

# 11<sup>th</sup> Meeting of the Advisory Committee

City of Luxembourg, Luxembourg, 8 – 10 May 2006

## Report of the IWG on Autecological Studies for Priority Species



### **Terms of reference:**

Development of a collaborative project focussed on one or more of *Rhinolophus euryale*, *Myotis capaccinii* and *Miniopterus schreibersii* that should include an element of population monitoring.

### **Work to be carried out:**

1. Investigating roost choice over European countries
2. Long-term population monitoring of European populations
3. Studying population structure, including dispersal (genetic analyses)

### **Plan of action:**

1. Prepare a project plan including:
  - Review of current work
  - Research objectives and priorities
  - Research methods (guidelines for population monitoring in collaboration with the IWG on Monitoring guidelines, for genetic sampling)
  - Questionnaire for investigating roost choice
  - Sample of roosts for population monitoring to be identified together with NGOs and bat workers
  - Collaborators (identifying of NGOs and bat workers to obtain information on roost choice and a laboratory in charge of the genetic study)
2. Begin implementation where resources permit.

## I - Review of current work

### I.1 - Monitoring and/or surveillance of populations

	<i>R. euryale</i>	<i>Myotis capaccinii</i>	<i>M. schreibersii</i>
Albania	?	?	?
Armenia	No monit.	-	No monit.
Austria	-	-	Three monitored caves
Azerbaijan	No monit.	-	No monit.
Bosnia & Herzegovina	?	?	?
Bulgaria	Monit. W & S colonies	Monit. W & S colonies	Monit. W & S colonies
Croatia	Monit. W colonies	Monit. stopped	Monit. W colony
Cyprus	?	?	?
France	Surveil. W colonies	Surveil. S colonies	Surveil. W colonies
Georgia	No monit.	-	No monit.
Greece	?	?	?
Hungary	Monit. W & S colonies	-	Monit. W & S colonies
Italy	No monit.	No monit.	No monit.
Macedonia	No monit.	No monit.	No monit.
Malta	-	-	?
Portugal	Monit. colonies	-	Monit. colonies
Romania	No monit.	No monit.	Monit. W & S colonies
Russia	-	-	Surveil. W & S colonies
San Marino	?	-	?
Serbia & Montenegro	Monit. W colonies	No monit.	No monit.
Slovakia	Monit. W colonies	-	Monit. W colonies
Slovenia	Monit. W & S colonies	Monit. W & S colonies	Monit. W & S colonies
Spain	?	?	?
Switzerland	-	-	?
Turkey	?	?	?
Ukraine	Accidental	-	-

(- : species absent, ? : data deficient, W : winter, S : summer)

### I.2 - Foraging areas

*R. euryale*: Bulgaria (radiotracking), France (radiotracking of four colonies), Italy (Russo *et al.* 2002), Spain (at least three radiotracking studies)

*M. capaccinii*: France (radiotracking of two colonies), Greece (radiotracking), Italy, Slovenia, Spain (radiotracking)

*M. schreibersii*: France (radiotracking of two colonies), Russia (ultrasound detectors), Spain (radiotracking)

### I.3 - Diet

*R. euryale* : Bulgaria, Croatia, France, Slovenia (unpublished thesis)

*M. capaccinii* : Croatia, France, Italy

*M. schreibersii* : France, Slovenia (unpublished thesis)

### I.4 - Migration

*R. euryale* : Hungary, Serbia & Montenegro (ringing)

*M. schreibersii* : Hungary, Slovenia (Interreg program with Austria), Russia

### I.5. - Parasites

*R. euryale* : Serbia & Montenegro (ectoparasites)

*M. schreibersii* : Italy, Portugal

## **I.6 - Population structure**

*M. capaccinii*: Greece (ringing, radiotelemetry)

## **I.7 - Roost selection**

*R. euryale*: Italy (North-central part)

## **II - Research priorities**

The following topics should be investigated:

- microclimate of roosts (temperature, humidity) along the seasons in order to identify bat choices (a problem arises with electronic devices that often produce ultrasounds);
- foraging areas using radiotelemetry and diet analysis;
- flying paths when commuting from the roost to the foraging areas (and when moving between roosts);
- metapopulation structuring, using genetic analyses, morphometrics or echolocation calls.

