

2nd International Workshop on the Genetic Study of the Alps-Dinara-Pindos and Carpathian Brown Bear Populations”

On behalf of the network participants:
 Alexandros A. Karamanlidis
 ARCTUROS
 3 Roggoti STR.
 54624 Thessaloniki, Greece
 Website: www.arcturos.gr

Despite considerable conservation efforts several bear populations around the world continue to decline. Because bears require large, well-connected natural or semi-natural areas and have home ranges that can span over several hundreds of square kilometers, maintaining intact habitat requires conservation that extends across national borders. Brown bear (*Ursus arctos*) research, management and conservation actions are much more effective if they are carried out on a larger, multinational scale. However, the legislative, logistic and scientific differences between the various countries involved make this task very challenging. This clearly evident in the Alps-Dinara-Pindos brown bear population that spans over ten different countries (Austria, Italy, Slovenia, Croatia, Bosnia & Herzegovina, Montenegro, Serbia, The Former Yugoslav Republic of Macedonia, Albania and Greece). In fact, to have

a comprehensive understanding of the status of the species in the region, we would need to include the brown bear populations in the Carpathian and Rila – Rodopi mountains and add Slovakia, the Czech Republic, Poland, Romania, the Ukraine and Bulgaria to the evaluation, bringing the total to 16 countries that would need to cooperate. It is therefore evident that effective research, conservation and management of brown bears in the region can only be achieved if all the involved stakeholders in the various countries are brought within a common framework.

The need for a common strategy in managing the fate of brown bears in the region, at least on a genetic level, was acknowledged early on and led to the 1st International Workshop on

in the region, in combination with the new data on the genetic status of brown bears in other countries (for example, in Greece in the southern part of the Alps-Dinara-Pindos population, and Slovakia and Romania, in the Carpathian population) led to the organization of a second workshop in 2009.

The 2nd International Workshop on the genetic study of brown bears in the region was held on the 9–10th of May 2009 at the facilities of the Veterinary Faculty of Zagreb, Croatia and was organized by Magda Sindičić and Đuro Huber. The workshop was attended by 20 participants from five different countries (Italy, Slovenia, Croatia, F.Y.R. Macedonia and Greece) while another 20 conservationists and scientists from five more countries



Figure 1: Attendants of the 2nd International Workshop on the genetic study of the Alps-Dinara-Pindos and Carpathian brown bear populations

the genetic study of brown bears of the Alps-Dinara-Pindos population in Masun – Slovenia in 2007. Following this first meeting, the participating countries went on to pursue the conservation and research priorities identified. Indeed, growing interest in the genetic research of the species

participated in the pre- and post-workshop activities (i.e. preparation of the workshop agenda, preparation of the workshop report). Information about population status and research activities in each country was presented in the first day of the meeting (Table 1), and served as a

Country	Study area	Study design	Sample type	Use of bait	Loci screened	Loci used for sex identification	Nr. of individuals identified
Austria	The Alps of Austria: central Austria, western Austria, Karinthia	Opportunistic & systematic sample collection	Scat & Hair	YES	G10B, G1D, G10L, G10P, Mu23, Mu26, Mu50, Mu59	SRY, SE	22
Croatia	Dinara Mountain range in Croatia	Opportunistic & systematic sample collection	Tissue & Scat	NO	Mu10, Mu23, Mu50, Mu51, Mu59, G1D, G10B, G10C, G10J, G10L, G10M, G10P, G10X	SRY	354
	(144 tissue + 210 scat)						
Greece	Northern Pindos mountains in Greece, southwestern Albania, eastern F.Y.R. Macedonia, Serbia	Opportunistic & systematic sample collection	Tissue & Hair	NO	G1A, G1D, G10B, G10C, G10L, G10M, G10P, G10X, G10H, G10J, G10O, G10U, CXX20, CXX110, Mu23, Mu26, Mu50, Mu51, Mu59, Msut-2, REN145P07	SRY, Amelogenin	202
Italy - 1	Central - Eastern Alps: expanding from Trentino	Opportunistic & systematic sample collection	Scat & Hair	YES	G1A, G1D, G10B, G10C, G10H, G10J, G10L, G10M, G10O, G10P, G10X, Mu05, Mu10, Mu11, Mu15, Mu23, Mu50, Mu51, Mu59, CXX20	Amelogenin	43
Italy - 2	Central - Eastern Alps: Friuli Venezia Giulia	Systematic sample collection	Hair	YES	G1D, G10C, G10L, G10M, G10P, Mu10, Mu15, Mu23, Mu50, Mu51, Mu59	Amelogenin	10
Slovakia & Romania	Western, Eastern and Southern Carpathians in Slovakia and Romania	Opportunistic & systematic sample collection	Tissue & blood & bone & scat & hair	NO	G10B, G10C, G1D, G10J, G10L, G10M, G10P, G10X, Mu10, Mu23, Mu50, Mu51, Mu59	SRY	373
Slovenia	Dinara mountains in Slovenia, Slovenian Alps	Systematic sample collection	Scat & tissue & hair	NO	G1A, G10B, G10C, G10D, G10H, G10J, G10L, G10M, G10P, G10X, MU05, Mu09, Mu10, Mu11, Mu15, Mu23, Mu26, Mu50, Mu51, Mu59, Mu61, CXX20	SRY	354 (non-invasive) 524 (mortality)

