

## NEW RECORD SIZE FOR NORTH AFRICAN *TESTUDO*

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### INTRODUCTION

The previously largest recorded dimensions for a tortoise originating in North Africa are those given by Flower (1945) and the further notes concerning the same tortoise by Lambert (1982). The maximum weight attained by this tortoise was 4.366 kg. Boulenger (1902) earlier recorded a specimen of *Testudo (graeca) iberica* PALLAS 1814 from Romania weighing 3.629 kg. The largest recorded size for *T. hermanni boettgeri* MOJSISOVICS 1889 is by comparison 264mm and 3.420 kg (Highfield, 1988). All of these measurements are exceeded by the tortoise reported here.

### DESCRIPTION

The dimensions of the specimen, which is a female, are as follows:

Straight line carapace length = 292mm  
Length of carapace over curve = 355mm  
Maximum carapace height = 126mm  
Maximum width at posterior marginals = 215mm  
Median transverse carapace width = 209mm  
Weight = 4.550 kg.

The carapace is broad, flattish and elongate with markedly flared and serrated posterior marginals. The frontal vertebral scute is round, not square. There are two large white inturned conical spurs on each thigh measuring some 10mm long. The carapace has a golden-yellow ground colour with radiating brown-black markings. There is a complete absence of anterior borders or central dots on the vertebral scutes and an absence of anterior borders to the costal scutes. The plastron has an irregular series of radiating black markings.

This description is inconsistent with the holotype of *Testudo graeca* LINNAEUS 1758 but entirely consistent with the type of *Testudo whitei* BENNETT 1836 (Highfield & Martin, 1989). This latter species invariably reaches a much greater adult size than that ever attained by specimens conforming to the holotype of *Testudo graeca* L. 1758. A side by side comparative view of the two species is provided by plate 1 where the difference of morphology and carapace markings between the two species are immediately obvious.

We are fortunate that for both animals depicted we have a considerable amount of historical data. Full details of growth over the period covered by annual weight and length records will be published later. The large *T. whitei* was obtained by its previous owner 18 years ago when it measured approximately 160mm (no weight recorded). The *T. graeca* was purchased by another owner in 1972 when it weighed 300g. Over the subsequent 17 years the *T. graeca* increased in weight to its present maximum of 535g. The straight-line carapace length of this specimen is now 133mm, transverse median width 96mm, maximum width of posterior marginals 96mm and carapace height is 73mm.

Another Algerian *T. whitei* was purchased by the same owner in 1968 when it measured only 120mm and had an estimated weight of 275g. Its dimensions as at September 1989 were: straight line carapace length 238mm, transverse median width 162mm, maximum width of posterior marginals 162mm and carapace height 116mm. Weight was recorded at 2.580 kg.

A typical adult male specimen of *T. graeca* L. 1758 measures 145mm and weighs approximately 675g (Highfield & Martin, 1989) These figures closely match those recorded in Morocco by Lambert (1982) who also notes that the largest specimens of *T. graeca* L. encountered in the wild measured 151mm for males and 198mm for females. The largest male *T. graeca*



PLATE 1.

*Testudo whitei* BENNETT  
1836, 292mm

*Testudo graeca* L. 1758,  
133mm

Both specimens are adults,  
the *T. graeca* being some-  
what older than the *T. whitei*.

L. ever seen by the present author measured 188mm. This animal had been in continuous captivity for 68 years and probably represents the maximum attainable by the species. These figures should be compared to a typical 215mm and 1.750 kg for male *T. whitei* and a typical 270mm and 2.875 kg for a female of the species. This difference in size is even perceptible in hatchlings of the two species, *T. graeca* hatchlings rarely measuring more than 27mm long and typically weighing 8g compared to *T. whitei* which typically measure 33mm long and weight 12-14g.

The age of our very large specimen is estimated at less than 35 years.

There are clear signs that growth is still continuing quite rapidly. Fortunately, this specimen has not been subjected to an unnatural or damaging diet (Highfield, 1989) and has no dietary induced skeletal abnormalities. There is some damage to the left-hand side of the carapace consistent with the animal having survived exposure to a fire in the wild as a juvenile. Development would appear to be perfectly normal, which raises the question of what the true maximum potential adult dimensions of this species may actually be. Certainly *T. whitei* are generally the largest known members of the genus *Testudo*, often exceeding even *T. marginata* in body mass (with which they were often confused in many 19th century accounts). They are certainly the largest of north African land tortoises, invariably surpassing the Linnaean *T. graeca* in length, width and weight by a factor of several fold.

The conclusions of Flower (1945) who maintained the north African tortoises can continue growing for 40 years and that "the largest known individuals...may not be more than 35 years old" are entirely supported by our present findings.

#### REFERENCES

- Boulenger, G.A. (1902) Record Tortoise. *The Field*. 99: 141.  
 Flower, S.S. (1945). Persistent growth in the Tortoise, *Testudo graeca*, for Thirty-nine years with other Notes concerning that Species. *Proc. Zool. Soc. Lond.* 114: 451-455.  
 Highfield, A.C. (1988) New size record for *T. hermanni*. *The Reptibery* 132; 5-6.  
 Highfield, A.C. (1989) Notes on dietary constituents for herbivorous terrestrial chelonia and their effects on growth and development. *ASRA Journal* (3): 7-20.  
 Highfield, A.C. & Martin, J. (1989) *Testudo whitei* BENNETT 1836; New light on an old carapace - Gilbert White's Selborne tortoise re-discovered. *Journal of Chelonian Herpetology* (1): 13-22.  
 Lambert, M.R.K. (1982) Studies on the growth, structure and abundance of the Mediterranean spur-thighed tortoise, *Testudo graeca* in field populations. *J. Zool. Soc. London*, 196: 165-189.