

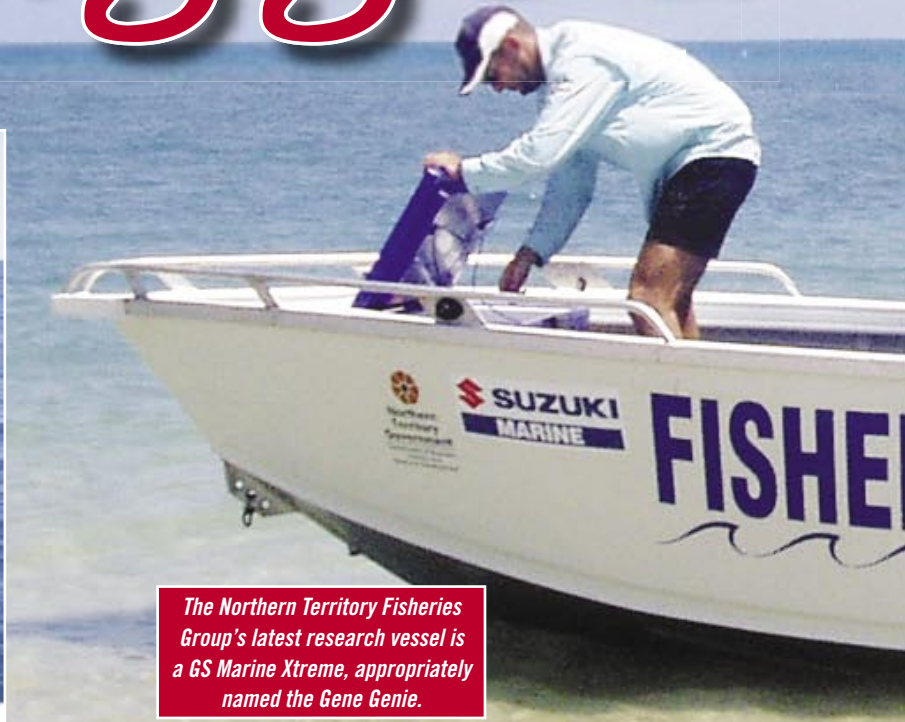
The Spanish mackerel is one of Australia's largest scombroids, which includes mackerel, tuna and bonitos.

Double Tagged

By Michael Phelan



Middle stump! Cricketing legend Dennis Lillee bowled over this mackerel as part of the Genetag Research Project.



The Northern Territory Fisheries Group's latest research vessel is a GS Marine Xtreme, appropriately named the Gene Genie.

Fisheries researchers from the Northern Territory and Queensland are working on a radical approach to fish tagging to provide greater management information.

It's still dark outside and the alarm by the side of my bed is screaming away, telling me to get up and go to work. While many of us would curse and swear, I certainly can't complain

as I'm off fishing for the day — er, I mean sampling.

I am fortunate enough to be part of a team of researchers from the Northern Territory and Queensland working on the Genetag Research Project. As

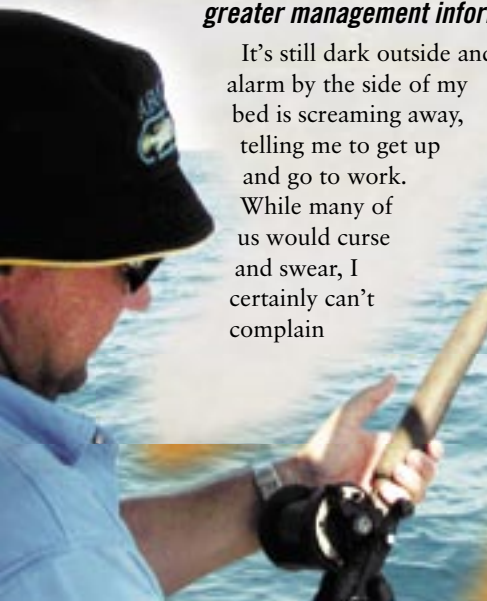
far as research goes, this project couldn't be more exciting: it's the first to trial the novel concept of genetically tagging fish.

While genetic tagging sounds complex, it is actually quite simple. Instead of using plastic tags to mark

and identify fish, we are utilising the unique DNA fingerprint of each individual. There is no tag shedding (so imagine the information we may get back given that some fish live for over 25 years), and the tagging process is a lot easier on the fish.

To genetag a fish, we simply collect a minute tissue sample using a hollow hook set on a flexible shaft or a barbed tip on a tagging pole. Back in the lab, the DNA fingerprint is extracted and checked for matches in the database. Processing of the genetic samples has only just commenced, but has already produced the first match.

The Genetag Research Project is focusing on Spanish mackerel, so we are off to the Vernon Islands (about 50 km north east of Darwin) to tag some of these magnificent fish. Spanish mackerel can grow to a



Quentin Allsop from the NT Fisheries Group fights another big mackerel. Nice work if you can get it! (Photo Mike Chambers www.territorylive.com)



A smaller Spanish mackerel with a plastic tag. If you catch a Spaniard wearing one of these tags, please record the date, location and tag number and get the information to the research team. (Photo Mike Chambers www.territorylive.com)



predators below. Obviously luck was on our side, and within a matter of minutes the drag starts to scream on one, then two lines. The first run of a big mack is long and hard, and you can only hold on and wait for the fish to slow down. Just as the fish is brought within sight, off it goes on another run.

