

Once a single tree has become established, is it doomed to leave no descendants? We thought it would be doomed because from 1978 to 1982 we found seeds beneath the single tree on Genovesa, but never a sapling. It would have been legitimate to conclude after 5 years of observation that *Erythrina velutina* was self-compatible (in being able to produce seeds) but that progeny were inviable. And our conclusion would have been wrong! In July 1983 there were nine small saplings growing beneath the tree ranging from 15 to 30 cm in height. Evidently the more than 2,400 mm of rain which fell that year (Grant and Grant 1989) were sufficient to germinate at least a few of the seeds. Seven were present the following (dry) year and five were present in the drought of 1985. We have visited the site every year since 1987, each time finding two were alive. Both survived to 1991 and were healthy and in bud in February. One, 20 cm tall, stands under the canopy of the parent, 1.5 m from its trunk. The other, 35 cm tall, stands just beyond the canopy 4 m from the trunk.

The parent tree on Genovesa is old. Thirty-five rings were counted in a dead branch less than 2.5 cm in diameter; thus, if one ring is laid down each year the branch was at least 35 years old when it died. Given the much greater diameter of the tree trunk (48 cm at 0.5 m height), we can extrapolate to a total age of 700 years or more. This seems extraordinarily old and needs to be verified. Tree-ring studies (e.g., Grant 1981) would help to determine if the reasoning is plausible. At the moment the tree stands 6 m tall, produces leaves and seeds each year, and looks basically healthy. If it dies before its offspring do, then

it may be replaced by two, and very gradually a population may build up.

We suppose this happened on the even more remote and apparently inaccessible Islands of Wolf and Darwin. A single seed reaching one of these Islands by sea, being transported to the flat region on top, and germinating, seems improbable enough. Two seeds establishing themselves is even less likely. Nevertheless a single colonization assisted by a bird, followed by multiplication, would explain the puzzle of *Erythrina* trees on these remote Islands in the Archipelago.

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THE PASSING OF TWO BELOVED REPTILES: ONAN AND CHIQUITA

By: Linda J. Cayot

AN OBITUARY FOR A TORTOISE

The most individualistic, ornery, beloved tortoise in Galápagos died early last year. Onan, an ancient male tortoise, lived alone for most of this century in the central crater of Isla Pinzón. As a result of the overexploitation of tortoises in the 1800s and early 1900s, the tortoise population on Pinzón fell to dan-

gerously low levels. The tortoise surveys in the 1960s showed less than 200 tortoises were left on Pinzón, and all but Onan lived on the outer western and southern slopes. In the central crater, Onan reigned alone.

Onan spent so many years alone that he began exhibiting amorous intentions with tortoise-shaped rocks. During a visit to Pinzón in 1970 by Craig



Figure 1. Onan was always alert to intruders entering his area and would do his utmost, for a turtle, to stand tall and control the situation (photograph by T.H. Fritts). *Onan siempre estuvo alerta de los trasgresores en su territorio, manteniéndose en pie y haciendo todo lo posible por controlar la situación.*

MacFarland and Peter Kramer, Onan's special rock-loving behavior was discovered. MacFarland named him "Onan" after the biblical character.

During the past 20 years, as part of the rearing and repatriation program run jointly by the CDRS and the GNPS, nearly 300 young tortoises have been repatriated to Pinzón, many of them to the central crater. Thus, Onan spent his last two decades in the company of many young tortoises.

Onan usually greeted the scientists and wardens visiting Pinzón's central crater, approaching with his mouth wide open and his head held as high as possible (Fig. 1), an aggressive posture typical of antagonistic interactions between tortoises competing for food, water, shade, or mates. Reaching for his maximal height, he would often lift one of his front feet and totter momentarily with a tripod stance. He was not large, but he stood tall. If you raised your hand or head above his or gently tapped him on the head, he would submit by withdrawing, at least for a moment. He was difficult to photograph because he walked straight at the camera, sticking his head right into the lens. One strategy was for the photographer to lie on the ground and snap the photographs just before being overrun by the tortoise.

Onan looked ancient, with little extra flesh on his

bones and a scarred carapace covered with lichens. In his final years he was nearly deaf and blind. His presence on Pinzón made every visit to that Island special for all who had encountered him before. He was last seen alive during the tortoise census of February 1990. Then, on a trip 4 months later, Washington Tapia, German Morillo, and Gayle Davis found his remains.

