

On the Absence of Spur-Thighed Tortoises, *Testudo graeca*, from Egypt

JAMES R. BUSKIRK¹

¹1030 East 14th Street, Oakland, California 94601 USA

Accurate distributional information is crucial to the understanding of chelonian adaptation to various habitats and human impact upon populations. Whereas reduction or extirpation of tortoise populations has sometimes followed intense human predation upon them, the introduction of individuals of exotic species, whether deliberate or unintentional, has complicated contemporary understanding of the natural distribution of some taxa. The transport of chelonians for consumption or for sale in the pet trade continues to raise questions over the geographic validity of records based on market purchases.

A case in point is that of the Mediterranean spur-thighed tortoise *Testudo graeca* Linnaeus, 1758. One of the first tortoise species to be formally described, with much of its geographic distribution lying near the traditional learning centers of the ancient world, it remains imperfectly known by most standards of zoological investigation. No range-wide comparative studies have been carried out in an effort to corroborate or challenge today's "accepted" division into six major geographical subspecies (Iverson, 1992). Numerous introductions of exotic populations of this species have occurred over the years. Siebenrock (1906) argued that numerous records of *T. graeca* (as *T. iberica*) from Sicily represented human introductions from North Africa, often consisting of solitary specimens found on the outskirts of seaports. Bruno (1986) echoed this scepticism, doubting as well that the species had become established in Sicily. Eiselt and Spitzenberger (1967) discussed phenotypic diversity among *T. graeca* over a large area of Turkey, Schleich (1987, 1989) focused on populations of northeastern Libya, Herrn (1966) studied the species in southeastern Turkey, and Esterbauer (1985) described specimens from southwestern Syria. Wermuth (1958) redescribed *Testudo graeca terrestris* Forskål, 1775, from a few disparate specimens, most of unknown or imprecise origin.

Among the major flaws in the work by Wermuth (1958) was the erroneous recording of *T. graeca* from Egypt. In so doing, Wermuth betrayed his unfamiliarity with the works of Lortet (1887), Siebenrock (1913), and Flower (1933). Both Lortet and Flower were skilled zoologists who had resided and collected extensively in Egypt, and they declared unequivocally that spur-thighed tortoises are absent from Egypt — a statement echoed by Siebenrock. Flower (1933) wrote: "The possibility of this species, the spur-thighed Mediterranean land-tortoise, occurring in Egypt was mentioned by J. Anderson (1898), but it can be now taken as a definite fact that this tortoise does not occur in any

part of Egypt or of the Anglo-Egyptian Sudan." The aridity of much of the country, including even the slightly wetter Mediterranean coastal belt, most probably explains the absence of *T. graeca* from Egypt. A century ago the sale of imported specimens of *T. iberica* (= *T. graeca*) in Egypt (Anderson, 1898) was noted by that pioneer of Egyptian herpetology. In a paragraph devoted to the matter, he expressed his doubt that the species is native to any part of Egypt. Wermuth (1958), on the other hand, justified his Egyptian record by explaining that the secretary of his colleague Robert Mertens, Erika Schirner, had purchased a *T. graeca* from a peddler while visiting Cairo. The specimen, assumed by both Mertens and Wermuth to be of Egyptian origin, was later deposited in the Senckenberg Museum (SMF 64643). Mertens (1946), having previously cited Siebenrock (1913) as the authority regarding the absence of *T. graeca* from Egypt, does not subsequently explain his reversal, and he and Wermuth thereafter declare that *T. graeca* (as the subspecies *T. g. terrestris*) occurs in Egypt (Wermuth and Mertens, 1961, 1977).

Without questioning the authority of Wermuth and Mertens, nor adequately reviewing older but more accurate texts, subsequent works with global scope (Pritchard, 1979; Obst, 1986; Iverson, 1986) and with regional focus (Obst and Meusel, 1974; Mayer, 1992) have kept the geographic inaccuracy alive. Iverson (1992) in his second edition places snowflakes in lieu of dots on all five Egyptian localities for *T. graeca* (Fig. 1) — the result of having discussed this matter with me. However, his snowflake symbol indicates "introduced populations" rather than the purchase or incidental collection of an escaped or released pet. It was not my intention to suggest to Dr. Iverson that there were any introduced populations of *T. graeca* anywhere in Egypt.

