Proceedings of the Global Symposium on Women in Fisheries now available

The proceedings of the Global Symposium on Women in Fisheries are now available on ICLARM's website (www.iclarm.org/Pubs/Wif/pub_wifglobal.htm) in pdf format.

ICLARM's Director-General, Meryl Williams writes:

> All over the world, women contribute in multiple ways to the production, processing, marketing and management of fish and other living aquatic resources. The first ever Global Symposium on Women in Fisheries, held in Kaohsiung, Taiwan on 29 November 2001, generated the present collection of papers on women in fisheries. These published proceedings go beyond the actual Symposium in two ways. First, the papers that were initially presented have been revised and, therefore, more detailed and richer in information content than the short, spoken versions. These written versions have also benefited from the discussions during and around the Symposium. Second, two additional papers, from Africa, are presented in this volume, thus increasing the richness of African material on women in fisheries. The reader of this volume will find in it a wealth of information, albeit in a very heterogeneous form, that the authors have had to draw from many different sources. Some are primary research studies whereas most are historical reviews from first hand experience of the authors or derived from other written materials, often contained in reports of fisheries development projects, newspapers and source materials well outside the fish sectors. Such is the nature of our knowledge in the field of women's, and also gender, roles in fisheries that few of the primary sources were actually designed to address the field in a rigorous and analytical way. They rather addressed other aspects of fish and fisheries and incidentally revealed much of value, at least by description, on women's roles.

The papers for the proceedings are arranged by geographic region and there is an index to the contents so that information can be found by topic.

Documenting fishing practices

Traditional uses of plants for fishing in Micronesia

By Dr Mark Merlin, Biology Program, University of Hawai'i at Manoa

Western and other scholars have traditionally divided the massive Pacific region beyond Southeast Asia and Australia into three sub-regions or categories: Melanesia, Micronesia and Polynesia.

More recently, with the elucidation of a suite of characteristics (e.g. linguistics, pottery, island location in the remote, deep Pacific Ocean), Green (1991) and others have suggested that the region be re-divided into two parts: Near Oceania, encompassing Australia and western Melanesia, which was settled as much as 60,000 years ago as part of the world's second great wave of human migration into previously unoccupied lands (Roberts 1998); and Remote Oceania, which encompasses the multitude of islands formerly grouped into eastern Melanesia (from the eastern Solomon Islands to Fiji), and all of islands formerly contained in Polynesia and Micronesia.

The many high and low islands of Remote Oceania were only first discovered and settled by humans 3800 to 1000 years or so ago. These were difficult exploratory discoveries, made by peoples collectively referred to as Austronesians (or in the earlier phases, the Lapita Peoples). They had a common heritage of language (formerly known as the Malayo-Polynesian group), and several other cultural traits, not the least of which has been their relatively similar transported landscape of agroforests, irrigated swamps and dry field agriculture.

The Austronesians theoretically originated somewhere in Southeast Asia, possibly on or near Taiwan. These seafaring people needed three things to successfully sail long distances, back and forth across broad stretches of the Pacific Ocean.

First, of course, they developed the skills to fabricate durable, seaworthy craft. This involved the use of plant material and stone tools to make canoes that were stabilized by an outrigger, or in parts of eastern Melanesia and Polynesia by large, very sturdy double-hulls. In addition, these long

distance voyagers developed and passed on a complex navigational body of knowledge. Secondly, they successfully introduced a collection of viable cuttings and / or seeds of cultigens, along with the concomitant gardening knowledge needed to provide the sustainable carbohydrate food sources of these stone age, horticultural peoples. Thirdly, and most important for this article, these early island colonizers had an intimate, practical knowledge of how to harvest the edible animals of the reefs, lagoons and deep ocean.

In addition to their introduced domesticated plants, these early Austronesians used many species of the wild, native biota. Over time, on all the islands of Remote Oceania occupied by colonizing Austronesians, including those in Micronesia, an intimate and sophisticated series of relationships developed between the people, plants and animals.

