

OFFICE DE LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE OUTRE-MER

CENTRE DE NOUMÉA

**PRELIMINARY REPORT ON CORINDON CRUISE
A FRENCH INDONESIAN JOINT VENTURE**

15 October to 12 November 1980

**Jean Launay
Christian Habault
Pierre Lè Loeuff**

December 1980

**CENTRE ORSTOM — B.P. A 5 — NOUMÉA
NOUVELLE-CALÉDONIE**



OFFICE DE LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE OUTRE-MER

Centre de Nouméa

PRELIMINARY REPORT ON CORINDON CRUISE

A FRENCH INDONESIAN JOINT VENTURE

15 October to 12 November 1980

Jean LAUNAY

Christian HABAUT

Pierre LE LOEUFF

December 1980

INTRODUCTION

The cruise CORINDON (which stands for Coriolis and Indonesia) occurs in the general framework of the french indonesian cooperation and more particularly points out the beginning of the oceanological cooperation. Coming after various missions as many Indonesian over to France as French to Indonesia, France suggested that the research vessel Coriolis, on her way back from France to New Caledonia, carried out a joint venture represented by a four weeks oceanographic cruise in the indonesian sea-waters in order to realise some geological and biological works. Makassar strait was chosen as working area for two main reasons : firstly it is a poor^{ly} known area from the biological and sedimentological point of view, secondly it is on the way to Philippines where the ship has to cruise after Indonesia.

Coriolis arrived in Jakarta on October 9th coming from Mahé (Seychelles) and it is on board in Jakarta that the french indonesian oceanological agreement was signed by the Ambassador of France Dimitri de FAVITSKI and the indonesian Minister of Research HABIBIE. Sailing occurred on October 15th from Jakarta, the survey being scheduled to be over on November 12th in Balikpapan (Kalimantan).

N.O. CORIOLIS

The research vessel Coriolis was built in Dieppe by "Ateliers et Chantiers de la Manche" and launched on October 21th 1963. She carried out her first cruise on February 1964 and since this time stayed in the Pacific ocean.

Main features of the ship :

Length over all	:	37,50 m.
Moulded beam	:	8,00 m.
Average draught	:	3,75 m.
Loaded displacement	:	460 tons
Gross register	:	326 tons
Net register	:	80 tons
Cruise speed	:	10 knots
Propulsion autonomy	:	30 days at 10 knots
Fresh water capacity	:	38 m ³
Fuel capacity	:	110 m ³
Laboratories surface	:	55 m ²
Crew on board	:	20 including 8 officers
Scientific team	:	10 scientists

- Main propulsion : two diesel twin engines, 350 cv each conducting a variable pitch propeller.
- Electric power supply : two auxilliary engines 55 KVA and 100 KVA, 350 V 50 HZ one 1500 VA regulator providing 220 V 50 HZ regulated current.
- Means of hoisting : one rotating stern maximum 3 tons for trawling and launching miscellaneous equipments. Derricks on the forward deck - galleons for Hydrology and bathysond winches.

- Winches

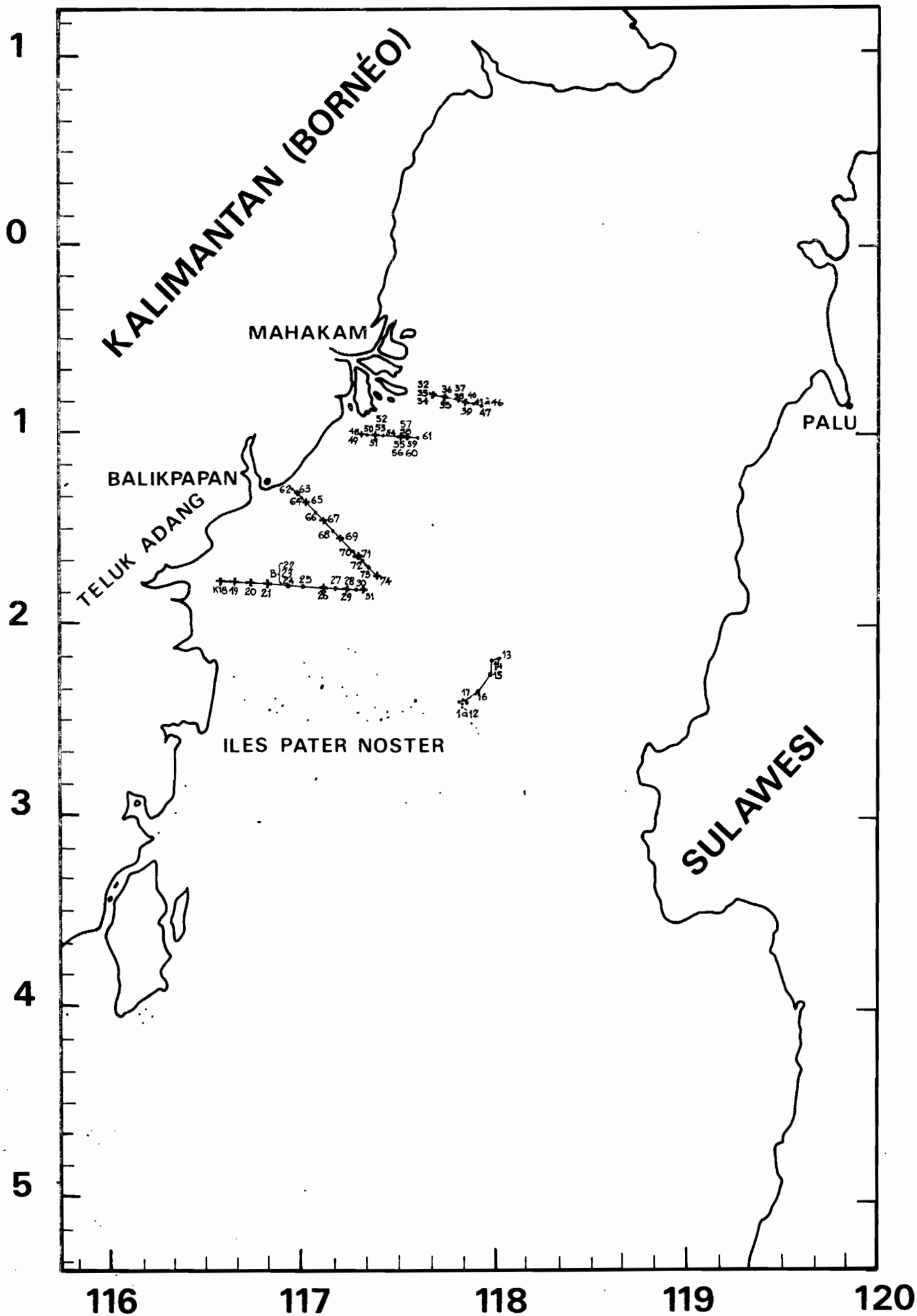
- . one 5 tons hydraulic fishing winch with 2 drums having \emptyset 9,5 - 6000 meters wire rope capacity each or 1 500 meters \emptyset 21
- . one hydraulic winch for plankton
- . one hydraulic winch for plankton and one hydraulic winch for hydrology with one drum having \emptyset 6,35 - 8 000 m wire rope capacity
- . one 500 kg hydraulic winch for hydrology with one drum having \emptyset 4 - 3 000 m wire rope
- . one electric winch for bathythermography
- . one "line hauler" winch for long lines

