

Two Further Specimens of the Three-Toed Box Turtle, *Terrapene carolina triunguis*, from Illinois and a Proposal for its Inclusion as a Member of the Herpetofauna of Illinois

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ABSTRACT

The three-toed box turtle, is reported for the first time from Madison and Union Counties, Illinois. Its nomenclatural status as a subspecies and the possibility that specimens were transported into Illinois are not sufficient reasons to exclude the taxon as a member of the Illinois herpetofauna. The turtle should be added to the list of Illinois reptiles and amphibians.

INTRODUCTION

Two species of box turtles, *Terrapene ornata* and *T. carolina* occur in the United States. *Terrapene carolina*, the subject of this report, ranges throughout central and eastern United States (Milstead, 1969; Ernst and Barbour, 1972) and is polytypic. Based primarily on analysis of various shell parameters and coloration of the carapace, Milstead (1969) recognized four subspecies, *T. c. carolina*, *T. c. bauri*, *T. c. major*, and *T. c. triunguis*. Intergrade zones between them were also suggested. We have redrafted Milstead's (1969, Fig. 1, p. 6) map by plotting the locations of samples he considered typical of one or the other of the subspecies with letter codes and by shading areas where he reported intergrade samples. The range limit on our map (Fig. 1A) is redrawn from Ernst and Barbour (1972). We also added a "C" for Illinois based on Smith's (1961) analysis of Illinois specimens of *T. carolina*. Our paper concentrates on the distribution of the subspecies *T. c. carolina* and *T. c. triunguis*.

Only *T. c. carolina* occurs in Illinois, which is the western extreme range of the subspecies (Fig. 1A). However, the situation is more complex. Smith (1961) reported the first documented specimen of *T. c. triunguis* in Illinois from Calhoun County which he dismissed as an extralimital waif. Morris et al. (1983) also excluded the subspecies from their checklist of reptiles and amphibians of the state. No further specimens were reported from southern Illinois until Paukstis and Janzen (1988) reported a specimen from Alexander County. This report was followed shortly by notes on specimens published by

Gilbert and Gilbert (1992), Paukstis and Janzen (1993), and the current report. Thus between 1961 and 1988 a single specimen had been reported whereas 5 have been found between 1988 and the date of this report. This sudden increase in reports for southern Illinois could be due to the recent arrival of the turtle in the area. Also the 1988 report of Paukstis and Janzen (1988) may have stimulated herpetologists to report specimens that would have otherwise been dismissed as escapees or waifs. This was suggested by Morris' mention (to Paukstis and Janzen, 1988, p. 284) of other specimens collected in the state that went unreported. The purpose of our paper is to report two further specimens of *T. c. triunguis* from Illinois and to argue that there is now good reason to consider this turtle a resident of Illinois.

MATERIAL

The turtle from Madison County was found June 20, 1993, crossing New Poag Road, 1 km E of its junction with the Norfolk and Western railroad in T4N, R9W, NE1/4 NE1/4, sec. 13. The plastron of this female measured 139.7 mm in length. The left hind feet possessed three toes. The right hind foot had 4 with the fourth toe being very small but with a distinct nail at its end. The carapace was a nearly uniform horn coloration (*sensu* Milstead, 1969, p. 56). The plastron was without dark markings. The specimen was deposited in the collection of the Illinois Natural History Survey (INHS 10980). The Union County specimen was found May 23, 1993, on forest road 345 0.8 km E of Illinois Route 3 in T11S, R3W, SW1/4 SW1/4 sec. 21. The specimen, an adult male, was not measured. It was photographed (Fig. 2) and released at the collecting site. It, too, was horn colored but has slight development of yellow radiating lines at the centers of the carapacial scutes. Each hind foot had three toes.

