as large as 20–30 km in some areas. The study was carried out from February to July 2013. Birds were captured using mist-nets in selected locations in the sympatric and allopatric zones of the two species, namely Horton Plains National Park (allopatric SLWE), Kandapola-Seetha Eliya Forest Reserve (sympatric SLWE and OWE), Bambarakele Forest Reserve (sympatric SLWE and OWE), and Victoria-Randenigala Rantambe Sanctuary (allopatric OWE). Bill length, tarsus length and body mass measured obtained for each individual. All birds were marked and released to their original habitat after taking the measurements. Length and mass data of the two bird species were compared in the zone of overlap and those in the areas of allopatry using a Student's t-test. Three hundred and two mist-net hours were spent and 205 specimens belonging to both species were captured (42 and 70 SLWE in allopatric and sympatric zones respectively, and 59 and 34 OWE in allopatric and sympatric zones respectively).

Results showed that the bill length and body mass of the SLWE in the zone of overlap were significantly different from those in the allopatric zone (bill length $t = 3.44$, $p = 0.001$, $df = 103$; body mass $t = 2.50$, $p = 0.015$, $df = 71$). However, the same measurements for the OWE were not significantly different (bill length $t = 1.12$, $p = 0.267$, $df = 85$; body mass $t = -0.71$, $p = 0.478$, $df = 86$). In general, measurements of bill length and mass showed an increase in the zone of overlap for the SLWE. The results may indicate that these species are adapted for exploiting different food niches in sympatry. They may also demonstrate ecological character displacement in these species in the zone of overlap.

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