

## SHORT NOTE

# THE AGGRESSIVENESS OF THE SEA SNAKE *LATICAUDA SEMIFASCIATA* IN TAIWAN

MING-CHUNG TU<sup>1</sup> and YEN SU

*Institute of Marine Biology, National Sun Yat-sen University,  
Kaohsiung, Taiwan 80424, Republic of China*

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Most people know that sea snakes are poisonous and dangerous, but little research has been done investigating the nature of their aggressive response. Heatwole (1975) suggested that *Laticauda* species should be listed as a docile species based on his personal experience and the fact that many South East Asian aborigines are not afraid of *Laticauda*. Because of this suggestion was based on experience, we decided to verify his conclusion by an experimental study on the aggressive responses of *Laticauda semifasciata*.

Scuba diving field experiments were conducted monthly from March 1986 to March 1987 around Orchid Island, off of the southeastern coast of Taiwan.

When encountering the snakes in the water, we first remained immobile and then recorded the behavior of the snakes. Since they did not appear offensive, holding tests were conducted from December 1986 to March 1987. At first, the snakes were held loosely around the middle portion of their body (Fig. 1). We wore gloves 0.5 cm thick during the test for protection. This treatment allowed them to turn around freely and make counter-attacks. If the sea snakes did not exhibit any attacking behavior within two minutes, we increased the holding pres-

sure for 2 more minutes. Their reactions were then recorded.

None of the 48 snakes confronted under water made an active attack toward us. Eight snakes (17%) swam up to us and repeatedly flicked out their tongues. Our swimming flippers were usually the first part they touched and where they spent most of the time when they were close to us. About one minute later they swam slowly away. At times they came back and touched us again but they never tried to bite us. Four other snakes (8%) swam up to us from a long distance away but stopped at about 5 meters in front of us where they then flicked out their tongues and later swam slowly away. Thirty-five snakes (73%) did not pay any attention and obviously were not disturbed by us even though we were at a close proximity. One snake (2%) which was about 8 meters away from us (Table 1) fled before we could approach it.

Nineteen snakes were held to investigate their behavioral responses. Five (26%) of them attacked us when they were held gently, but the motion of the attack was slow. Twelve (63%) of them attacked only after they were held tightly. When the snakes were held gently, most of the time they tried to

