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TWO NEW SPECIES OF THE GENUS *TAMARIA*
(ECHINODERMATA: ASTEROIDEA) FROM
THE TROPICAL WESTERN ATLANTIC

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Two new species of the genus *Tamaria* (Family Ophidiasteridae) have been collected by the Bureau of Commercial Fisheries vessels *Oregon* and *Oregon II* in the tropical Western Atlantic.

The genus *Tamaria* is distinguished by having a rigid body wall, with well-developed abactinal plates in regular longitudinal series; a granulose test; no spines on the abactinal surface of the arms; a small, simple madreporite; and papular areas in 4-6 series, none below the inferomarginal series of plates (a few scattered pores may occur actinally, but there are no regular series of papular areas).

Only one species, *T. floridae*, has been reported from outside the Indo-Pacific region, and H. L. Clark (1921) commented that this might be the basis for erecting a new genus. As *T. floridae* fits well within the definition of the genus as it now stands, there would seem to be little justification for this move, especially in light of the discovery of two additional species from the tropical Western Atlantic.

For convenience, all three of the known species of *Tamaria* from this region are described and figured.

Key to the Western Atlantic species of *Tamaria*

1. Four series of papular areas; arms short, subpetaloid
..... *T. passiflora* n. sp.
Six series of papular areas; arms moderately long, tapering 2

2. Ocular plates small, concealed by granules; average of 3-4 pores per papular area *T. floridae* (Perrier)
 Ocular plates large, bare; average of 7-8 pores per papular area
 *T. halperni* n. sp.

Tamaria floridae (Perrier)

Ophidiaster floridae Perrier, 1881, p. 9; 1883, p. 221, pl. iv, fig. 1.

Ophidiaster floridae: Verrill, 1915, p. 90.

Tamaria floridae: H. L. Clark, 1921, p. 91.

Hacelia floridae (pars): A. H. Clark, 1954, p. 376.

Description: R = 31 mm, r = 7.5; Rr = 4¹. Disc small, arms five, moderately long, tapering. Carinal, adradial, superomarginal, and infero-marginal plates about equal, similar; no supplementary plates. Six rows of abactinal papular areas, one to seven pores per area (average three or four). Actinal intermediate plates in about three rows, many bearing single flat, appressed, nearly round spine. Adambulacral furrow spines moderately thick, much wider than long. Subambulacral spine nearly round, flat, appressed, with small spinelet or granule at each side of base. Sugar-tongs pedicellariae few, confined to actinal surface, valves very short, sunken in deep alveoli with high, raised, thickened lips. Mad-reporite small to moderate, triangular, flat, inconspicuous. Oculars small, concealed by granules. Anus very inconspicuous, not much larger than a papular pore, but with about three enlarged surrounding granules.

Material examined: Holotype, MCZ 727, *Blake*, no station, Straits of Florida, 123 ft. Three specimens, *Albatross* Station 2672, 31°31'N, 79°05'W, 227 fms, May 1886.

Discussion: This rather small species has caused considerable confusion. Perrier gave the locality for the holotype as ". . . remene par la drague de 123 pieds de profondeur dans le detroit de Floride. Communique par M. Alex. Agassiz avant les dragues du "Blake." Verrill (1915) suggested that Perrier meant 123 fathoms, not 123 feet. H. L. Clark (1921) assumed that 123 fathoms was meant, and from this deduced that the locality given was in error, as none of the *Blake* stations listed by Agassiz were at 123 fathoms. He concluded that the holotype was collected from one of two *Bibb* stations off Florida. I can see no reason for either of these assumptions.

Similar confusion exists about the dimensions of the holotype; here Perrier did make a mistake, but Verrill and Clark did not improve matters. I carefully measured the holotype, and the correct dimensions are given above. Finally, A. H. Clark (1954) apparently did not examine the type at all—he called it *Hacelia floridae*, and included in its synonymy three other quite distinct species!

¹ R = major radius, from disc center to arm tip; r = minor radius, from disc center to interradial edge of disc.

