

Recent Records of Reptiles and Amphibians Accidentally Transported to Guam, Mariana Islands

GARY J. WILES

*Division of Aquatic and Wildlife Resources
192 Dairy Road Mangilao, Guam 96923 USA*

Many species of reptiles and amphibians are candidates for unintentional transport via modern human conveyance because of their small sizes and tolerance for living near people. Published examples of this type of movement are uncommon for the Pacific region, but are of interest because they illustrate the continuing potential for non-indigenous species to reach new locations and initiate wild populations. Since World War II, accidental transport has led to the establishment of the brown tree snake (*Boiga irregularis*), curious skink (*Carlia* cf. *fusca*), and possibly the eastern dwarf tree frog (*Litoria fallax*) on the island of Guam (13°25'N, 144°45'E) in the tropical western Pacific Ocean (Rodda et al. 1991, McCoid 1993, 1999). The snake and skink have produced substantial or putative ecological impacts (Rodda et al. 1991, Fritts & Rodda 1998). McCoid (1993) additionally documented two frogs and a gecko that were unintentionally carried to the island, but did not become established. Guam's role as the economic and transportation hub of Micronesia makes it especially vulnerable to such arrivals (McCoid 1993).

This paper documents the accidental transport of four lizards, several snakes, and a frog to Guam primarily during the 1990s. Four of the animals were captured alive by customs officials and turned over to the Guam Division of Aquatic and Wildlife Resources for disposition. These specimens were deposited and identified at the National Museum of Natural History (USNM), Washington, D.C. An older previously undocumented record is also included.

Polypedates leucomystax (White-bearded Flying Frog). A single specimen (USNM 328701) was collected at the Guam International Airport on an airplane arriving from Bangkok, Thailand, on 7 June 1993. This species is a resident of cities and other human altered habitats (Obst et al. 1988).

Perochirus ateles (Micronesian Gecko). An individual (USNM 328700) was captured at the Guam International Airport in a banana bunch flown from Chuuk, Caroline Islands, on 15 August 1991. *P. ateles* is indigenous to the southern Mariana Islands, but has not been recorded on Guam since 1978 and is presumed extirpated, probably due to excessive predation by brown tree snakes (Rodda & Fritts 1992).

Mabuya multifasciata (Common Mabuya). A single specimen (USNM 531290) was caught at the Guam International Airport in a piece of luggage coming off an airplane flight from Manila, Philippines, on 18 January 1999. This skink is common in downtown Manila and has been observed in freight holding areas at the city's international airport (R. Crombie, pers. comm.)

Mabuya sp. One individual (California Academy of Sciences 208973) of an undescribed species of *Mabuya* of the *multicarinata* group, which is endemic to the western Caroline Islands, was captured at the Guam Naval Air Station on 26 October 1970. Although details of this skink's arrival are unknown, its capture locality indicates that it came off an airplane. In Palau, this species can tolerate severely disturbed habitats, including towns and villages (Crombie & Pregill 1999).

Sceloporus occidentalis (Western Fence Lizard). One individual (USNM 328702) was discovered in a shipping container opened at the Guam Commercial Port at Apra Harbor on 24 August 1992. The container was shipped from Oakland, California. *S. occidentalis* occupies a variety of habitats in its native range and is frequently found near humans.

Unidentified Snake. In December 1996, a live snake was captured in a shipping container with Christmas trees by workers selling the trees on the grounds of the U.S. Naval Hospital in Agana Heights. The animal was not retained for identification, however, it was described as a possible garter snake (*Thamnophis* sp.), being 30–60 cm long and greenish with longitudinal stripes. The trees were cut in the Pacific Northwest of the United States, moved to California and held for several days, and were brought to the island through the Guam Commercial Port. At least one additional report of a snake associated with trees from the consignment was received, indicating that two or more animals were present in the shipment.

Some general conclusions can be made on the types and sources of reptiles and amphibians likely to be accidentally transported to Guam, based on the nine records described in this report and in McCoid (1993). A broad taxonomic representation of species has been recorded, including frogs, geckos, skinks, and iguanid lizard, and a snake. Most are taxa that commonly live in association with humans. The animals originated from Southeast Asia (4 cases), the United States mainland (3), or other islands in Micronesia (2), and were conveyed on ships (5) or airplanes (4).

I thank Ronald Crombie for identifying specimens and providing background information useful in the preparation of the manuscript. Jens Vindum of the Department of Herpetology, California Academy of Sciences, Gad Perry, Marvin Chargualaf, and Mark Doles also assisted. Ronald Crombie, Gordon Rodda, and Gad Perry reviewed the manuscript.

References

- Crombie, R.I. & G.K. Pregill. 1999. A checklist of the herpetofauna of the Palau Islands (Republic of Belau), Oceania. Herpetological Monographs. In press.
- Fritts, T.H. & G.H. Rodda. 1998. The role of introduced species in the degradation of island ecosystems: a case history of Guam. *Annual Review of Ecology and Systematics* 29: 113–140.
- McCoid, M.J. 1993. The "new" herpetofauna of Guam, Mariana Islands. *Herpetological Review* 24: 16–17.

- McCoid, M.J. 1999. Established exotic reptiles and amphibians of the Mariana Islands. *In* G.H. Rodda, Y. Sawai, T.H. Fritts & H. Tanaka (eds), *Problem Snake Management: the Habu and the Brown Treesnake*, pp. 453–459. Cornell University Press, Ithaca, New York. 534 pp.
- Obst, F.J., K. Richter & U. Jacobi. 1988. *The Completely Illustrated Atlas of Reptiles and Amphibians for the Terrarium*. T.F.H. Publications, Neptune City, New Jersey. 830 pp.
- Rodda, G.H. & T.H. Fritts. 1992. The impact of the introduction of the colubrid snake *Boiga irregularis* on Guam's lizards. *Journal of Herpetology* 26: 166–174.
- Rodda, G.H., T.H. Fritts & J.D. Reichel. 1991. The distributional patterns of reptiles and amphibians in the Mariana Islands. *Micronesica* 24: 195–210.

Received 20 July 1999, revised 16 Sep. 1999