Radio and navigation

- one radio station with
 - . 1 CRM PNG 16 phonic and graphic receiver - transmitter
 - . 1 phonic BLU CRM 1453 WOO W CLIPPET receiver - transmitter
 - . 1 radio HRO receiver
- 1 radar DECCA RM 1226
- 1 radar RAYTHEON 1555
- 1 radio direction finder
- 1 ANSCHUTZ type IV gyrocompas with auto-pilot
- 1 satellit navigation system with transit ITT 6000
- 1 electromagnetic loch BEN MK6

Stationary scientific equipment

- 1 EDO sounder including
 - . 1 receiver - transmitter EDO - 248 C
 - . 1 recorder EDO 333 CA 1
 - . 1 transmitter EDO 323 12 KHZ
- 1 desktop computer H.P. 9845 B with plotter and flexible disk.



CORINDON 1

- OBJECTIVES OF THE CRUISE

The first leg of Corindon consisted only in geological works. The aim of the cruise was the study of the transitional facies between deltaic and carbonate deposits on the continental shelf of East Kalimantan. These transitional facies are very little known and very few professional papers are available on this topic. East Kalimantan offshore should be a good example to set up a sedimentological model through a detailed study (sedimentology and micropaleontology) of the sea floor between the delta of Mahakam and the Balabalangan islands (ex Pater Noster). The objective is to understand the sedimentary mechanism of mixtures of clays and carbonates which lead after induration to a lithology of marl type.

- SCIENTIFIC TEAM

Jean LAUNAY	Chief scientist	ORSTOM	Noumea
Christian HABAUT	Geologist	ORSTOM	Noumea
Alexandre FEDIAEVSKY	Geologist	C.F.P.	Bordeaux
Michel CASSOUDEBAT	Geologist	C.F.P.	Bordeaux
Jean-Michel VILLAIN	Geologist	C.F.P.	Bordeaux
Fernand SEGURA	Geologist	C.F.P.	Bordeaux
Hotma TOBING	Geologist	B.P.P.T.	Jakarta
H.P. KISMORO	Geologist	LEMIGAS	Jakarta
Peter HEHANUSA	Geologist	LIPI-LGPN	Jakarta
Major SUROSO	Security Officer	HANKAM	Jakarta

- SCIENTIFIC EQUIPMENT (See photographs)

During this leg, we sampled with a corer Kullenberg whose full length was 5,5 meters which allow to recover a 4 meters core, and with an "OKEAN" grab. On board, the core is carefully cut at the right size of the filling, then packed ; the sample of the bottom is examined through the microscope as well as the grabed sample. The surface of sediment is thinly sampled, then the living foraminifera are fixed by the "pink Bengale" stainer.

- SHORT DESCRIPTION OF THE SAMPLES

C O R I N D O N 1

Sample number Profile Pater Noster	Depth	Localisation		Gross Diagnosis of the samples
		Latitude	Longitude	
CO - B - 001	27 m	2°23'30 S	117°49'30 E	Present polyps and sponges
CO - B - 002	30 m	2°24'17 S	117°50'15 E	Encrustments, Rhodophyta, Chlorophyta rare sandy dediment with Miliolidae
CO - B - 003	-	2°23'10 S	117°49'70 E	Empty grab
CO - B - 004	300 m	2°23'50 S	117°49'70 E	Grab did not work
CO - B - 005	-	2°24'45 S	117°49'30 E	Broken wire rope
CO - B - 006	30 m	2°23'19 S	117°50'10 E	Organogenous bioclastic sand with micrite debris, numerous Foraminifera
CO - B - 007	116 m	2°23'40 S	117°49'60 E	Calcareous sand with spikes of sponges
CO - B - 008	40 m	2°23'48 S	117°49'60 E	Bioclastic sand with Foraminifera and algae
CO - B - 009	293 m	2°23'32 S	117°49'87 E	Coarse bioclastic sand with Foraminifera, Bryozoans
CO - B - 010	373 m	2°23'58 S	117°50'17 E	Greenish bioclastic sand with mud Some Echinoderms, Gastropods, Miliolidae, Bryozoans
CO - B - 011	650 m	2°23'40 S	117°51'55 E	Greenish sandy clay - Foraminifera with glauconite filling : globigerina, orbulina
CO - B - 012	800 m	2°22'30 S	117°49'70 E	Sandy clay green coloured with planktonic bioclasts gastropods, Radiolaria, glauconite and pyritized woody debris
CO - B - 013	1980 m	2°10'02 S	118°02'10 E	Grab not closed

C0 - B - 014	1980 m	2°11'40 S	118°01'25 E	Grab not closed.
C0 - B - 015	1700 m	2°15'08 S	117°57'95 E	Green clay with planktonic foraminifera with big fibers.
C0 - B - 016	1150 m	2°19'03 S	117°54'40 E	Glaucinitic sandy clay with planktonic foraminifera.
C0 - K - 017	270 m	2°23' S	117°50'98 E	Bioclastic sand with pseudo-pebbles of green clay. Encrusting algae, spikes of sea-urchin, bryozoans, gastropods.

