

Comparison of the prevalence of different microorganisms (*Leptospira* spp., *Mycoplasma* spp.) in wild and confiscated *Testudo* individuals



M. L. Marenzoni^{1,*}, C. Corti², E. Baldoni¹, S. Bellucci¹, M. Biaggini², M. L. Corbucci¹, M. D'Incau³, G. Deli⁴, O. Raffaele¹, V. Stefanetti¹,
D. Marini¹, L. Vieceli¹, M. Diaferia¹, F.C. Origgi⁵, O. Olivieri¹, M. Trabalza-Marinucci¹

(1) Department of Veterinary Medicine, University of Perugia, Perugia, Italy;
(2) Museo di Storia Naturale dell'Università degli Studi di Firenze, Sezione di Zoologia "La Specola", Firenze, Italy;
(3) National Reference Centre for Animal Leptospirosis, Istituto Zooprofilattico Sperimentale Lombardia ed Emilia-Romagna 'Bruno Ubertini', Brescia, Italy;
(4) DMV, MRCVS, GPCert (ExAP), PgCert(EAS), United Kingdom;
(5) Institute of animal pathology, Vetsuisse Faculty, University of Bern, Bern, Switzerland.
*Corresponding author: marialuisa.marenzoni@unipg.it

1. Introduction

Natural populations are the fundamental benchmark for any investigation aiming to assess the actual significance and disease ecology of any infectious organism considered to impact wildlife. Comparison between captive and free-ranging population allows to better highlight and discriminate the agents which could represent a threat for the investigated species. Following a multidisciplinary ministerial project aimed at appropriately relocating confiscated *Testudo* individuals [1], we carried out environmental, genetic, and clinical-diagnostic investigations on *Testudo hermanni*, *T. graeca*, *T. marginata* [2-5]. A general study involving various disciplines was essential to protect natural populations, comparing them with confiscated animals [2-5].

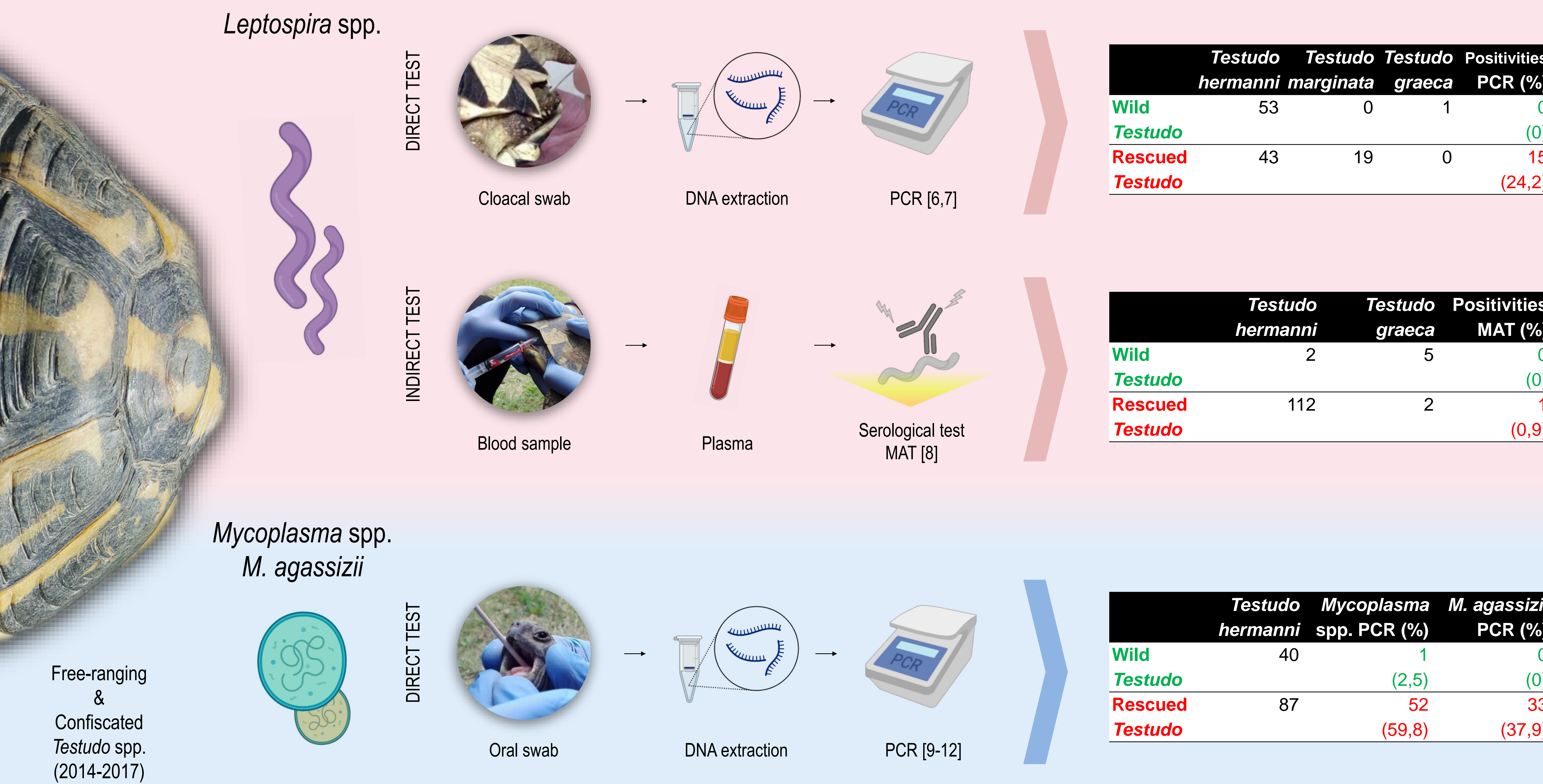
Leptospirosis is a worldwide zoonosis, characterized by a complex and broad ecological cycle. The agent of this water borne infection is ubiquitous thanks to the multitude of sensitive hosts [8]. Limited information concerning leptospirosis in Testudinidae, both in captive and free-ranging conditions, are reported [2].

Mycoplasma spp. in chelonians are considered commensal or causative of severe diseases of the upper respiratory tract, with chronic evolution and mortality. *M. agassizii*, responsible for upper respiratory tract disease in both wild and captive tortoises, is a threat for the management of wild tortoise populations [12].

Our studies focused on the prevalence of some infections, including *Leptospira* spp. and *Mycoplasma* spp., and their comparison between natural and captive (confiscated) populations of Italian *Testudo* spp.

2. Materials & Methods

3. Results



4. Discussion & Conclusion

Overall, the results show that the infectious agents *Leptospira* spp. and *Mycoplasma* spp. are more present in the confiscated animals than in free-ranging tortoises. Many factors act probably in spreading infectious diseases in these different situations of life.

These differences should be taken into account because they can limit the possibility of relocation of the confiscated animals to contain the risk of spreading of these infections into the wild. A multidisciplinary approach is required before any relocation action is taken.



Study supported by the Ministry of the Environment and Protection of Land and Sea of Italy, MATTM, with the project entitled *Studio sanitario, genetico e naturalistico su popolazioni continentali, insulari di Testudo per la ricollocazione in aree idonee di soggetti sequestrati* [Health, genetic and naturalistic study on continental and island populations of *Testudo* for relocation to suitable areas of seized individuals].

