

Patterns of amphibian fatalities in a Mediterranean landscape: insights from a low traffic road in Southern Portugal

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Amphibian fatalities were monitored on the local road M1078 (of total length 7.1 km) that runs across a rural Mediterranean landscape in the Alentejo region (Southern Portugal) during 4 years (September 2003 - November 2007). Although whole road had low vehicular traffic (< 60 cars/hour counted at night during the sampling sessions) it was divided into two stretches: one stretch [VG = 4.2 km] between Valverde and Guadalupe had 9.0 ± 5.9 cars/hour, whilst the other [GE = 2.9 km] between Guadalupe and the cross with the national road N114 had 23.8 ± 18.9 cars/hour. The road was monitored in car at low speed (< 20 km/hour) by two people over 62 early night sessions comprising the wet periods of the year (Autumn, late Winter and Spring). A cumulative total of 2,014 amphibian individuals (64.7 % were fatalities) representing 12 species were found crossing the road. Amphibian abundance was similar in the both stretches, being toads more frequent (62.3-68.0%) than urodels (15.3-19.7 %) and frogs (16.7-18.0 %).

When calculated the percentage of fatalities (road kills/total individuals observed), several results were > 50% for toads (*Bufo calamita*, *Pelobates cultripipes*), salamanders (*S. salamandra*, *Pleurodeles waltl*) and frogs (*Pelophylax perezi*, *Discoglossus galganoi*). However the percentage of fatalities was significantly higher in the second stretch [GE] where most species reached between 66% and 84%. These results suggest that even significant differences among low levels of vehicular traffic may have been a real impact on amphibians crossing the road M1078.