

## VISITORS FROM THE WEST

By: Godfrey Merlen

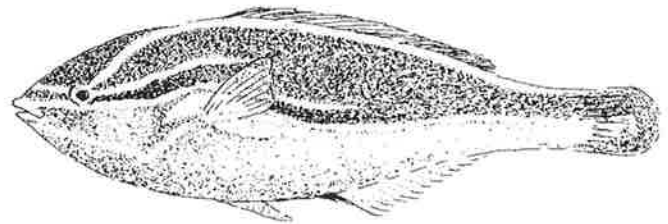
The arrival and establishment of organisms in the Galápagos Islands has been a subject of great interest. Evidence indicates that the islands have had more influence from Central America and the west coast of South America than from anywhere else. The predominant westerly direction of the currents and winds and the relative closeness of the South American continent facilitate organismal arrivals from the east. In contrast, the huge extent of the Pacific Ocean to the west of the archipelago defies organisms to reach Galápagos from that direction. Because the Pacific Ocean forms an ecological gulf, separating the fauna and flora of the east from the west, this expanse has been termed the 'East Pacific Barrier'. The paucity of identified arrivals from the central Pacific indicates that it is a highly effective barrier.

Although the Marquesan Archipelago is the nearest land west of Galápagos (3015 nautical miles away), one might suspect that any arrivals from this direction are more likely to come from a more equatorial location such as the Line Islands (including Christmas Island, found at 2° N, 4024 nautical miles from Galápagos), due to the eastward movement of the Equatorial Countercurrent. In addition, weak winds around the meteorological equator might facilitate the easterly movement of birds and other flying or wind-born organisms. The Marquesas Islands lie in the southern hemisphere trade wind belt (10° S latitude), where both currents and winds have a strong westerly flow likely to hinder any eastward movement of organisms.

Thus, the oceanic barrier is a formidable obstacle, yet not impassable. Arrivals from the west are occasionally recorded in the Galápagos, particularly after significant meteorological events such as El Niño Southern Oscillations. Even under more normal conditions, nature pushes travellers towards Galápagos. Sometimes they make it, as did two visitors from the west which I observed in May and August of 1994.

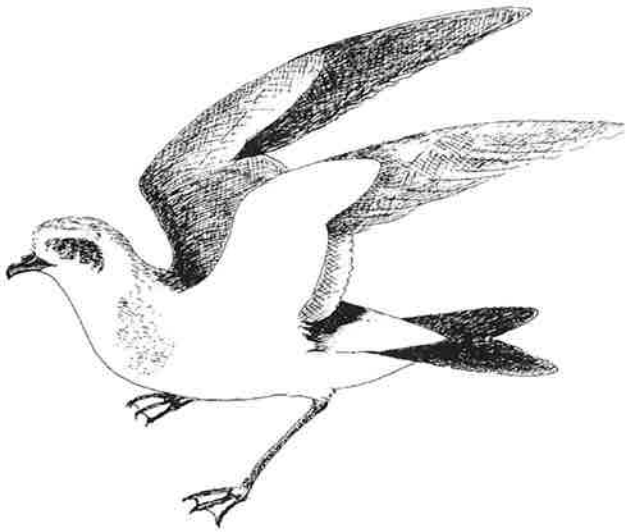
On May 24, while diving near a fur seal colony on the southeast corner of Wenman Island, I noticed a

small, bright reef fish moving about just above some large rocks on the sea floor. Although the water was shallow (15-20 feet), the swell made an approach difficult, and I soon lost sight of the animal. However, further search revealed it again and I was able to make a sketch and take a few photographs. Even from my sketch, there was no doubt about its later identification. It was a terminal phase red-shouldered wrasse, *Stethojulis bandanensis* (Fig. 1). This fish is unknown from the Americas, but is common in the central tropical Pacific and the Line Islands (Myers, 1989). Its point of departure, probably as a planktonic larva, could well have been from these



**Figure 1.** Sketch of a red-shouldered wrasse (*Stethojulis bandanensis*) by G. Merlen.

islands. The closely related belted wrasse, *S. balteata*, is found to the north in the Hawaiian Archipelago, and another related species, *S. albovittata*, occurs in the Indian Ocean (Randall, 1985). Not only do I find it fascinating that such an animal could survive the journey to Galápagos, but the fact that it was in terminal phase, recognized by its scarlet shoulder patch surrounded by bright yellow and bright blue lines radiating from around the eye, suggests that it had survived for some time in its new habitat. The possibility that it arrived in the Galápagos Islands as an adult seems remote since this species, wherever found, is closely associated with reefs. Since I did not see any other members of this species, either in terminal or initial phase, I wonder if the develop-



**Figure 2.** Sketch of a white-faced storm petrel (*Pelagodroma marina*) by G. Merlen.

ment of terminal phase characteristics is independent of the presence of other individuals.

The second visitor from the west was observed on the night of August 7, two miles to the north of Cape Berkeley, Isabela Island. I went to the stern of the boat with Fábian Ramírez to adjust the sail, and saw, by lantern light, a small form fluttering on the deck. Fábian caught the small bird and was about to release it overboard when I suggested that we examine it further, for its aspect was unusual. Under the bright light of the wheelhouse I realized that the tiny bird, which was as light as tissue paper, was a species unknown to me. Again I sketched it and took a few photographs. After keeping it in the dark for 15 minutes to allow it to recover from the bright lights, we released it back into the night. Later identification proved to be simple. Peter Harrison's book 'Seabirds' (1983) clearly showed it to be a white-faced storm petrel, *Pelagodroma marina maoriana*, which is completely different in coloration from any storm petrel occurring regularly in Galápagos (Fig. 2). In the past, sightings of *P. marina* have been recorded near Galápagos and between Galápagos and Peru, but never within the archipelago itself (Harris and de Vries, 1968; Harrison, 1983). What is truly incredible is that New Zealand is the nearest breeding area for this species, where it lays its eggs during the last

ten days of October (Murphy, 1936). This means that an individual visiting Galápagos and then returning to New Zealand would cover a minimum distance of 10,717 nautical miles. According to Harrison (1983), Galápagos seems to be the limit of its migration, although it is commonly seen in the central Pacific.

I salute these long-distance visitors and hope there will always be room at the inn for such travellers.

### LITERATURE CITED

- Harris, M.P. and T. de Vries. 1968. White-faced storm petrels (*Pelagodroma marina*) near the Galápagos Islands. *Ardea* 56(1/2): 193.
- Harrison, Peter. 1983. Seabirds: An identification guide. Croom Helm Ltd., Beckenham, Kent, England.
- Murphy, R.C. 1936. Oceanic Birds of South America. American Museum of Natural History, New York.
- Myers, Robert F. 1989. Micronesian Reef Fishes. Coral Graphics, Barrigada, Guam.
- Randall, John E. 1985. Guide to Hawaiian Reef Fishes. Treasures of Nature, Kaneohe, Hawaii.
- Godfrey Merlen, Pto. Ayora, Isla Santa Cruz, Galápagos, Ecuador.**



K. Thalia East