What follows here is brief review of the use of plants, both native and introduced, that were related in some way with the important activities of fishing in the Micronesian areas of Remote Oceania. Plants are (or in some cases were) used to make or acquire many different kinds of equipment or materials used to collect edible sea organisms. These fishing items include spears, nets, traps, fishing poles, fishing line, fishhooks and poisons.

Plants used in fishing in Micronesia

The uses listed here come from a variety of sources and are by no means comprehensive for fishing applications throughout the region, nor, of course, for many other uses for which most of these plants have traditionally served in Micronesia and the rest of Remote Oceania.

Fishing hardware — poles, lines, nets, floats, traps, torches, spears, goggles and lure

Allophylus timoriensis – Wood from this tree is used to make traps in Ifaluk and fishing poles in Marshalls.

Artocarpus artilis – On Woleai the leaves of breadfruit trees are used to make a kite for trailing fishing line and as a lure. The insect resistant trunk and large branch wood of breadfruit trees is used in Chuuk (and other islands) to make the hulls of small fishing canoes.

Bambusa vulgaris – On Yap, bamboo is used to make net spacers and fish traps, and on some islands, such as those in Chuuk and Kiribati, the stems of bamboo are used to make fishing poles and floats for fishing nets.

Bruguiera gymnorhiza – In the Marshall Islands the fruit of this mangrove tree has been used to strengthen fishing nets, and in Kiribati its wood has been used to make fishing rods.

Calophyllum inophyllum – On some atolls, such as Namoluk in the central Carolines as well as in Kiribati, the wood is traditionally used to make goggles for spearfishing. In Kiribati stems of this tree are used to make scoop net frames and fishing rods.

Casuarina equisetifolia – In Kiribati the dense, heavy wood of this tree is sometimes used to make fishing rods.

Clerodendrum inerme – This sprawling or climbing, shrub is used on some islands such as Ifaluk and in Chuuk to make fish traps. In the Marshall Islands the wood of this plant is used to make fishing poles as well as fish traps (with *Pemphis acidula* and *Allophylus timoriensis*). In Kiribati, branches of this plant are said by some to be used to make fish traps, scoop net frames and fishing rods.

Cocos nucifera – Coconut palms are extremely useful plants. On Yap stems are used to make fishing spears, and the shell of the nut is used to make fish hooks. On Ulithi the sennit fiber is used to make 'sweeps' to drive schools of fish into traps, the burning leaves serve as 'torches' for night fishing, and the shell is used to make one-piece fishhooks. On Namoluk, wood of this palm is used to make fishing spears. On Kosrae, leaves also traditionally served as a burning torch for night fishing. In Kiribati smaller saplings are traditionally used for fishing poles, and its wood is used to make fishnet floats.

Crinum asiaticum – The shining, white, basal part of the leaves of this large, bulbous, lily is used as a lure to cover hooks in traditional Yapese fishing. It may have been used in some islands, such as Guam, as a remedy for sickness caused by eating poisonous fish. On Namoluk the hollow 'skin' of the trunk is used in trolling lines in deep sea fishing.

Cyperus laevigatus – On the island of Onotoa in Kiribati, this native 'nut sedge' was used for weaving fishing lines and nets.

Derris trifoliata – On Kosrae, the stem this sprawling, woody plant — often used to poison fish — is sometimes used as cordage to fasten bundles of Nipa palm fronds, or to bind mangrove crabs when *Hibiscus tiliaceus* fiber is not available.

Dodonaea viscosa – In Kiribati the stems of this widespread woody plant are used to make fishing poles and frames for dip nets.

Enhalus acorides – In some islands, including those in Yap, Chuuk and Pohnpei, the persistent bundles of vascular fibers (or strong leaves) of this seagrass or saltwater herb are utilized in the construction of long lasting nets for catching reef fish. It is also used as protective medicine for women who are going into the ocean.

Ficus prolixa – This large, sometimes huge, native fig or banyan tree produces strong fibers on its roots that are reportedly used for fish lures on Ifaluk. On Puluwat the aerial roots are said to be used occasionally in large (seine) net fishing.

