

The *Liebenspiel* of *Testudo vandenburghi*, a new name for the Mid-Albemarle Island Galapagos Tortoise.

By RALPH DE SOLA

EARLY April found myself and my native guide in the midst of the volcano scarred tortoise country. Once above the Santo Tomas settlement and past Villamil Mountain we began to encounter signs of the quested reptile. Old whitened shells, bleached bones, and their peculiar shaped dried dung all contributed with their old trails worn smooth over the rough black lava rock to indicate the habitat of the gigantic galapagos tortoise.

Finally some forty miles from Villamil settlement, we found ourselves at the coast on the southern border of Perry Isthmus. The hilled group of Crossman Islets bore due south-east, Duncan Island east, Cowley Mountain nearly north, while behind us we could see to the south rugged and deceptively green Villamil Mountain.

We found the black-shelled testudinatans nibbling the coarse rank grass, taking big deliberate bites from fallen cactus ears, and basking in the too sunny open lava flows, while a few slept beneath overhanging ash beds or under the dubious shade of thorn bushes.

Many were most actively engaged in mating and for a great distance (400 to 500 yards) the males could be heard shouting their deep, bass, resounding roar. We came upon such a male with his companion, being guided to the pair by his loud protracted utterances. The female is large and being broad posteriorly presents quite a matronly appearance. Her mate is more circular and readily distinguishable not only by his concave plastron, but also by the thick anterior marginal shields.

Making his advances he carefully approaches and observes her and if she shows any signs of response, i.e., as approach toward him, he will quicken his pace and commence the deeply resounding guttural tortoise shout. He collides against her heavily in a manner that appears fierce, bumping her carapace with his own for about five to eight minutes and often for longer periods. During this time he often nips at her legs but in so doing she never retracts her limbs, however brutal his attack may seem. Again he crashes against her while she views his antics all unheeding.

This constant concussion, appearing painful to the quiet observer, continues and then another hoarse bellow follows. Slowly but persistently he cleaves behind her and awkwardly mounts her from the posterior extremity. Inserting his penis (which before had been concealed and now protrudes from the cloacal vent) into her dilating cloaca, he stretches forth his long thick neck with its heavy head and straddles forward over the

hinder neural and costal shields of her carapace. Stretching and tensely holding this equilibrium so difficultly obtained, as he is now fully mounted in a semi-horizontal, somewhat slanting, spread-eagle position, the first spasmodic tugging action of their congress begins. Its preliminary jerky motion almost takes the observer unawares. Opening his strangely peculiar and diabolical face he gives vent to another yell, which sounds more shrill and piercing than the others.

The female all the while is crouched with forelegs retracted and hinder limbs stretched strongly outward, uplifting and supporting his great weight and bulk. An hour and a half has thus elapsed in a temperature of about 110 degrees F. On and on the rhythmical spasmodic action continues... slowly but not wearily he dismounts, ever clumsily and very noisily as he slides against her shell and finally hits the hard metallic resounding lava bed again. They move on in different directions seeking grass clusters.

The sun is setting and the air grows both stiller and cooler. The bird voices disappear to be taken up by the voices of mosquitoes. Camp must be made. The pack animals must be secured. Our ragged equipment and scanty provisions must be sheltered from the threatening black cumulus clouds by great empty carapaces of long dead tortoises. The cylindrically even tortoise dung with cactus imbedded longitudinally along the center and each end twisted as a waxed mustachio, must be secured for the camp fire, plus any nearby brush that is handy and will respond to the chopping of our machetes. Our many captures (now well over fifty) must be secured leg to leg with rawhide thongs and then snarled and twisted about the strong bases of spiny cactus plants. Garcia, the guide, has gone off to tether the mule "Cascabel" near some open grass land while the small weak horse "Socialista" awaits me to unload her of her heavy struggling load of Chelonians. The uncaptured animals about us are more active now than at mid-day. Many are feeding nearby while others amble about the camp apparently curious at our behavior.

The foregoing text is from my notebook kept while on the New York Zoological Society expedition of 1928 to the Galapagos Islands, under the leadership of Dr. C. H. Townsend, aboard the "Albatross II" in charge of Captain Frederick Carlson of the United States Bureau of Fisheries.

The specimens secured by myself and natives of Villamil settlement appear from measurements to be Van Denburgh's *Testudo*, species—a form that he left unnamed owing to insufficient specimen data, but classified as the Cowley Mountain Tortoise. As Cowley Mountain is the first mountain north of Villamil Mountain it is more than likely that these specimens deserve the specific name of *Testudo vandenburghi*. (See "The Gigantic Tortoises of the Galapagos Archipelago" by John Van Denburgh, Proc. Calif. Acad. Sci., (4) 2 (1), Sept. 30, 1914: 362-365, pl. 122 and 123).

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