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The presence of the brown bear (*Ursus arctos*, L.) in the north eastern Alps (Friuli Venezia Giulia region) in relation to the Alpine metapopulation

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The North Eastern Alps (Friuli Venezia Giulia Region) represent a peripheral area of presence of the Dinaric population (for the North Dinaric population, Slovenia, 400-450 individuals estimated) of the Brown Bear; in this area in the last years some individuals has started to come from Trentino population (40-45 individuals estimated) and to use this areas. In previous 114 researches this area has been considered one of the most suitable areas, in the alps, for supporting the alpine brown bear population and for enhancing the creation of the alpine metapopulation. From 2004 to the 2013 in mountains areas of the Friuli Venezia Giulia has been studied (2500 km²) the presence of the Brown Bear with different techniques: the genetic sampling (by opportunistic and systematic methods), photo interpretation and behavioral analysis and radiotelemetry. The genetic samplings have been obtained by the hair traps (50 permanent hair traps plus 80 temporary and moving hair traps) and by opportunistic techniques. By the genetic analysis it has detected the presence, from 2004, of 21 different genotypes (4 from Trentino and 17 from the Dinaric population, 3 of them studied by telemetry), all of them were males. The number of genotypes detected in different year has showed a cyclic pattern, with a increment in the last year, due to dispersing individuals from Dinaric source population; in different years, from 3 to 8 (2013), different genotypes have been detected, with a evident turnover. The median time of presence (years of sampling), for each genotypes, was 2 years, and only 6 genotypes have been sampled for 3 or more years (1 from Trentino); 10 genotypes have been sampled in only one year. Despite to the increment of the Trentino population and the high density of the Dinaric populations, in the north eastern alps the process of immigration and colonization appears to be slow and intermittent and seems correlated more to the demographic aspects (i.e localization and philopatry of the females, now present only in the Alpine and Dinaric areas of Slovenia and on the right side of Adige river, in Trentino), management of the Dinaric population, dispersal behavior and presence of not permeable infrastructure (high way Ljubljana-Trieste) rather than the ecological values of the areas.

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