Profile Teluk Adang

C0 - K - 018	11 m	01°46'60 S	116°34'80 E	Green silty clay with micas and pieces of plants always pyritized.
C0 - K - 019	25 m	01°46' S	116°37'95 E	Slightly sandy dark greenish clay. Foraminifera glauconite, Bryozoans and small gastropods
C0 - B - 020	31 m	01°48'60 S	116°43'66 E	Sandy greenish mud (quartz, silt, glauconite) with big shelly debris and encrusting polyps
C0 - K - 021	36 m	01°48'47 S	116°50'10 E	Grey-green mud with a bit of sand. Glauconite, foraminifera and small bioclasts.
C0 - B - 022	43 m	01°48'40 S	116°57'02 E	Grab non closed.
C0 - B - 023	43 m	01°48'40 S	116°57'02 E	Grab non closed.
C0 - B - 024	43 m	01°48'40 S	116°57'02 E	Clayey shelly sand - glauconite and foraminifera. Debris of bivalves, Bryozoans and gorgonidae.

CO - B - 025	43 m	01°48'12 S	117°02'65 E	Greenish clayey shelly sand with glauconite Foraminifera, Bryozoans, Echinoderms.
CO - K - 026	53 m	01°47'89 S	117°07'84 E	Silty many colored clay with Foraminifera and bioclasts.
CO - B - 027	65 m	01°47'95 S	117°11'55 E	Clayey sand with bioclasts and Foraminifera Numerous spikes of sponges, Bivalves, Pteropods, Gastropods, ferruginous debris.
CO - B - 028	66 m	01°47'97 S	117°14'27 E	Bioclastic sand with numerous Foraminifera and micritized bioclasts. Some fragments of Bivalves, Echinoderma and large encrustments of Rhodophyta, Coelenterae, Annelids.
CO - K - 029	122 m	01°47'87 S	117°16'35 E	Silty sandy clay : glauconite and small bioclasts of planktonic Foraminifera.
CO - B - 030	136 m	01°47'94 S	117°17'90 E	Grey brownish clayey sand. Ferruginous quartz and small bioclasts - Some fragments of lignite.
CO - K - 031	225 m	01°47'91 S	117°19' E	Silty chlorite clay with Miliolidae - Spikes of sponges - Woody and pyritized fragments.

Profile Mahakam

CO - K - 032	13 m	00°47'45 S	117°39'83 E	Silty dark greyish clay with chlorite and woody fragments.
CO - K - 033	26 m	00°47'50 S	117°40'10 E	Blackish clay rich in coal dust - Some pellets.
CO - K - 034	50 m	00°47'90 S	117°40'83 E	Greenish plastic clay with woody fibers. Rare pteropods.

C0 - K - 35	69 m	00°48'62 S	117°45'46 E	Grey greenish slightly silty clay with small bioclasts and Foraminifera. Ferruginous fragments.
C0 - K - 36	73 m	00°48'80 S	117°45'64 E	Green clay with gastropods, planktonic and benthic foraminifera, pteropods, spikes of sponges.
C0 - K - 37	68 m	00°48'80 S	117°48'34 E	Greenish silty clay with planktonic and benthic foraminifera, annelids, gastropods, polyps and some lumachella.
C0 - K - 38	67 m	00°49' S	117°48'90 E	Greenish clay with big encrustments of Rhodophyta, Annelids, Halimeda, planktonic and benthic foraminifera.
C0 - K - 39	81 m	00°49'60 S	117°52'20 E	Sand with micritized bioclasts, gastropods, foraminifera, Halimeda, Bryozoans.
C0 - B - 40	78 m	00°49'60 S	117°57'10 E	Bioclastic sand with Rhodophyta, foraminifera, Bryozoans, crustacea and spikes of sponges.
C0 - B - 41	123 m	00°49'75 S	117°53'45 E	Grab not closed.
C0 - B - 42	178 m	00°49'67 S	117°53'59 E	Beige darkish calcarenite, Bryozoans, Rhodophyta, gastropods, Annelids, Polyps, pteropods.
C0 - B - 43	125 m	00°49'54 S	117°53'68 E	One piece of siliceous sponge.
C0 - B - 44	123 m	00°49'33 S	117°53'59 E	Bioclastic sand rich in foraminifera (planktonic and benthic). Bryozoans.
C0 - K - 45	211 m	00°49'30 S	117°54'45 E	Indurated bioclastic limestone - empty core - bottom should be like a beach rock.
C0 - B - 46	217 m	00°51'14 S	117°53'13 E	Empty grab.

