

Some Recent Reptilian Introductions to Trinidad

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Anolis lizards are small members of the numerically large family of Iguanids. They are found mainly in northern South America, Central America, and throughout the islands of the West Indies.

Trinidad has only one species of native anole lizard, *Anolis chrysolepis planiceps*, a jungle-dwelling species, the same as is found on the nearby Venezuelan mainland (Vanzolini & Williams 1970) and the offshore islands of Chacachacare and Huevos (Boos 1984). This *Anolis* was included in the formal list for Trinidad's lizards by Mole (1924), who may have noted either a listing for Trinidad in Vol. 4 of Duméril, Bibron and Duméril's 1837 "Erpétologie Générale...", or extrapolated Boulenger's 1885 listing for this species for Grenada to specimens he had collected and identified on Trinidad.

Burt and Burt (1930) listed it specifically for Trinidad based on two specimens, one of which was collected by H. Carraciola [sic], which listing was incorporated in the first attempt to make a comprehensive catalogue of Trinidad's lizards (Parker 1933). Caracciolo was a founding member of the Trinidad and Tobago Field Naturalists' Club.

According to Gorman and Dessauer (1966), the two other species of anole on Trinidad, *Anolis aeneus*, and *A. trinitatis*, were introduced to Trinidad from the islands of Grenada and St. Vincent within fairly recent times.

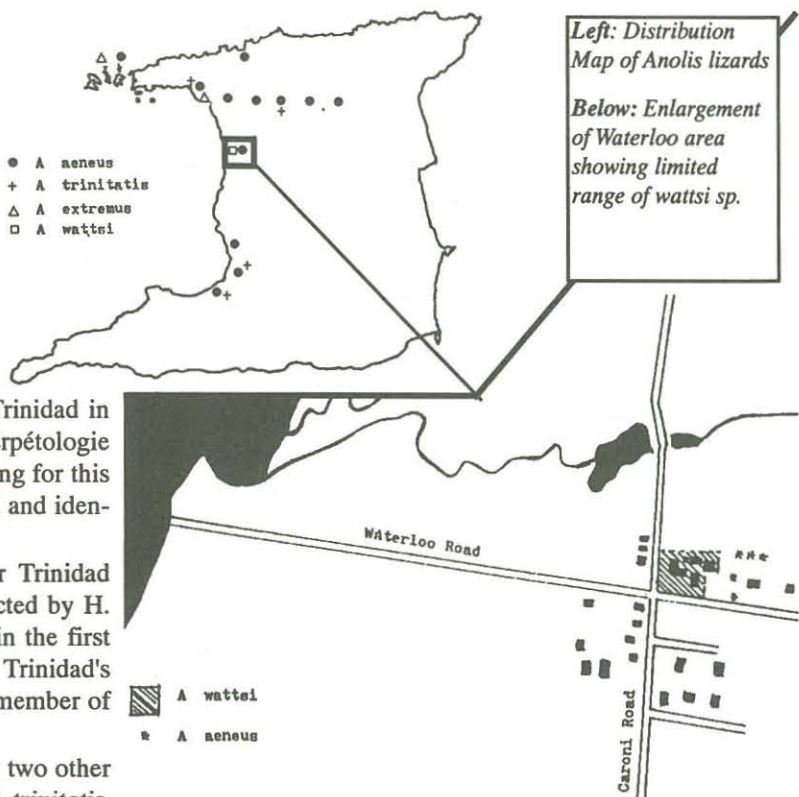
A. aeneus has become widespread in human communities and the urban centres of Port of Spain, San Fernando, some satellite towns along the east-west corridor, and on some offshore islands (Boos 1984), including Monos (Holt 1987 p.32), though, to date, I have not confirmed its presence on that island (see Fig. 1.).

A. trinitatis, once fairly common in enclaves in San Fernando, Port of Spain and the campus of the University of the West Indies at St. Augustine, is difficult to locate nowadays. I recently noticed a small population in one yard in Cascade, a suburb in the north of Port of Spain.

In the past, the two species were often confused with one another in the literature. It was only after Kenny and Quesnel (1959) noted that, excluding *A. chrysolepis*, there were two forms of *Anolis* on Trinidad, a green and a grey, the taxa were separated and recognised as two distinct species. That one species, *A. trinitatis*, is being slowly and steadily replaced by another, the more robust, aggressive and habitat-tolerant *A. aeneus*, has been documented by Gorman and Boos (1972).

It is not known exactly when these two species, *A. aeneus* and *A. trinitatis*, were introduced to Trinidad but the following historical accounts may give some clues as to how and when they arrived.

With the approval of the Cedula of Population in 1783, the emigration of land owners and their slaves from nearby main-



ly French colonies was stepped up, especially from Grenada where the Catholic planters were suffering severe political and social discrimination at the hands of the Protestant British Colonial Government.