Ficus tinctoria – On Ulithi, Ifaluk, Kosrae and perhaps other islands fishing lures or bait are made from the fine fibers extracted from the bark of this fig tree. On Puluwat the wood is used in fishtraps, and the rope-like, aerial roots were used in fish drives. In Kiribati, the easily bendable roots are used to make scoop net frames, and sometimes fishing rods.

Hernandia nymphaeifolia – This large indigenous coastal tree is sometimes used in Kiribati to make fishing rods.

Hibiscus tiliaceus – The light wood of this tropical shrub or small tree in Yap is sometimes cut into small pieces to make local net floats and frames of fish nets because it does not rot easily. In Chuuk, fishing equipment such as poles, floats, and fish net frames such as those used to catch flying fish are also made from its wood. On Puluwat, where it is plentiful only in swampy depressions on Alei Islet, the wood is used to make fishing net floats. On Pohnpei it is said to have replaced coconut fibers for fishing net fibers after it was introduced by people. On Kosrae the light wood is used to make fishing floats and poles. In the Marshall Islands it is used to make frames for nets to catch flying fish; and floats of the light wood are used to hold a submerged string which attracts shell bearing animals; the captured shells are then used to beautify handicrafts. In Kiribati, the sprouts, when straight, make good fishing rods.

Lumnitzera littorea – This native mangrove tree is used in Kiribati to make fishing rods, and fish traps, because it does not deteriorate in sea water.

Morinda citrifolia – This useful upright growing shrub or small tree is known as in English as the Indian Mulberry. In Kiribati, the wood may be used to make fishing rods.

Pandanus tectorius – In Kiribati, roots of this common coastal or lowland native tree are used to make floats for fishing nets.

Pemphis acidula - This native, coastal woody shrub or small tree is sometimes referred to in English as ironwood because of its heavy, hard, rot-resistant wood. In Kiribati, it is used as building material for fishing rods and to make traps for moray-eels, and in earlier times, fishing hooks.

Phymatosorus scolopendria – This creeping fern has sturdy, dark-colored rhizomes (roots) that produce erect, glossy green fronds which, in Yap, and are tied to outriggers of canoes for good luck when fishing.

Pipturus argenteus – On Nomwin, Namoluk, and Puluwat, fishing lines are or were made from the inner bark of this native shrub or small tree. On Puluwat the leaves are used in fishing lures, and the strong fiber extracted from the inner bark was also used for attaching fish hooks. In the Marshall Islands the bark of this tree furnishes strong strands useful for fish line, and branches are also said to attract live cowries when placed under a rock in the sea.

Plumeria rubra – This small, ornamental tree is known in English as either 'plumeria' (its genus name) or 'frangipani'. On Ulithi and Namoluk atolls these trees are a source of wood that is sometimes made into frames for underwater goggles.

Premna serratifolia – This native shrub or small tree provides fruit used in Ulithi as one of eight fruits placed in the 'flying fish bundle'. On Kosrae, branches are used to make the frames for two kinds of fish nets used by women in reef fishing. And in the Marshalls and Kiribati, the straight, pliable saplings and branches make good fishing poles.

Rhizophora apiculata – The prop roots of this common native mangrove species are used to make fishing gear in Yap.

Rhizophora mucronata – On Puluwat this mangrove tree, which is found commonly in lagoon areas, provides wood for fishing spears and parts of fish traps. In Kiribati, it is used also to make stakes for fish traps because it resists seawater and 'ship worm' (*Teredo navalis*).

Schizostachyum lima – This native bamboo species in Yap, which is smaller and thinner than the alien Bambusa vulgaris, is used there for fishing poles.

Tacca leontopetaloides – This large, stemless herb, often referred to in English as 'arrowroot', is used in Kiribati in the construction of fishing lines and nets.

Terminalia catappa – This small to large, spreading tree is used in Kiribati to make fishing rods.

Tournefortia argentea – This small native tree, known in English as 'tree heliotrope', is used in Kiribati in the construction of fishing rods.