By the turn of the century, rats were so abundant on Pinzón that Rollo Beck concluded that all hatchlings were consumed by rats. If so, the possibility exists that Onan was a product of the 19th century, one of the last generations produced before rats took over Pinzón. As to his exact age, no

one knows for sure, but he was a true patriarch, likely well over 100 and possibly over 150 years old.

Onan was buried on Pinzón on 4 June 1990 and he shall remain there as a part of his Island. Future trips to Pinzón will not be the same for the Park personnel, Station biologists, and other scientists who knew him. We will all miss him.

AN OBITUARY FOR AN IGUANA

Chiquita, the unofficial mascot of the CDRS, died on 25 April 1990. In the early days of the Station, a young land iguana was found roaming the grounds. When Doña Magdalena Velez began working in the dormitories in 1965, she continually saw the small iguana and named it Chiquita because of the iguana's small size. Chiquita lived on to roam the Station grounds for more than 25 years (Fig. 2).

Doña Magdalena was Chiquita's best friend. In the years that Doña Magdalena worked in the dormitories (1965-82), Chiquita was most often found there. Magdalena often sat on the ground and Chiquita approached closely, often climbing onto her lap to be fed chocolates and bananas. Chiquita loved to be scratched and would stand in the typical upright posture that some iguanas use to encourage finches to remove ticks. After Magdalena retired, Chiquita frequented other homes at the Station to

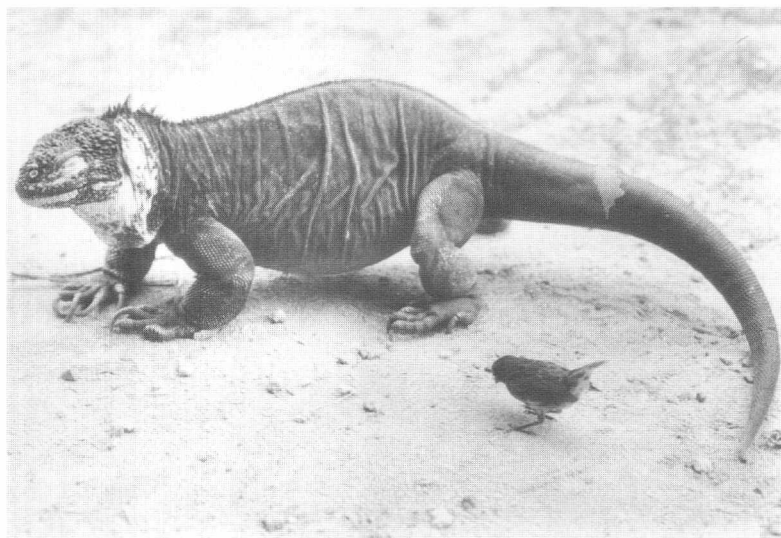


Figure 2. The aging of Chiquita was evidenced in part by a marked darkening of her pigmentation from hues of brown and orange in 1977 (above) to dull black in 1986 (below; photographs by T.H. Fritts). *La edad de Chiquita se pone en evidencia al mostrar un marcado oscurecimiento en su pigmentación, desde matices marrón anaranjado en 1977 (superior) a negro opaco en 1986 (inferior).*



receive her daily rations. (Of course, she also ate native vegetation.)

For many of us, Chiquita was our first encounter with a land iguana. Often within a day or two of someone's arrival at the Station, she surprised them by looking in the screen-door of their dormitory room.

Chiquita was found dead in front of Cruz Márquez's house (one of her favorite hangouts in recent years) early on 26 April. Unlike Onan, she was autopsied; her liver was found to have failed. Her skeleton will become a part of the museum collection at the Station. We will miss seeing her roaming around the Station.

With the passing of Onan and Chiquita and with the first record of hatchling tortoises on Isla Española ("grandchildren" of the native adults in captivity; see article this issue), we move into a new era, with the hope that current management programs will continue to protect Galápagos reptile populations well into the next century and the one after that. **Linda J. Cayot, Charles Darwin Research Station, Isla Santa Cruz, Galápagos, Ecuador.**