Substantial material goods and agricultural produce must have been brought to Trinidad from Grenada, a trade which exists to this day, and it is speculated that the adults, young, and perhaps the eggs of the ubiquitous *A. aeneus* on Grenada, arrived on Trinidad as successful stowaways, to populate the urban areas of their new home. Subsequent spread from their point of landing has obviously taken place over the following two hundred years, until today they are the accepted common anole in gardens in nearly all the large centres of population in Trinidad, and have successfully colonized several of the islands off the northwestern peninsula.

The story of *A. trinitatis* is slightly more mysterious, and open to much speculation, as there are few clues to explain the extremely scattered enclaves of this lizard. The fact that colonies were found on both the grounds of the Imperial College of Tropical Agriculture (now the campus of the University of the West Indies) in St. Augustine, and in the St. Clair residential area bordering the western portion of the Ministry of Agriculture (once part of the Royal Botanic Gardens), points again to its introduction with plant material taken into these two sites where botanical collections were being introduced and propagated.

Lazell (1972) makes a strong case for the transportation of *A. trinitatis* from the Royal Botanical Garden in Kingstown in

St. Vincent to Trinidad in the form of adults on the stems and foliage and eggs in the soil of saplings of the bread-fruit plants, originally brought to St. Vincent from Tahiti by William Bligh around 1793, and subsequently distributed to other West Indian islands, including Trinidad, in the early 1800's.

The presence of a large population of *A. trinitatis* in some gardens and citrus groves in and around San Fernando in the 1950's and 1960's, is more difficult to explain, except to guess that they were transported in plants and foliage brought from enclaves in Port of Spain and St. Augustine.

In 1967, Boos reported a deliberate experimental release, carried out in 1965, of a third, exotic species, on Huevos, one of the offshore islands between the northwest peninsula of Trinidad and the Paria peninsula of Venezuela.

Six pairs of *Anolis extremus*, (called at that time, *Anolis roquet cinereus*) were brought from Barbados and released on this tiny island. Regular checks for survival discovered only one lizard eleven years later (Boos 1978). Checks in subsequent years failed to find any further survivors.

It was in October of 1982, while attempting to collect specimens of *Eleutherodactylus johnstonei*, - formerly called *E. martiniquensis* in error (Kenny 1979) - that we heard calling in the dock area opposite the Holiday Inn Hotel on Wrightson Road, Port of Spain, Jerry Dave Hardy and I spotted a pale green anole, asleep on a leaf, in a tangle of "bird vine" covering one of the chain-link fences bordering a section of waste land choked with "bush" growing between the derelict buildings, rotting car bodies, old lumber and wooden boxes. Easily captured and then examined in the beams of our flashlights, it was obviously none of the anoles recorded for mainland Trinidad.

The following day we returned to the site and I photographed several adults *in situ* on vines in the area. We also collected four specimens, which, after being photographed, were preserved and sent to the United States National Museum as voucher specimens USNM

244439-244442. Because I was familiar with *A. extremus* from Barbados, it was fairly easy to confirm that these lizards were this species, as they exhibited the dark axillary pigmentation mentioned by Lazell (1972 p.85). How these lizards got to where we found them is difficult to determine.

I remember that in the mid to late 1970's, a pair of young German reptile collectors had applied to the Wildlife Division of the Forestry Department of the Ministry of Agriculture, Lands and Fisheries, for an export permit for lizards and frogs they had collected on Barbados. They were passing through Trinidad on their way back to Germany, and needed some documentation from their port of departure to present to the authorities in Europe.

Refused an export permit by the Wildlife Division, as they had no record of an import permit being issued for these exotics, the collectors possibly released their cargo near the hotel (Holiday Inn?) where they were staying, rather than destroy them.

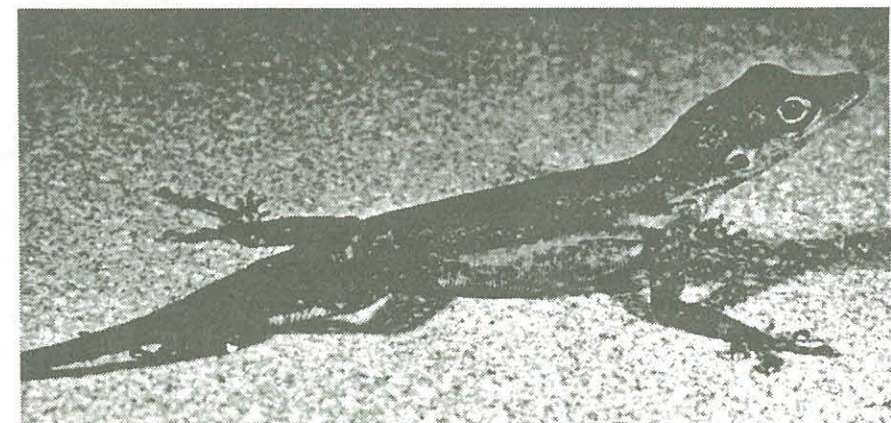
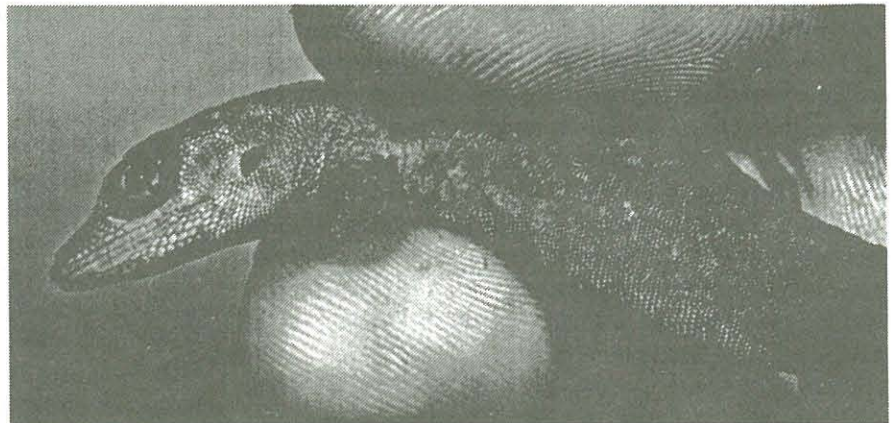
In any event, the habitat where they were found, which was surrounded by hostile areas of busy road, parking lots, and dock warehouses, was cleaned up soon after 1982. Some of the buildings

