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The status of the European Roller in Croatia

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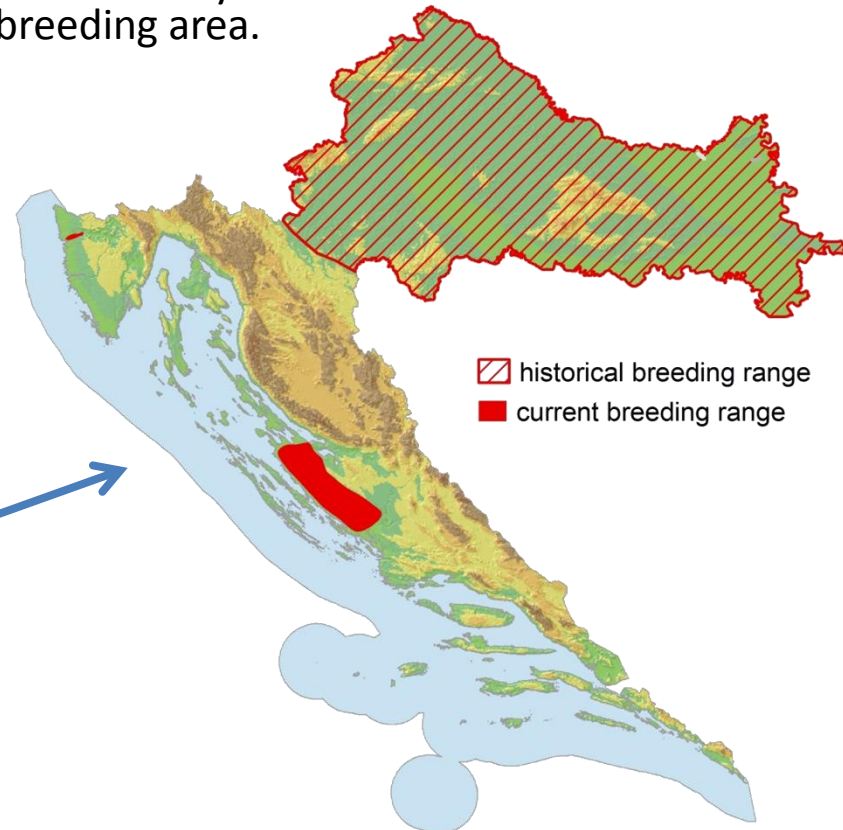
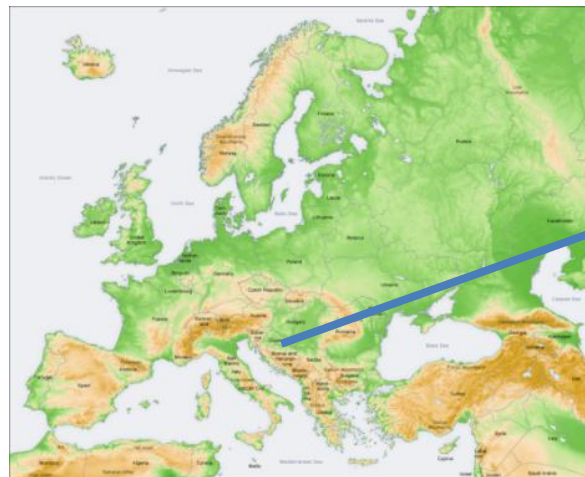
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The European Roller is breeding species of Croatia

- A large decline has occurred. In the past it was recorded throughout lowland continental Croatia. In the fifties Rollers were numerous in Međimurje region (adjacent to Mura river). In the coastal region it was recorded only in eighties, and these were the last observations for the country till 2010 when it was rediscovered. Coastal region still remains the only breeding area.





Range states	Breeding	Migration	Wintering
Albania	yes	No	no
Armenia	yes	No	no
Austria	yes	Yes	no
Azerbaijan	yes	No	no
Belarus	yes	No	no
Bosnia and Herzegovina	yes	No	no
Bulgaria	yes	Yes	no
Croatia	yes	No	no
Cyprus	yes	Yes	no
Czech Republic	extinct	No	no
Estonia	extinct	No	no
France	yes	Yes	no
Georgia	yes	No	no
Greece	yes	Yes	no
Hungary	yes	Yes	no
Italy	yes	No	no
Latvia	yes	Yes	no
Lithuania	yes	No	no
Macedonia, the former Yugoslav Republic of	yes	No	no
Montenegro	yes	No	no
Moldova	yes	Yes	no
Poland	yes	Yes	no
Portugal	yes	Yes	no
Romania	yes	Yes	no
Russia (European)	yes	No	no
Serbia	yes	Yes	no
Slovakia	yes	Yes	no
Slovenia	extinct	No	no
Spain	yes	Yes	no
Turkey	yes	Yes	no
Ukraine	yes	Yes	no

Update for Croatia:

Breeding: yes

Migration: yes

Wintering: no

Table 1. European range states of the European Roller. Member states of the EU in bold (BirdLife International 2008).



