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Documented long-distance dispersal of wolf (*Canis lupus*) from Dinaric population and successful pack formation

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Fig 1: Wolf "Slavc"

Summary:

• in winter 2011/2012 in frame of Life+ SloWolf project we documented a **dispersal** of 2-year old male grey wolf (*Canis lupus*) "Slavc"

• this is the first documented case of long distance dispersal with **successful pack formation from Alpine and Dinaric** wolf populations

• case is showing a **potential for future joining** of two distinct wolf populations

Post-dispersal period:

• after 27th March 2012 settled in **Lessinia Regional Park in Italy**

• in the same area presence of **another wolf** was first photo documented and later confirmed with genetic analyses as female wolf from **Alpine population**

•new **pack formation and successful reproduction** in 2013

• release of drop-off collar system on 27th August 2012

•**150 km²** home range size (100% MCP)

Fig 4: Wolf settled in Lessinia area of Eastern Alps (Italy)

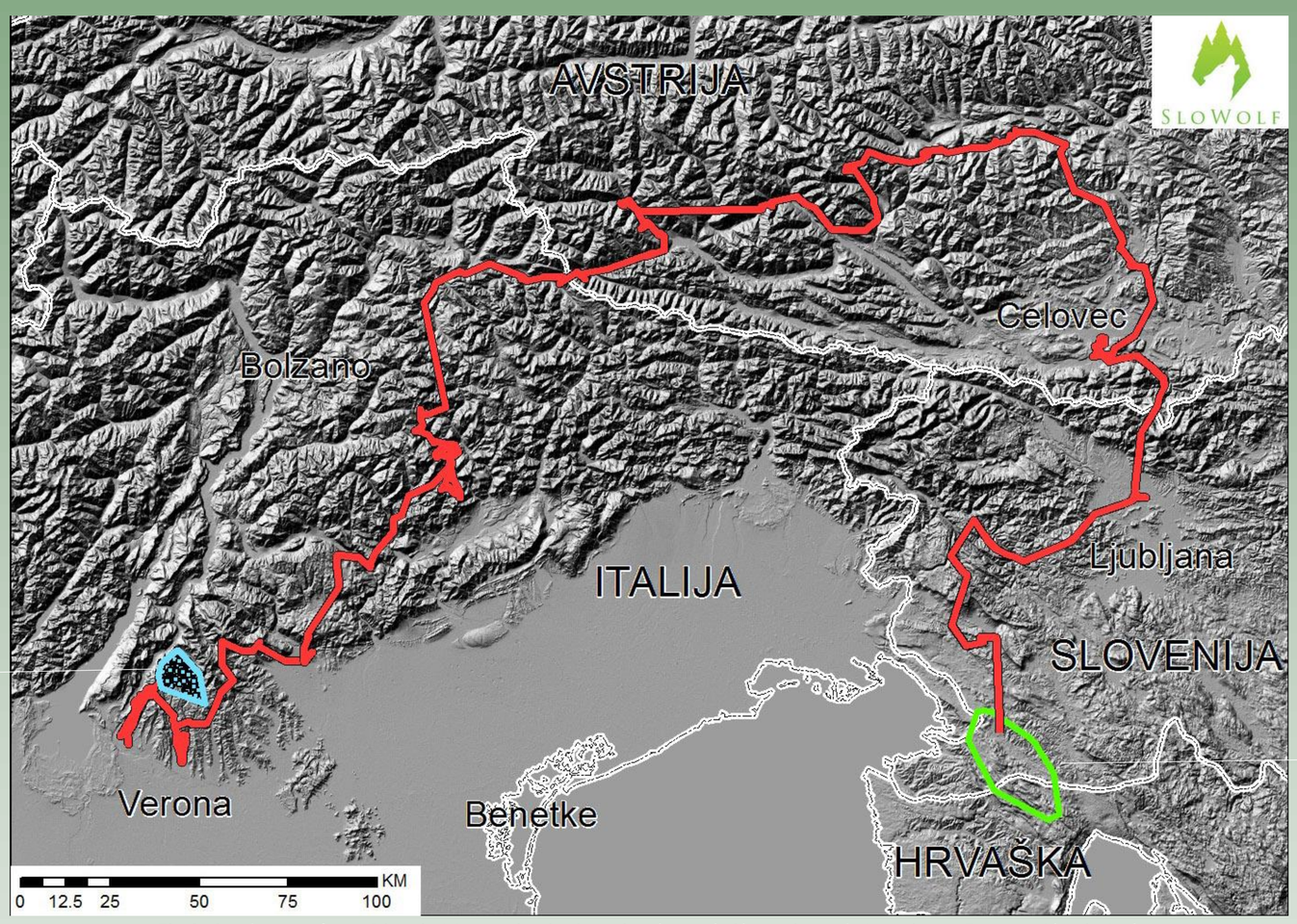

Fig 2: Study area from Dinaric Mountains in Croatia, through Slovenia and Austria to Eastern Alps in Italy.

Pre-dispersal period:

•captured on 17th July 2011- **Slavnik region in Slovenia** and equipped with GPS-GSM-VHF collar

• **Balkan-Dinaric wolf population**

•living in transboundary Slovene-Croatian natal pack of Northern Dinaric Mountains

•**442 km²** home range size (100% MCP)

Fig 3: Wolf originated from Slavnik Area of Dinaric Mountains (Slovenia)

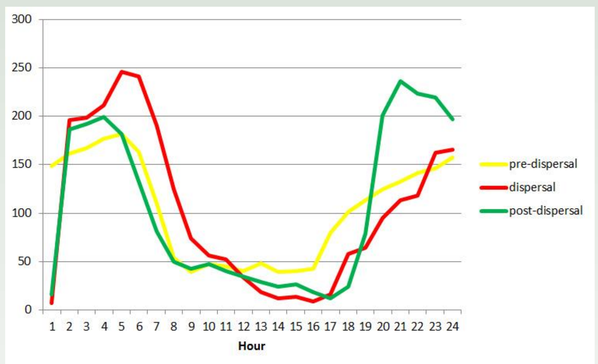