A tangible consequence of this misinformation regarding the possible presence of *T. graeca* in Egypt has been the recent large-scale marketing of "Egyptian Greek tortoises" in the United States; as their origin is stated by Egyptian officials to be Egypt, CITES authorities are powerless to proscribe their continued collection. Since October 1994 over 900 so-called "Egyptian Greek tortoises" have been shipped to the US (A. Salzberg, *pers. comm.*). All available information (Baha el Din, 1994, and *pers. comm.*) suggests a Libyan origin for these tortoises. Few surveys of *Testudo* have been carried out in Libya (Schleich, 1987, 1989) but it is extremely unlikely that the wholesale collection of large adult *T. graeca* can be sustained by localized populations in that politically isolated country.

Despite the importers' manifests listing Egypt as the nation of origin of recent *T. graeca* shipments from that country, further compelling evidence on the absence of *T. graeca* from Egypt has come to light since the seasoned contributions of Flower, Siebenrock, Anderson, and Lortet were overlooked by Wermuth and Mertens. Loveridge and Williams (1957) listed 65 North African localities for *T. graeca*; none are in Egypt. Marx (1968) listed only *Testudo kleinmanni* from Egypt and made no mention of *T. graeca*, although he was aware that in 1957 his colleague Harry

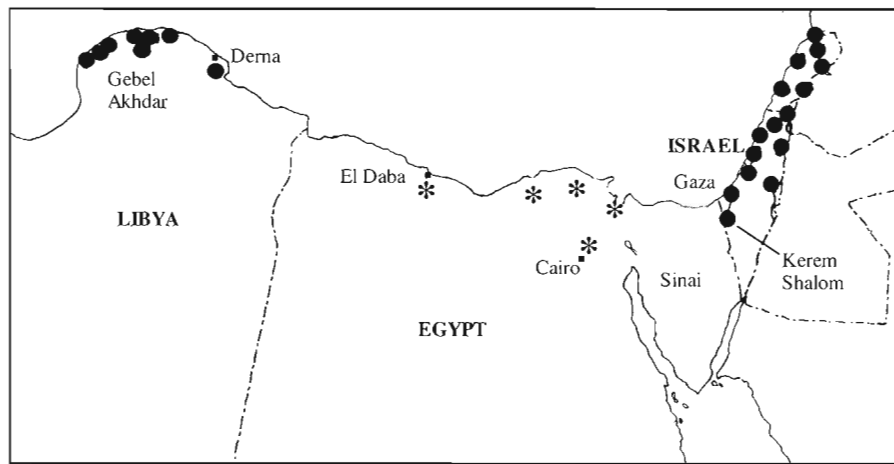


Figure 1. Map of the distribution of *Testudo graeca* in the Egyptian region as taken from Iverson (1992). Dots mark collection localities, asterisks indicate "introduced populations" that actually represent isolated specimens purchased in markets. There are no known populations of *T. graeca* anywhere in Egypt.

Hoogstraal had purchased a specimen (Chicago Field Museum 82661) in El Daba, on the northwestern Egyptian coast (Fig. 1). Marx and his crew, who were the last known herpetologists to have found any living specimens of *T. kleinmanni* in the natural state in northwestern Egypt, discounted the authenticity of the *T. graeca* specimen purchased in El Daba. Lambert (1983), on the other hand, without having been to northwestern Egypt nor having discussed the matter with Marx, accepted the specimen as a valid range extension of over 400 km. During a visit to El Daba for two days in 1984, I found only one person who had familiarity with tortoises, and he had never found any locally (Buskirk, 1985). Baha el Din (1994) recently carried out an extensive but fruitless search for extant populations of *T. kleinmanni* in Egypt, visiting all known localities mentioned in the literature as well as other propitious sites. He mentioned that specimens of *T. graeca* from Gebel Akhdar, northeastern Libya (Fig. 1), were sold in the Egyptian pet trade, along with larger numbers of *T. kleinmanni* from unspecified Libyan locations. That he did not state emphatically the absence of *T. graeca* from Egypt may be attributed to believing its absence to be common knowledge. Stubbs (1989) in his review of the status of *T. graeca* throughout its range, recorded its presence in both Libya and Israel and its absence from Egypt.