CO - B - 47	406 m	00°50'64 S	117°55'97 E	Greenish clayey sand, glauconite, foraminifera. Numerous ferruginous bioclasts.
-------------	-------	------------	-------------	---

Profile Sud-Mahakam

CO - K - 48	9 m	00°59'32 S	117°19'70 E	Blackish silty clay, a bit of mica, some ligneous debris, and some foraminifera.
CO - K - 49	25 m	00°59'10 S	117°19'62 E	Blackish silty clay with micas, chlorites, rich in pellets and coaly debris.
CO - B - 50	44 m	01°03'69 S	117°20'02 E	Light grey clay. Pteropods and pellets.
CO - K - 51	50 m	01°08'42 S	117°22'67 E	Greenish clay - traces of mica and coal - Pellets, foraminifera, pteropods, pyrite.
CO - K - 51 bis	50 m	01°08'49 S	117°22'67 E	Same sample.
CO - B - 52	56 m	01°11'10 S	117°23' E	Grab not closed.
CO - B - 53	56 m	01°11'10 S	117°23' E	Greenish clay with small foraminifera, tests of Lamellibranch. Numerous pellets and clayey ferruginous nodules.
CO - B - 54	59 m	01°14'35 S	117°25'05 E	Greenish slightly silty clay with small debris of Lamellibranch.
CO - K - 55	78 m	01°21'69 S	117°32'32 E	Chloritic and micaceous clayey sand - Pyritized ligneous fragments - Lamellibranch, pteropods and globigerina.
CO - K - 56	115 m	01°21'91 S	117°32'36 E	Grey silty clay with numerous pyritized debris. Chlorite.
CO - B - 57	117 m	01°21'33 S	117°32'36 E	Grab not closed.

CO - B - 58	117 m	01°21'33 S	117°32'96 E	Greenish grey chloritic clay with dusts of coal and ligneous more or less pyritized fibers - Numerous debris of gasteropods.
CO - K - 59	197 m	01°21'86 S	117°33'49 E	Greenish grey clay rich in ligneous debris - Micas and numerous planktonic and benthic foraminifera - Lamellibranch - chlorite, glauconite.
CO - K - 60	228 m	01°21'86 S	117°33'41 E	Grey clay with ferruginous nodules - Foraminifera, chlorite, glauconite, woody fibers - Abundant small gastropods.
CO - B - 61	400 m	01°26'39 S	117°36'61 E	Greenish clay with pellets - bioclasts - Foraminifera, pteropods, chlorite, silts.

Profile Balikpapan

CO - B - 62	9 m	01°17'18 S	116°57'30 E	Chloritic silty grey greenish clay rich in ligneous debris, benthic foraminifera - Gastropods and Echinides.
CO - K - 63	26 m	01°19'40 S	116°58'80 E	Grey clay rich in woody debris. Some ferruginous concretions, small bioclasts and foraminifera.
CO - B - 64	45 m	01°20'96 S	117°01'25 E	Greenish grey clay with small bioclasts - clayey pellets.
CO - K - 65	49 m	01°22'05 S	117°02'61 E	Brown clay rich in bioclast, ligneous debris more or less pyritized. Abundant foraminifera - Pteropods and Lamellibranch.
CO - B - 66	60 m	01°25'17 S	117°05'44 E	Chloritic silty greenish clay rich in pellets
CO - K - 67	66 m	01°27'20 S	117°07'37 E	Brownish grey clay with coarse debris of plants. Planktonic and benthic foraminifera - Fragments of incrustated polyps with glauconite.

CO - K - 68	70 m	01°29'95 S	117°10'01 E	Green brownish clay with numerous clayey pellets - Silts, glauconite and chlorite - Bioclasts of planktonic and benthic foraminifera. Gastropods - Polyps.
CO - K - 69	70 m	01°31'52 S	117°12'41 E	Greenish sandy clay, with glauconite and numerous debris of bivalves, gastropods, foraminifera
CO - B - 70	76 m	01°34'30 S	117°14'44 E	Clayey sand with glauconite, pellets, micas and planktonic and benthic foraminifera.
CO - K - 71	78 m	01°36'91 S	117°17'13 E	Green brownish clayey sand with chlorite, glauconitic pellets and pyritized traces. Bioclasts : Foraminifera, gastropods, lamel-libranch, pteropods.
CO - B - 72	93 m	01°39'83 S	117°18' E	Brownish silty clayey sand - various bioclasts often ferruginous - Large pieces of rocks encrusted with polyps, annelids, bryozoans, foraminifera.
CO - B - 73	198 m	01°41'37 S	117°20'55 E	Green brownish bioclastic sand - Abundant silts, planktonic and benthic foraminifera.
CO - K - 74	402 m	01°44'15 S	117°23'46 E	Green brownish silty clay with glauconite and pellets - Foraminifera, woody fibers, pyrites.

CO - B : CORINDON BENNE (GRAB)

CO - K : CORINDON KULLENBERG (CORER)

CORINDON 2

OBJECTIVES OF THE CRUISE

The second leg of CORINDON aimed at a zoological prospecting of Makassar strait at any depth to take stock of fauna and get its distribution according to the bathymetry and the sort and composition of sediments. Thus, the sedimentological samples were to support the ecological environment of the fauna.

