

Our Diminishing Heritage

The Western Swamp Tortoise (*Pseudemydura umbrina*), known locally as the Short-necked Tortoise, is a small carnivorous reptile which has been found *only* in a small area of the Swan Coastal Plain near Perth. Estimates of population are difficult to assess accurately but possibly less than 200 specimens exist in the whole world.

The Short-necked Tortoise was first known to science as a single specimen in the Natural History Museum, Vienna, acquired in 1839 and labelled "Phrynops Macquarrii. Nova Hollandia Jun." Then at the W.A. Naturalists' Club Wild Life Show in 1953 a young lad named Robin Boyd approached prominent naturalist Mr Vincent Serventy with a problem. He had a pet tortoise, but what kind was it? With the utmost confidence Mr Serventy told him it must be a Long-necked Swamp Tortoise, for that was the only kind found in the South-West. Young Robin wasn't convinced—his tortoise had a short neck. The 'problem' was taken to the W.A. Museum where it was at first thought to be a new species, but subsequently was found to be identical to the tortoise in the Vienna Museum.



Western Swamp Tortoise (*Pseudemydura umbrina*)

The only remaining habitat of the species was discovered to be swampland near Upper Swan and Warbrook, 20-25 miles north east of Perth, and further specimens were soon found. At this stage

strenuous efforts were made to preserve the species and these included the launching of a world-wide appeal for funds, the taking of a captive stock of 25 animals and eventually the reservation of two areas totalling together about 550 acres. These areas are known as Twin Swamps Wildlife Sanctuary (No. A27621) and Ellen Brook Wildlife Sanctuary (No. A27620). Between 1963 and 1967 studies of the species and the habitat were carried out by Dr A. A. Burbidge, and these showed that Twin Swamps held a good population of tortoises (estimated 150-200) and contained all the necessary types of habitat for their survival; Ellen Brook was only marginal habitat for the tortoises and population estimates were only 20 to 25. Both these reserves have been classified as limited access areas under the Fauna Conservation Act, and notice of this appeared in the *Government Gazette* on June 18, 1971.

Dr Burbidge's research has been continuous since 1963 and the reserves are still visited by Departmental research staff on average about once a week during the winter.

Marking of specimens to record movements, growth, age and numbers enables the Department's Research Section to assess the stability of the populations. Recent indications are that the climatic conditions over the past few years have not been conducive to growth or breeding, for the Short-necked Tortoise will not grow or breed when the swamps are dry. Most growth takes place in late spring and early summer, and nesting takes place in November or early December when the female lays three to five eggs which hatch in May or June.

The Short-necked Tortoise will only feed under water and during the summer finds refuge in leaf-litter, holes in the ground or under fallen branches, a behaviour pattern known as aestivating. When the tortoise enters a refuge it digs itself into the soil so that the soft parts of the body (limbs and head) are under or in contact with the soil; the carapace remains above the soil. With the arrival of the first heavy rains in late April or early May some tortoises emerge and move to other locations, but most remain in their refuges until enough rain has fallen for the swamps to start filling.

Twin Swamps and Ellen Brook Wildlife Sanctuaries are the only surviving protected habitat for the Short-necked Tortoise and even in these reserves the tortoise finds it difficult to survive under present conditions. Not only must this precarious habitat be preserved for all time, but a careful watch must be kept on the development of the surrounding land to ensure that there are no changes in the environment which could present a threat to the small population.

WESTERN SWAMP TORTOISE

Pseudemydura umbrina



Twin Swamps Wildlife Sanctuary. East Swamp—Summer



Twin Swamps Wildlife Sanctuary. North West Swamp—
Winter

DISTRIBUTION:

Very limited. Completely confined to a small area of the Swan Coastal Plain near Perth.

LOOKS:

Pulls head in sideways.

Pelvis is attached to plastron (under part of the shell).

Colour—varies with type of swamp.

Carapace is similar to colour of swamp water—yellow-brown in clay swamps and almost black with a maroon tinge in sandy swamps. Plastron is pale yellow-brown, and areas of recent growth along the sutures are brown-black. Males have a concave plastron and thick tail.

Females have a flat plastron and a smaller tail. Hatchlings are grey above and bright cream and black below.

LENGTH:

Male—140 mm. or 5½ in. (average carapace length).

Female—126 mm. or 5 in. (average carapace length).

WEIGHT:

Male 400 grams or 14 oz. (average).

Female 325 grams or 11 oz. (average).

NESTING:

Nesting occurs in November or early December and hatchlings emerge in May or June (180 days after laying).

Three to five eggs are laid several inches beneath the surface soil.

Eggs are hard-shelled and symmetrical—not enlarged at one end like a bird's egg.

DIET:

Aquatic earthworms and crustaceans; insects and insect larvae; small tadpoles. Feeds only under water.