

## Book Review:

# JOHN W. WILKINSON. Amphibian Survey and Monitoring Handbook. Pelagic Publishing

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People in need to conduct survey and ecological studies on amphibians (for pure research or for applied works) will certainly welcome the booklet authored by John W. Wilkinson, a passionate conservationist and amphibian lover. The publisher Pelagic Publishing already produced in the last years several books and monographs dedicated to the natural history and conservation of habitats and species. The reviewed book is realised in octavo, soft bounded, 120 pages long, with colour photographs and black and white drawings. It belongs to the series entitled “Conservation Handbooks”, which also includes two other handbooks dedicated to the barn owl conservation and to monitoring of marine mammals.

Just to make a naturalistic “outing”: amphibians’ most typical representatives, such as frogs, toads, newts, and salamanders (not excluding the “odd” caecilians) have wonderful and peculiar life habits and for sure are among the most ideal subjects for a series of activities and studies (Harvey Pough et al., 2001). This is also due to the fact that many species from temperate areas usually aggregate around water pools where they breed. There, they can be found with rather good facility, having two life phases, one with aquatic larvae (known as tadpoles in anurans), and the other with terrestrial or sub-aerial adults. So far, they can be observed and collected with facility, just using hand nets, or a simple array of terrestrial and aquatic traps. When I started studying newts for my master thesis, it was nice to observe and collect them in a great number in temporary ponds using pit-falls and other simple devices. In fact, during the breeding phase (usually in springtime) many of them come back to water, and they may conduct quite a long aquatic phase.

Terrestrial urodeles, such as alpine salamanders (i.e., *Salamandra atra* and *S. lanzai*) and cave salamanders (*Speleomantes* spp.), are also abundant elements of the local biomasses and amphibians are also abundant animals in other biomes, such as tropical rainforests, where are also quite easy to observe. Their activity is usually almost extended (going in winter periods as well) and represent good subjects to establish conservation priorities and biodiversity hotspots (Veith et al., 2004).

So far, herpetologists and biology students have the pleasure and necessity to know which are the best practises to collect and identify species in the field, as well to collect ecological data. Evidently, Wilkinson wished to fill this gap and presented all these topics in five numbered and three unnumbered chapters.

The first chapter of the booklet is entitled “Introducing amphibians” and it presents the amphibian diversity, a “must” when you deal with these vertebrates. With around than 7500 described species (estimate at January 2016 according to AmphibiaWeb, 2016), one third at least of which in danger of extinction (Stuart et al., 2006), amphibians are often among the most favourite targets of ecologists and taxonomists, as new species are discovered all the times. This chapter also introduces the typical amphibians with the aid of nice colour photographs. To be sincere, I would have appreciated if this chapter was a little bit more extended, with more photographs. In a general context, more information would have been useful, showing, for example, the diffusion of amphibians around the World, and some more colourful or weird species. Just for the sake of delighting eyes and for attracting people.

Chapter 2 is much more extended and is entitled “Before you start surveying”. It includes important recommendations that a herpetologist should always take into consideration when she/he goes in the field. These span from the practical ways to collect data to instructions for preparation of handbooks and field procedures. An important sub-chapter deals with the “Survey permissions and licenses”. Although it is quite focussed on UK reality, it stresses the need to request and get all the documentations and authorisation before doing field work and handling live animals. I must confess that this kind of activities and procedures were much less important and respected in the past, but nowadays - with the augmented level of legal protection of species and habitats - it is really compulsory to follow strictly all the protocols and respect current legislation. It is also important to submit proposals of research and taking with us the research authorisations. Two other subchapters are particularly worth of interest and must be read with great attention. One informs on how to handle amphibians (when this is strictly necessary) and provides useful information (in many cases amphibians can suffer for thermal shock and/or dehydrated). The other subchapter provides information about hygienic protocols. Indeed, these arguments are closely correlated: it is extremely important to know that handling can be stressing for these small and delicate vertebrates, and also that this can be a way to diffuse dangerous pathogens. The deleterious effects of chytrid fungi (*Bratrachochytrium dendrobatidis* and *B. salamandrivorans*) around the World are well-known and pose serious conservation problems for amphibians (Weldon et al., 2004; Martel et al., 2013). All people involved in amphibian surveys need to know how to disinfect hand nets and personal boots, since they can be vectors for these and other pathogens (Dejean et al., 2007). It seems something trivial today, but it is important to recall, anyhow. The safety concept also includes attention for the human component, something that is often under-considered when going in the field. Indeed, conducting research is not a simple and easy matter, and it might be really dangerous. The use of portable telephones - a pleasure (and damnation!) in contemporary life - is obviously important when going searching for amphibians, especially during nocturnal hours, when amphibians are more active, although it might be a little problem when conducting research in the tropics, often in areas far from electricity.

Chapter 3 (During your survey: amphibian survey methods) enters more in depth about the methods of survey, carefully listing the material necessary for the data collecting and providing information about the most relevant survey methods, among which: visual survey, egg

counting, torching/night survey, funnel trapping, mesh funnel, Ortmann-type traps. I also read with great interest and pleasure the information on how to build an artificial egg mop. In my early career I also tried this, and I remember that it was really amazing to see eggs promptly laid on it. The rest of the chapter deals with descriptions of survey methods to be used for terrestrial amphibians, as well as the application of the well-known pit-fall and drift fences methods. Finally, for anurans Wilkinson also provided indication about call recognition systems as well as an overview on HSI (Habitat Suitability Indices).

In Chapter 4, “After your study”, Wilkinson provides some synthetic indications on the statistical analyses that could be carried out, as well as indication on how to arrange and present the results, especially in a paper way. Some last sub-chapters deal with further kinds of field studies, including population research, radio-tracking, taxonomy and GIS studies.

The last chapter, “Resources to help you”, gives information on some format sheets that can be used as well as a list of field guides, textbooks, and equipment suppliers. The last sub-chapters presents a list of herpetological societies. Amazingly, seen that this review is done on the official journal of *Societas Herpetologica Italica*, it is quite a pity that this was not been listed, like the *Société Herpétologique de France*. Moreover, being a book exclusively dedicated to amphibians, I did not find any reference to the *International Society for the Study and Conservation of Amphibians* as well as to the *IUCN SSC Amphibian Specialist Group* and to the *Amphibian Survival Alliance*. These should be corrected in the future, if other editions will follow.

Three last, unnumbered chapters, present a bibliographic list as well as a glossary, and an alphabetical index.

To conclude this review I must say that I liked the book by Wilkinson and I would recommend it. It is a nice compendium putting together an array of information and in such an extent it is surely useful for people at the beginning of their activity. Notwithstanding, I would have appreciated a wider breadth of treated topics. For example, all the discussions and recommendations seem to me too much Anglo-Saxon centred. Amphibians are so important at a global level that more examples should have been given for ongoing researches and methods in tropical countries, with maybe some more indications on problems and methods to be used there. Although the book is clearly focussed on ecological and quite traditional methods, I would have read with interest about the application of new methodologies, such as the application of barcoding for species determination in the field, to eDNA and to automatic acoustic detection. Probably,

some more information on statistical analyses would have been welcome and useful as well. Anyhow, all these points could be easily addressed in a forthcoming edition. The current one is already worth of been purchased and will represent a good deal for passionate batrachologists.

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