Country	Breeding pairs.	Quality	Year(s) of the latest estimate	Breeding Population trend in the last 15 years (= 3 generations)	Quality
Albania	10-50	M	2002	decline	P
Armenia	300-650	M	2000-2002	stable	M
Austria	10-18	G	2001-2008	stable	G
Azerbaijan	1000-5000	P	1996-2000	stable	P
Belarus	20-50	M	2008	large decline	M
Bulgária	2.5-5.5	M	1990-2005	small increase	M
Croatia	15-20	G	2016	unknown	-
Cyprus	2000-4000	P	1994-2000	small increase	P
Czech Republic	0	G	2000	extinct	
Estonia	1-5	G	2003-2007	moderate decline	M
France	800-1000	M	2007	moderate increase	M
Georgia	present				
Greece	200-300	P	1995-2000	small decline	P
Hungary	1000	G	2007	stable	G
Italy	300-400	P	2003	stable	P
Latvia	20-30	G	2005	large decline	M
Lithuania	35-50	G	2007	large decline	G
Macedonia, the Former Republic of Yugoslav	300-1000	P		moderate decline	P
Moldova	50-80	M		large decline	P
Poland	60-80	G	2007	moderate decline	M
Portugal	80-150	M	2001-2005	moderate decline	P
Romania	4600-6500	P	2002	small decline	P
Russia (European)	6000-6500	P	1990-2000	moderate decline	M
Serbia	70-120	M	2007-2008	small increase	M
Slovakia	1-20	P	2008	large decline	P
Slovenia	0	M	2008	possibly extinct	M
Spain	2000-6000	M	2006	moderate decline	P
Turkey	30 000-60 000	P	2001	moderate decline	P
Ukraine	4000-5000	M	1990-2000	large decline	G
Total EU (27)	13,000 – 25,000			decline	
Total Europe	55 000 – 117 000			decline	

Population size and trend between 2000-2016 is unknown for Croatia as Rollers were rediscovered breeding in the country in 2010.

Population size and trend by country (BirdLife International 2008).

Notes: G – Good; M – Medium; P – Poor.



The main threats for the European Roller in Croatia

All listed threats are long term and have no solution yet:

- Agricultural intensification (fertilization and pest control reduce the biomass and diversity of potential prey) – **Critical**
- Removal of poplar trees and absence of rejuvenating of linear tree groves (field shelterbelts against soil erosion) or rejuvenating linear tree groves with cypress and other conifers reduce availability of nest sites – **Critical**
- Increasing habitat homogeneity (e.g. loss of field margins and increased field size) – **High**
- Illegal hunting – **High**
- Land abandonment (reduced management of meadows and pastures) – **Medium**



Changes in Croatia regarding the policies and legislations relevant to the management of the species

- Since the last European Roller ISAP (2008) Croatia has designate NATURA 2000 sites.
- The whole main breeding area is included in the SPA (HR1000024 Ravni kotari).
- Recently established breeding area where only one pair was found in 2016 is not protected.
- In total around 95% of territories are protected (included in Natura 2000 site).



The main goals in Croatia regarding the European Roller population

- Strengthening and preserving strong European Roller population in the coastal region.
- Re-colonization of historical breeding areas in the continental region and preserving self-sustained population this region.



Recent conservation activities relevant to the species within Croatia

- From 2013, with the major support from the colleagues from Austria, nestboxes are being placed in the breeding area. The number of nestboxes is still insufficient and many of them were occupied by honeybees. In 2016 three pairs were breeding in nestboxes.
- Hrvatske vode (national legal entity for water management) was notified about Roller distribution and Croatian Agency for Environment and Nature issued a decision that obligates Hrvatske vode to preserve poplar trees around ditches and to clear ditches in alternating manner (only one side of ditch is cleared at the time) in Roller breeding area. However, the implementations of these measures are not monitored.
- State Agency for Nature Protection has announced their intention to finance preparation of National Species Action plan in 2017.