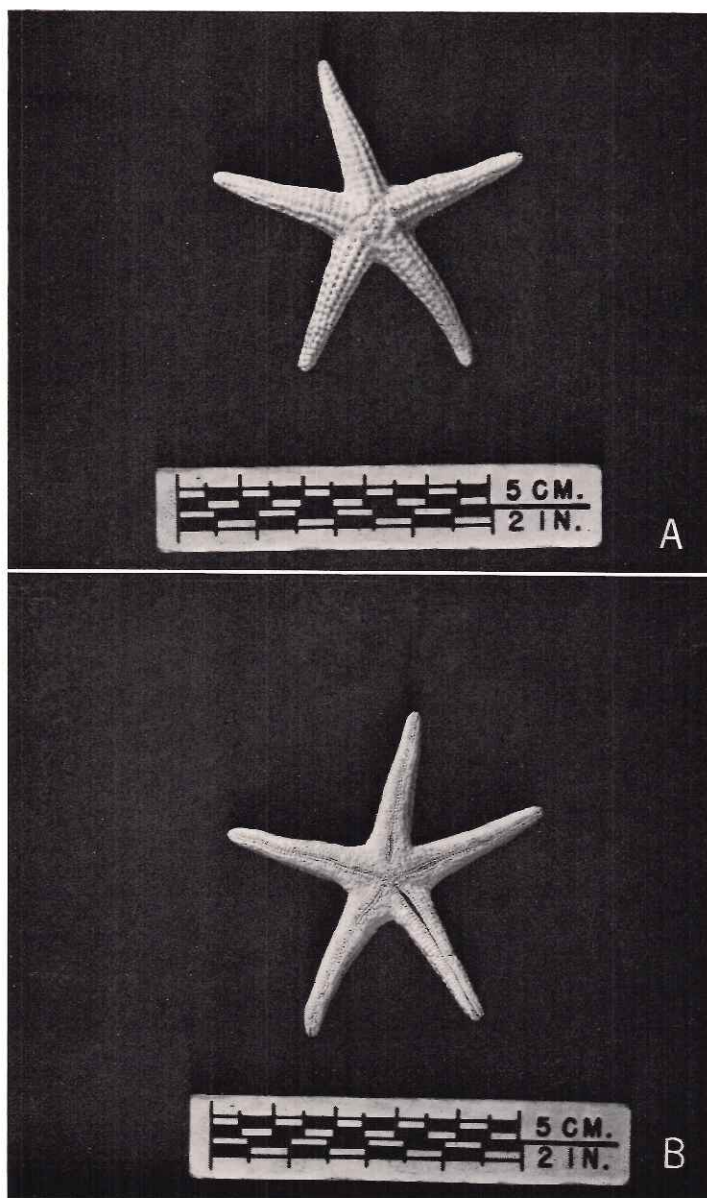


FIG. 1. *Tamaria floridae* (Perrier). A, Abactinal; B, Actinal. USNM No. 18510.

Tamaria halperni n. sp.

Description: Disc of moderate size; arms five, tapering evenly to rounded points. Carinal, adradial, superomarginal and inferomarginal plates slightly tumid, equal, and similar; no secondary plates. Six longitudinal series of papular areas, seven to ten pores per area (fewer in small specimens). All plates with even coating of small granules; few distal marginals usually with central naked area devoid of granules. Four or five rows of actinal intermediate plates, one row extending $\frac{2}{3}$ length of arm. Adambulacral furrow spines two, thin, flat, nearly square, very even, regular, and equal. Subambulacral spine oval, longer than broad, flat, appressed (small specimens may have additional small spinule or enlarged granule between subambulacral spines); two subambulacral spines on first adambulacral plate. Mouth plate margin with spines similar to subambulacral spine on actinal face of mouth plate. Pedicellariae numerous, one to each adambulacral plate, plus others scattered on all surfaces; sugar-tongs type, valves short, somewhat triangular, in deep, well-defined alveoli. Madreporite of moderate size, plane, with radiating gyri. Ocular plates large, smooth, oval, raised above general surface. Anus central, conspicuous, surrounded with enlarged granules.

Material examined: 1 specimen, *Oregon* Station 4928, 14°05'N, 81°21'W, 100 fms, June 1964. R—22 mm, r—5 mm, Rr—4.5.