SCIENTIFIC TEAM

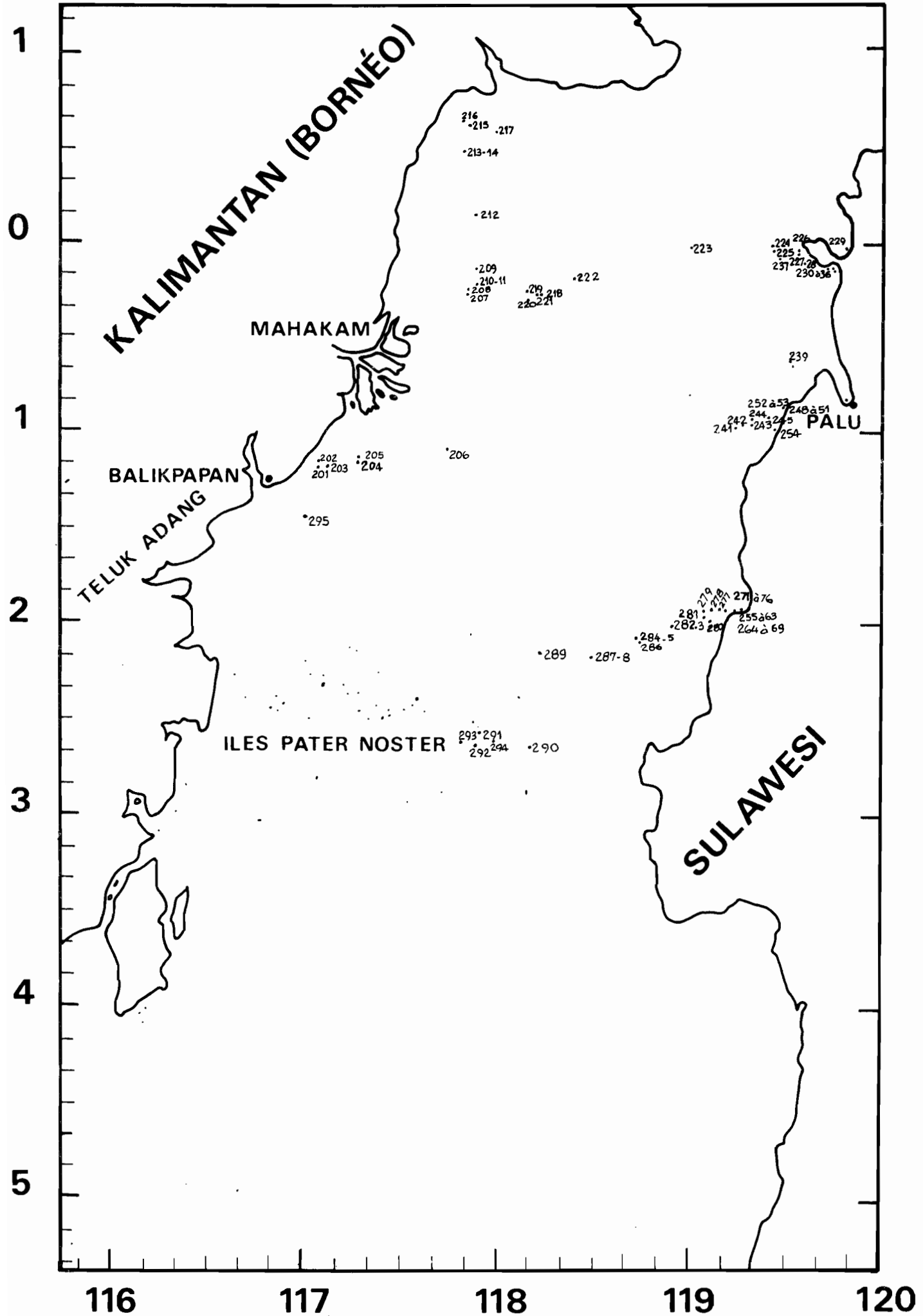
Jean LAUNAY	Chief scientist	ORSTOM	Noumea
Christian HABAUULT	Geologist	ORSTOM	Noumea
Pierre LE LOEUFF	Biologist	ORSTOM	
Jacques FOREST	Biologist	MUSEUM	Paris
Alain GUILLE	Biologist	MUSEUM	Paris
SUKARNO	Biologist	LON-LIPI	Jakarta
BURHANUDDIN	Biologist	LON-LIPI	Jakarta
SUWARDI	Geologist	LON-LIPI	Jakarta
Joko INDRAMOMO	Geologist	LIPI-LGPN	Jakarta
Major SUROSO	Security Officer	HANKAM	

SCIENTIFIC EQUIPMENT (see photographs)

All along this second part of the cruise, we picked up the biological sample with a beam trawling, a biological dredge, a planktonic trawl. The temperature of the bottom sea water was measured with a reversing thermometer fastened to a reversing bottle. Because of the incompatibility of trawling and coring on board, we did not realise any core during this second leg ; however the "OKEAN" grab was used very often which gave a good sampling available both for geologists and biologists. In the following tables, we show synoptical view of each station with their depth, localisation and a description of sediments. As it was not possible to describe the biological samples in the tables, we summarize after them the main features of the fauna.

SHORT DESCRIPTION OF THE SAMPLES

CORINDON 2



- CORINDON 2 -

Localisation

Sample number	Depth	Latitude	Longitude	Gross diagnosis of the sedimentological sample
CO - CH - 201	21 m	1°11'38 S 1°10'23 S	117°05'89 E 117°06'07 E	S. = successfull
CO - B - 202	21m	1°10'10 S	117°06'40 E	Greenish yellow sandy mud - Bioclasts : spikes of spongiae, bivalves, gastropods.
CO - CH - 203	25 m	1°09'23 S 1°08'57 S	117°07'60 E 117°07'51 E	S.
CO - CH - 204	49 m	1°08'90 S	117°18' E	Greenish mud. Thin and not very abundant bioclasts.
CO - CH - 205	49 M	1°08'70 S 1°07'80 S	117°18'10 E 117°18'70 E	S.
CO - CH - 206	85 m	1°05'78 S 1°05'01 S	117°45'36 E 117°45'23 E	Damaged trawl.
CO - B - 207	150 m	0°14'91 S	117°51'72 E	Yellowish sandy mud with greenish trails, small bioclasts and woody debris.
CO - CH - 208	150 m	0°14'42 S 0°14'60 S	117°51'71 E 117°52'02 E	S.
CO - CH - 209	490 m	0°07'23 S 0°07'31 S	117°53'60 E 117°63'78 E	S.