Table 1: Main characteristics and results of the seven genetic projects on brown bears in the Alps-Dinara-Pindos and Karpathian mountains regions

starting point for a productive discussion regarding the future of genetic research and conservation of brown bears in the region. It was agreed that the overall goal of genetic research on brown bears in the region should be to facilitate managing and protecting this species on a population level. In order to achieve this, three distinct levels of action were identified. The following first level activities were already carried out at the workshop:

1. Creation of a network of stakeholders involved in the genetic research and conservation of brown bears in the region. This network includes the following members / institutions:

- Albania: NGO Transborder Wildlife Association, Korça
- Austria: Research Institute of Wildlife Ecology/University of Veterinary Medicine and Laboratory of Molecular Systematics/Natural History Museum, Vienna
- Croatia: Faculty of Veterinary Medicine and Faculty of Science, University of Zagreb
- F. Y. R. Macedonia: NGO Macedonian Ecological Society, Skopje
- Greece: NGO ARCTUROS, Thessaloniki
- Italy: Autonomous Province of Trento, Autonomous Region of Friuli Venezia Giulia, Institute for Environmental Protection and Research (ISPRA), University of Udine
- Romania: ICAS and the University of Transylvania, Braşov
- Serbia: NGO Mustela, Belgrade
- Slovakia: Faculty of Forestry, Technical University of Zvolen
- Slovenia: Department of Biology, Biotechnical Faculty, University of Ljubljana

2. Preparation of a document that will be available as a CD-ROM or download by the end of the year, defining common guidelines for the genetic research on the species in the area. 🐾

New Environmental Centre on Brown Bears in the Former Yugoslav Republic of Macedonia

Alexandros A. Karamanlidis
ARCTUROS
3 Roggoti Str.
54624 Thessaloniki, Greece
Email: akaramanlidis@gmail.com
Website: www.arcturos.gr

Bear conservationists from Greece and the Former Yugoslav Republic of Macedonia (F.Y.R. Macedonia) have recently looked past their countries decade-long differences and are engaging in a new era of fruitful cooperation. Since 2006, joint projects of NGOs from the two countries have included the genetic monitoring of bears in F.Y.R. Macedonia and the

SEE.ERAnet, an international project on the conservation of brown bears in the Balkans (see also *IBN* 18(1 & 2)).

In May 2009 another joint project was successfully completed. With funds provided by the Greek Development Program of the Ministry of Foreign Affairs, the Greek NGO ARCTUROS, in cooperation with its counterpart MOLIKA implemented the project "ECO – INFO II". This project involved the environmental education and sensitization of the people of F.Y.R. Macedonia. Within the framework of this project, an environmental centre focused on large carnivores – bears in particular – was built close to the town of Bitola (Figure 1). The centre, which will be run eventually by the NGO MOLIKA, aims to become a focal point for environmental conservation in the region and will highlight the endangered status of the brown bear in a rapidly developing country. 🐾



Figure 1: School children learn about the life of the endangered brown bear during the official opening of a new environmental centre on large carnivores, in Bitola, F.Y.R. Macedonia