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THE SAND LIZARD, *LACERTA AGILIS*, IN ITALY: PRELIMINARY DATA ON DISTRIBUTION AND HABITAT CHARACTERISTICS

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Lacerta agilis Linnaeus is a lacertid lizard whose wide range extends from NE Iberia and W France to central Asia through most of Europe. This species is rare or absent from the European regions characterized by a Mediterranean climate, such as most of the Iberian Peninsula, the Italian Peninsula and S Balkans (Arnold & Burton, 1978; Jablov, Baranow & Rozanow, 1980; Bischoff, 1984, 1988). The occurrence of the sand lizard in northern Italy has never been reported in the existing distribution accounts on the species (Bischoff, 1984, 1988).

In this note preliminary data on the known distribution and habitat characteristics of the species in northern Italy are reported.

Distribution. *Lacerta agilis* has been observed and collected only in one locality of NW Italy (Piedmont) and in two localities of NE Italy (Friuli). Fig. 1 shows the approximate locations of the sites at which specimens of *L. agilis* were encountered (for conservation reasons the precise localities of the *L. agilis* populations are not reported). In the locality 1 (numbers refer to Fig. 1), which is sited 50 km NW of Cuneo (Cottian Alps, NW Italy), an adult male was collected; this specimen is now preserved in the Collection of the "Craveri" Natural History Museum of Bra (Cuneo, Piedmont) (Lapini, Morisi, Bagnoli & Luiselli, 1989). In the locality 2, which is sited 6 km east of Tarvisio (Carnic Alps, NE Italy) the species was first observed in July 1987 and then collected in August 1989. Two specimens (two adult females) from this locality are now preserved in the Collection of the Museo Friulano di Storia Naturale di Udine (Friuli). In the locality 3, which lies 14 km south of Tarvisio (Julian Alps, NE Italy), were observed two specimens (two females) during herpetological investigations carried out in the periods July 1987 and August 1989, but none of these specimens was collected and preserved, due to the apparent rarity of the species.

Both the specimens from NE Italy, and those from NW Italy can be probably ascribed to the nominal form, i.e. *Lacerta agilis agilis*. In fact, according to Bischoff (1988) and Rahmel (1988) the subspecific status of *Lacerta agilis argus* - which could occur at least in NE Italy (see Bischoff, 1984) - cannot be supported, since there are no definitive diagnostic characters (morphometric and/or meristic) between this subspecies and the nominal form.

Habitat characteristics. Locality 1 is a broad alpine valley; the grass vegetation of the pastures in which the specimen of *Lacerta agilis* was collected belongs to the *Nardetum strictae*

association. The SW slope of the valley is covered by larch woods, while the NE slope is poorly wooded. This area lies very close to the border between Italy and France, and is geographically connected to the Ubayette Valley (SW France); the latter valley is not far from the locality of Barcelonnette, where the occurrence of *Lacerta agilis* was previously detected (Naulleau, 1978; Castanet, 1989). Owing to the scarcity of the observations carried out on the species in this area, at present we cannot express any hypothesis on the status and density of the local sand lizard population.

Locality 2 is close to the border between Italy and Austria, and is geographically connected to the Gail Valley (SW Austria), which is also inhabited by *Lacerta agilis* (Bischoff, 1984; Cabela & Tiedemann, 1985). The locality 3 lies very close to the border between Italy and Yugoslavia, not far from some Slovenian sites where the sand lizard is known to occur (e.g., Zelenci, near Podkoren, and Triglav Massif) (Brelj & Dzukic, 1974; Gregori, 1980).

The habitat occupied by *Lacerta agilis* in NE Italy is very similar to that described for the species in central Europe (Podloucky, 1988), i.e. forest margins, field and road edges combined with hedges and/or scrub, and ruderal areas with open shrub vegetation, often with a southern exposure. In localities 2 and 3 *L. agilis* seems to be rather secretive and coexists with *Lacerta vivipara*; the other reptiles observed in the area are: *Anguis fragilis*, *Natrix natrix*, *Coronella austriaca* and *Vipera berus* (Darsa, 1972; Stergulc, 1987).

Lacerta agilis is a new species to the Italian herpetological fauna. The localities discovered in this country establish that the sand lizard is present also on the southern slope of the Alpine Massif.

Although our data show that the distribution of this lacertid lizard in northern Italy is still poorly known, the small number of *Lacerta agilis* specimens encountered up to now could indicate that the species is presumably rare, and that the density of the local populations is relatively low. This working hypothesis needs further investigations.

Since *L. agilis* occurs in some regions of SW Austria (e.g., Tirol, Kärnten: Cabela & Tiedemann, 1985), NW Yugoslavia (e.g., Slovenia: Pavletic, 1964; Brelj & Dzukic, 1974), and southern Switzerland (e.g., Valais and Engadina: Schnepat & Schmothen, 1987), which are all sited close to the borders of northern Italy, it can be inferred that this species is present in a number of Italian alpine localities maybe more numerous than the three at present known.