- 1 specimen, *Oregon* Station 2643, 18°03'N, 64°27'W, 150–180 fms, October 1959. R—26 mm, r—7 mm, Rr—4.
- 1 specimen, *Oregon II* Station 10513, 08°26'N, 58°11'W, 100 fms, April 1969. R—36 mm, r—10 mm, Rr—3.5.
- 1 specimen, *Oregon*, no data. R—20 mm, r—6 mm, Rr—3.5.
- 3 specimens, *Oregon* Station 6715, 18°36'N, 63°27'W, 110–130 fms, May 1967. R—28 mm, r—6 mm, Rr—4.5.
- 1 specimen, *Oregon II* Station 10849, 20°50'N, 73°23'W, 170 fms, December 1969. R—53 mm, r—12 mm, Rr—4 (holotype).
- 1 specimen, *Oregon II* Station 10850, 20°49'N, 73°26'W, 170 fms, December 1969. R—50 mm, r—11 mm, Rr—4.5.
- 1 specimen, MCZ 3999 (as *Ophidiaster alexandri*), *Atlantis* Station 3480, Cuba: off Bahia de Matanzas, 200 fms.
- 1 specimen, UMML 40:343, *Pillsbury* Station P-581, 21°05'N, 86°23'W, 146–265 fms, 22 May 1967.
- 1 specimen, UMML 40:95, *Gerda*, 26°58'N, 79°12.5'W, 280 fms, 5 February 1964.

Types: Holotype (USNM No. E11381) and 8 paratypes in U.S. National Museum. One paratype (MCZ No. 3999) in the Museum of Comparative Zoology, Harvard University.

Type locality: Caribbean, West Indies.

Discussion: This species is apparently widespread in the Caribbean and would undoubtedly have been described previously had it not been confused with *T. floridae*.

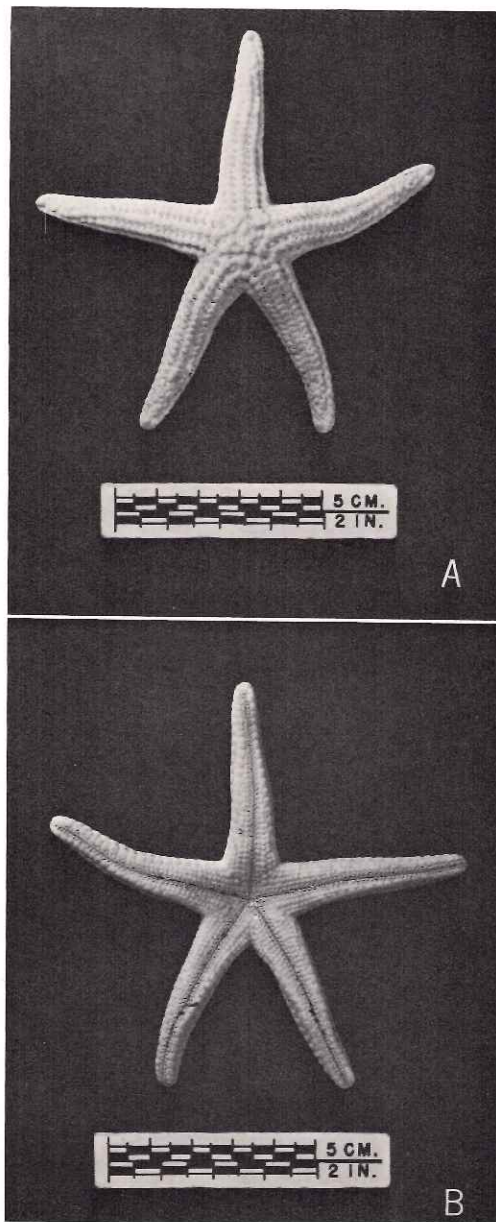


FIG. 2. *Tamaria halperni*, n. sp. A, Abactinal; B, Actinal. Holotype.