1. Current address: Department of Zoology, University of Oklahoma, Norman, OK 73019, U.S.A.

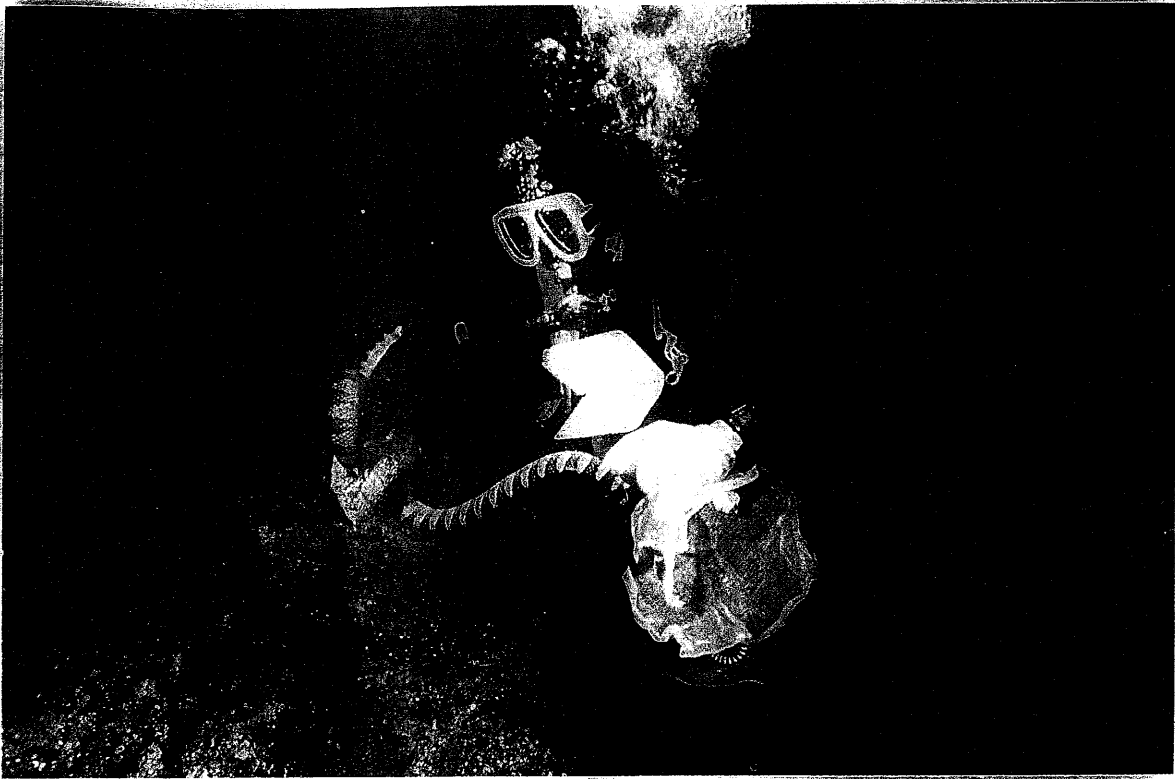


Fig. 1. Photograph showing a holding test scene.

Table 1  
The behavior of *Laticauda semifasciata*  
encountered under water

| Behavior                               | Number of snakes showing this behavior |
|--|--|
| Approached and touched diver           | 8 (17%)                                |
| Approached, but stopped ahead of diver | 4 ( 8%)                                |
| Ignored diver                          | 35 (73%)                               |
| Fled from diver                        | 1 ( 2%)                                |
| Total=48                               |  |

escape by wiggling their bodies. Occasionally they twined their bodies around our arms, but did not make any attempts to bite us. When the snakes were held tightly, seven of the twelve snakes turned their heads toward our hands and opened their mouths slowly, and started biting 30 seconds later. The other five snakes

Table 2  
The aggressive behavior of *Laticauda semifasciata* during holding test

| Behavior                   | Number of snakes showing this behavior |
|----------------------------|--|
| Attacked when held gently  | 5 (26%)                                |
| Attacked when held tightly | 12 (63%)                               |
| No attack                  | 2 (11%)                                |
| Total=19                   |  |

started biting in 30 seconds or less. Two snakes (11%) did not attack regardless of whether they were held gently or tightly (Table 2).

The aggressiveness of sea snakes differs from species to species (Heatwole, 1975). Some species may become more aggressive during their reproduction period (Herre, 1942; Macleish, 1972; Heatwole, 1975) or in disturbed waters

(Mao and Chen, 1980). Fijians are not usually afraid of *Laticauda* species, but they do avoid them during the reproductive season because they believe that the males become more aggressive at that time (Heatwole, 1975).

It is believed that the species in the genus *Laticauda* are quite tame (Heatwole, 1975). Levey (1969) considers *L. colubrina* a tame species. Natives of the Philippines sometimes play with *L. semifasciata*, but they always keep away from *Hydrophis cyanocinctus* (Herre, 1942). The natives of Orchid Island, where *L. semifasciata*, *L. laticaudata*, *L. colubrina* and *Emydocephalus ijimae* are frequently found (Tu *et al.*, 1990), believe that sea snakes do not attack people.

Although we held *L. semifasciata* tightly during their non-breeding season, they responded with only a delayed and slow attack. Many sea snakes caught in caves where they breed (Tu *et al.*, 1990) were as docile as usual. In addition, 10 of the 48 snakes confronted in the water were encountered during their breeding season, but no aggressive behavior was found among these individuals. The results reveal that *L. semifasciata* is quite a tame species. When they do bite, although the venom of *L. semifasciata* is very virulent, generally only a small amount is ejected each time (Tu, 1959). Therefore, this species should not be considered a very dangerous species.

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## 臺灣潤尾青斑海蛇之兇性行爲

杜銘章 蘇 焉

本實驗藉著水肺潛水的方式，在蘭嶼對潤尾青斑海蛇的攻擊行爲做一整年的觀察記錄。在遭遇的 48 隻海蛇中，沒有主動攻擊潛水者的情形。載上 0.5 cm 厚的手套，輕握或重握 19 隻海蛇身體中央的部份各兩分鐘，其中 5 隻海蛇在輕握時便有反擊的行爲，12 隻海蛇在輕握時無反應，直到被重握時才反擊，但反咬的動作均相當緩慢，另外有 2 隻海蛇都不反咬測試者。結果顯示潤尾青斑海蛇是相當溫馴的海蛇。