One-man Kolek, Christmas Island.
A NOTE ON THE CHRISTMAS ISLAND CANOE (KOLEK)

By Dr. C. A. GIBSON-HILL.

Plate I.

Until 1888 Christmas Island was uninhabited. Then in November of that year Andrew Clunies Ross and a group of Cocos-Malays established themselves on the north coast, on the shore of what is now known as Flying Fish Cove. A small area was cleared, houses built, and coconut palms, papayas, bananas, coffee and later chillies, sugar-cane and tobacco, were planted. Some nine years later the lease of the island was taken over by a company formed to work the rich phosphate deposits on the inland plateau. Under their management the original settlers were replaced by a colony of mixed Javanese Malays, while a number of Chinese coolies were introduced to work in the quarries. After a time, by a gradual infiltration, the majority of the former were themselves replaced by Boanese; and Amboynese, from two small islands near Ceram, in the Moluccas, and these latter people now comprise the greater part of the Malay population.

Faced with a number of difficulties the earliest inhabitants seem to have done little boat building on Christmas Island. Instead they relied on their own carvel-built craft which they brought with them from Cocos. Their troubles included the absence of a timber which was both durable and easy to obtain and work, and the difficulties of designing a boat which could be lifted up the steep shingle beach and was at the same time sufficiently stable in the open sea. Christmas Island, lying in deep water nearly two hundred miles from the nearest land, has no permanently safe anchorage and only relatively sheltered fishing-grounds.

Their successors, the Javanese Malays, tried a light, flat, one-man canoe of galvanised iron sheeting, moulded over simple ribs made from the pillar-roots of the local banyan, Ficus retusa, Linn. These boats, which lay low in the water, were steadied by long rollers of wood fastened along the water-line. There was no seat, the occupant sitting straight on the bottom. They were fairly fast, and could easily be hauled up the beach at night by a single man. Their disadvantage lay in that they would not take much sea, and if they once filled or overturned they sank rapidly.

The present pattern appeared about twenty years ago. It was first used by an Amboynese, Hassan bin Ali, in a slightly...

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1Andrews (Monograph Christmas Island, 1900, p. 189) records the native name of this as Waringin, but the present generation is more correct and refers to it as Jawi jawi or Beringin. Gycoperbus americana, auct., which was known as Buah ba-siap in Andrews' day is now called Lamkun or Lamkun. Berria ammonila, Roxb., has dropped from Boognor to Kayu burga, and is confused with Calophyllum whose wood is used locally for axe-handles, chungkals and buffer-blocks.

1941] Royal Asiatic Society.
cruder, rougher form. Shortly afterwards it was perfected by another Amboyense, Salleh bin Omadin, whose boats are still among the best examples on the island. In essence these are shallow-draught, dug-out canoes of good, clean lines, steadied by a double outrigger. They are fairly slow, but very stable and never likely to be upset by anyone of reasonable balance. There are now some twenty-five of these koleks in constant use and, apart from a motor-driven sampan recently brought to the island, they are the only type of boat employed by the Malays for fishing.

They are built in approximately three sizes, for one, two or three men, the first for solitary fishing along the edge of the fringing reef and in Flying Fish Cove, and the second and third for trolling out at sea. Some of the largest boats will take four men, and can be worked by two, but general purpose boats are unsatisfactory as the floats are adjusted and fixed to suit a definite displacement. A kolek which is underladen is therefore unsteady, while one which is overladen is heavy and dead in the water. The measurements for a boat of good lines are roughly:

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<tbody>
<tr>
<td>Length overall</td>
<td>160-175&quot;</td>
<td>210-220&quot;</td>
<td>240&quot;</td>
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<tr>
<td>Beam</td>
<td>20&quot;</td>
<td>22&quot;</td>
<td>24&quot;</td>
</tr>
<tr>
<td>Depth at the mid-point</td>
<td>12&quot;</td>
<td>13&quot;</td>
<td>14&quot;</td>
</tr>
<tr>
<td>Span of the outriggers</td>
<td>95-100&quot;</td>
<td>108-112&quot;</td>
<td>120&quot;</td>
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<tr>
<td>Length of the floats.</td>
<td>85-85&quot;</td>
<td>95-110&quot;</td>
<td>100-115&quot;</td>
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The free-board is about six inches when lightly laden, dropping to four and a half or five with a good catch on board.

The body of the boat is cut and trimmed free-hand with an axe from the trunk of a *Gyrocarpus americanus*, auctt., a common tree all along the shore terrace. The interior is hollowed out afterwards with an adze. The greater part of this work is done at the site where the tree has been felled. *Gyrocarpus* wood is easy to work, but it is soft and frequently found to have decayed at the core. Bad patches are cut out when the kolek is built, and the holes plugged with better wood and pitch. Unless this is done carefully the dead area is likely to spread rapidly. Even then the wood is very prone to rot, especially on the bottom where it is constantly rubbed and bumped in landing. These latter holes are occasionally temporarily repaired with pieces of galvanised iron sheeting packed on the inside with sacking. The normal life of a boat, with fair treatment, is three to five years, but some of the smaller koleks are abandoned as useless after two. A large boat may receive more attention, and a good, successful one be kept in use for eight to ten years by judicious patching.

