

EUROPE POND TURTLE'S (*Emys orbicularis* L.) PROTECT AND REINTRODUCTION'S PROJECT IN LITHUANIA

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I'm happy to have possibility to apply so much World people. It is very important too that when I here and now speaking about pond turtle's (*Emys orbicularis*) protect in Lithuania I unite work many scientist ideas. May I to mention only two - Pr. T. Ivanauskas which in 1905 beginning to study at a Sorbona university. He attend Pr. Priuvo (G. Pruvot), L. Delage, M. Koleri (M. Caullery), worked in Roskof (Roscoff) biological station in Banyuls (Banyulise). In 1931 he organized three month's expedition in Brazil.

Another was Pr. L.H. Bojanus from Germany. He worked in Vilnius university (1806-1824) and his book "Anatomae Testudinis Europaea" is very important for us. Pr. L.H. Bojanus was from Darmshtadt where buried.

Introduction

The area of pond turtles (*Emys orbicularis*) stretches from the North Africa through the whole Europe to Ural mountains. It is difficult to believe that today it is an integral territory without blank places with the development of industry, increasing cities, the number of suitable biotops catastrophically decreases. One can hear signals of danger from many regions of Europe: Poland, Germany, Italy. The inventory of the area part in north - east region showed that number in population is decreasing everywhere. On the other hand, the degree of adaptability is astonishing.

The aim of our investigations is to try to prove the existence of levels of regulation due to the observations in regulation in laboratory, to clear out the possibilities of their adaptation for reacclimatisation.

Material and methods

Pond turtles between 1978 - 1995 were under observation in Lithuania, Byelorussia, Ukraine, Russia, Georgia, Azerbaijan, Turkmenia. Were collected information about turtle's behaviour and ecology.

The information concerning the possibilities of groups or populations control in Lithuania was gathered in the protect territory where 46 individuals (85%) were marked for this purpose aluminium plates with numbers. They were fastened on the upper part of the carapace with the help of melthior wire (1mm. diameter) through two wholes made at the edge of radialia shell. Used plastic two colour plates for individual marking which were fastened under the aluminium ones.

The long term observations of the marked individuals in the same population (18 years), the comparison of the results in different parts of the area enable us to raise the declared hypothesis of reacclimatisation.

Exposition

The investigations showed that the factor which compel the pond turtles (*Emys orbicularis*) to settle in some specific territory exist in the structures of biotop (stations and mikrostations). The following components of the biotops necessary for normal activity of population:

1. Winter lodges,
2. Places for mating,
3. Places for laying eggs,
4. Places for feeding.

Winter lodges (undrying, unfreezing waters) - protect from unfavourable climate conditions, concentrate individuals of both sexes thus facilitating spring search.

Mating places (shallow, quickly warming waters) - make suitable conditions for copulation, for formation of egg cover.

Eggs laying places (stations of special structures in the slopes south or south - east sun exposition) - if chosen optimally according to the existing climatic conditions increase the possibilities of successful embryo development.

Nourishing places (waters with lot of food) - enable prepare for wintering, for the new cycle of bryding.

Studing the seasonal and 24-th hour's activity with reference to the factors the mentioned above the following dependance draws out:

1. The concentration of individuals, the strategy of copulation depends upon the number of winter lodges and their biotop,
2. The strategy of the females spring migration depends upon the number of eggs laying places and their location,
3. The choise of eggs laying places depends upon the degree of imprinting, the structure of microstation,
4. The choise of summer feeding places depend upon abundance of their food stock structures of places suitable for warming and their situation.

From the point of view of suitability for the species the most ideal structure for biotops would be when the places

for wintering, mating, feeding and eggs laying would be as near as possible. To our mind the biotop looked just like this in the times of pond turtles flourishing. Unfortunately, the surroundings have changed due antropogenic influences so greatly today that it is almost impossible to verify this hypothesis.

