SPUR-THIGHED TORTOISE *(TESTUDO GRAECA)* WITHOUT THIGH SPURS

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Testudo graeca Linnaeus, 1758 is one of the world's best known tortoises. It has been imported into Britain as a pet in numbers hovering around 100,000 a year (Lambert, 1980). One of its key characteristics, conventionally used (with or without others) to distinguish it from congeners in the Mediterranean Basin and Southwestern Asia, is the thigh spur: on either side of the tail, on the back of the thigh, there is a conspicuous conical tubercle, as shown in Fig. 1A (Wermuth and Mertens, 1961; Başoğlu and Baran, 1977; Arnold, Burton and Ovenden, 1978; Payne, n.d.). Indeed, all of 78 specimens of *T. graeca* sspp. examined in the Zoological Museum of the Department of Zoology, Hebrew University of Jerusalem, clearly possess this identification mark. (The tubercles were small but distinct in HUJ-R 933, ♂). So did hundreds of individuals which I have examined in the field throughout northern Israel, including the smallest juveniles.

This contrasts with the frequent variation in another supposedly diagnostic character, the single (unpaired) supracaudal plate. Among 83 specimens (the same plus five carapaces), it was divided (paired) in 7, and "pseudodivided" (coloration only) in 2, approximating 10%.

A herpetological survey of the deciduous Tabor oak *(Quercus ithaburensis)* forests near Allone Abba, Israel (32°45'N, 35°10'E) was conducted by my herpetology class and the Israel Herpetological Information Center (Society for the Protection of Nature in Israel) on 23-24.V.1984. We found there an adult female *Testudo graeca terrestris* Forskål, 1755 which was exceptional in totally lacking thigh spurs. The postero-ventral skin of each thigh comprised sub-equal small scales without the least indication of a tubercle (Fig. 1B). In all other respects this individual was normal, including the supracaudal plate (single) and tail structure (characters which aid the distinction from *Testudo hermanni*). Unfortunately, under the influence of conservation-oriented students, the specimen was not retained but only photographed on the spot (filed, Werner films nos. 559 & 665) and released.

It remains unproven whether the aberration observed was genotypical or only phenotypical. But its occurrence seems to further illustrate a bipartite truism. First, it is only natural for any character usually employed in distinguishing between related taxa, to occasionally vary also within the taxa. If the character never underwent mutation, how could it vary between related taxa? Second, it would be unsound to base identification keys on single characters, even relatively stable ones.

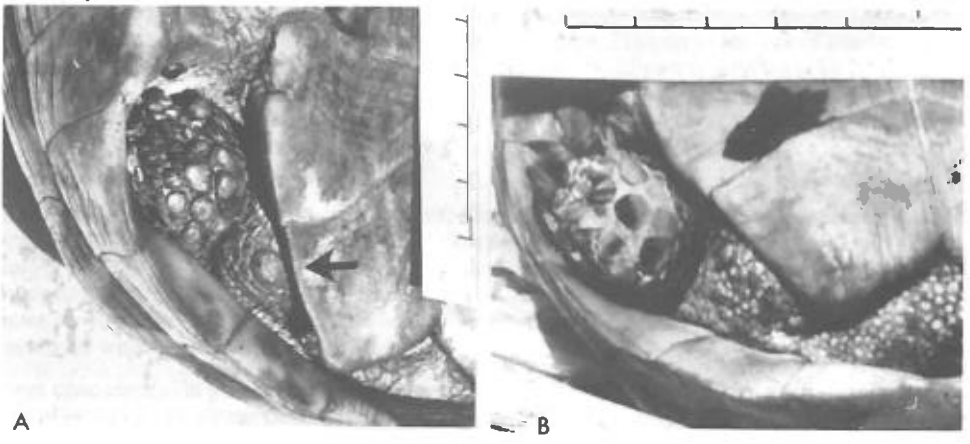

FIGURE 1

Posterior ventral area of *Testudo graeca terrestris* individuals from northern Israel. A, female from Mt. Hermon, 1400m (lent alive by the Bet Ussishkin nature museum of Qibbuz Dan, photographed 22.V.1973), showing thigh spur (arrow); B, female from near Allone Abba (photographed 24.V.1984 in the field), showing absence of thigh spur. (Scale, centimeters.)

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REFERENCES

Arnold, E.N., Burton, J.A. & Oveden, D.W. (1978). *A field guide to the reptiles and amphibians of Europe.* London: Colins.

Basoglu, M. & Baran, I. (1977). *The reptiles of Turkey. Part I. The turtles and lizards.* Bornova-Izmir: Ilker Matbaasi. (In Turkish with English summary.)

Lambert, M.R.K. (1980). The Mediterranean spur-thighed tortoise, *Testudo graeca,* in the wild and in trade. *Proceedings of the European Herpetological Symposium, Cotswood Wild Life Park, Oxford,* 1980, 17-23.

Payne, L.G. (n.d., distributed 1947). *Hardy reptiles and amphibians for the amateur.* London: Marshall Press.

Wemuth, H. & Mertens, R. (1961). *Schildkröten, Krokodile, Brückenechsen.* Jena: Gustav Fischer.