

# THE CIRRIPED *STOMATOLEPAS ELEGANS* (COSTA) ON LEATHERBACK TURTLES FROM NOVA SCOTIAN WATERS\*

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DURING the investigation of sea turtles occurring off the coast of Nova Scotia two leatherbacks (*Dermochelys coriacea coriacea*) were found to host several specimens of the platylepadine barnacle *Stomatolepas elegans* (Costa). The genus *Stomatolepas* has previously been reported only from tropical localities in the American Antilles, the Mediterranean, Japan, and the Malaysian Archipelago. This new occurrence marks not only the highest latitudinal record for the genus, but also the highest latitude from which any platylepadine has been reported.

Although many platylepadines are found exclusively on turtles, they are more closely related to the whale barnacles *Coronula* and *Cryptolepas* than to the "true" turtle barnacle *Chelonibia*. *Stomatolepas* was first described from individuals embedded in the membrane lining the gullet of a loggerhead (*Caretta caretta caretta*) from Tortugas, Florida (Pilsbry, 1910). Subsequently, *Stomatolepas* has been found in the skin of the neck and flippers of loggerheads, and from between the plates of the plastron of the green turtle (*Chelonia mydas*).

The first Nova Scotian *Stomatolepas* were obtained from a 670 lb. male leatherback harpooned off the town of Sambro, Halifax County, on August 21, 1955. The turtle had been retained in a freezing plant at Halifax until August 1964 when one of us (JSB) discovered seven specimens in the skin over the right humerus (Figure 1a). The excellent state of preservation of the internal body structures of the barnacles indicates that the individuals were alive when the turtle was taken.

Four additional fresh specimens were obtained (JSB) from a 1240 lb. female leatherback netted at Seawall, Digby County, on July 20, 1965. Unfortunately, this turtle was held in a pond of low salinity for five days and most of its ectoparasites were either dead or destroyed. Three individuals were found intact in folds of skin on the dorsal surface of the left rear flipper. An additional 29 pits that could probably be attributed to *Stomatolepas elegans* were distributed on all four flippers near the dorsoposterior juncture of flipper and carapace, and another 15 scars were present on the ventral surface of the tail (Figures 1b-c).

The barnacles were almost completely embedded in the skin of the hosts and difficult to excise without separating their fragile wall plates. The shells agree with those figured by Hiro (1936: figs. 1a-b) from a loggerhead (*Caretta olivacea*) taken at Seto, Japan, and Costa (after Pilsbry, 1916: pl. 68, fig. 2)

