

## SURVEY ON THE EFFECTIVENESS OF MICROCHIP TRANSPONDERS IN CHELONIANS

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Following the introduction of Commission Regulation (EC) No. 939/97 Marking Requirements for Tortoises, some concern has been expressed regarding the introduction and use of microchip transponders as a means of identification.

With apparently very little scientific evidence to refute or substantiate these concerns, the aim of this survey has been to ascertain the success v failure rate of implanting microchip transponders into the three Mediterranean species: *Testudo graeca*, *Testudo hermanni* and *Testudo marginata*.

Data submitted on others chelonian species has also been incorporated into the overall findings.

### Findings of survey

- Number of recipients: 21  
(See Appendix 1)
- Number of responses: 18
- Number of abstentions: 2
- Number of no replies: 1
  
- Approve the use of microchip transponders: 11
- Disapprove the use of microchip transponders: 5  
(of whom 3 stated preference for non-invasive techniques,  
i.e. finger-printing 2; notching 1)
  
- No stated view: 2

### Result of Implantation

Species	No of specimens	Success	Failure	Duration of implant
<i>Testudo graeca</i>	18	17	1	days - 4 yrs
<i>Testudo hermanni</i>	14	14		months - 4 yrs
<i>Testudo marginata</i>	1	1		months
<i>Testudo horsfieldi</i>	106	12 (definite) 94 (assumed)		5 yrs
<i>Testudo kleinmanni</i>	1		1	----
<i>Geochelone denticulata</i>	4	4		8 months
<b>Total:</b>	<b>144</b>	<b>142</b>	<b>2</b>	<b>days - 5 yrs</b>
Total % success:	98.6			
Total % failure:	1.4			

Preferred implantation sites:	Brachial region – effective, but difficult to read in large specimens if they migrate into the body; anterior to knee of rear leg found to be more reliable  Left inguinal region
Agreed minimum carapace straight length:	100 mm
Recommended procedures:	Implantation by veterinarians experienced in chelonians.
Associated medical problems: (number of repeat comments in brackets)	Migration within body (5) Bleeding on implantation (2) Infection of introduction site (1) Blood vessel damage (1) Ejection of chip from the body (1) Gangrene (1)
Practicality issues:	Lack of compatibility between different makes of microchip transponders and scanners. Locating implanted transponders can be difficult. Reading scanned data can be difficult. Malfunction of chip. Some can be re-programmed remotely.

## CONCLUSION

With a small circulation of twenty-one recipients, the findings of this survey were never going to be all-encompassing, but the content of many of the responses was sparser than hoped for. In this respect, the survey has highlighted the need for further research, as much of the evidence submitted, both for and against the procedure, remains anecdotal.

Whilst there is support for this procedure where implantation is conducted under set guidelines, by those persons qualified, or knowledgeable, in the physiology of chelonians, the apparent lack of written scientific evidence, relating to the use of microchip transponders in chelonians, will do little to alleviate the health, safety and practicality concerns shared by many of those keeping chelonians who are affected by this regulation. It also raises the question on what scientific basis Commission Regulation (EC) No 939/97 Marking Requirements for Tortoises, was approved.

## Survey on the Effectiveness of Microchip Transponders in Chelonians

### Recipient List

Dr E N Arnold  
Natural History Museum

Dr R Avery  
British Chelonia Group

Sig D Ballasina  
Carapax, Italy

Mr J L Behler  
IUCN Tortoise & Freshwater Turtle  
Specialist Group, Wildlife Conservation  
Society, U.S.A.

Dr R Bustard  
President, British Herpetological Society

Director , New York Turtle & Tortoise  
Society, U.S.A.

Mr S J Divers, BSc; BVetMed;  
CertZooMed; CBiol; MMIBiol; MRCVS;  
RCVS.

Mr J Fitzgibbon  
Pet Care Trust

Mr J Fletcher, BVSc. MRCVS

Mr R C Gibson, BSc  
Durrell Wildlife Conservation Trust

Mrs F M Harcourt-Brown, BVSc; MRCVS.

Dr H Hall  
Zoological Society of London

Mr A C Highfield  
The Tortoise Trust

Mr K Hingley  
International Herpetological Society

Mr M Jessop, BVetMed; MRCVS

Ms A H Littlewood  
Joint Nature Conservation Committee

Miss S Millard  
Dept. of Environment, Transport & the  
Regions.

Dr A G J Rhodin  
Chelonian Research Foundation, MA,  
U.S.A.

Mr D Sheriff  
Edinburgh Zoo

Prof. I R Swingland  
Durrell Institute of Conservation & Ecology

Dr S Townson  
Chair Captive Breeding Committee,  
British Herpetological Society