Fish poisons made from plants

Barringtonia asiatica – The large, one-seeded fibrous fruits are buoyant, and after maturing on the tree they drop off and may be carried out to sea by the tides and drift along with the currents, eventually washing up on the shores of many tropical Pacific islands. The seeds of fruits contain a poisonous saponin, which has been used traditionally on many tropical Pacific islands to stupefy fish and octopus. To stun fish in tidal pools of the reef, the firm white seed is pounded, pulped or grated to release the poison, then mixed with water, and thrown into pools where fish are found. This method of stupefying fish does not appear to harm the flesh of the fish as food.

Derris trifoliata and *Derris elliptica* – These sprawling, woody plants are found growing near wetlands, as well as in forested areas inland. Parts of these members of the pea or bean family contain rotenone, and when crushed and spread in streams or on the reef they will kill fish and shrimp. The introduced *D. elliptica* is, today, the major source of the poison used in some islands, however it is illegal to cultivate these plants or to engage in fish poisoning on several of these islands.

Miscellaneous uses

Bambusa vulgaris – On Yap, the long wide stems of this large bamboo are used to make the common rafts sometimes used for fishing when skin diving.

Calophyllum inophyllum – On Ulithi, the fruit of this tree are one of eight fruits placed in the 'flying fish bundle', which was traditionally offered to spirits by 'public fish magicians' during their long, annual ritual.

Claoxylon carolinensis – On Pohnpei this small native tree is believed to have magical properties, and consequently, cut stems of the tree are applied to fishing nets to make them more efficient.

Crinum asiaticum – Some parts of this large lily may have been used in some islands, such as Guam, as a remedy for sickness caused by eating poisonous fish.

Cyperus javanicus – This perennial sedge is said to be used as 'fishing medicine' in Chuuk.

Enhalus acorides – In Chuuk, parts of this seagrass are said to be used as protective medicine for women who are going into the ocean.

Hibiscus tiliaceus – Ulithi the bark of this plant is traditionally used to treat constipation and running ears, caused by eating a tabooed octopus, which angered a spirit. And in Chuuk the fruit of this woody species has been used as a magical medicine against sea spirits.

Morinda citrifolia – In Kiribati, the fruit is used as a stimulant on long fishing trips or ocean voyages, during cruises of three or four days, as it is said to be 'hot and comforting to a tired body'.

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Maka feke – Octopus fishing Tongan style

Dr Mecki Kronen, SPC Community Fisheries Scientist, Reef Fisheries Observatory

Traditional Tongan fishing techniques are partly based on myths, legends and beliefs. Bataille-Benguigui (1988) concluded that Tongan fishing techniques have a religious basis, are associated with rites or taboos, or are non-ritual but still concerned with the art of fishing.

Increased urbanisation and westernisation of Tongan society and life have resulted in a relaxation of traditions as well as a replacement of old fishing techniques and customs with more modern ones. However, remnants of traditional fishing practices and techniques are still alive.

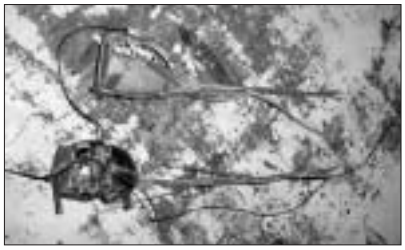
In Tonga, octopus is caught for consumption, bait, for sale in the local market, and to give as a gift. Octopus, or *feke*, is caught by women, men and children. Common techniques include the use of iron bars (*a'a feke*) by reef gleaners of all ages and by both genders, free-dive spearing (mainly by male fishers), and *maka feke*. *Maka feke* is done by both men and women of all age groups while they are reef gleaning, or is done by men from (motorised or non-motorised) boats.

This article focuses on *maka feke*, the 'stone for the octopus catching', which is a traditional Tongan method for catching octopus. Sources indicate that the legend of *maka feke*, as well as the technique, is widely spread across Polynesia (www.webcentral.co.ck/ilegends.htm; Bataille-Benguigui 1988; www.ocean-park.go.jp/kaiyo_e/d/d401000.html).