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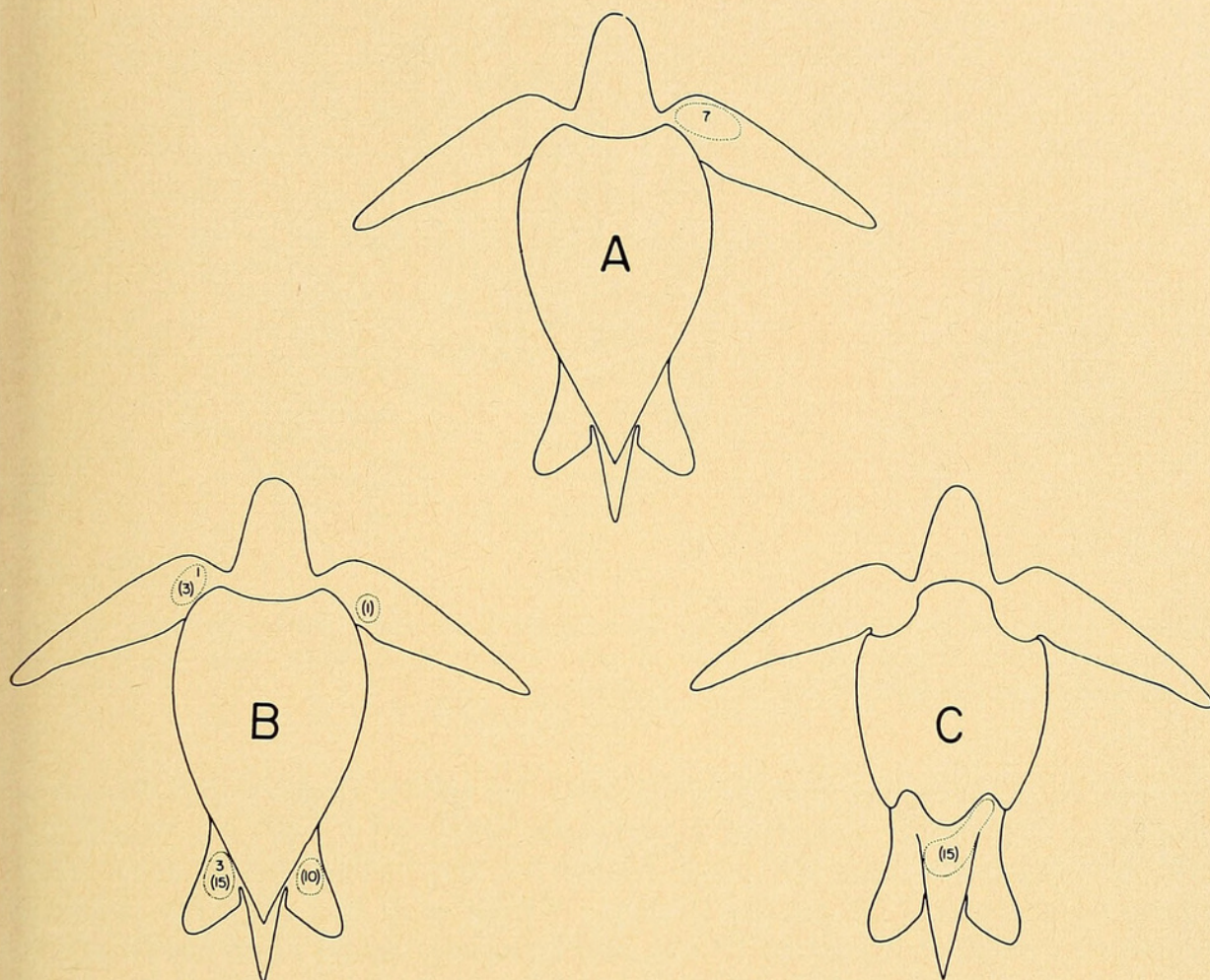


FIGURE 1. Diagrammatic sketches showing the distribution of *Stomatolepas elegans* (Costa) on leatherback turtles from Nova Scotia. A, dorsal view of male turtle, Sambro, Halifax County. B, dorsal view of female turtle, Seawall, Digby County. C, ventral view of same. Numbers indicate individuals, those in parentheses indicate pits or scars.

from an unknown host at Taranto, Italy (Figure 2). From his study of the Japanese specimens Hiro synonymized *Stomatolepas praegustator*, which Pilsbry (1910) had described from Florida, with Costa's older species *S. elegans*.

The distribution of adult *Stomatolepas* is dependent upon the distribution and migration of their hosts. Although marine turtles primarily frequent tropical and subtropical waters, they are not uncommon at higher latitudes (Bleakney, 1965). It is most likely that turtles found in temperate waters are migrants from tropical breeding populations, and there is some evidence for even longer-range movements, especially across the North Atlantic (Caldwell *et al.*, 1959; Carr, 1956; Mowbray and Caldwell, 1958; Caldwell *in lit.*, 1965).