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The floats are made of the same wood as the body. The outrigger-arms and the rim are generally of seraya or chêngai, taken from the company's stores, but they may be of the island red-wood, *Berria ammonilla*, Roxb. The latter is the most popular wood for the paddles but, if obtainable, chêngai is often used instead. Good paddles are worth about $1.20 to $1.50 each. A one-man boat, newly built, fetches between $18 and $20, while larger models cost up to $25. There is not, however, much trade in koleks as the majority of the men cut their own.

Open-sea trolling is usually the work of two or three men in a larger boat. In suitable weather they may range the whole length of the north coast, and even pass round on the lee side of the island beyong Egeria Point, staying out all night. Conditions are considered to be best when the sea is calm or has only a slight swell on it, and the wind is not above a Gentle Breeze on the Beaufort scale. Two sizes of hook and line may be used, together with a spinner of white cock's feathers. The larger, a No. 2, is generally drawn on about a hundred and fifty dépa of line. With this they reckon to catch, by day, from dawn to sunset, with the best period shortly after sunrise.

Tênggiri, 9  ...  ...  *Cybium* sp., probably *Cybium gutiatum*, up to a length of 6-6½ feet.

Tongkol  ...  ...  *Thynnus* sp., with red flesh, probably *Thynnus thunnina*.

Ikan layar  ...  ...  *Histiophorus gladius*, occasionally.

Lomadang  ...  ...  A scarce, unidentified fish which has not been taken for the last six years and is said to be very good eating.

by night, only.

Ikan merah bésar  ...  *Lutianus* sp., up to eight to ten katis in weight.

and by day or night,

Alo alo  ...  ...  *Sphyraena* sp., up to four feet long and twenty-one katis weight.

Kachang  ...  ...  *Sphyraena* sp., young forms or a smaller species, up to twenty inches in length.

Aroan tasek  ...  ...  *Elacate nigra*.

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9I give the spellings, unaltered, as accepted by Ismail bin Hadji Eusop, probably the best fisherman on the island, who supplied me with much of the information which follows.

1941] Royal Asiatic Society.
Ikan puteh lebar kelābu, or Kempong\(^3\) ... Caranx sp.
Ikan puteh lebar hitam, or Lambudok ... Caranx sp., which is good eating.
Ikan puteh lebar panjang, or Sagai ... Caranx sp., which is very good eating.

Of all these fish, probably the tēnggiri are the most profitable, a
fair specimen weighing 30-35 katis and selling, when cut in
chunks, for $6 to $8, but the flesh is a shade dry and it is best
curried. The Sphyraena are generally caught by slackening the
speed of the boat a little so that the spinner drops about three to
four feet below the surface of the water. With a smaller, No. 19,
hook and a shorter length of line they reckon to catch,
by day only, from dawn to sunset,

Ikan bēchok ... Pseudax sp., probably Pseudo-
dax mcloquacanus.
Ikan kērapu kėlentang ... Serranidae sp.
Ikan kērapu bunga ... Serranidae sp.
Ikan janggut ... unidentified fish comprising at
least three species.

by night only,
Ikan merah mata ... Lutianus sp.
Ikan sēpat ... Lobotus surinamensis.
Ikan batek ... an unidentified fish which I
have not been able to see.

and by day or night.
Ikan kērapu chēchak ... Serranidae sp., which is very
tasty.
Koko puteh\(^4\) ... Stromateus cinereus.
Salman karang ... an unidentified, purplish fish
up to one and a half katis in
weight, which is very good
when fried (? Serranid).
Sa metic or Salman ... Elagatus bipinnulatus, a mac-
tkerel-like fish, weighing up to
two and a half to three katis.

Any of these fish, when sold outside the kampong, fetch twenty-
five to thirty cents a kati, irrespective of their quality.

The alternative technique of line fishing is with a baited hook
dropped down through the water. Usually this method is em-
ployed with a one-man, or occasionally two-men, kolec working

\(^3\)The alternative names for the three species of Caranx are not in common
use on the island, and were only obtained after much enquiry. They are
generally all lumped together under the inclusive title of Ikan puteh.

\(^4\)The word Bawal seems to be unknown.
A Note on the Christmas Island Canoe

along the deeper water, a short distance off the edge of the fringing reef, in Flying Fish Cove itself. It may also be used when a larger boat is waiting out all night for the dawn trolling, one or two men fishing while the others sleep. A calm or gentle sea with a little wind is thought to offer the optimum conditions, and the best bait is a quarter of a small fish. By this means they reckon to catch, working by night only, and using a No. 8, medium-sized, hook and a small weight.

