Mr. Cuninghame, in his preliminary notes on the Sea Fishes of Mombasa, states that a large field for discovery lies amongst the game fishes of the coast, and subsequent investigations have amply justified his remarks.

It seems somewhat remarkable that such grand sport should have lain at the very doors of Mombasa fishermen for so long without being recognised, yet it was not until Mr. Cuninghame’s first visit to those waters that such a thing as a really big game fish had been captured on rod and line (or, if captured, not recorded).

In April 1918, Dr. Small, Mr. Scott Higgins, and the writer commenced systematically to exploit the sport in the harbour waters of Mombasa and Kipndini and the reef outside, but owing to want of suitable tackle, for some time but poor results were obtained. This deficiency was soon remedied by the arrival of the necessary tarpon tackle from home, and from November to March, when the big fish came in, the sport was excellent. These few months are without exception the pick of the whole year, and very little is to be done in Mombasa waters after the south-west monsoon has broken. This, however, is not the case in the Bay of Malindi, which, being sheltered from the full blast of the wind, is comparatively calm, and becomes the home of the many small fry which constitute the diet of the game fishes.

In the present article, which, it must clearly be understood, is written for the benefit of the fisherman, and not the naturalist, it is proposed to give, after two years of careful study of the subject, as complete a list as possible of the various fish to be caught ‘trolling’ in the coastal waters of Mombasa and Malindi, their habits, distribution, methods of capture, and native names. The subject of bottom fishing is too vast, and presents too little attraction to the big-game fisherman,
to be attempted here, and indeed the present article is only
written with a view to stimulate others to investigation and
discussion, without which accurate knowledge cannot be
obtained.

The following table (on the lines adopted by Mr.
Cuninghame) will give a comprehensive list of the various
game fish hitherto to be met with on the coast. The Swahili
and Arabic names are the ones in use both at Mombasa and
Malindi.

**DESCRIPTION, METHODS OF CAPTURE, &c.**

*King-fish, Nguru M'twana.*—This fine sporting fish, to my
mind second only to the barracuda, is met with all the year
round in various waters on this coast, though from time to
time it is only a visitor to the inland harbours. They appear to
be very local, especially at Malindi, being one day abundant off
Mambrui, at another off Casuerina Point, the two extremities
of the bay. The local fishermen troll for them with a single
sardine (large variety), the ‘seemu’ of Mombasa and ‘dagaa’
of Malindi, baited on a single hook, and obtain best results
when sailing at from four to six knots. At a slower rate a
number of fish are missed.

*Nguru Bowrega.*—This small variety of the above species
seems to be a visitor to Malindi waters only, where it is to be
found from time to time during both monsoons in great numbers,
it being no uncommon occurrence for an ‘ngalawa’ or cata-
maran to bring in from twenty to thirty in a catch. The
methods of capture are those employed for the larger species.
When freshly landed the wavy longitudinal lines of a brown
colour on the back and sides impart a very sporting look to
this graceful fish. It does not appear to exceed 15 lb. in weight.
I have not heard of its appearance in Mombasa waters.

*Barracuda.*—This is undoubtedly the finest fighting fish
on the coast, although his reputation as such bids fair to be
wrested from him when a true bonito or tuna¹ is taken on
rod and line, and my experience of these two on a hand line
leads me to believe that such will be the case.

¹ Since writing the above, a bonito has been caught off Mombasa, and
although only 11 lb. in weight amply justifies the above remarks.
BARRACUDA (MZIO). 67 lb.
Length 5' 6/".
The barracuda can generally be recognised when hooked by his clean rushes on the surface of the water—rarely sounds, and is full of grit to the finish. The natives recognise two varieties, the larger of which, the ‘Mzio,’ is the subject of the accompanying photo.¹ I have as yet been unable to distinguish any difference, except in size, but both Mombasa and Malindi fishermen are unanimous that two species exist.

Koli-koli. The Kambesi.—This appears to be the largest member of its family, and must attain a weight of quite 120 lb. I have myself seen a specimen in the Malindi market weighing 8 frasilas (108 lb.). It is distinguishable from the koli-koli by its dark colour (in very large specimens approaching black) and blunter head. I am convinced that both Mr. Aflalo’s 64 lb. and Mr. MacMillan’s magnificent fish of 72 lb. were kambesi and not koli-koli.