## **III - Research methods**

Any participant (or correspondent) to the IWG is requested to send guidelines and advice for any topic to the convenor (including genetic sampling, echolocation recording,...).

## **IV - Questionnaire for investigating roost choice**

The questionnaire was drafted (annex), keeping in mind that *R. euryale* is also found in churches (Slovakia, Slovenia), and *M. capaccinii* in buildings.

## **V - Sample of roosts for population monitoring**

The list of underground roosts collected by the IWG convened by Tony Mitchell-Jones will be the basis, countries that did not send information for this list are requested to provide information concerning the roosts that are (or should be) monitored for the three species.

## **VI - Collaborators**

Each Party or Range State is requested to send to the convenor the list of NGOs and bat workers able to give information on roost choice.

## VII - References

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## IWG4 - Autecological Studies for Priority Species

### QUESTIONNAIRE FOR INVESTIGATING ROOST CHOICE

One questionnaire for each species. Only roosts of more than 10 individuals of a species are considered.

**Species :** \_\_\_\_\_

**1. NUMBER OF ROOSTS / ROOST TYPES** (*N-nursery; H-hibernaculum; T-transient roosts*)

Type	N	H	T	Remarks ( <i>not necessary</i> )
Cave				
Artificial underground shelter				
Overground shelter ( <i>building, attic, other – please specify</i> )				
Total				

**2. NUMBER OF INDIVIDUALS IN THE ROOST** (*maximal numbers*)

Count	N	H	T	Remarks
10 - 100				
100 – 500				
500 – 1.000				
1.000 – 10.000				
> 10.000				

**3. COUNTING METHODOLOGY**

<b>Counting methodology</b>	<b>N</b>	<b>H</b>	<b>T</b>	<b>Remarks</b>
Surface estimation (m <sup>2</sup> )				
Multiply up from sample count				
Tally counters at cave entrance				
Photo				
Digital video camera / IR / nightvision				
Capture/mark/ recapture				

**4. ROOST SUBSTRATE** (*natural caves and mines*)

Stone type	N	H	T	Remarks
Limestone				
Volcanic rocks				
Sandstone				
Other ( <i>please specify</i> )				

**5. INFLUENCE OF EXTERNAL CLIMATE** (*where bats are found*)

Distance from the cave entrance	N	H	T	Remarks
At the entrance (influence of light)				
In the part influenced by external climate				
Deep in the cave/mine (stable conditions)				

**6. HABITAT AROUND THE ROOST**

Altitude	N	H	T	Remarks
0 – 200 m asl				
200 – 800 m asl				
> 800 m asl				
Distance from water bodies	N	H	T	Remarks
0 -100 m				
100 – 1000 m				
> 1000 m				
Vicinity of forest	N	H	T	Remarks
In forest				
Close to forest				
Far from forest				

**7. MICROCLIMATE MEASUREMENTS**

Method	N	H	T	Remarks
Continuous/ dataloggers/ thermohygrograph or similar				
Basic pocket equipment ( <i>how many times per year</i> )				
Other (thermal camera, laser) ( <i>how many times per year</i> )				

Please provide examples (span of temperature and humidity, i.e. 10-15<sup>0</sup>C; 70-95%) in remarks.

**8. OTHER SPECIES PRESENT IN THE ROOST (*with more than 10 individuals*)**

Species	N	H	T	Remarks

**9. SITES WITH CURRENT THREATS**

Type	N	H	T	Remarks
Caves				
Artificial underground shelters				
Overground shelter ( <i>building, attic, other – please specify</i> )				