



ORAL COMMUNICATIONS

PARTHENOGENETIC FEMALES MATE IF MALES ARE AROUND. AN ANALYSIS OF COPULATION MARKS IN A *Darevskia* MIXED COMMUNITY

Miguel A. CARRETERO¹, Enrique GARCÍA-MUÑOZ^{1,2,3}, Elena ARGAÑA⁴, Susana FREITAS^{1,5}, Claudia CORTI⁶, Marine ARAKELYAN⁷ and Neftalí SILLERO⁴

1. CIBIO Research Centre in Biodiversity and Genetic Resources, InBIO, Universidade do Porto, Campus Agrário de Vairão, Rua Padre Armando Quintas, Nº 7. 4485-661 Vairão, Vila do Conde, Portugal, Email: carretero@cibio.up.pt
2. CESAM, Centro de Estudos de Ambiente o do Mar, Universidade de Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro, Portugal
3. Departamento de Biología Animal, Biología Vegetal y Ecología, University of Jaén Campus de Las Lagunillas, s/n, 23071 Jaén, Spain
4. CIGGE Centro de Investigação em Ciências Geo-Espaciais, Faculdade de Ciências da Universidade do Porto (FCUP), Observatório Astronómico Prof. Manuel de Barros, Alameda do Monte da Virgem, 4430-146, Vila Nova de Gaia, Portugal
5. Department of Animal and Plant Sciences, The University of Sheffield, Sheffield S10 2TN, United Kingdom
6. Museo di Storia Naturale dell'Università di Firenze, Sezione di Zoologia "La Specola", Via Romana 17, 50125 Firenze, Italia.
7. Yerevan State University, Alek Manoogian, 1, Yerevan 0025, Armenia

Several Caucasian rock lizards of the genus *Darevskia* are well-known to reproduce parthenogenetically and have a hybrid origin. While one or more of these all-female parthenogens may monopolize local lizard communities, they may also occur in syntopy with bisexual members of the genus. In several localities, effective reproduction between bisexual and parthenogenetic *Darevskia* has been reported based on lizard intermediate morphology and karyology (3n, 4n) but frequency of such heterospecific matings is still unknown. In a mixed *Darevskia* community from Kuchak (Armenia) constituted by two parthenogens (*D. armeniaca* and *D. unisexualis*), one bisexual species (*D. valentini*) and their putative backcrosses, we indirectly quantified the reproductive interactions through the inspection of copulation marks in females. A total of 114 adult females were randomly collected, photographed and later inspected for inguinal marks. Females were measured (SVL) and their marks were ranked twice from 0 (no scars) to 3 (≥ 3 scars). The lizard determination and ploidy was ensured by microsatellites analysis. All female types displayed copulation marks with frequencies varying from 61% in the parthenogenetic *D. armeniaca* to 30% in the bisexual *D.*



ORAL COMMUNICATIONS

valentini; remarkably, 7 out of 11 (64%) backcross females also had marks. In the most abundant *D. armeniaca*, the prevalence and intensity of copulation marks increased with size, just as expected for normal female lacertids. These results indicate that copulation of parthenogenetic *Darevskia* in mixed communities with bisexual species is not an isolate event, thus reinforcing previous suggestions of massive reproductive interaction in syntopy. Evolutionary perspectives of this phenomenon are discussed.