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Sea Turtles at Taipin Tao, South China Sea

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The Nan-sha Archipelago (or the Spratly Islands) is composed of 102 coralline islands, atolls and shoals. Taiping Tao (114°21-23'E, 10°22-23'N) is the largest island, measuring 360 m long and 1,365 m wide with an area of 0.48 km². Taiping Tao is forested with lowland tropical rainforest and reaches an average topographic height of 3.8 m (Fang and Li, 1994). The entire island is comprised of sand covered with guano, consisting mainly of moderate to well sorted coarse grained sand with an interstitial water content of 6% (by weight). The climate is tropical marine, dominated by trade winds which blow from the southwest from May to October and from the northeast from November to March. The current pattern is influenced primarily by the trade winds. Tides are diurnal, with a maximum amplitude of 1.2 m (UNEP/ IUCN, 1988). Taiping Tao has been occupied by Marines (military forces) from the Republic of China since 1948. In general, 100-150 Marines are stationed on the island.

Previous studies carried out at Taiping Tao include research on coral reefs, coralline fishes, plankton and nekton, mollusks, benthic algae, water quality, terrestrial flora and birds (Liu, 1975; Wu, 1981; Chang et al., 1981; Fang and Li, 1994). Despite the fact that the island has long been known as a nesting site for sea turtles, no scientific studies of turtles have been conducted. With the objective of gathering preliminary information on the species of sea turtle nesting on the island, as well as nest distribution and abundance, an expedition to the island was carried out from 5-20 April 1995. The expedition was organized with the collaboration of the Council of Agriculture and the Defense Department in the Republic of China (R.O.C.). Due to national security reasons, we were only allowed to stay on the island for five nights.

During the survey, two methods of investigation were employed. First, all Marines stationed on the island for more than four months were questioned about the species of sea turtle nesting on the island, as well as the location and timing of the nesting effort. Among 35 interviewees, 20 had been on the island for more than a year. Most of them were soldiers with experience guarding the shoreline for the security of the island at night. Based on the information provided by these Marines, a preliminary map of the spatial and temporal distribution of nesting was constructed. Second, all potential nesting beaches were inspected once per night (1900-0500 hr) and again at dawn (0600-0700 hr) to search for fresh nesting tracks. Occasionally, beaches were also inspected later in the morning.

According to the Marines, both hawksbill and green turtles nest on the southern and eastern beaches of Taipin Tao. Most nesting occurs on the southeast coast where the least amount of development has occurred. Interviewees estimate that 10-100 nests are laid per year (hawksbill and green turtles combined), and that nesting occurs year around (peak: June-November). Most Marines had observed 25-35 nestings during their annual service. Individual females nest multiple times throughout the season, thus the number of females is not known.

Daytime beach surveys revealed four old nesting tracks and three false crawls; all were located on the southeast coast. Among them, two were made by hawksbill and five by green turtles. The tracks appeared to

be at least a few days old. No nesting emergences were observed during the first four nights of the survey, but on 14 April two green turtles were observed returning to the sea. They measured 100 cm and 96 cm curved carapace length, respectively, and we tagged both with Inconel flipper tags (National Band and Tag Co., Style No. 681) on all four flippers. The tags bear the return address: P. O. Box 7-125, Keelung, Taiwan, 20224, R.O.C. The nests were located in grassy habitat and were left undisturbed.

Nan-sha archipelago has long been recognized as a major sea turtle nesting area in the South China Sea. Despite nearly 40 years of occupancy, the forests and beaches are relatively untouched. And, thanks to martial law, no artificial lights are allowed on at night. These and other rules promote suitable nesting conditions for the sea turtles. Nesting turtles have faced serious threats in the past, however, including egg collection and slaughter (soldiers once killed gravid females for meat during supply shortages). Fortunately the situation has improved in recent years since the Navy has provided more services and emphasized environmental issues on the island. Today no eggs are poached and morning beach patrols rescue nesting females trapped in defense trenches. However, existing beach barricades can still prevent the turtles from reaching nest sites above the high tide line on some beaches.

Political instability in the region complicates conservation measures. The archipelago is occupied by Marines from Mainland China, the Philippines, Malaysia, Vietnam, Brunei and Taiwan. Malaysia and Vietnam have constructed warplane landing tracks on some coralline islands. It has been reported that Mainland China has filled in several submerged coralline atolls with cement, turning them into "strategy islands." Others, such as Vietnam, have constructed buildings on every inch of soil on occupied islands. In addition, many countries claim waters within the archipelago as part of their Exclusive Economic Zone (see Gomez, 1996). Pirates and illegal fishing are among the serious problems plaguing the region. Recently, a fishing vessel from Taiwan was robbed and the first mate killed by pirates offshore Taiping Tao. These factors deepen the troublesome nature of conservation efforts in the region.

The slaughter and incidental capture of sea turtles are well known and serious threats throughout the South China Sea (Liang et al., 1990; Nishemura, 1990). Despite political differences, these shared problems face all nations of the region. It is impossible to estimate the existing status of sea turtles and implement conservation measures in the South China Sea without the cooperation of all parties. Therefore it must be strongly recommended that ASEAN (Association of Southeast Asia Nations) expand their sea turtle conservation program to include all states who deploy Marines to occupy islands in the South China Sea, and that all governments work cooperatively to save our declining sea turtle populations.

Chang, K-H., R-Q. Jan and C-S. Hua. 1981. Scientific note inshore fishes at Tai-pin Island (South China Sea). Bull. Inst. Zool. Academia sinica 20:87-93.

Fang, L-S. and J-C. Li. 1994. Reports on the Ecological Environment of South China Sea. Council of Agriculture Tech. Memo. 83-Sci-2.15-Fish-13. 471 pp.

Gomez, E. D. 1996. Sea turtles in the cross-fire. Marine Newsletter Letter 72:19-20.

Liang, W-L., W-S. Jwang, C-W. Liu, W-S. Liu, J-S. Sung, T-T. Chen, I-Z. Chen, Y-K. Shu, S-J. Lu, Z-S. Chang, C-Z. Chang and J-Z. Lin. 1990. The investigation of sea turtle resources in the South China Sea, and the development of artificial hatching techniques of the sea turtles. Report of the Conservation Stations of Southsea Turtle Resources, Gangdong Province, China, PRC. 37 pp.

Liu, J-S. 1975. Report on the fish and mollusks flora community of Tai-pin Tao, South China Sea. J. China Fisheries 293:19-21.

Navy Meterological Center. 1994. 1994 Climate Data, Nan-sha Station.

Nishemura, W. 1990. Incidental capture of sea turtles by Japanese research and training vessels: results of questionnaire. *Marine Turtle Newsletter* 51:1-4.

UNEP/IUCN. 1988. *Coral Reefs of the World. Volume 3. Central and Western Pacific. UNEP Regional Seas Directories and Bibliographies.* 329 pp. + 30 maps.

Wu, C-D. 1981. Reports on the environments and biological resources of Tai-pin Tao, South China Sea. I. *Technical Report of Fishery Research Institute* 33:195-229.