

07. Character release and enhanced sexual dimorphism? Maybe, but not in insular *Podarcis*

Meiri, Shaj¹; Pafilis, Panayiotis²

¹Department of Zoology, Tel Aviv University, Tel Aviv, Israel

²Section of Zoology and Marine Biology, Department of Biology, University of Athens, Athens, Greece

Islands are usually species-poor and insular animal communities likewise usually harbour fewer species than equivalent mainland communities. Intraspecific competition on islands is therefore usually weaker than it is on the mainland. Predation pressure often also decreases on islands, and some in many instances some insular organisms face no predators at all. Faced with such relaxed predation and competition pressures insular animals can evolve to exploit the wider resource spectrum than they can access in more species-rich environments. An extension of this scenario, called the "niche variation hypothesis", results in populations of depauperate communities evolving greater morphological variability. This variability is often thought to manifest itself in enhanced sexual size dimorphism, with the larger sex growing larger still, whereas individuals of the smaller sex grow smaller, so as to reduce intra-specific competition. A clear



prediction of this theory is therefore that communities with more competitors or predators will be less dimorphic. We tested this by measuring the sexual size dimorphism (SSD) of two *Podarcis* species in two Aegean archipelagos. We measured SVLs of female and male lizards across many islands and examined it against the number of other lacertid lizards, the number all lizards, and the numbers of snake species on each island. For each species (*Podarcis gaigeae*, 16 islands; *P. erhardii*, 27 islands) we also examined whether the presence, rather than the number of lacertids, lizards, and snakes, affects the degree of SSD. *Podarcis gaigeae* was, on average, more dimorphic than *P. erhardii* (males 14% longer vs. 6%). In neither species, however, was the degree of SSD affected by either the number or the presence of snakes, lacertid lizards or lizards in general. We conclude that on small islands lacking other reptiles the resource base is likely more limited as well, and thus does not allow the sexes to diverge to specialize on different-sized prey.

uncshai@post.tau.ac.il