According to legend, there was once a rat on a canoe. This canoe got hurled around in a storm and eventually started to break up. Afraid and shivering, the rat looked for help or something to cling to. When the rat noticed an octopus swimming nearby he asked it to take him to land. The rat also promised a generous payment for this rescue service.

The octopus agreed and allowed the rat to sit on his head while he carefully swam towards land. Once they reached the beach, the rat jumped off and quickly ran up onto dry land. When the octopus demanded his reward, the rat mischievously replied 'feel the top of your head'. Another ending to the tale is that the rat made fun of the octopus' naivety.

Completed 'maka feke' lure.



Two maka feke lures ready for use.

'Maka feke' lure showing how the 'rat's feet and tail' are tied to the cone-shaped stone coated with a cowrie shell.

Whatever the 'true' ending of this tale may be, the fact that the rat insulted the octopus is considered the reason that ever since then, the octopus seeks revenge against the rat for its betrayal. As a result, the Tongan *maka feke* lure resembles the shape of a rat.

The *maka feke* lure is expertly crafted. A carefully selected cone-shaped stone of enough weight to avoid floating, constitutes its main part. Half of this stone is covered with a cowrie shell to mimic the rat's fur. The rat's 'feet' are made from palm tree leaves, which are also used for the long 'tail'. Palm tree root material is used to fix all components together. A line is tied to the lure with which it is lowered into the water. On one trip with fishermen from Manuka village on Tongatapu, the lure was used on a shallow coral reef. Here, the line was lowered into the water and rhythmically shaken up and down, about one metre above the bottom. After about an hour, a medium-sized octopus,darted towards the lure and grabbed it. In the same moment, the fisherman jiggling the lure quickly caught the octopus with his free hand.

The octopus was killed and cut into small pieces for use as bait for handline fishing. The fishing party preceded to a known fishing ground, where five handlines, each equipped with a sole hook with octopus bait, were lowered into the water. Within 2.5 hours, 20.4 kg of reef fish were caught using the medium-sized (1.2 kg) octopus caught with the *maka feke* lure.

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The lure is lowered into the shallow water above coral ground and rhythmically shaken up and down to attract octopus.

An octopus attracted by the lure, darts towards it and grabs it.

The octopus is killed and cut into small pieces to be used as bait for handline fishing.

Tongkah – Unique gear for catching octopus

By P. Balan, Penang Inshore Fishermen Welfare Association

Changkat is a small village in Seberang Perai Selatan (Malaysia) where Malays, Chinese and Indians live within their individual communities, yet side-by-side with each other. The village is not very remote but there is no public transport to it.

The Changkat jetty is quite a distance from the village and it is a 10-minute motorcycle ride to reach it. The jetty at Tengah River, which is also the river that marks the boundary of Batu Kawan island from this side, is home to almost 20 boats. Like Changkat village, and unlike most small jetties in Penang, the fishermen are multi ethnic: Malays, Chinese and Indians.

The jetty by the river is about 400 metres to the sea and flanked on every side by beautiful, lush mangrove forest. The fishermen here prefer to fish at night rather than during the day, which is the norm in other areas. It is here that the practice of using 'tongkah' to catch small octopus is found. Tongkah is unique to Penang State and to the whole of Malaysia.

A tongkah is 7 1/2 feet in length and 15 inches wide, and looks somewhat like a surfboard. It has a 'hand stand' for the arm to rest. A rope is set at the front for the user to manipulate the tongkah on the mudflat. A sack is tied to the armrest where the catch is thrown into as the tongkah moves.

Because octopus fishing is done at night, the fishermen use carbide as their source of fuel for their light source. It is not only cheap but also emits very strong light.

A tongkah is very easy to use once you get the hang of it. Since the purpose of using it is to catch small octopus that are trapped on mudflats at night, the fishermen must know exactly when the tide is low and the location where octopus can be found. Hence a fisherman go out just before the tide falls and place a pole into the mudflats for the boats to be tied to and wait. As the tide drops, a fisherman prepares his tongkah.

First, the armrest is placed on the tongkah and the rope is prepared. Carbide is then put into a container with a funnel. When water is added, the carbide emits gas at the end of the funnel. With the strike of a match, the modified torchlight is now ready to be used. A sack is then tied to the armrest, and the tongkah is set onto the mudflat.