It is evident that the turtles becomes extinct with destruction of one of these links. In most cases it would be enough to restore it and the turtles would do the rest. But there will also be such cases when it will be necessary not only to restore the tructures of biotops parts but also to deport some numbers of animals. The result will be achieved only when in a new territory (recipient) connection ties of breeding (male - female - eggs laying places) and feeding (turtles - food object) will start functioning by themselves.

The works on reaclimatisation of pond turtles may be divided into the following block:

1. Informational block ;
 - complex investigations on the "donor" population,
 - complex investigations on the biotop of the " recipient ",
 - modelling of the parts of the "donor" in the laboratory.
2. The preparing block;
 - breeding turtles in the captivity,
 - increasing the individuals number of "donor ",
 - aproximating the structure of "recipient" to that of "donors ".
3. Work block:
 - transportation of individuals,
 - protect and monitoring.

The work of the information block and breeding in captivity should be carried on simultaneously. How and what structures are to be created in a "recipient" will become clear only after thorough ecological - behavioural investigation of the "donor", modelled in the laboratory. That means that after reaclimatisation the work is to be carried out in all directions simultaneously.

The work block is of great importance. The turtles are prepared for transportation in autumn. Sexually mature individuals and unmated young ones of 6-7 years are let out into a fences part of "donor" wintering place. At the same time small turtles of 3 years old are chosen and adjusted to lower temperature (wintering imitation).

Reptiles are carried from "donors" to "recipient" early in spring. They are caught, transported and let out only in water (as aquarium fish). Great different in temperature should be avoided.

Number of individuals may fluctuate depending on the number of initial population. To our opinion no less than 50 mature females, 10 males, 50 six year old ones and 100 three year old ones should be transferred during the first year. The last ones should be let out into natural environment later when the temperature in a shoal reaches 20°C.

The main thing wich should be expected in spring of the same year is going out of females into the " recipient's" eggs laying places. After eggs laying they should be returned to the native places. It will let to repeateverything the net year. The concret result of this work is that the newly born little turtles are protected from enemies and will succesfully reach the water.

And the finishing touch. The little turtles born even in "recipient's" territory spend two first winters of their life in the artificial places where conditions are brought near to natural.

While summing up the following things should be accentuated. Reaclimatisation is a complex long - term process, the main principle of which is that the animals are transferred whithin the present or former territory. The aim is to restore or to built up stable nutritional and mating relation of the species in a new biotop.

Conclusions

1. The ecological- behavioural analysis of the populations of pond turtles show that in parts of biotop there exist levels of rufing animals groups.
2. With their help it is possible to restore the damaged links of the population, to accomplish the reaclimatisation.
3. The reaclimatisation is theoretically possible if only one of the components mentioned above of the population is left.
4. For reaclimatisation used turtles only from the same or geographically parallel zone.
5. Individuals are transferred during their least seasonal activity. Females after laying eggs and individuals trying to leave the new biotop are brought back to the old one.
6. While keeping the first - year turtles in captivity it is necessary to form conditions near to natural. Water composition, food obiects, temperature memorising (imprinting) should be kept in mind.
7. When climatical conditions are fine we mustn't to interference. Possible only eggs laying places protect and may be to halp jungs individuals reach water.

INTERNATIONAL CONGRESS OF CHELONIAN CONSERVATION

FRANCE - GONFARON - Tortoise Village - 6th to 10th of July 1995

Proceedings



Astrochelys yniphora is the rarest tortoise in the world. Reared at Ampijoroa, in Malagasy, and at St Catherine Island (in this photo), its total strength never exceed a few ten individuals in captivity and a few hundred ones in the wild. An excellent conservation programme concerns this animal, leaded by the Jersey Wildlife Conservation Trust and the Wildlife Conservation Society. Nevertheless, at the beginning of may 1996, part of the tortoise populations (adults and juveniles) have been stolen at Ampijoroa, flying specialists into a rage and disappointment. So, this tortoise is a symbol, by its scarceness, by the efforts made to protect it, and by the threats which hang over it, of the difficult conservation of the tortoises in the world.

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