# Additional Recoveries of Tagged Reef Fishes from the Virgin Islands

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IN THE PROCEEDINGS OF THE GULF AND CARIBBEAN FISHERIES INSTITUTE of the previous year, the author reported on a tagging study of reef fishes in St. John, Virgin Islands. A total of 4,093 fishes of 80 species, caught mostly in traps, were tagged; 1,247 recoveries were made, many of which were repeated captures of the same fish. Only 284 tagged fishes were recovered after one month or more of tag retention.

Since the publication of this study, thirteen additional recoveries of tagged fishes have been made at St. John. These are of particular value because of the long periods the fishes were at large with tags. The data are summarized in Table 1. Length measurements are fork length in millimeters (total length for fishes with truncate or rounded caudal fins). As will be noted, eight of these thirteen fishes are groupers (Serranidae), three are snappers (Lutjanidae), one is a grunt (Pomadasyidae), and one a trunkfish (Ostraciidae).

TABLE 1

RECOVERY OF TAGGED FISHES IN ST. JOHN, VIRGIN ISLANDS

| Species | Type of Tag | Length at Tagging (mm) | Date at Tagging | Length at Recovery | Date at Recovery |
|---|---|---|---|---|---|
| *Epinephelus striatus* | dart | 225 | 6/ 2/61 | 266 | 4/11/62 |
| *Epinephelus striatus* | spaghetti | 229 | 8/17/60 | 334 | 8/24/62 |
| *Epinephelus striatus* | spaghetti | 240 | 10/19/60 | 338 | 8/15/62 |
| *Epinephelus striatus* | spaghetti | 245 | 11/ 2/60 | 333 | 8/14/62 |
| *Epinephelus striatus* | spaghetti | 250 | 10/ 4/60 | 380 | 5/30/62 |
| *Cephalopholis fulva* | spaghetti | 236 | 10/13/60 | 256 | 12/ 9/61 |
| *Petrometopon cruentatum* | dart | 226 | 6/15/59 | 278 | 8/15/62 |
| *Mycteroperca venenosa* | spaghetti | 300 | 2/27/60 | 465 | 8/ 1/62 |
| *Lutjanus apodus* | spaghetti | 165 | 3/15/60 | 224 | 8/12/62 |
| *Ocyurus chrysurus* | spaghetti | 202 | 6/21/60 | 237 | 9/ 5/62 |
| *Ocyurus chrysurus* | spaghetti | 276 | 1/13/61 | 276 | 3/29/62 |
| *Haemulon plumieri* | spaghetti | 188 | 7/ 6/60 | 235 | 7/18/62 |
| *Lactophrys bicaudalis* | spaghetti | 258 | 1/11/61 | 269 | 4/20/62 |

The Nassau grouper *(Epinephelus striatus)* continues to be the species for which the best tagging results were obtained. Two of the five fish were recovered by hook and line, and three were speared by the author. The tagging periods of these five fish ranged from 313 to 737 days, and the growth varied from 4 to 6.5 mm per month, with an average of 4.7 mm per month. This average is slightly greater than that from the 38 tagged fish of this species reported on previously (4.55 mm per month for fish of 175 to 250 mm and 3.5 mm per month for fish from 251 to 325 mm). A higher rate would be expected for fish retaining tags for longer periods, because any deterring effect on growth from the tagging would be relatively greater for fish recovered only a short while after being tagged.

Two of the Nassau groupers of Table 1 were taken in the same place as tagged, and one was within 100 yards of the tagging locality. The fourth, 225 mm in length when tagged at Beehive Point in Greater Lameshur Bay, St. John (Randall, 1962, Figs. 1 and 2), was ultimately taken by hook and line from the dock across the bay, a straight line distance of about 900 yards. The last (229 mm) moved from Boiling House Point to White Point, a straight distance of 500 yards.

The 250 mm Nassau grouper tagged on October 4, 1960, was speared exactly where first caught on June 18, 1961, at which time it measured 297 mm. The fish was released and not only survived the spearing but registered slightly better growth up to the last time it was taken on May 30, 1962, on hook and line at the same locality (Randall, 1962, D of Fig. 2).

The coney *(Cephalopholis fulva)* was recovered in a trap at the same place as originally tagged. The graysby *(Petrometopon cruentatum)* also did not migrate in the long period (over three years) that it was at large with tags. It did not grow very much; however this is a small species. On nearing maximum size its growth rate would not be expected to be very great.

The yellowfin grouper *(Mycteroperca venenosa)* moved 700 yards from Beehive Point to Cabritte Horn Point between the time of tagging and that of recapture nearly two years later. It grew at an average rate of nearly 7.5 mm per month.

The schoolmaster snapper *(Lutjanus apodus)* was speared by Luis Morera of the University of Puerto Rico at the same inshore reef where first tagged. It grew only 2.1 mm per month in the 880 day tagging period. It was recovered two times in the first seven weeks following tagging and registered no growth. The tagging wound at final recovery was large.

One of the two yellowtail snappers *(Ocyurus chrysurus)* showed no growth in over 14 months. It moved 1,200 yards from Cabritte Horn Point into Lameshur Bay. The second was caught where first tagged. It registered an increase in length of a scant 35 mm in 806 days. Both of these fish were tagged with spaghetti tags. Previous recoveries of this species (Randall, 1962, Table 13) indicated good growth only with dart tags.

The white grunt *(Haemulon plumieri)* migrated 1,000 yards from Cabritte Horn Point to Grootpan Bay in the two year tagging period. The fish was first recovered nine weeks after being tagged and had not grown at all. Although its total growth of 47 mm is not impressive, it is considerably more than that recorded for the eight other fish of this species at large with their tags for one month or more (Randall, 1962, Table 14).

The trunkfish (*Lactophrys bicaudalis*) was speared in Lameshur Bay 75 yards from the original tagging site. It grew only 11 mm in 464 days.

Assistance of personnel of the Virgin Islands National Park in obtaining data for some of the recoveries of these tagged fishes is gratefully acknowledged.

## ADDENDUM

Since the above was written, two more noteworthy recoveries of tagged reef fishes have been made at St. John. One of these fish, a 380 mm yellowfin grouper *(Mycteroperca venenosa)*, was tagged with a spaghetti tag on November 9, 1960, and caught again near the point of release on December 13, 1962. At recovery the fish measured 561 mm in length; thus it grew at an average rate of 7.2 mm per month. The second fish, a 217 mm schoolmaster snapper *(Lutjanus apodus)*, was tagged with a spaghetti tag on October 13, 1960. It was recovered on February 16, 1963, at the tagging locality, at which time it measured 281 mm. It grew only 2.3 mm per month during the tagging period.