CO - B - 210	338 m	0°12'57 S	117°53'51 E	Yellowish muday sand with pellets and bioclasts, woody debris and ferruginous encrustments.
CO - CH - 211	313 m	0°12'76 S	117°53'66 E	Damages trawl.
CO - CH - 212	820-710 m	0°09'55 N 0°10'37 N	117°54'37 E 117°54'50 E	Empty trawl net.
CO - B - 213	488 m	0°30'69 N	117°50'19 E	Greenish yellow mud - woody debris - thin and not very abundant bioclasts.
CO - CH - 214	595 m	0°31'39 N 0°31'44 N	117°50'09 E 117°50'06 E	
CO - CH - 215	93 m	0°39'50 N	117°52'33 E	Traw net out of use.
CO - DR - 216	96 m	0°40'10 N	117°51'40 E	S.
CO - CH - 217	470 m	0°38'10 N 0°38'18 N	117°59'62 E 117°59'64 E	Damaged net.
CO - B - 218	2500 m	0°15'27 S	118°16'23 E	Empty grab.
CO - B - 219	2300 m	0°14'85 S	118°14'96 E	Yellowish brown mud stone. Abundant thin woody debris. Some small ferruginous nodules, small bioclasts.
CO - CH - 220	2350 m	0°13'79 S 0°13'58 S	118°12'73 E 118°12'31 E	S.
CO - H - 221	2350 m	0°10'60 S	118°15'32 E	Unsuccessfull
CO - CH - 222	2350 m	0°10'60 S 0°10'70 S	118°24'50 E 118°24'50 E	The net did not work

CO - B - 223	2400 m	0°00'73 S	119°01'77 E	Greenish brown mud with thin ligneous debris many phyllite minerals.
CO - B - 224	1480 m	0°00'29 S	119°27'06 E	Grab not closed
CO - B - 225	1620 m	0°00'76 S	119°26'92 E	Grab closed but empty
CO - DR - 226	476 m 430 m	0°00'40 S 0°00'50 S	119°34'30 E 119°34'70 E	Empty dredge
CO - DR - 227	317 m	0°01'50 S	119°34'30 E	Tearred net
CO - DR - 228	300 m	0°01'50 S	119°40'00 E	S.
CO - DR - 229	445-411 m	0°02'25 S	119°49'80 E	S.
CO - DR - 230	1580-1400 m	0°06'70 S	119°47'00 E	
CO - CH - 231	1080 m	0°04'91 S	119°47'80 E	S.
CO - H - 232	880 m	0°04'10 S	119°48'80 E	S.
CO - H - 233	860 m	0°04'04 S	119°48'90 E	S.
CO - B - 234	1100 m	0°04'66 S	119°48'37 E	Grab not closed
CO - B - 235	1110 m	0°04'66 S	119°48'37 E	Greenish muddy silty sand, ligneous debris, micas and chlorites. Bioclasts : foraminifera, annelids, bivalves, gastropods, pellets
CO - B - 236	1730 m	0°06'70 S	119°45'50 E	Greenish sandy mud, silts, glauconite. Bioclasts ligneous fibers, spongiae, Annelids, Radiolarians

CO - P - 237	Surface	0°06'90 S	119°47'20 E	S.
CO - B - 238	20 m	0°51'80 S	119°50'90 E	Yellowish mud with greenish trails rich in phyllosilicates, organic matter.
CO - B - 239	690 m	0°36'99 S	119°31'42 E	Greenish yellow mud ; very few foraminifera glauconite, melanocratic micas ; pellets and coaly debris.
CO - CH - 240	675 m	0°37'34 E 0°37'62 S	119°33'16 E 119°33'53 E	S.
CO - CH - 241	1550-1525 m	0°58'00 S 0°57'71 S	119°14'71 E 119°15'29 E	S.
CO - H - 242	1525 m	0°57'33 S	119°18'55 E	Unsuccessfull
CO - H - 243	940 m	0°56'56 S	119°21'83 E	Grab not closed.
CO - B - 244	970 m	0°56'46 S	119°21'87 E	Greenish slightly silty mud - not many foraminifera, pellets, plants debris, phyllite minerals.
CO - H - 245	560 m	0°55'39 S	119°26'00 E	Bottle not reversed
CO - H - 246	560 m	0°55'16 S	119°26'23 E	S.
CO - B - 247	520 m	0°54'90 S	119°26'45 E	Greenish mud with biotite and over all chlorite some glauconite.
CO - B - 248	170 m	0°54'20 S	119°28'70 E	Greenish muddy sand with pellets and glauconite. Bioclasts : spongiae, radiolarians, annelids, bryozoans, bivalves, gastropods.
CO - B - 249	120 m	0°53'90 S	119°29'00 E	Empty grab.
CO - B - 250	65 m	0°53'80 S	119°29'60 E	Empty grab.