Ikan merah bésar ... *Lutianus* sp., at a depth of about fifteen dèpa.
Ikan merah mata bésar ... *Lutianus* sp., at a depth of five to ten dèpa.
Ikan merah sëngat ... *Lutianus* sp., at a depth of six to seven dèpa.

working by night only, and using a No. 8 or No. 19 hook and no weight,

Sépat ... ... *Lobotes surinamensis*, at a depth of four to ten dèpa.
Koko lëndir ... ... *Stromateus* sp.
Alo alo and Kachang ... ... *Sphyraena* sp.
Laur and Ikan batek ... unidentified fish, both occurring at a depth of five to twenty dèpa.

working by day only, and usually with the smaller hook,

Ikan babi ... ... *Balistes* sp., two species.

and working by day or night, with the medium-sized hook,

Ikan Lim cham ... ... *Lethrinus* sp., probably *L. nebulosus*, which is good eating.

Seriding ... ... ... *Equula edentula*.

and seven species of *Serranidae*.

*Kèrapu chechak* ... Olive green, covered almost entirely with dull red spots: a very greedy fish with a good flavour.

*From a depth of 6 dèpa.*

*Kèrapu bunga* ... Body red, with white streak on the tail. 6 dèpa.

*Kèrapu bintang* ... Red with small blue spots over the back and sides. 15-20 dèpa.

*Kèrapu lonak* ... Red with orange-red spots over back and sides. Good eating, but rather rare. 15-20 dèpa.

*Kèrapu nyunyu* ... Browny-yellow, with a golden yellow belly. 30-40 dèpa.

*Kèrapu merah* ... Red, paler on the belly, with a green-grey speck on each scale. 80-100 dèpa.

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Ikan merah besar ...... Lutianus sp., at a depth of about fifteen dépa.
Ikan merah mata besar ...... Lutianus sp., at a depth of five to ten dépa.
Ikan merah sengat ...... Lutianus sp., at a depth of six to seven dépa.

working by night only, and using a No. 8 or No. 19 hook and no weight,
Sépat ...... Lobotes surinamensis, at a depth of four to ten dépa.
Koko lendir ...... Stromateus sp.
Alo alo and Kachang ...... Sphyraena sp.
Laur and Ikan batek ...... unidentified fish, both occurring at a depth of five to twenty dépa.

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Ikan babi ...... Balistes sp., two species.

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Seriding ...... Equula edentula.

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Kerapu chechak ...... Olive green, covered almost entirely with dull red spots: a very greedy fish with a good flavour.

Kerapu bunga ...... Body red, with a white streak on the tail. 6 dépa.
Kerapu bintang ...... Red with small blue spots over the back and sides. 15-20 dépa.
Kerapu lonak ...... Red with orange-red spots over back and sides. Good eating, but rather rare. 15-20 dépa.
Kerapu nyunyu ...... Brownish-yellow, with a golden yellow belly. 30-40 dépa.
Kerapu merah ...... Red, paler on the belly, with a green-grey speck on each scale. 80-100 dépa.

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Kērapu puteh...Yellowish white, with orange-brown longitudinal stripes. 120 dépa.

Ikan merah sēngat is armed with small spines round the gill and behind the anus, and can inflict a painful wound. Sēpat, Lobotes surinamensis, is attracted by light and a lantern is usually fastened on the side of the boat when fishing for it. Ikan babi, which is a little coarse though much eaten fried, is not easily caught from a kolek and is mostly taken by the Chinese coolies fishing from the cliff-top in the neighbourhood of the end of a sewer. It sells for five cents a small fish, and eight cents a large one.

A trammel, jaring, is occasionally used, set parallel to the shore in Flying Fish Cove. It is generally put down about seven p.m., shortly after sunset, and is said to yield the best results if the moon is then rising over the steep cliff behind the Settlement. The net is some four and a half feet deep and seven hundred and twenty long, dropping to two hundred and forty when in position. The mesh is one and a half inches. The ends of the net are supported by coconuts, with small floats, one and a half to two inches long, of Kayu baharu, Hibiscus iliaceus, Linn., set at fifteen inch intervals along the border between them. This catches principally,

Ikan tērōng...Exocoetus sp., up to ten to twelve inches long.

Ikan todak...Belone sp.

and a few Sēpat and a mixed Ikan karang. The net and lines are protected by rubbing with the crushed inner bark from two trees, both known as Kulit gosok tali, though it is realised that one is richer in tannin than the other. The better tree, which is also much less common, is Trema orientalis, Blume; the inferior one, the Macaranga, Macaranga tannaria, Muell.-Arg., which is abundant along parts of the shore terrace. A net is valued at about $15.

If, during the period of north-westerly and northerly winds in the first four months of the year, there is a prolonged stretch of bad weather in Flying Fish Cove, a few of the boats are carried overland, a distance of about six miles, to a small beach on the east coast which is then sheltered. When the wind swings irregularly this manoeuvre is useless, and some of the Malays then resort to a jala. These are cast from the shore, preferably at low tide, into the broad patch of shallow water lying on the fringing reef. The catch is variable, but the possibilities include Ikan merah mata bēsar (Lutianus sp.), Ikan debam (Siganus john), Ikan bēlanak (Mugil sp.), Ikan kurau kechil and several species described as Ikan janggut or Ikan karang.

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* Ikan bēlanak is never used. These fish are very common off Christmas Island, and form the principal food of the boobies, Sulidae. The largest specimen recovered from one of these birds measured 272 mm.

* These fish may also be taken with a rod and line, the bait being cast into a shallow pool as the waves break over it.

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