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CARATTERIZZAZIONE GENETICA DI QUAGLIA *COTURNIX COTURNIX* E RISCHI D'INQUINAMENTO GENETICO A SEGUITO DELLE IMMISSIONI DI SOGGETTI D'ALLEVAMENT University of Turin and University of Genoa

Two subspecies of Coturnix coturnix have allopatric distributions in Europe, Maghreb and western Asia (the Common quail C. c. coturnix), and in eastern Asia (the Japanese quail C. c. japonica), except for sympatric breeding areas in the Baikal (Russia) and Kentei (Mongolia) regions, where they could hybridize. Japanese quails have been reproduced in captivity for centuries and domesticated. Massive releasing of Japanese domesticated quails, or hybrids, in west European countries might threaten with hybridization the gene pool of wild quail populations. We used RAPD (Random Amplified Polymorphic DNA) and mtDNA analysis on wild (14 samples from Portugal, 10 from Apulia – S-Italy, 13 from Senegal, 9 from Saudi Arabia and 5 from Mongolia) and captive-reared quails (49 "Common quail" samples from Italian and French farms, 12 "Japanese quails" from INRA – Nouzilly and 12 F1 "hybrids" from Rennes I University). Blue-breasted quails (9 samples) have been analysed as outgroup. RAPD results were not immediately intelligible (probably due to small Nei's genetic distances between samples) and we have not been able to obtain complete gel for some samples. On the contrary, a phylogenetic tree identified two major mtDNA clades, corresponding to the two subspecies: all the captive reared birds and wild quails sampled in Mongolia showed japonica mtDNA haplotypes. Our findings suggest that Common and Japanese quails can hybridize in nature, and that gene flow in hybridizing populations might be male-biased, leading to greater admixture and lower genetic differentiation at nuclear than mitochondrial genomes. Introgression of domesticated Japanese quail genes in wild Common quail populations might affect the phenotypic expression of functional traits, as body size, feather colours, sexual calls and migratory behaviour patterns. Hence, restocking with captive-reared nonnative quails should be banned.