

## An Unusual Example of Basking by a Green Turtle in the Northwestern Hawaiian Islands

by Alan K.H. Kam

The Green Turtle, *Chelonia mydas*, is known to haul out regularly to bask on coral and beaches and lava rock ledges in the Northwestern Hawaiian Islands (Balazs 1976, 1977, 1980; Whittow and Balazs 1979, 1982; Sheekey 1982). This is unusual since, worldwide, basking behavior by sea turtles is a rare occurrence. Furthermore, of the seven marine turtle species, only the green turtle has been reported basking. In the Northwestern Hawaiian Islands (NWHI) most of the basking sites are isolated, uninhabited islands within the confines of the Hawaiian Islands National Wildlife Refuge.

In Hawaii basking has also been observed in captive-reared juvenile Green Turtles held in a tank (Balazs and Ross 1974). Green Turtles of all sizes at Sea Life Park on Oahu, Hawaii, regularly bask on a sloping concrete ramp in their outside display pool. Basking also takes place in captivity on a wooden ramp constructed in a tank at the University of Hawaii's Kewalo Marine Laboratory (Whittow and Balazs 1982).

On 30 October 1982, the author and a fellow field observer, C. E. Bowlby, saw an unusual example of basking at Pearl and Hermes Reef in the NWHI. A large Green Turtle was observed on the sloping steel plates of an old exposed shipwreck (Figure 1). We sighted the turtle at 0915 while motoring by small boat en route from Southeast Island to North Island. The shipwreck is situated within the barrier reef at the northeastern edge of Pearl and Hermes Reef. It is located 11.1 km from Southeast Island and 4.7 km from Little North Island, the nearest land mass (see maps in Amerson et al. 1974). The turtle was basking on the northern face of the hull on the largest section of the wreckage, about 1.5 m above the water. The winds were from the northeast at 25-35 km per hour, the air temperature was approximately 21-C, and the cloud cover was 80%. The low tide prevented us from motoring close to the wreckage. Consequently, the nearest point of observation was about 100 m.

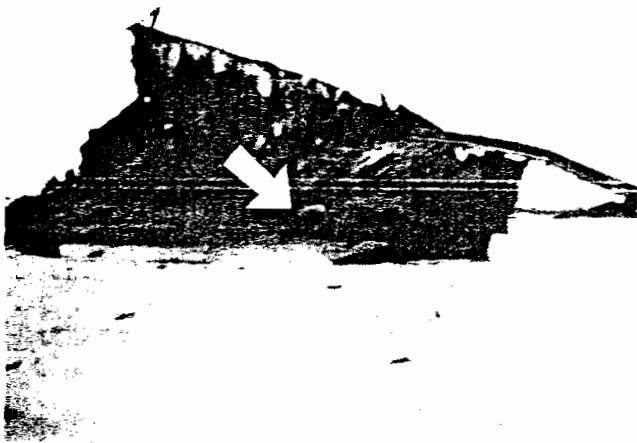


Figure 1. Green Turtle basking on shipwreck, Pearl and Hermes Reef, NWHI, 30 October 1982.

Photo by Alan K. H. Kam

It is interesting to note that the sloping steel wreckage on the reef adjacent to Whale-Skate Island at French Frigate Shoals in the NWHI has never been recorded as a basking site (G.H. Balazs, pers. comm., October 1982). Apparently, turtles find the nearby sand beach to be more acceptable for this purpose. At Pearl and Hermes Reef, the wreck is located several kilometers from any available beach. It is a safe assumption that the temperature of dry steel surface on the wreck would be higher than that of sand (Whittow and Balazs 1982). Because the turtle was observed basking early in the morning, at a time when there was extensive cloud cover, and that it had selected a northerly aspect of the wreck, it can be supposed that basking on this wreck may be more frequent at night or under cool conditions (G. C. Whittow, pers. comm., January 1983).

This is the first record of a turtle basking on the wreck at Pearl and Hermes Reef or any man-made structure in the wild. The wreck's periodic use by turtles may have been overlooked by other visiting researchers and refuge personnel. The wreck is at a remote area of Pearl and Hermes Reef that is not easy to view unless special effort is made to motor close. Future workers in the area should, therefore, try to determine to what extent the wreck is used for basking.

### Acknowledgements

I wish to thank George H. Balazs for his editorial assistance and thoughtful encouragement to complete this work.

This observation was made during the research on the Hawaiian monk seal and green turtle by the Marine Mammals and Endangered Species Program, Southwest Fisheries Center Honolulu Laboratory, National Marine Fisheries Service. Much thanks go to G. C. Whittow, University of Hawaii Department of Physiology, for his helpful insight on adaptive physiology. I also wish to thank the U.S. Fish and Wildlife Service for their cooperation in permitting these observations within the Hawaiian Islands National Wildlife Refuge.

### Literature Cited

- Amerson, A.B., Jr., R.B. Clapp, and W.D. Wirtz II. 1974. The natural history of Pearl and Hermes Reef, Northwestern Hawaiian Islands. Atoll Res. Bull. 174:1-306.
- Balazs, G.H. 1976. Green turtle migrations in the Hawaiian Archipelago. Biol. Conserv. 9:125-140.
- \_\_\_\_\_. 1977. Ecological aspects of green turtles at Necker Island. Hawaii Institute of Marine Biology, University of Hawaii. Unpubl. Rep., 27 p.
- Balazs, G.H. 1980. Synopsis of biological data on the green turtle in the Hawaiian Islands. U.S. Dep. Commer., NOAA Tech. Memo., NMFS, NOAA-TM-NMFS-SWFC-7 and University of Hawaii Sea Grant Cooperative Report UNIH-SEAGRANT-CR-81-02, 141 p.
- Balazs, G.H., and E. Ross. 1974. Observations on the basking habit of the captive juvenile Pacific green turtle. Copeia (1974) 2:542-544.
- Sheekey, E.A. 1982. Green turtles basking on Tern Island, French Frigate Shoals. 'Elepaio 43(6):45-47.
- Whittow, G.C., and G.H. Balazs. 1979. The thermal biology of Hawaiian basking green turtles (*Chelonia mydas*). Am. Zool. 19(3):981.
- \_\_\_\_\_. 1982. Basking behavior of the Hawaiian green turtle (*Chelonia mydas*). Pac. Sci. 36:129-139.

Marine Mammals and Endangered Species Program  
Southwest Fisheries Center Honolulu Laboratory  
National Marine Fisheries Service, NOAA  
P.O. Box 3830, Honolulu, HI 96812