Monitoring methods

- The distribution of Rollers at a landscape level was surveyed in 2011-2012 in Northern Dalmatia (costal Croatia) in areas with suitable habitats. In all known breeding localities the population is continuously monitored (with the limited effort as funding is limited).
- Rollers' occurrence is monitored by territory mapping based on several visits from the end of May till the end of July. The area is surveyed with a help of binoculars and scopes. The aims are, firstly, to define territories and, secondly, to confirm breeding attempts at each Roller territory and to determine the position of nest-holes. Nest-boxes are also checked for the occupancy.
- Furthermore, new localities in Northern Dalmatia are continuously explored for potential breeding pairs, either based on sightings of birds in the breeding season or based on suitable habitats. Any new pairs discovered are subsequently continuously monitored.
- Another region in costal Croatia, Istria, was also considered as possible breeding area and several localities were surveyed there in 2014, but without indication for Roller occupancy. However, in 2016 one pair was recorded in Istria.
- Monitoring was financed by the State Agency for Nature Protection from 2011-2014. However, in the last two years the financing was missing.



Goals and actions from the last ISAP (2008) considered complete or partly achieved

- 1.1.1 Develop national species action plans – announced
- 1.1.2 Legally protect under national and/or international (e.g. Natura 2000) legislation the priority areas – **completed**.
- 1.2.1. Develop monitoring schemes and implement annual monitoring on Roller populations and breeding success – **partly achieved**.
- 1.2.3. Define priority areas for Roller conservation – **partly achieved**.
- 1.3.2 Ensure that state, regional and local nature conservation agencies are aware of Roller priority areas – **partly achieved**.
- 2.1.6 Protect and restore non-productive features such as tracks, ditches, fallow and beetle banks and non-sprayed patches to increase prey availability – **partly achieved**.
Hrvatske vode (national legal entity for water management) is obligated to preserve poplar trees and hedges around ditches in Roller breeding area. The implementations of these measures are not monitored.



Goals and actions from the last ISAP (2008) considered complete or partly achieved

- 2.2.3 Map, protect and restore hedges and suitable wood lots, trees in farmland – **partly achieved**. Only mapping of hedges and suitable trees is achieved in the part of the breeding area.
- 2.2.6 Install nest boxes including in areas with healthy populations but with likely shortage of nest sites – **partly achieved**. From 2013, nestboxes are being placed in the breeding area. The number of nestboxes is still insufficient and many of them were occupied by honeybees.
- 2.2.7 Provide alternative nest sites (nest boxes) near old buildings with nests to avoid nest-site destruction – **completed**. Nestboxes were provided for two pairs that were nesting in buildings. One pair transferred to a nestbox while other remained in a building.



New objectives that should be incorporated in the new ISAP

- As Croatia did not participate in preparation of the last ISAP, priority levels of several objectives from previous ISAP should be lifted for Croatia compared to overall priority level. Some objective should be amended.
 - 1.3.1 Raise the awareness about the value and conservation status of the Roller among key stakeholders – **hunters should be added among the key stakeholders.**
 - 1.3.2 Ensure that state, regional and local nature conservation agencies are aware of Roller priority areas – **high.**
 - 2.1.4 Promote / improve environmental impact assessment of irrigation schemes – **critical.**
 - 2.1.5 Promote set aside retention in fallow land (through voluntary measures if not legally required) – **high.**
 - 2.1.6 Protect and restore non-productive features such as tracks, ditches, fallow and beetle banks and non-sprayed patches to increase prey availability – **critical.**



New objectives that should be incorporated in the new ISAP

- 2.2.2 Conserve riverbank trees and riparian forests as protected habitat types and features of the landscape – **high**.
- 2.2.3 Map, protect and restore hedges and suitable wood lots, trees in farmland – **critical**.
- 2.2.4 Promote planting of native soft woods and the elimination of introduced tree species in Roller priority areas through forestry planning and site management plans – **critical**. „**elimination of introduced tree species**” should be deleted or amended as planted hybrid Canadian poplar (*Populus x canadensis*) cultivars are the main nesting substrate for Rollers in Croatia.
- 2.2.6 Install nest boxes including in areas with healthy populations but with likely shortage of nest sites – **critical**.
- 2.2.7 Provide alternative nest sites (nest boxes) near old buildings with nests to avoid nest-site destruction – **high**.



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Thank you!