

## **Traffic harms Asturian amphibians**

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This is a photograph of a midwife toad (*Alytes obstetricans*). Credit: Image: Laurent Lebois.

The roads are the main cause of fragmenting the habitats of many species, especially amphibians, as they cause them to be run over and a loss of genetic diversity. Furthermore, traffic harms two abundant species that represent the amphibious Asturian fauna and have been declared vulnerable in Spain: the midwife toad (*Alytes obstetricans*) and the palmate newt (*Lissotriton helveticus*).

"But <u>midwife toad</u> and palmate <u>newt</u> populations have very different sensitivities to the effects of roads" Claudia García-González, researcher at the University of Oviedo, told SINC. "These amphibians have very different dispersal capabilities".



From various DNA tests, Eva García Vazquez's team have analysed the correlation between the number of roads that the amphibians have to cross to travel from one colony to another and the intensity of the genetic barriers between them. This way she has determined how the traffic affected them.

The results, published in *Landscape and Urban Planning*, show that in the Trubia valley (Oviedo) midwife toad populations are most affected by motor traffic and are much more broken up and isolated than the newts.

In the last decade amphibians have experienced a decline all over the planet, which is why "they are currently highly vulnerable species and many of them are subject to special protection," García-González explains.

## Plant corridors to protect the toads

Amongst measures for reducing the impact of roads on animals, traffic alleviation is highlighted. The researcher points out that "decongestion measures in rural areas efficiently minimise the impact on newts, but not on midwife toads".

According to the study, even small roads with little traffic act as barriers for midwife toads, and therefore this measure is not enough to protect this species.

"A reduction in the number and speed of vehicles should be added to other actions, such as building plant corridors or passages to help connect humid areas with water habitats" García-González suggests.

In order to minimise the effect of roads on biodiversity "it does not seem appropriate to only consider one strategy to protect amphibians. We



must consider the individual needs of each species and take into account that there are many factors that impact on them" the biologist warns.

Furthermore, "many animals, apart from amphibians, could benefit from building paths on existing bridges or new pathways for crossing rivers" the expert concludes.

**More information:** Garcia-Gonzalez C.; Campo D.; Pola I.G.; Garcia-Vazquez E. "Rural road networks as barriers to gene flow for amphibians: Species-dependent mitigation by traffic calming" Landscape and urban planning 104 [2]: 171-180, Feb 2012. <u>DOI:</u> 10.1016/j.landurbplan.2011.10.012

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