Disorientation of Hawksbill Turtle Hatchlings, Eretmochelys imbricata, by Stadium Lights

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DISORIENTATION OF HAWKSBILL TURTLE HATCHLINGS, *ERETMOCHELYS IMBRICATA*, BY STADIUM LIGHTS.—Mrosovsky (1972) reviewed the several studies which have been performed on the orientation of hatchling green sea turtles, *Chelonia mydas*. Much less studied is the orientation of hatchling hawksbill turtles, *Eretmochelys imbricata*. What little is known suggests that they have the same or similar mechanisms as green turtles (Carr et al., 1966; Mrosovsky, 1970). Carr and Ogren (1960) were able to disorient hatchling green turtles with a beam of artificial light; all but one of the turtles moved toward the light source. McFarlane (1963) recorded disorientation of hatchling loggerhead turtles, *Caretta caretta*, by artificial light. Similar disorientation by artificial light is now reported for hatchling hawksbill turtles at Frederiksted, St. Croix, United States Virgin Islands.

At approximately 2000 h on 26 August 1974, hawksbill turtle hatchlings were sighted moving onto a lighted baseball diamond while a game was in progress. The hatchlings were moving up a slope of beach sand (with vegetation cover), 34 m in width from sea to a bordering road, crossing 23 m of asphalt road and entering the infield. Between the road and outfield 39 live turtles were found. Fourteen turtles were crushed on the road by vehicles. One was found moving parallel with the shoreline of the beach near the edge of the water. At 2200 h, 10 more turtles emerged from the beach and began crossing the road toward the stadium. These were captured and all 49 turtles were released in the sea.

On the night of 15 October 1974 at least 30 hatchling sea turtles crossed the road in the same location as described above, and entered the lighted stadium. I was not notified of this until the following morning, after the live turtles had been released, so I cannot be sure of the species. I was informed that some turtles had been crushed on the road, but none were located. Probably these were again hawksbills as they are the most common nesters in that locality.

If a geotaxis for reaching the sea is present in this species, it was counteracted by the lights since the turtles moved up an inclined plane. The banks of stadium lights presented such a complex of bright light sources that one could not determine if the hatchlings showed a tropotactic reaction, as described for green turtles by Mrosovsky and Shettleworth (1968). However, these instances of disorientation further suggest that the hatchlings of the three species mentioned here may utilize similar cues in finding the sea.

McFarlane (1963) stressed the need for protected nesting areas for sea turtles. I agree with this, and emphasize that designating beaches as undeveloped public lands will not necessarily ensure suitable hatching areas for sea turtles. Present evidence indicates that brightness cues are utilized by hatchlings of some sea turtle species in finding the sea. These cues are easily disrupted by artificial light sources which are adjacent to beaches, even though there may be no significant development of the beach property itself. The environmental impact of artificial light in regions where sea turtles nest must be considered; inland from such beaches, zones with little or no artificial lighting should be established.

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GROWTH RATES OF RECENTLY TRANSFORMED *BUFO WOODHOUSEI FOWLERI*.—Anurans generally undergo their greatest growth during the first year of life. Post-metamorphic growth and size at transformation of several *Bufo* species is summarized by Turner (1960). Bragg (1940), Blair (1953), Underhill (1960) and Breckenridge and Tester (1961) report growth rates of recently transformed *Bufo* species and size at transformation. Minton

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Disorientation of Loggerhead Hatchlings by Artificial Road Lighting
Robert W. McFarlane
Copeia, Vol. 1963, No. 1. (Mar. 30, 1963), p. 153.
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