Both fish are annual, but are more plentiful in the northeast monsoon. They are taken freely by trolling, but the natives catch more at anchor, or drifting in very deep water, baiting with a sardine (either alive or dead) on a single hook passed through the eye. The kambesi gives very little fun when hooked—persistently boring at great depth.

Koli-koli, of a much lighter colour and build than the above, and when freshly taken shows beautiful iridescent hues of green and pink. Like his larger brother, he is a somewhat heavy fighter and given to boring. The flesh is excellent.

Wai (plural Mawai).—As far as I can judge, a visitor to Malindi waters only during the months of September, October, and November. In coloration and forms the same as the koli-koli, but with five to six vertical black stripes, much resembling but narrower than our English perch—the spots of the koli-koli are also absent. The mouth is more fleshy and more protruding than in either of the above two species, which renders it very difficult of capture, breaking away at once with rough handling.

Although taking a moving bait, the natives fish for it with a single sardine of the smallest variety (kumbu), and use

¹ By an error, due, I understand from Mr. Cuninghame, to photographs having been mixed up, the photo of a king-fish (frontispiece, Vol. III. No. 5) is described as a barracuda.
only a small hook mounted on a strand of fine brass wire. It is admitted by them to be cunning and difficult of capture.

**Bonito.**—As far as I know, this, the true bonito, has not been caught on rod and line by any fisherman in East African waters (see remarks on page 66). I have repeatedly seen small specimens in the Malindi market up to 15 lb. weight, generally after a very windy day, as the natives say they only capture them whilst sailing at a high rate of speed. There is no doubt that they reach a weight exceeding 50 lb., but I have not, so far, seen anything approaching this in local waters, but have caught them up to 80 lb. at St. Helena and to 46 lb. in the Indian Ocean from the bowsprit of a full-rigged ship.

**Tuna.**—Yellow-finned. I have only seen one specimen of this fish, the subject of the photograph, which was caught by me, trolling with a hand line from the stern of a dhow, on a voyage between Ras Ngomene and Kipini. It weighed 31 lb. six hours after capture, and fought very gamely, but showed none of the tuna characteristics of jumping, probably owing to the rate at which the dhow was travelling and the unceremonious manner in which it was handled. They are said to be found, in the north-east monsoon; in numbers off Watamu, but I have not verified this. Apparently they are essentially deep-water fishes; and do not appear to come close in shore. Both this fish, and the bonito, however, are far from common and seldom caught, and fishermen seem to disagree widely as to the native names, applying the name ‘d'jodari’ indiscriminately to both fish, the name ‘sahayawa’ being said by some to be the Arabic equivalent to ‘d'jodari.’ Information on this subject is badly needed, as some assert that there is another and third variety of the d'jodari.

**The Pandu.**—Mr. Cuninghame in his list gives the maximum weight of this fish as 4 lb., but they are commonly to be seen in Malindi fish market up to and over 20 lb. In these big specimens, the belly is coloured a most brilliant yellow; which is absent in the smaller fish, although the ‘five finger marks’ on the sides are present from youth to old age. They breed in these waters. He is a game fighter; but generally ends in boring.
TUNA or ALBICORE (DJODARI). 31 lb.
The Dolphin.—These brilliantly coloured and exceedingly game fish give the greatest fun on a light rod. They always move in shoals, and take greedily almost any moving bait. When fishing for them the natives have a number of spare lines ready baited, and when one is hooked these spare lines are immediately thrown overboard, and it is no uncommon sight to see every member of a boat's crew fast in a fish at one and the same time. They play more out of the water than in, and a really big one (they grow to 80 lb.) should give exceptional sport.

The Gar-fish.—Frequenting inland waters, in which they breed, more than most of our coastal game fishes, the gar-fish may be captured when rough weather at sea precludes other sport. He takes a spoon and other moving bait readily, and jumps clean out of the water when hooked. I do not know up to what weight this fish runs; the biggest I have ever seen was one caught by Dr. Small at the entrance to Mombasa harbour, which weighed 8 lb. though over four feet in length.

That they grow to a much larger size is evidenced by the fear in which they are held by the natives, who state that when being hauled up to a boat they leap straight at their captor, inflicting dangerous wounds with their long slender beak. This statement is vouched for by Dr. Massey of the East Africa Protectorate service, who told me that in the West Indies he had attended cases of dangerous wounds (resulting in one case in death) inflicted on native fishermen by gar-fish there. The flesh is very delicate, and can always be recognised on the table by its green bones.

