

ABSTRACT

Interspecific and intraspecific size variability of the skull, mandibles and teeth of the lesser white-toothed shrew *Crocidura suaveolens* and the bicolored white-toothed shrew *C. leucodon* was studied on material of 350 skulls and 465 mandibles of white-toothed shrews obtained by analysis of the barn owl pellets originating from four regions in the Czech Republic and one region in the southern Slovakia. *C. suaveolens* was present in all regions under study, while sympatric *C. leucodon* occurred in three regions only. In total, 21 cranial and dental measurements and 4 mandibular measurements were investigated. It was found that the most reliable measurement enabling discrimination between skulls of both species in the whole studied material is the length of the lower dental row. If skulls of both species were evaluated separately for each area of their sympatry it was possible to use also the distance between second molars M^2 and the width of premolar P^4 . Skulls of these two species can also be distinguished by bivariate graphs using the length and width of premolar P^4 and the palatal length. We studied relationships between cranial measurements of both species and geoclimatic factors such as longitude, latitude, mean annual temperature and mean annual precipitation. It was found that variability of the smaller species of white-toothed shrew, *C. suaveolens* is more influenced by geoclimatic factors than the variability of greater *C. leucodon*. Size of the mandible, the skull and teeth of *C. suaveolens* correlated positively with temperature (which is in conflict with Bergmann's rule) and negatively with the mean annual precipitation. No significant correlation between skull size of *C. leucodon* and geoclimatic factors was found. Neighbouring populations from Horní Poohří (sympatric occurrence of both species) and Dolní Poohří (*C. leucodon* is missing there) were tested, whether the species *C. suaveolens* does follow the phenomenon of a character displacement. It was ascertained that cranial measurements in *C. suaveolens* from allopatric population in Dolní Poohří are smaller than those in individuals from Horní Poohří where this species occurs in sympatry with *C. leucodon*. Above result is inconsistent with the hypothesis of character displacement.