The fisherman's left arm rests on the armrest while holding the carbide torchlight. His right arm is used to catch the octopus. One of his legs is placed on the tongkah while his other free leg pushes the tongkah forward along the mudflat.

The search for octopus starts immediately, and the fisherman does not stop until the tide comes back almost two hours later. On a good day, as much as 15 kg of octopus can be gotten.

When octopus are abundant, the scene on the mudflat is like a festival with many fishermen on their tongkahs gliding along the mudflat with a strong beam of light, on the lookout for the shy animal. The fisherman must be quick because once an octopus feels threatened, it quickly disappears into the mud.

One fisherman explained, "The tongkah has been used here for as long as I can remember". He is rightly proud of this tradition that has served him and his fellow fishermen well.

The Lakemba art of *vono*

By Dr Mecki Kronen, SPC Community Fisheries Scientist

On Lakemba, a small island in the southern Lau Group of Fiji Islands, there are women who are still regularly perform the old Fijian tradition of catching fish called, *vono*. Due to specific habitat requirements along with fishing strategies specific to Lakemba, this fishing method is exclusive to fisherwomen from the villages of Nasaqalau and Waitabu only.

A *vono* comprises three different steps, involves at least four women, and about four different fishing methods. The overall strategy is to prepare a hiding place where fish can be trapped and easily harvested.

Although *vono* is considered an easy way to catch fish, it requires a substantial amount of effort and patience. There are three steps involved. Step one: At low tide a group of women head towards the outermost reef that fringes the lagoon. Their faces are blackened with charcoal to protect from sunburn, and they carry a couple of freshly cut leafy branches. The women know suitable places at the outer reef line that have been continuously used in the past. Suitable sites are natural holes in the hard coral cover that can be easily enlarged and deepened. Every time one of the sites is selected, large hard coral blocks and pieces, and hand-fulls of coral debris are scooped out until a smooth basin is created. The basin may measure about 1–1.5 m^2 and may be 0.80–1.00 m deep. The basin is then carefully covered using large flat coral pieces. The *vono* site is now marked with some of the leafy branches, which are stacked into coral holes. Thus, the site will be easily identifiable if approaching from distance. Big pieces of hard coral are collected and laid in two, 100-m-long lines reaching from the sides of the *vono* radially in the direction of the beach. These blocks will be used to hold in place the nets to be set later on.

After completing step one, women may reef glean, or *qoli*, a kind of group netting in shallow water

during low tide, to make the most use out of the long walk to the outer reef fringes.

Step two: During the next high tide — weather permitting — the women return to the same site. Now, about 100-m-long and 1.5–2 m-wide nets with small mesh sizes are put into place. The nets surround the *vono* and extend at either side along the radial lines of hard coral pieces laid out during the previous low tide. One woman unfolds the net. Another woman weaves into it an equally long cord from which palm leaves are dangling in 50 cm intervals. This is mostly done under water and the woman in charge wears goggles. She also secures the net with the hard coral pieces. Once the nets are set, the group may split up. However, at least two woman must stay behind to watch and tend to the nets while the rest of the group may return to the village.

Setting the duva under rocks in the reef to stupefy fish.

Grinding duva and diluting it.

Sorting and cleaning the catch.

Step three: During the second half of the next low tide, the women's group reassembles at the *vono* site. One or two women take charge of grinding *duva*, a poisonous root (*Derris* sp.), which they dilute in the artificially enlarged basin. The desired effect of stupefying fish becomes visible after 10 to 15 minutes. Fish escaping from their hiding places are slowed down in their movements and show obvious signs of distress. Smaller fish may die quickly. Other women surrounding the *vono* hold up the net to prevent fish from escaping. Women inside the netted area collect the fish by hand, stab the bigger and still fitter ones with a knife or chase them in the net where they are easily killed and collected. Teenage boys, using home-made spears to expertly spear down all the fish that managed to slip the net, help out with this final *vono* step.

