ACANTHASTER IN THE CULTURES OF HIGH ISLANDS

by
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Residents of high islands in Micronesia, Melanesia and Polynesia usually have their own special names for Acanthaster, each have similar advice on curing the stings of the spines, and each claim that Acanthaster has been abundant at certain times in the past. I believe that this familiarity of Acanthaster in some high island cultures implies that outbreaks are a naturally recurring phenomenon around high islands. An apparent lack of familiarity of Acanthaster in the cultures of atolls implies that outbreaks of Acanthaster are much less frequent around atolls (low islands).

In Palau (Micronesia), the Acanthaster is called _ruasap_ (Birkeland, 1979) while other starfish are called _btuk_ or _tengetamp_. At Fiji (Melanesia), Acanthaster is called _bula_ (a homonym of "hello") while the general term for "starfish" are _garagasi_ or _barage_ (Ateleite Smalley, pers. comm.). In the Cook and Society Islands (Polynesia), Acanthaster is called _taremee_ and in Samoa and Tonga (Polynesia), Acanthaster is called _alama_ (Garlove and Bergquist, 1970; Birkeland and Randall, 1979; Plantiga and Lamberts, 1981).

In contrast, the languages from atolls appear to not contain terms for Acanthaster. There is no special word for Acanthaster on Pingslap (Spenail Jamies, pers. comm.); the crown-of-thorns is merely referred to as _iafa_, a term used for all starfish. Similarly, Acanthaster is called _talumali_ on Ulithi, a general term for all starfish (Eulalia Harui, pers. comm.). Abo et al. (1976) list 12,000 entries with information on about 30,000 Marshallese words. Many fishes, three groups of sea cucumbers, and other marine organisms are mentioned, but there was no word for Acanthaster. It must not be important to the Marshallese.

The Gilbert Islands (Kiribati), the Ellice Islands (Tuvalu) and Fanning Island are all atolls. Label (1978) presented a list of 407 names of fishes and 95 names of marine invertebrates used by Gilbertese and Ellice Islanders on Fanning Island, but Acanthaster was not listed. These inhabitants of atolls had their own specific names for many species of fishes, mollusks and crustaceans and even distinguished between three groups of holothurians, but all sea stars came under one name. Acanthaster may have never been abundant on these atolls.

There is an exception from the atoll of Nokil (near Ponape) at which the people do call Acanthaster by the name _lami_. Of course there may be other exceptions. However, there does seem to be a general presence of words for Acanthaster in high island languages and an apparent lack of words for Acanthaster in low island languages. These tendencies suggest that Acanthaster may be more common around high islands.

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People from atolls say they rarely, if ever, see Asthenaster and they have never heard of them being common (Natataua Smit, Takapoto Atoll, Tuamotu, French Polynesia; Eulalia Harud, Ulihi, Yap District; Spenis James, Pingelap, Pohnpei District, pers. comm.). Around high islands, the people remember previous outbreaks. According to local fishermen, there was an outbreak in American Samoa in 1938 (Flamigan and Lamberts, 1981). Vine (1970) reported that fishermen in the Solomon Islands (Melanesia) remembered large concentrations of Asthenaster about 1930, forty years previous to 1970. Chesher (1969) reported that Micronesian remember as outbreak on Pohnpei just after World War II.

Michael Parke talked to an old Palaun fisherman who described an extensive infestation that took place just prior to World War II. According to this fisherman, the Asthenaster soon disappeared, leaving algae in the place of urchins. Then urchins became abundant during the early years of World War II. The fisherman felt that Asthenaster were transitory and no real problem. The abundance of urchins that resulted were a benefit. Old people could easily collect them for food within wading depth on the reef flat. We have not heard of other cases of an abundance of urchins following Asthenaster. It will be interesting to see if herbivorous urchins become common following the present devastation in Palau. Except for areas around artificial sea walls, breakwaters and ramps, regular urchins are remarkably scarce in Palau at the time of this writing.

The people on high islands tell of dangers of stepping on Asthenaster when fishing at night at times when Asthenaster is abundant (Vasul, pers. comm.; Flamigan and Lamberts, 1981). A cure for injury from stepping on Asthenaster is claimed by several high island cultures to be their own discovery. When I was studying an Asthenaster outbreak in Palau, I accidentally jabbed my knee strongly against an Asthenaster and came to the boat with a lot of blood dripping out of six cuts in my knee. The boatman, Ngiribauiad ("Yahd") Mineich, advised me to take one of the Asthenaster and place it mouth down on the bloody knee. (This was tried, but was not found to be of great help.) When asked if he heard of this cure from a Samoan or Pijian, Tah said it has always been common knowledge in Palau. Ramon Rchebel, another Palaun, said that he knew of this cure since he was a boy.

Spenis James told me that this cure had worked for him when he tried it. This cure was common knowledge among Pohnapean fishermen and it works if you are sure to use the same individual Asthenaster that harmed you as the individual to cure you. If you are jabbed by one Asthenaster and lift another to cure your pain, it will be of no use. (I am not sure I used the same individual in Palau.)

Leile Smiley told me that when Pijian fishermen step on Bula on the reef flat, they turn over the same Bula and put their food against the mouth so that the Bula will wash out the poison. She said this was generally known by Pijian fishermen and there is no reason to believe it was learned from the Paluans or Samoans. Maybe the cure was discovered in Pijii.

This same cure has been known on Tonga (Richard Braley, pers. comm.), and as a proverb on Western Samoa (Carlovsky and Bergquist, 1970) and American Samoa (Birkeland and Randall, 1979; Flamigan and Lamberts, 1981).
The Secretariat of the British Solomon Islands Protectorate (1970) noted that this same cure by turning over and stepping on the underside of the *Acanthaster* was known in the Solomon Islands, New Britain, Manus Islands, and Gambier Islands.

The apparent history of recurring abundances of *Acanthaster* around high islands but not around atolls may be explained by the causal mechanism of *Acanthaster* outbreaks as suggested in Birkeland and Randall (1979) and Birkeland (1980). *Acanthaster larvae* may survive in much greater abundance following heavy rainfall. This might be because phytoplankton blooms are triggered by terrestrial runoff and this provides an abundant food source for *Acanthaster larvae*. Terrestrial runoff resulting from rains on high islands trigger phytoplankton blooms (Marsh 1977), but it is doubtful that terrestrial runoffs from low, sandy atolls carry an amount of nutrients into the coastal waters adequate to trigger blooms.

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