were torn down, and others have been utilized for the now popular Breakfast Shed Restaurant and parking areas for the customers.

Recent searches there for any survivors of *A. extremus* have proved fruitless. Contrary to the successful emigration of this species from Barbados to St. Lucia, Bermuda, and a restaurant in Venezuela, the Trinidad environment has so far proved too hostile for their survival.

In December 1992, Graham White phoned me to say that he had collected some *Anolis* lizards in the gardens surrounding the offices and laboratories of Caroni Ltd. at Waterloo in the west central region of Trinidad, and that he was unable to identify them. He was fairly sure they were neither *A. aeneus* nor *A. trinitatis*, and he was not too familiar with *A. chrysolepis*, to which the lizards he had caught bore some resemblance, because they seemed to favour the ground rather than trees as sites of retreat when threatened.

I visited Graham at Waterloo, and, after examining the lizards he had caged and catching two or three more on the grounds around the buildings, I was convinced that they were not any species I had ever seen or collected



Right *Anolis extremus* .
Top *Anolis extremus* -
Photographs by H.E. Boos

before on Trinidad. They seemed to be extremely restricted in their distribution around the buildings and the immediate compound, for, as we searched outwards, they were replaced by robust and plentiful *A. aeneus* on nearly every tree, electricity pole and fence post (see Fig.2). Skittish and shy at our approach, they were difficult to collect, disappearing into the darkness under the buildings or into piles of discarded lumber and galvanized iron sheets.

Back at my office I examined them closely. The sexes were quite distinctly different in size, colour and pattern, and it was with some difficulty, and finally with the help of colour illustrations and descriptions in Lazell (1972), and Schwartz and Henderson (1985), that I was able to tentatively identify these lizards as *Anolis wattsi*, a native of Antigua with three subspecies on the nearby islands of St.Kitts, Nevis, St.Eustatius, St.Martin and Barbuda.

Enquiring what possible connection the agricultural laboratories of Caroni Ltd. at Waterloo may have had with Antigua, which might reasonably explain the presence of these ground-favouring anoles so far from their home, I discovered that a shipment of pineapple plants had been imported to

Trinidad from Antigua in the late 1970's, as a propagating experiment. Undoubtedly the common anole on Antigua had hitched a ride amongst the spiky foliage of the pineapple plants bound for Trinidad, and they had escaped when these plants were offloaded, unpacked and planted at Waterloo. Two females were identified at the same location in February 1995.

Checks will be made to chart either the spread or demise of this new addition to the lizard fauna of Trinidad.

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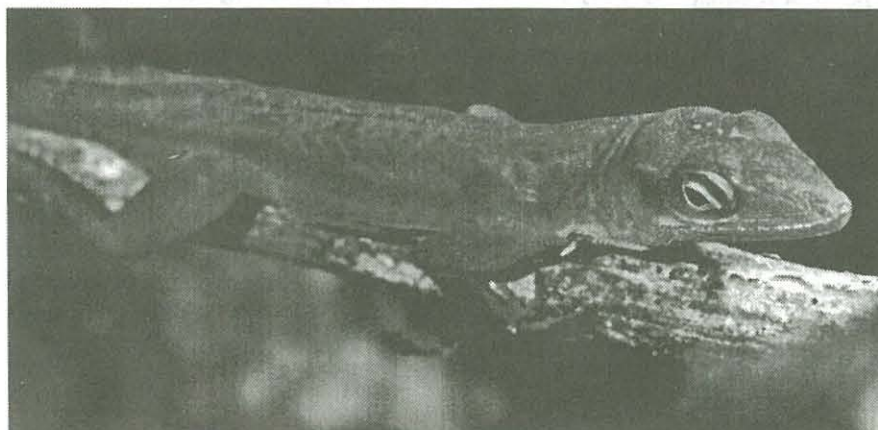
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Top: *Anolis wattsi*-

Left: *Anolis wattsi*.

Photographs by H.E. Boos