Abstract

In the last thirty years, the biogeography of the herpetofauna of the Aegean Sea has been the subject of thorough research. In evolutionary biology, islands are considered to be model ecosystems. Morphological, physiological and behavioral changes in some species can be observed on them. These changes are described as so-called "island syndromes". The occurrence of these syndromes depends on the size of the island, its distance from the mainland and the age of the island as well as on population density, availability of resources and presence of predators. The specific manifestations of these syndromes in reptiles of the Aegean islands are: the occurrence of endemism, gigantism and dwarfism, color changes, more frequent tail autotomy, cannibalism and food specialization. Most of these changes are described in lizards of the *Podarcis* genus, especially on *Podarcis erhardii*, as it is the most widespread reptile in this area. The second very widespread and therefore often researched reptile is *Mediodactylus kotschyi*. Changes often take place on small islands, so individuals tend to be compared with members of the same species from a larger island or mainland. The number of endemic species is significantly higher on islands that are longer separated from the mainland. The existence of gigantism and dwarfism is mostly influenced by predation, intraspecific or interspecific competition and the number of bird colonies on the island. The presence of bird colonies provides reptile species with nutrients that are generally lacking on islands. The consequence is a higher population density, which causes species competition and aggressiveness, and thus more frequent tail autotomy. One of the responses to aggression and predation in general is a change in body size (either shrinking the body to make it easier to find shelter or getting bigger and eating smaller individuals). The influence of these factors is different on different islands and in different species, which is why specific cases are described here.