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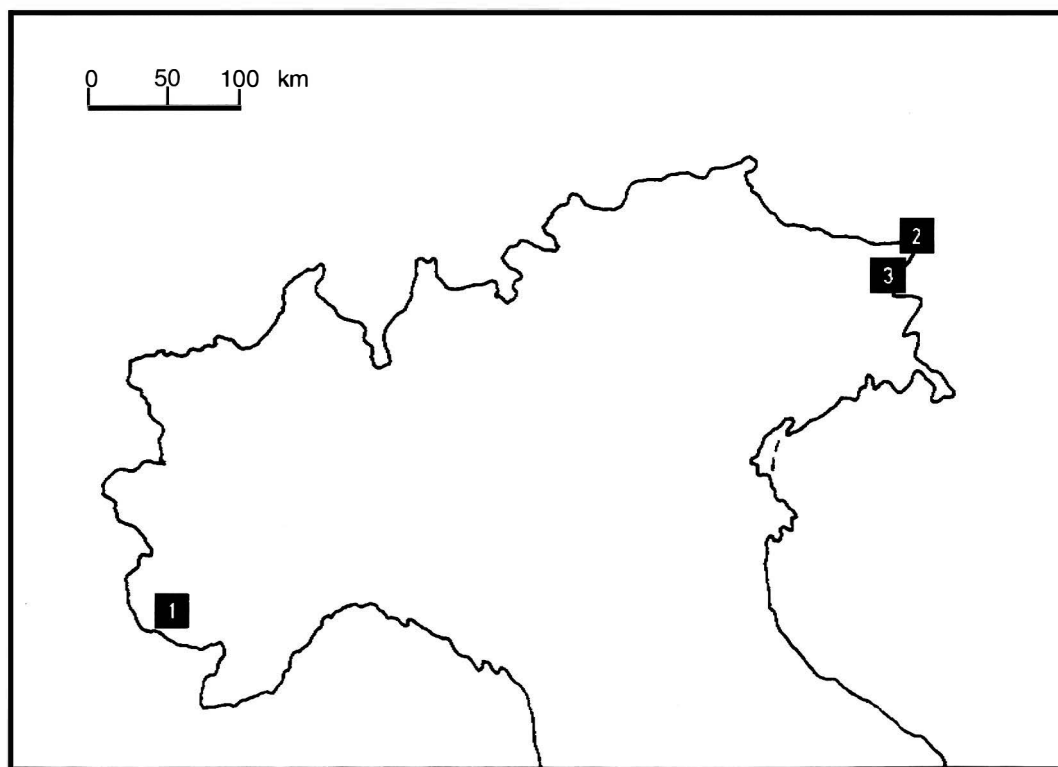


FIG. 1. Locality records of *Lacerta agilis* in northern Italy.

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BOOK REVIEWS:

Ecophysiology of Desert Arthropods and Reptiles. J. L. Cloudsley-Thompson. Springer-Verlag, Berlin etc., 203 pp. (1991). £60.00, cloth.

Reptiles have figured prominently in scientific studies of deserts during the past sixty years. There are many reasons for this. Reptiles in deserts are often relatively abundant - certainly when compared with most other vertebrates - and can often be comparatively easy to observe. The effects of harsh climatic conditions on the lives of the animals can be conceptually straightforward: it is easier to visualise the effects of searing heat on a lizard - it may die! - than the results of the subtle interplay of competition, predation, parasitism and environment in shaping the physiology and behaviour of a lizard in a tropical forest or a Mediterranean scrubland.

Reflecting this emphasis of studies, there have been a number of books on desert reptiles during the past decade. They all bear the imprint of the interests and viewpoints of their

individual authors. The present book (which also deals with desert arthropods, the two groups being given about equal treatment), is no exception. It could perhaps be summed up as scientific natural history, covering a variety of topics such as *Thermal Regulation and Control* (chapter 4), *Water Balance and Nitrogenous Excretion* (chapter 5) and *Seasonal Activity and Phenology* (chapter 6) in a readable and interesting way. The natural history aspect is emphasized by about seventy monochrome photographs, mostly I would guess taken by the author himself. They increase one's pleasure in reading the book, but I am not convinced that they are strictly necessary.

I must make it clear that I am not using the term "natural history" in the perjorative sense in which it is now sometimes employed. The book does not lack intellectual rigour, and as with many of Cloudsley-Thompson's more serious writings, the reference list is extremely comprehensive. Any book which has "Trophic Level Patterns of Process-Functioning" as a subheading (page 22) is certainly not lightweight!

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Neotropical Wildlife Use and Conservation. John G. Robinson & Kent H. Redford (Eds.) (1991) 520 pp. University of Chicago Press, Chicago and London. £49.50 cloth: £22.50 paper.

Several books have been published recently on the sustainable utilisation of wildlife but none has been confined to the neotropics, which have tended to be neglected in discussions of wildlife exploitation. Of the forty-seven authors of the chapters in this book, eighteen live and work in the countries concerned so that one is often reading a first-hand account of the issues being discussed. The theme of the book is that the conservation of wildlife depends on its being used and that wildlife that has no value to local people is unlikely to survive. This is not always appreciated by conservationists in the developed world who may be unaware of the essential role that wild animals have played in the lives of people in tropical societies. The authors include social scientists as well as biologists so that the needs of local people are not overlooked in discussions of wildlife preservation. Many of the chapters show that these are not irreconcilable objectives although certain aspects of the wildlife trade, particularly that concerning live birds, leave much to be desired.

The chapters of the book are grouped into seven "Parts" comprising *Framing the issues*, *Subsistence hunting*, *Market hunting and collecting*, *Wildlife farming and ranching*, *Sport hunting*, *Commercial uses* and *The future*. Reptiles are mentioned in several of the chapters but six are concerned solely with reptiles - two on sea turtles, two on caiman and two on lizards. Some of the discussions about the sustainability of the yields come to different conclusions. The exploitation of nesting olive ridley turtles in some beaches of Costa Rica appears to remove only a small proportion of eggs but in Honduras, the loss to egg-collectors can reach 100%. The hunting of Paraguayan caiman for hides was found to have an adverse effect on reproductive success due to disturbance of nesting females. The more successful exploitation of the spectacled caiman in Venezuela may be due to the preferential taking of large males. Proposals to restock areas by releasing young from eggs hatched in captivity are not supported on the