A couple of runs later, the fish are ready to be brought to the side of the boat. They are tagged in the water using a pole that applies a standard plastic tag and collects a tissue sample at the same time. The fish are thus both conventionally tagged and gene-tagged so that we can compare the success of the two methods.

The barbed tip at the end of the pole collects the tissue sample, which is so small it is barely visible to the naked eye. The removable tip is stored in a saturated salt solution, and no time is wasted in getting the lines back in the water, for when the mackerel are on, they are *on!*

The second pass over the spot (now marked on the GPS) results in another hookup, and the battle to get the fish in begins again.

After a quiet spell it's time to try another of the many reefs in the area, and before we know it we've tagged another 5 mackerel in an action-packed 10 minutes. At times like these it's a bit of a race to make sure the data sheets are completed and the tagging pole is set up again before the next fish is beside the boat — but the rush is half the fun. The adrenalin rush, that is!

Unfortunately, not every fish we hooked made it to the side of the boat. Some of the fish were absolute monsters and made short work of our 40 kg braid. Not too long ago we had a triple hookup heralded by 3 cries of excitement, closely followed by 3 successive moans of disappointment as they each busted off.

Lady Luck jumps back on board, and again the fishing gets hot! This time I've hooked a massive fish that leaps 4 feet out of the water. Fearing that the sharks may have decided to get in on the action, I tighten up the drag on my Shimano Tekota and manage to get the fish in unscathed. Looking up, I can see the other 2 boats are also keeping themselves busy.

This pushed the number of Spaniards now double tagged to over 400. So far, 5 of them have been re-caught...

We are using Reidy's Big Boss lures (which get down to 3 m) together with Halco's RMG Crazy Deep Scorpions (to get down to about 8 m). Both swim beautifully when towed at about 10 km/h. It doesn't really seem to matter what colour you use when the fish are on the bite, but the green and

whopping 240 cm in length and 70 kg or more in weight, although specimens up to 130 cm are more commonly encountered.

A couple of other boats are joining us on this trip. About 30 recreational anglers have been provided with all the equipment and training needed, and regularly assist in mackerel tagging. The number of volunteers has been kept small so that the quality of the tagging can be managed, but their help is the key to the success of the project.

Down at the boat ramp, you know you are in for a great day when you are greeted by water so calm that the baitfish create the only ripples on the surface. We are fishing a few days after the neaps, as a bit of movement in the tides seems to bring Spanish mackerel on the bite. You can usually keep fishing each day until the tidal run starts to cloud the water.

Spanish mackerel definitely prefer clearer water, so we are heading offshore for the day. We are quite fortunate in that GS Marine has equipped the project with a great boat for this job — the first Xtreme hull to come off their new press. We couldn't be more pleased with the handling performance of this vessel.

Travelling out to the bluewater, nothing gets the adrenalin rushing through your blood faster than the sight of giant schools of baitfish ripping up the surface. When the birds start diving in after them, you know you are going to have some fun. Spanish mackerel are reasonably abundant across northern Australia, and it doesn't take long for them to find your lures when you are in the right spot.

We wet the lures near a large school of baitfish scrambling to the top to avoid the

NAFA on fishing the Top End

A dream trip home after a dream day's fishing.



The author (right) and Graham Schultz with some longtail tuna by-catch taken while trolling for mackerel.



gold and red and white combos have me hooked.

Of course, trolling lures like these means you can't help but occasionally hook other large pelagics that inhabit our waters. Giant

trevally, cobias, tuna and a couple of other mackerel species all line up to give your back a workout — and they seem to wait until the Spanish mackerel have already claimed all of your strength.

Just before it was time to head for home, two lines start peeling off our reels at amazing speed. There was no stopping this run and the fight to get our lines back

in proved to be quite a battle, with a lot of ducking and weaving. Our lines zig-zagged all the way back in and revealed two beautiful longtail tuna.

The water was still glassy on the way home — a rare occurrence for most of the year, but not during the doldrums between our tropical wet and dry seasons. The total for the day was 19 Spanish mackerel between the 3 boats. This pushed the number of Spaniards now double tagged to over 400. So far, 5 of them have been re-caught by anglers who have reported their details.

The recaptures have been near the location of their release, suggesting Spanish mackerel may move very little for a fish of their size. The longer-term recaptures should prove this notion right or wrong. As the number of tagged fish and tag returns increase, it should be possible to gain an estimate of the optimal harvest rate for both the recreational and commercial fisheries.

NAFA

Return Those Tags!

Now comes the important part. If you catch a Spanish mackerel that has been tagged, please record the date, location and tag number and phone the free call number (1800) 456 410. Anglers who provide recapture details will receive a certificate with information on the fish's movement as well as a \$20 Scratchy for their efforts. For more information on the Genetag Research Project, call (08) 8999 2144.

The Northern Territory and Queensland Governments fund the Genetag Research Project, with the assistance of the Fisheries Research and Development Corporation.



Justin McKey is watched by his father David as a Spaniard takes another run. About 30 recreational fishers regularly assist in tagging Spanish mackerel and their help is the key to the success of the project.