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EVOLUTIONARY RELATIONSHIPS BETWEEN *ZOOTOCA VIVIPARA* SUBSPECIES AS INFERRED FROM PATTERNS OF GENETIC VARIATION IN ALPINE POPULATIONS.

Transition from oviparous to viviparous reproductive modality, which is likely to have a pronounced effect on the reproductive success and the fitness of the organisms concerned, is a relevant evolutionary event.

Squamate reptiles are of particular interest for studying this shift as it has been shown that viviparity has evolved from oviparity far more often in squamate reptiles than in all other lineages of vertebrates.

The lacertid lizard *Zootoca vivipara* is one of the few squamate species with both oviparous and viviparous populations. In most of the range, from the British Isles and central France into Scandinavia and eastern Russia, populations are viviparous, whereas two distinct, allopatric oviparous populations are restricted to the southern margin of the range.

The 'western oviparous group', recently ascribed to subspecies *Z. vivipara louislantzi*, is found in southern France and northern Spain, while the 'eastern oviparous group', corresponding to the subspecies *Z. vivipara carniolica* is located in northern Italy, southern Austria, Slovenia and Croatia. The presence of *Z. vivipara vivipara* and *Z. vivipara carniolica* in Central and Eastern Alps makes this region an interesting area to investigate about taxonomical and ecological distribution of these two morphologically undistinguishable subspecies.

We collected a small amount of tissue tail of 193 samples of *Zootoca vivipara* sp. in Central and Eastern Alps. We analysed cytb gene (mtDNA), a nuclear gene (c-Mos, oocyte maturation factor, maybe related to reproductive modality) and nine nuclear microsatellites.

This study allowed us to describe taxonomical and ecological distribution of the two subspecies in Central and Eastern Alps along with their evolutionary relationships. We analysed genetic variation between subspecies, within each subspecies and population structure within subspecies.

All these data concur to gain insights about the evolutionary shift from oviparity to viviparity.