Depending on the area encircled, and the amount of fish trapped, this last step may last 1 to 1 1/2 hours. The catch is collected in hand-woven baskets made from coconut palm leaves and defended against the hungry seabirds circling the site.

Before collecting the nets, the fisherwomen may settle on a spot in the reef where the catch is sorted into suitable fish to be brought home, and those to be eaten on the spot. Fishermen from the village may walk by and be rewarded with some smaller fish that they can use as bait for handlining. All fish are cleaned and the livers are eaten; smaller fish are consumed raw. Usually, this feast is well prepared as the women bring cooked root crops, chillies and lemon to accompany and improve the fresh fish meal *al fresco*. Once, everybody is satisfied, the equipment is gathered up and the group heads home to the village where the catch is shared equally. On the way, small shellfish may be collected to complement the next family meal.

The life of a commercial fisherwoman

By Lyn Lambeth, former SPC Community Fisheries Officer

After five years of working in community fisheries management in the Pacific, I decided to spend a year in my old job — fishing for Spanish mackerel, *Scomberomorus commerson*, in Australia's northwest. I caught up with the boat I used to work on, F/V *Rachel*, in Darwin in February 2002, and spent a couple of months helping with the pre-season maintenance before heading to sea in April. I first worked on the *Rachel* 20 years ago when she was shark fishing in the Northern Territory. I maintained my friendship with her owners-operators, Pam Canney and Ian Lew, after leaving the capture side of the fishing industry eight years ago. This year was to be a 'working holiday' — a chance to catch up with old friends, get away from computers and deadlines, see some more of the wonderful Kimberly coast, and exercise arm muscles by pulling in some of those big, fighting fish.

Pam and Ian are relatively unusual in the industry in that they often choose to have one or two women in their crew of three to four deckhands. The *Rachel* is their home as well as their workplace, and they've found that a mixed crew creates a more balanced work and living environment. The work can be physically demanding, but

everyone has their strengths and weaknesses — the main requirement is the ability to work well with a small group of people in an isolated environment. This year there are five of us on board — Pam and Ian, myself, and two other deckhands, Tony and Ed. Tony and I are veterans of five or six mackerel seasons while Ed has only just left school and is a newcomer to the industry. Everyone on board is expected to help out with the various tasks, including cleaning and cooking, watchkeeping, pulling in fish, filleting and packing, and maintaining fishing gear.

Spanish mackerel are caught by trolling lures or bait behind a boat travelling at around four knots. The fish, which can reach over 30 kg, are pulled in by hand. *Rachel* carries three fishing dories — 5–6 metre fibreglass boats with inboard diesel motors — that operate independently once out on the fishing ground. Each dory runs two or three lines, while *Rachel* runs eight. The dories are specially designed for this type of fishing, with the operator standing in a 'steering pit' separated from the 'killing pit' into which the fish are pulled. Most dories have a foot-operated tiller, leaving both hands free to pull in the fish. Spanish mackerel have razor sharp teeth so it's best to keep well away from their mouths — even a dead fish can leave a nasty scar if you accidentally run into them on deck. The fish are well known by game fishermen for their size and fighting spirit and it can be a struggle to pull the larger ones on board. Often we have problems with sharks chasing the fish as we pull them in. We can end up with half a fish, a head, or worse — a big shark on the end of the line. If that happens we can only try and pull the shark on board or cut the line, though often they just straighten the hook and escape.

Rachel's dories have names and personalities of their own and the three main 'dory men' on board (Ian, Tony and myself) are quick to defend their personal workboats — we each use one particular dory and rarely venture out in another. While the three dories are out working, Pam trolls with *Rachel*, with Ed on the stern to help pull in the fish. When travelling between fishing grounds the dories are lifted up by a hydraulic winch and chained in place, one on either side of the main boat and one along the stern. In rough seas the dory lifts can become quite tricky as we try to control a boat weighing up to a tonne from swinging into the side or stern.