DISCUSSION

Turtles possessing morphological traits identifying the subspecies *T. c. triunguis* have not previously been reported from Madison or Union Counties in Illinois. Paukstis and Janzen (1993) mention a specimen from Union County but this is a lapsus for the specimen reported previously by them (Paukstis and Janzen, 1988) from Alexander County (G. L. Paukstis, pers. comm.).

Paukstis and Janzen (1993) discussed the status of *T. c. triunguis* in Illinois and only tentatively concluded that it was established in the State. They attributed its presence in Illinois to natural means of transport from neighboring Missouri though they noted human transport can never be excluded from consideration. Yet, their report "...does not prove that *T. c. triunguis* is now established in Illinois." (Paukstis and Janzen, 1993, p. 175). We, however, interpret these findings differently.

Compared to previous reports on Illinois' turtles, we suggest the following terminology. We prefer the terms "resident" or "introduced" rather than "native" or "established". Established implies a recent event whereas native implies a long history of occurrence in the geographic area under consideration or at least occurrence prior to the arrival of a second entity. When the observer is not present at the initial colonization or subsequent recolonization event or events, then it is difficult to decide whether something not previously reported in the literature is a rare or overlooked "native" or is newly

"established". We propose the term "introduced" be used only where it is known, through historical documentation or very strong evidence, that the organism was transported to the location by humans. The term "resident" is better for those taxa not considered "introduced" than is the term "native", because it carries no relational component. A separate determination is necessary to decide how long a resident taxon has been at the location where it was recently discovered, how it got there, and its biological status.

Terrapene c. triunguis has been considered recently introduced into Illinois (or more commonly as an exotic waif) because it is relatively rare compared to *T. c. carolina*; because box turtles are kept as pets and specimens could be escaped pets; or because it is much more common in areas bordering Illinois than it is in Illinois. We believe these circumstances apply equally well to a number of amphibians and reptiles inhabiting Illinois. Smith (1961) reported several species for which five or fewer records were documented by specimens. With the exception of *Tropidoclonion lineatum*, a small fossorial and highly secretive snake, all of these species share one of two kinds of distribution patterns. They are either restricted to large rivers (3 species) or are found along one of the borders of the state (15 species). The occurrence *T. c. triunguis* appears comparable to the species reported by Smith (1961). Like *T. c. triunguis*, these species are all much better known and more common from areas bordering Illinois than they are in Illinois. At least some (*Hyla cinerea*, *Clemmys guttata*, *Pseudemys concinna*, and *Elaphe guttata*) are kept as pets. Therefore, it is inconsistent to use any of these three factors as valid reasons to consider specimens of *T. c. triunguis* nothing more than waifs while including the other 18 taxa as residents of Illinois. Of course, some reports of extralimital specimens of *T. c. triunguis* are very likely the result of escaped pets such as reports for northern Illinois (Dancik, 1974; Ludwig et al., 1992) and for Guam (McCoid, 1992; 1993). These reports differ from those for southern Illinois since they are not geographically close to the accepted range of *T. c. triunguis*. The two specimens we report are important because they fill gaps between the Calhoun County record and those reported for other counties (Fig. 1B). We agree with Paukstis and Janzen's (1993) conclusion that *T. c. triunguis* is resident. Therefore, we believe that it should be listed in the herpetofauna of Illinois.

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Fig. 1. **A:** Distribution of the subspecies of *Terrapene carolina* (letter codes) and their intergrade zones (cross hatching) in the United States. Letter codes and cross hatching based on Milstead (1969, Fig. 1, p. 6) for all but Illinois (Smith, 1961). Limits of range redrawn from Ernst and Barbour (1972).

B: Locations of specimens of *Terrapene carolina triunguis* in southern Illinois. Records reported by Paukstis and Janzen, 1993 (A), Gilbert and Gilbert, 1992 (B), Paukstis and Janzen, 1988 (C), Smith, 1961 (D), and this study (E and F).

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Fig. 2. Male specimen of *Terrapene carolina triunguis* from Union County, Illinois.

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