Fig 5: Wolfs diurnal activity during his pre-dispersal, dispersal and post-dispersal period.

Dispersal period:

• dispersed on 19th December2011

• **100 days** of travel through Slovenia, Austria and Italy

• overcoming anthropogenic and natural barriers such as highways, railways, urbanized and cultivated areas, river dams, large rivers and mountain ridges

• **1176km** total consecutive straight line distance between locations

• **200km** of straight line distance between natal and new home range

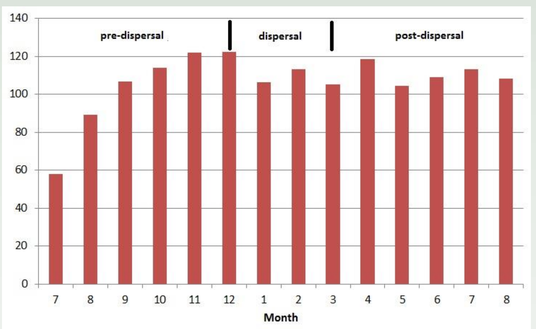

Fig 6: Wolfs monthly activity during his pre-dispersal, dispersal and post-dispersal period.

Discussion: Dispersal is natural process in a wolf lifetime, when natal pack is left in search of mate, new territory, and food resource. We were able to follow a young male wolf on his 1176 km long distance dispersal. Wolves moving long distances can create the possibility to colonize distant or recolonize historic places (Linnell et.al. 2005). Such cases can show connections of functional linkages between different wolf populations and areas. Recently, two wolves in Austria were genetically identified as originating from Dinaric-Balkan population (Lapini et. al. 2010), although in spite of the proximity of Dinaric-Balkan population, this was expected and population was slowly expanding toward Alps in last years. Potential for future joining of Dinaric population and Alpine population was proved with telemetry documented long dispersion of male wolf from Dinaric Mountains with successful pack formation and breeding with female wolf from Italian western Alps in area of Venetian Alps.

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