The most recent records of any wild-caught tortoises in Egypt made by zoologists were by Israeli herpetologists between 1967–77. Thoroughly combing the Sinai Peninsula for biological rarities, they found only a handful of *T. kleinmanni* in the northern dunes (Werner, 1982). The closest populations of *T. graeca* are from the vicinity of Gaza (Tortonese, 1948; Howells, 1956), and specimens have been collected near Kerem Shalom fairly close to the Sinai Peninsula in the extreme northwestern Negev Desert (H. Mendelssohn, *pers. comm.*), but *T. graeca* is absent from the Egyptian Sinai itself (Fig. 1).

Perhaps Egyptian wildlife authorities would have one believe that even though *T. kleinmanni* has been virtually extirpated in their country, the few records of purchased *T.*

graeca and the handful of other solitary museum specimens represent vast but hitherto elusive and untapped tortoise populations in Egypt which can be ravaged indefinitely. Were it simply a matter of discrediting a usually reputable authority with regard to the Levantine distribution of *T. graeca*, I would be less inclined to harsh words. However, in the past decade a number of chelonian species have been described solely from pet trade specimens, sometimes of questionable origin. The word of the exporter is thus granted a legitimacy which it does not merit. A disastrous result is the unchecked exploitation of vulnerable chelonian populations "laundered" for sale in the international pet trade via the complicity or ignorance of wildlife officials in countries which have no natural populations of these animals.

Acknowledgments. — Sherif Baha el Din, Henrik Bringsøe, Balázs Farkas, Uwe Fritz, Michael Lambert, Heinrich Mendelssohn, Ingo Pauler, and Allen Salzberg have all been very helpful concerning "the Egyptian question," and are here recognized for their gracious assistance.

Literature Cited

- ANDERSON, J. 1898. Zoology of Egypt. Vol. 1. Reptilia and Batrachia. London: Bernard Quaritch, 371 pp.
- BAHA EL DIN, S.M. 1994. Status of the Egyptian Tortoise *Testudo kleinmanni* in Egypt. Turtle Recovery Programme, Wildlife Conservation Society, 27 pp.
- BRUNO, S. 1986. Guida a Tartarughe e Sauri d'Italia. Firenze: Giunti, 255 pp.
- BUSKIRK, J.R. 1985. The endangered Egyptian tortoise *Testudo kleinmanni*: status in Egypt and Israel. In: McKeown, S., Caporaso, F., and Peterson, K.H. (Eds.). Ninth International Herpetological Symposium on Captive Propagation and Husbandry, pp. 35-52.
- EISELT, J., AND SPITZENBERGER, F. 1967. Ergebnisse zoologischer Sammelreisen in der Türkei: Testudines. Ann. Naturhist. Mus. Wien 70:357-378.
- ESTERBAUER, H. 1985. Ökologische und verhaltensbiologische Beobachtungen an der Maurischen Landschildkröte, *Testudo graeca terrestris* Forskal, 1775 in Südwestsyrien. Aquari. Terr. Monatschr. Ornithol. Vivar. 32(1):389-392.

