

Reproductive ecology and body size-fecundity relationships of the Green Toad, *Pseudepidalea viridis* (Laurenti, 1768), in the Kocaçay Stream, Izmir, Turkey

(Amphibia: Anura)

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Abstract. We studied the breeding biology of the Green Toad, *Pseudepidalea viridis* (Laurenti, 1768), in the 2007-2008 breeding seasons at Kocaçay Stream. The breeding period began in early February and lasted approximately two months. The median of the breeding seasons was calculated as 5th March for the entire study period 2007-2008. The average clutch size was 14,594 eggs and this value was higher than in other conspecific populations from Denmark, Israel and Italy. Clutch size and clutch mass were significantly correlated with female body size, but single egg mass and egg diameter were not. A negative significant correlation was seen between clutch size and egg diameter.

Key words. Climate, clutch size, green toad, reproductive output, spawning duration, Turkey.

Introduction

The Green Toad, *Pseudepidalea viridis* (Laurenti, 1768), is a widespread species with a range extending from North Africa, Mediterranean countries, middle and south Europe to south Asia and Mongolia (GASC et al. 1997). This nocturnal species inhabits a wide variety of habitats, from mesic to arid zones, from subtropical to cold temperate, and from below sea level in Israel to more than 4000 m a.s.l. in the Himalayas (DESSAUER et al. 1975). It is also common along coasts, due to its ability to survive and breed in brackish waters (LANZA 1983). It takes to water only for breeding and the female spawns her eggs in two parallel strings, entwined on some plant or rock in the water. The extension of the distribution range over different climate zones leads to a high variation in seasonal activities and reproductive cycles (SICILIA et al. 2006). We therefore studied the reproduction biology of *P. viridis* in a coastal area close to İzmir, Turkish Aegean region, by quantifying breeding season length, clutch size, clutch mass, egg size, male-female size relationships and female size-reproductive output relationships, comparing our data with those from Italy, Greece and Israel.

Material and methods

The study was conducted at Kocaçay, a small temporary stream in the northeast of Izmir province, Turkey (160 m a.s.l.). The stream originates from Yamanlar Mountain and is fed by underground waters and rain. Its depth was 1 m in the rainy season, while it decreased in early summer and dried in mid or late summer, forming small ponds between floodgates. *Hyla arborea* (Linnaeus, 1758) and *Pelophylax bedriagae* (Camerano, 1882) cohabit this stream with *P. viridis*.