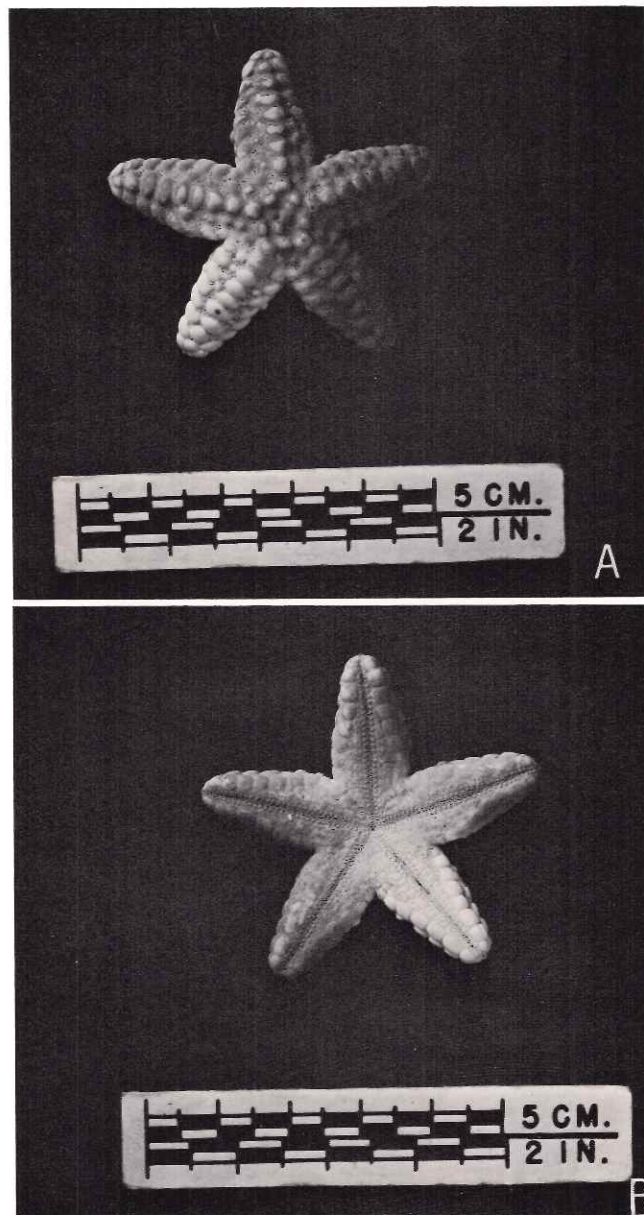


FIG. 3. *Tamaria passiflora*, n. sp. A, Abactinal; B, Actinal. Holotype.

***Tamaria passiflora* n. sp.**

Description: Form heavy, solid; disc small; arms five, short, stubby, massive, slightly constricted at base, high on sides, plane on actinal surface. Carinals, superomarginals, and inferomarginals very large, separated by two series of papular areas, 3–15 pores per area (none below inferomarginals). Between carinals and superomarginals, and between proximal marginals, few small irregular secondary plates. Granules of tegument somewhat squamiform. Actinal surface plane, with numerous small irregular plates, not in regular rows except for row of larger plates adjacent to adambulacral plates, which extend to end of arm, and most of which bear single pedicellaria. Adambulacral furrow spines two, short, broad, thick, somewhat flattened, granuliform, with shorter, smaller spine behind. Subambulacral spine large, flat, leaf-shaped, appressed (similar spine occurs on a few actinal plates). Jaws concealed by large flattened granules and leaf-like spines, bordered by spines similar to adambulacral furrow spines. Sugar-tongs pedicellariae confined to actinal surface; valves short, sunken in deep alveoli with raised, thickened lips. Madrepore small, flat, deeply channelled. Oculars tiny. Anus tiny, inconspicuous, not marked by specialized granules.

Material examined: 1 specimen (holotype), *Oregon II* Station 10858, 22°59'N, 78°43'W, 152 fms, December 1969. R—24 mm, r—8.5 mm, Rr—2.8.

2 specimens, UMML 40:486 *Silver Bay* Station 2426.

35 specimens, UMML 40:117 *Silver Bay* Station ?, 24°18'N, 81°29'W, 125 fms, 28 October 1960.

Type: Holotype, USNM No. E11382. In U.S. National Museum.

Type locality: South edge of Grand Bahamas Bank.

Discussion: According to Halpern (personal communication) numerous specimens of this species have been taken by the University of Miami in the Florida Straits.

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