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A GENETIC AND MORPHOLOGIC STUDY IN A CONTACT ZONE BETWEEN TWO PUTATIVE ITALIAN BROWN TROUT SPECIES, *SALMO CETTI* AND *S. CENERINUS* (*SALMO TRUTTA* COMPLEX)

The brown trout, *Salmo trutta* Linnaeus, is a wide-ranging species complex native to Eurasia and North Africa. From a systematic point of view, various taxa were recently recognized as separate species within the *Salmo trutta* complex in Italy, with two species inhabiting the Apennine streams, namely *S. cenerinus* Chiereghini on the Adriatic side and *S. cetti* Rafinesque in the Tyrrhenian drainages (see Kottelat and Freyhof, 2007. Handbook of European freshwater fishes. Cornol, Switzerland 2007). Due to stocking, also Atlantic brown trout, *Salmo trutta*, is now widely represented in Apennine river basins (e.g., Caputo et al., 2004. J. Fish Biol., 65: 403-418). Recently, within the “Life+ TROTA” (LIFE12 NAT/IT/0000940) aiming to put in place a strategy for conservation of the last central Italy native trout populations, we studied a contact zone between the two putative Apennine species along the watershed in the Sibillini Mountains National Park. In this context, we studied genetic and morphological differentiation of 16 local samples belonging to 3 river basins (Nera on the Tyrrhenian side of the Apennine, Tenna and Chienti on the Adriatic one) and over 400 specimens using molecular (nuclear and mitochondrial DNA) and morphologic approaches. The results of this survey allowed us to observe that, despite a long history of restocking with the alien Atlantic species, the native brown trout is still well represented in the central Apennine streams. In particular, the two groups representing alien and native trout were well separated from our analyses, suggesting the presence of biological barriers favoring the maintenance of separation despite hybridization due to restocking with Atlantic trout. However, the results obtained did not evidence a clear separation between the two putative species described for the two Apennine sides. Indeed, this is not so surprising, considering that this area of central Apennine could have acted as a semipermeable barrier between Adriatic and Tyrrhenian drainages, thus favoring gene flow in the past (Bianco, 1995. Cybium, 19: 241-259). Nevertheless, our data highlighted a marked differentiation between the main basins of this Apennine area, as a probable consequence of isolation. These significant differences at basin level should be considered in future plans for the management of brown trout species in order to preserve a rich biodiversity that endured both climate changes and the incorrect management policies.

Comunicazione orale

- Simposio 1 - Strategie riproductive: aspetti comportamentali, morfo-funzionali ed evolutivi
- Simposio 2 - Aspetti fisiologici e difese interne: adattamenti evolutivi e applicazioni in biotecnologie
- Simposio 3 - La sistematica moderna tra morfologia strutturale ed approcci molecolari

Poster

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