A typical fishing day at this time of the year starts at 4 a.m. Everyone is up and straight into work before first light. The three dories are lowered and Ian, Tony and I head off as the first glimmer of light enters the sky. *Rachel* also starts trolling, and we all try to keep out of each other's way in the half-dark. From there it all depends on the fish. We can be immediately busy with all lines catching, or it can be a slow and peaceful start to the day, sipping a cup of hot tea and watching the sunrise with one eye on the lines. Generally the dories will stay out for two hours or so before taking the catch back to *Rachel*. A good morning will see each dory with around 20 to 30 fish, on a busy run they can double that. Often enough we traipse back with less than 10 fish each. When the fish are really biting, *Rachel* can end up with 80 or 90, so an exceptional morning or evening run can see us with around 300 fish to process. After unloading the fish and lifting the dories it's time to grab a quick breakfast and start filleting and packing. All the fish are filleted, quartered, packed into 10 kg boxes and placed in the freezer. The previous day's boxes must first be moved from racks in front of the blast fans to the holding room before fresh boxes are put down. Rachel's freezer holds around 1000 of these boxes, or 10 tonnes of fillets.

Often while we're filleting and packing we travel to another fishing ground. Once there, dories are lowered again and the process starts over again. Generally though, the best fishing runs are the first and last runs of the day, and we often have some time off in the middle of the day to fix gear, make up baits, make cartons (for packing the fish), eat, read and sleep. If the fish keep us really busy on the last run (from 3.30 to around 6.30 p.m.) we may still be filleting and packing late into the night. We also travel between grounds at night, taking turns to do two- or three-hour watches throughout the night, but generally we can count on working during the day and sleeping at night. As far as fishing goes, it's a fairly civilised existence — I've worked on prawn trawlers and barramundi gillnetters where much of the work was done throughout the night with sleep coming in three-hour stretches.

It's a very nomadic existence — the *Rachel*'s fishing grounds stretch from the northwest top of Australia down to Port Hedland, a distance of around 1000 nautical miles. The fishing season lasts around seven months and during that time we travel almost constantly from fishing ground to fishing ground. We spend from one week to three weeks at sea before calling in to Port Hedland, Broome or Darwin for a day or so, to provision and sometimes unload. Unloading is mainly done by hand — a chain gang of eight people is usually enough to shift 10 tonnes from the freezer to the truck in a couple of hours of hard work. The huge tidal range in the northwest of Australia, however, means we sometimes have to use cranes and winches to move the boxes up to the wharf, if it's a low tide. The tidal range in Broome, for example, can be close to ten metres.

From June until September we share these waters with humpback whales, which come up from

Antarctica to have their calves, and seem to spend time 'playing' in the tropical waters. In the peak of the season we see several whales each day, often leaping out of the water in great displays. Other highlights are seeing dolphins, turtles, sailfish, manta rays, flyingfish, sea snakes, and countless sunrises and sunsets over the water. A few months ago, I unexpectedly caught a two-metre marlin on a lure (a very unusual occurrence in mackerel fishing). I initially thought it was a huge Spanish mackerel and so pulled like crazy. But after the initial adrenaline rush of getting this large fish into the dory I suddenly realised we didn't want or need it, and I was franticly trying to get it back into the water unharmed. One of the other dories came over to assist, and we lassoed it around the tail, hauled it overboard, and released it.

We are now heading into a wonderful part of the season — the fishing is slowing down, we've caught the bulk of the year's catch, and we'll be taking more time off to explore the myriad islands, rivers and inlets of the Kimberly coast. That is, perhaps, the best part of the work — seeing some of the most inaccessible parts of Australia. In addition, the weather is moving from the 'dry' season to the 'wet' season and we can expect spectacular tropical clouds, storms and seas, though hopefully not cyclones. For the remaining two months of the season I hope to be beachcombing, exploring and swimming in between pulling in those fish.

I love being at sea and have not yet tired of the excitement of Spanish mackerel fishing, despite the hard work, long days and sometimes broken sleep. Next year may see me working back on the other side of the coin, in fisheries management instead of fishing, but at least I know I can still go and catch Spanish mackerel whenever I feel the lure of the sea.

***Vono* fishing in the Lau Group, Fiji Islands – Photo by Mecki Kronen**

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