There appear to be two varieties in these waters.

The Sword-fish.—This extraordinary-looking fish was first brought to my notice by Dr. Maula Bukhsh, medical officer at Malindi, who showed me a dorsal fin (cut from a recently killed specimen) which measured roughly three feet high by two feet long. This was a year ago, since when four others have been brought in to the Malindi market, one being the subject of the photo published.

Unfortunately I was away at the time, and Mr. L. C. Wright, of the Survey Department, to whom I am indebted for the photo, omitted to take any measurements, but judging
from the photo, it could not have weighed less than 80 lb. This was stated to be a small one!

Günther (p. 432) states that sword-fishes attain to a length of from twelve to fifteen feet, and native fishermen at Malindi assert that they frequently have to cut away their lines when a large specimen is hooked, so fierce are their attacks on the boat.

The ventral fins, which are in the form of two long styliform appendages, fit into a deep groove in the belly extending to the vent, which would seem to be a provision of nature to permit of the fish resting on the bed of the ocean, for, owing to the length and bony nature of these fins, this would otherwise be impossible. The Swahilis give them the name of ‘Frasi ya Bahari,’ and the Arabs that of ‘Sulsuli.’ They are taken trolling. In calm water they are said to erect the dorsal fin and to sail on the surface.

Whilst the above list comprises what may be termed the game fishes of Mombasa and Malindi waters, or at least those that have come under the personal notice of the writer and from exhaustive inquiries from natives, there are several species of Sparidae and Percidae that occasionally take a moving bait. Drifting along slowly on a calm morning, I have repeatedly hooked and landed specimens of both these families; and only quite recently when entering Mombasa harbour and sailing with a strong following wind at quite seven knots, I hooked and landed a red fish, weighing 11 lb., which I took to be a species of Lethrinus.

When 'trolling' with rod and line becomes more popular in Mombasa waters (and there are signs of its rapidly becoming so), no doubt more varieties will be added to our already varied list of sporting fishes. Very little help in this direction, I fear, can be obtained from native sources, but readers can assist materially in forwarding any photos or measurements of fish (caught in the above manner) to the editor for publication in the Journal.

The main points essential for scientific classification are:
1. The number of spines and rays in dorsal and anal fins.
2. Number of scales from gill opening to caudal fin along lateral line.
3. The number of scales in a line running from the commencement of the dorsal fin or the middle of the back to the lateral line down to the vent or ventral fin or the middle of the abdomen.

For instance, the following formula would represent the scales between the head and caudal fin: L. Lat. 40; whilst the formula L. Transu ²⁄₃ would represent those eight longitudinal series of scales above the lateral line and five below those same.

I hope to be able in my next article to give a few hints with regard to tackle, bait, native methods of dressing line, &c.

GAME AND WAR

By C. W. Woodhouse

This article only proposes to deal roughly with observations made in peace time and those noticed during the first year of the war in British East Africa, with regard to the various game animals normally present on the scene of the present hostilities in the Mombasa military area, i.e. from the Kitirua and Engumi waterholes, i.e. Lake Njiri (Ologinya) District, Southern Masai Reserve, to Mount Rukinga near Kasigau.

The Taru desert is apparently unaffected. On making a brief survey of the terrain, the country is found to consist of several well-marked types which may be classified as:

1. The open grass lands, i.e. the Masai country from Lake Njiri to the Rombo river and from the Anglo-German border to the lava beds at the foot of the Chyulu Hills. Very similar country, though with rather more bush, is to be found from Campi Ya Bibi, five miles west of Maktau, to near the Lanjoro drift.

By the definition ‘open grass lands’ it must not be taken to mean absolutely bare rolling plains like the Nairobi, Athi, and Kapiti plains, but, with the exception of the Kuku plain, open grass land must be regarded as parklike country capable
PANDU. 20 lb.

SAIL SWORD FISH (*Istiophorus sp.*).

THE BOWREGA (Fam. Scombridae—*Acanthanthus*?).
Weight 9 lb.; Length 2' 6"; Girth 1' 4½". Sc. ¾.

UNA: BAIT FISH (Fam. Scombridae). Sc. ⅔.