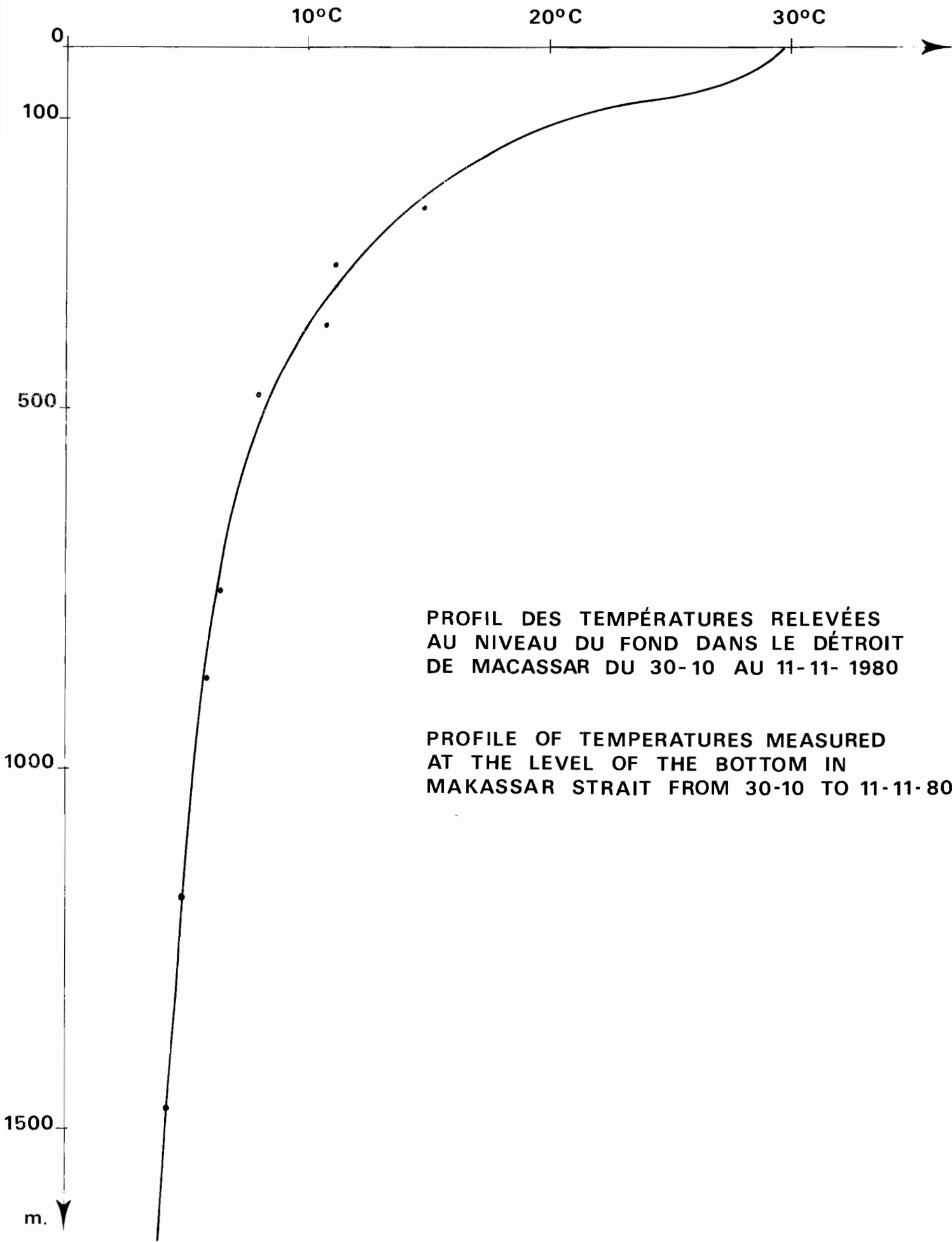
CO - B - 251	65 m	0°53'70 S	119°29'60 E	Greenish silty mud. Biotite - Abundant foraminifera, pteropods, spongiae, bryozoans and thin plant debris.
CO - B - 252	35 m	0°53'70 S	119°31'00 E	Greenish silty mud rich in biotite, chlorite and glauconite. Bioclasts : broken foraminifera and small shelly debris.
CO - B - 253	17 m	0°53'60 S	119°30'00 E	Darkish mud rich in micas, glauconite and quartz. Big foraminifera.
CO - DR - 254	62 m	0°57'98 S	119°29'08 E	S.
CO - B - 255	13 m			Greenish sand rich in detrital elements : biotite chlorite, glauconite, serpentine. Big foraminifera and small various bioclasts.
CO - B - 256	24 m	1°56'50 S	119°17'20 E	Same sediment than the previous one, but granulometry seems smaller.
CO - H - 257	25 m	1°56'62 S	119°17'47 E	S.
CO - DR - 258	30 m	1°56'80 S	119°17'30 E	S.
CO - CH - 259	64 m	01°56'50 S	119°17'20 E	S.
CO - CH - 260	50 m	01°56'90 S	119°17'60 E	S.
CO - B - 261	60 m	01°56'77 S	119°16'83 E	Same type of sediment than 255 and 256 but granulometry is nearing to mud.
CO - H - 262	60 m	01°56'77 S	119°16'83 E	S.
CO - B - 263	80 m	01°56'81 S	119°16'75 E	Greenish almost azoic mud except a few foraminifera and some debris of spongiae. Many melanocratic elements resulting from weathering.

CO - H - 264	125 m	01°56'43 S	119°16'39 E	S.
CO - B - 265	105 m	01°56'64 S	119°15'92 E	Grab not closed.
CO - B - 266	95 m	01°56'62 S	119°15'84 E	Same sediment than 263.
CO - CH - 267	186-134 m	01°56'46 S 01°56'64 S	119°16'64 E 119°16'70 E	S.
CO - B - 268	200 m	01°56'62 S	119°16'43 E	Greenish silty mud rich in melanocratic phyllitic detrital minerals. Thin bioclasts, a few plant debris. Rare foraminifera.
CO - H - 269	224 m	01°56'86 S	119°15'80 E	S.
CO - H - 270	309 m	01°56'17 S	119°13'98 E	S.
CO - CH - 271	215 m	01°56'60 S 01°57'80 S	119°14'30 E 119°15'00 E	S.
CO - CH - 272	387 m	01°57'30 S	119°13'50 E	S.
CO - CH - 273	220 m	01°57'00 S	119°15'00 E	S.
CO - H - 274	480 m	01°54'12 S	119°13'81 E	S.
CO - B - 275	530 m	01°53'94 S	119°13'70 E	Mud with micas, glauconite and pellets. Some bioclasts.
CO - CH - 276	450-395 m	01°55' S 01°54'60 S	119°13'30 E 119°13'80 E	S.
CO - H - 277	750 m	01°55'00 S	119°11'64 E	S.
CO - B - 278	980 m	01°55'03 S	119°10'31 E	Greenish mud with pellets, micas and thin coaly debris. Important micritization.
CO - H - 279	980 m	01°54'05 S	119°08'91 E	S.
CO - CH - 280	800-715 m	01°58'54 S 01°59'00 S	119°09'72 E 119°09'89 E	S.

