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# RIASSUNTI DELLE COMUNICAZIONI E DEI POSTER

*a cura di*

Elvira De Matthaeis, Andrea Di Giulio, Marzio Zapparoli

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UNIVERSITÀ ROMA TRE, DIPARTIMENTO DI SCIENZE  
Viale G. Marconi 446 00146 Roma, Italia

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GIOVANNI FORCINA<sup>1</sup>, MONICA GUERRINI<sup>1</sup>, PANICOS PANAYIDES<sup>2</sup>, PANTELIS HADJIGEROU<sup>2</sup>,  
ALEEM AHMED KHAN<sup>3</sup>, FILIPPO BARBANERA<sup>1</sup>

<sup>1</sup>Università di Pisa

<sup>2</sup>Ministry of Interior, Game and Fauna Service, Cyprus

<sup>3</sup>Institute of Pure and Applied Biology, Zoology Division, Bahauddin Zakariya University, Pakistan

**MOLECULAR BIOGEOGRAPHY AND TRANSITIONS WITHIN ZOOGEOGRAPHIC REALMS:  
THE BLACK FRANCOLIN (*FRANCOLINUS FRANCOLINUS*) AS TOOL TO ELUCIDATE THE  
INTRA-PALAEARCTIC BOUNDARY**

The transition zone between western and eastern Palearctic is a topical and long debated issue among zoologists, with Iran recently proposed as entirely pertaining to the former (and featuring the “Great Western Palearctic”) rather than to the latter. Further molecular and phenotypic information from sedentary and low-vagile polytypic taxa may help untangle the complex bioclimatic and environmental dynamics that shaped the distribution of faunal assemblages in this region to either validate the currently proposed boundary or suggest its reappraisal. In this study, we collected and analyzed 221 samples of black francolin (*Francolinus francolinus* Linnaeus, 1766), a galliform whose distribution range in Asia entirely encompasses Iran and that, by virtue of limited dispersal capabilities and high habitat fidelity, represents an ideal model to address this issue. This secretive and still scarcely known species has been the object of recent investigations at the University of Pisa addressing phylogeographic and conservation as well as historic-anthropological issues. Here, we compared the spatial genetic structure of birds sampled across the entire range (from Cyprus eastward to Bangladesh) as inferred at nine microsatellite loci with publically available vocalizations (namely male advertising calls) analyzed in a recent study. We found a striking overlap between the two sources of information pointing to the occurrence of a western and an eastern cluster including two and four morphological subspecies, respectively. The divide between these groups runs north to south across central Iran, and was found to match with that separating genetically dissimilar conspecific populations of other vertebrates. When framed within the paleoclimatic and geomorphological information of this region, this scenario suggests a generally higher connectivity favoured by warmer and more humid conditions preceding the cold-arid climatic phase associated with the last glacial stage that restrained most taxa to moist refuges. The subsequent increase of temperatures likely led to the substantial isolation of eastern and western black francolin populations with a drastic decrease of the gene flow between them. While the taxonomic significance of this split will be hopefully investigated further in a more in-depth study relying on whole genome data, in light of these results we propose to consider a western-eastern Palearctic boundary crossing Iran longitudinally, thus reaching a compromise between the two traditionally most debated views.