- FLOWER, S.S. 1933. Notes on the recent reptiles and amphibians of Egypt, with a list of the species recorded from that Kingdom. Proc. Zool. Soc. Lond. 1933:745-851.
- HERRN, C.P. 1966. *Testudo graeca terrestris* Forskål neu für die Türkei. Stuttgarter Beitr. Naturk. 155:1-2.
- HOWELLS, V. 1956. A Naturalist in Palestine. London: Andrew Melrose Ltd., 180 pp.
- IVERSON, J.B. 1986. A Checklist with Distribution Maps of the Turtles of the World. Richmond, Indiana: Privately printed, 282 pp.
- IVERSON, J.B. 1992. A Revised Checklist with Distribution Maps of the Turtles of the World. Richmond, Indiana: Privately printed, 363 pp.
- LAMBERT, M.R.K. 1983. Some factors influencing the Moroccan distribution of the western Mediterranean spur-thighed tortoise, *Testudo graeca graeca* L., and those precluding its survival in NW Europe. Zool. J. Linn. Soc. 79:149-179.
- LOVERIDGE, A., AND WILLIAMS, E.E. 1957. Revision of the African tortoises and turtles of the suborder Cryptodira. Bull. Mus. Comp. Zool. 15(6):163-555.
- MARX, H. 1968. Checklist of the reptiles and amphibians of Egypt. Cairo: U.S.N.A.M.R.U.-3, 91 pp.
- MAYER, R. 1992. Europäische Landschildkröten. Kempten: Ava-Agrar Verlag Allgäu, 127 pp.
- MERTENS, R. 1946. Über einige mediterrane Schildkröten-Rassen. Senckenbergiana 27:111-118.
- OBST, F.J. 1986. Turtles, Tortoises and Terrapins. Leipzig: Edition Leipzig, 231 pp.
- OBST, F.J., AND MEUSEL, W. 1974. Die Landschildkröten Europas. Die Neue Brehm-Bücherei, 72 pp.
- PRITCHARD, P.C.H. 1979. Encyclopedia of Turtles. Neptune, NJ: T.F.H. Publications, 895 pp.
- SCHLEICH, H.H. 1987. Contributions to the herpetology of Kouf National Park (NE-Libya) and adjacent areas. Spixiana 10(1):37-80.
- SCHLEICH, H.H. 1989. Merkmalsausbildungen an Landschildkröten in Nordost-Libyen (Testudines: Testudinidae). Herpetozoa 1(3/4):97-108.
- SIEBENROCK, F. 1906. Zur Kenntnis der mediterranen *Testudo*-Arten und über ihre Verbreitung in Europa. Zool. Anz. 30(25):847-854.
- SIEBENROCK, F. 1913. Schildkröten aus Syrien und Mesopotamien. Wissenschaftliche Ergebnisse der Expedition nach Mesopotamien, 1910. Ann. Naturhistor. Mus. Wien 27:171-225.
- STUBBS, D. 1989. *Testudo graeca*, spur-thighed tortoise. In: Swingland, I.R., and Klemens, M.W. (Eds.). The Conservation Biology of Tortoises. Occ. Pap. IUCN Spec. Surv. Comm. No. 5, pp. 31-33.
- TORTONESE, E. 1948. Osservazioni biologiche su anfibi e rettili di Rodi, Anatolia, Palestina e Egitto. Arch. Zool. Ital. (Torino) 33:379-402.
- WERMUTH, H. 1958. Status und Nomenklatur der Maurischen Landschildkröte, *Testudo graeca*, in SW-Asien und NO-Afrika. Senck. Biol. 39(3/4):149-153.
- WERMUTH, H., AND MERTENS, R. 1961. Schildkröten, Krokodile, Brückenechsen. Jena: Gustav Fischer Verlag, 422 pp.
- WERMUTH, H., AND MERTENS, R. 1977. Liste der rezenten Amphibien und Reptilien. Testudines, Crocodylia, Rhynchocephalia. Das Tierreich 100:1-174.
- WERNER, Y. L. 1982. Herpetofaunal survey of the Sinai Peninsula (1967-77), with emphasis on the Saharan sand community. In: Scott, N.J., Jr. (Ed.). Herpetological Communities. U.S. Dept. Int. Fish Wildl. Serv. Wildl. Res. Rep. No.13:153-161.

Received: 22 November 1995. Accepted: 25 December 1995.