



The effect of sedatives on large-sized elasmobranchs

By: Yosuke Matsumoto, Atsushi Yamashiro, Keiich Ueda & Hirokazu Miyahara

Institution: Okinawa Churaumi Aquarium, Japan

Whale Sharks (*Rhincodon typus*), Alfred Mantas (*Manta alfredi*) and Bull Sharks (*Carcharhinus leucas*) are the largest elasmobranch species in the Okinawa Churaumi Aquarium. Maximum total lengths are 8.5 m, 4.0 m and 3.0 m respectively. When conducting health care programmes, their large sizes present problems. They struggle vigorously when being caught or transported and during routine health checks. They rub and beat against the capture nets and walls of transport cages and aquarium tanks, injuring themselves. These injuries can delay onset of feeding, and may even cause death. Their struggles are also potentially dangerous to their keepers. It is therefore imperative to find safe and effective methods to sedate them.

For this report, we examined the effects of two types of sedatives, midazolam and propofol on these three species. Intramuscular injections of 1.0-6.0 mg/kg midazolam sedated them successfully for up to eight hours. Intravenous injections of 0.6-1.5 mg/kg propofol immobilized them for up to ten hours. Propofol restricted their breathing and oxygen-assisted breathing was required. We conclude that midazolam be used during transport, blood collection or ultrasonography, and that propofol be used when immobilisation is required, such as during endoscopy or parasite removal.