It seems possible that valuable information on the migration and dispersal of marine turtles might be obtained through a study of the barnacles which they host. Although the systematics, biology and zoogeography of turtle barnacles are scarcely understood, present evidence indicates that such factors as breeding and survival tolerances are attuned to tropical and subtropical conditions. For



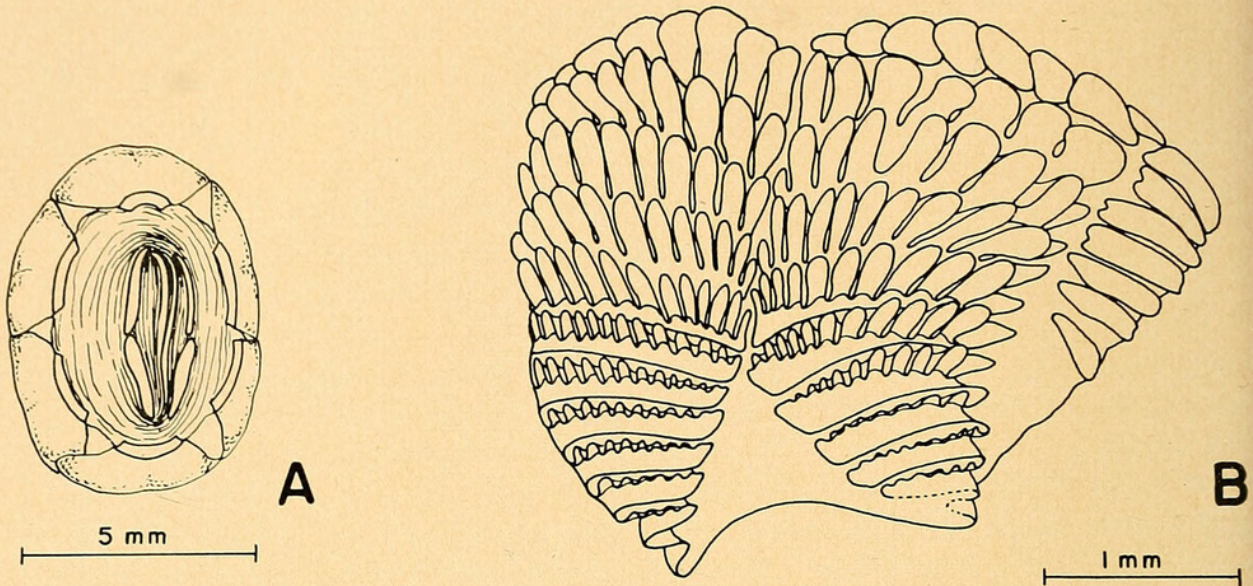


FIGURE 2. *Stomatolepas elegans* (Costa) from male leatherback turtle, Sambro, Halifax County, Nova Scotia. A, top view of shell excised from turtle skin. B, detail of exterior ornamentation of one of the wall plates.

example, turtle barnacles such as *Chelonibia caretta* (Spengler) and *Platylepas hexastylus* (Fabricius) found on loggerheads taken off Cape Cod, Massachusetts, in summer months are often fouled by the balanid barnacles *Balanus trigonus* Darwin and *B. calidus* Pilsbry. These rock barnacles are common elements of tropical American faunas, and otherwise range northward only to Cape Hatteras in the northwest Atlantic. Hence, it can probably be assumed that the *Stomatolepas* on Nova Scotian leatherbacks also settled in warmer waters, perhaps of the Antillean-Caribbean region, and that subsequently the turtles migrated northward to the area of their capture. Many herpetologists would be particularly interested in knowing whether marine turtles captured off the coast of Europe are ever "tagged" with Caribbean barnacles.

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### CORRECTION NOTE

The following table was omitted from the article *A study of waterfowl nesting on the Saskatchewan River delta* by Gerald H. Townsend which appeared in *The Canadian Field-Naturalist* 80(2): 74-88. This table should have appeared on page 85.

TABLE 6. — Mean distances of nests from large water compared with predation rates on nests. Confidence limits are at the 95% level.

Species	Nests	Distance (feet)	Predation rate
Canvasback	8	10 ± 10	0
Lesser Scaup	83	55 ± 30	33 ± 10
Ring-necked Duck	46	83 ± 30	20 ± 12
Mallard	12	83 ± 30	42 ± 31
Blue-winged Teal	27	104 ± 46	48 ± 20
Gadwall	6	105 ± 50	33 ± 49





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