CO - CH - 281	1120-1150 m	01°57'00 S 01°57'50 S	119°06'50 E 118°56'96 E	S.
CO - B - 282	1500 m	01°59'57 S	118°56'96 E	Yellowish slightly silty mud almost azoic. A bit of glauconite, thin plant debris.
CO - H - 283	1464 m	01°59'57 S	118°56'96 E	S.
CO - 284	Surface	02°03'00 S	118°45'00 E	Biological samplings on a floating tree trunk
CO - P - 285	Surface	02°03'00 S	118°45'00 E	S.
CO - CH - 286	1710-1730 m	02°03'14 S 02°04'37 S	118°44'85 E 118°46'92 E	S.
CO - B - 287	1980 m	02°09'94 S	118°30'25 E	Grab not closed.
CO - B - 288	1980 m	02°09'94 S	118°30'25 E	Brownish slightly silty mud, glauconite and micas.
CO - B - 289	2200 m	02°08'50 S	118°15'00 E	Greenish mud with brownish trails coming from ferruginous concretion - Melanocratic phyllite mineral, thin plant debris - Abundant micrite.
CO - CH - 290	798 m	02°37'56 S	118°10'90 E	S.
CO - 291	-			Sampling on shore at low tide
CO - DR - 292	46 m	02°37'25 S	117°52'99 E	S.
CO - DR - 293	45 m	02°37'74 S	117°49'41 E	S.
CO - CH - 294	57-46 m	02°38'17 S 02°38'32 S	117°50'20 E 117°50'44 E	S.
CO - CH - 295	54-51 m	01°26'77 S 01°26'47 S	117°02'15 E 117°02'15 E	S.

CO = CORINDON
B = Benne = grab
H = Hydrology (temperature)

P = Plankton
DR = Biological dredge
CH = Chalut (beam trawling)



ZOOLOGY

Spongiae : They are well represented and can be dominant on some coastal and bathyal sea-floors. Moreover, they shelter a lot of small sized interesting fauna : Amphipods, Brachyurs, Porcellanids, Annelids, Ophiurids.

Cnidaria : This group exists very often in the collectings : Actinaria from the continental slope, Hydrarians, Zoantharia, Madreporaria in lonely life or in colonies, Gorgonians, Alcyonnarians, Pennatulacea, Antiparians.

Worms : Mainly represented by Annelids Polychetes and Sipunculida, the former being the most important. Worms are not very abundant in the trawlings, but they constitute the prominent faunistical element in the grab sampling all over the bathymetry. At numerous coastal casts, we met the existence of a corneous tube Polychaet belonging to the genus Hyalinoeria.

Mollusks. They are never prominent but constantly found. However we observe the transition from a coastal fauna where appeared Olives, Cypraea, Cones, Margin shells, Nassae, Murex, Pagurides to a bathyal fauna with Turridae, big Limidae, Tellinidae, then deeper Nuculidae, Ledidae, Calliostomidae and at last to an abyssal fauna poor in species where only Nuculidae and Turridae can be found.

Crustacea. It is the best represented group with that of Echinoderms. Collectings are very rich and could reach 2 or 300 species and may be more. A few stomatopods are on the shelf and the continental slope. Brachyurs are very numerous, more particularly on the continental shelf (Raninidae, Leucosidae, Portunidae, Goneplacidae, Xanthidae, Oxyrhyncha). Their importance decreases little by little, but they remain present down to the most important depths. The shrimps (peneides and carides) were observed all over the bottoms. Near the shoreline, the genera Peneus, Metapenaeus and the small carides (Alpheidae) are predominant ; on the continental slope we see among the Peneides : Parapeneus, Solenacera, Aristeus ; among the Carides : Oplophoridae, Nemoto cardinidae, Pasiphaeidae, Pandalidae and Crangonidae. Several species of Galatheids and Polycheles were collected on the continental slope and characterize it. Pagurides are found all over the strait. The deep genera (Parapagurus) following the coastal genera (Dardanus, Pagaristes and Pagurus). A noticeable feature is the frequent presence of Tylocheles spp between 150 and 800 meters. These Pagurides, reported as rare, live in tubes dug into the wooden debris. Several species of Scyllaridae have

been found between 100 and 200 meters. The most spectacular crustacea is a *Macrura*, bright red coloured, belonging to the family *Phoberidae* and we have to report the discovery of two species probably belonging to genus *Enoplometus*. At last, Echinoderms were always very abundant in all the samplings : Crinoids, Holothurians, Urchins, Asteries and Ophiurs.

Fishes : Very numerous species have been caught, coastal and deep sea fishes, all of them being demersal fishes.

- SEDIMENTATION

In front of Pater Noster islands (Balabalagan) sedimentation is typically that of the reef complexes : shelly sands with encrustments of algae, very numerous bioclasts of foraminifera, mollusks, echinoderms, spikes of spongiae, Radiolarians, Bryozoans. As far as we get away coral islands, the sandy unit decreases in favor of silts and clays. The sediments get green coloured because of the existence of glauconite.

Everywhere else on the continental shelf, sedimentation is mainly clayey, black coloured near the shorelines, then lighter farther on ; it gets slightly sandy far on the continental shelf. It is around MAHAKAI and mostly along the west coast of SULAWESI that the phyllite such as chlorite, micas show a noticeable part. Glauconite is found everywhere as the ligneous fibers are in most of the samples. In some places, we notice a beginning of pyritization. Mud and clay characterize the deeps without any sand and benthonic foraminifera. At last, from the morphological point of view the continental shelf is well developed in the west of Makassar strait (its width can reach 160 km at the level of the third parallel), whereas in the east part it is very narrow.

CONCLUSION

This first oceanological cruise "CORINDON" was really successful from all points of view : coring, grabbing, trawling and dredging were working very well ; and all over the survey friendly relations were maintained between the French and Indonesian scientists.

This document has to be considered as a draft report and preliminary results could include some errors. These will be corrected later on when the analytical determinations have been carried out in CFP laboratory, National Museum and ORSTOM Noumea.

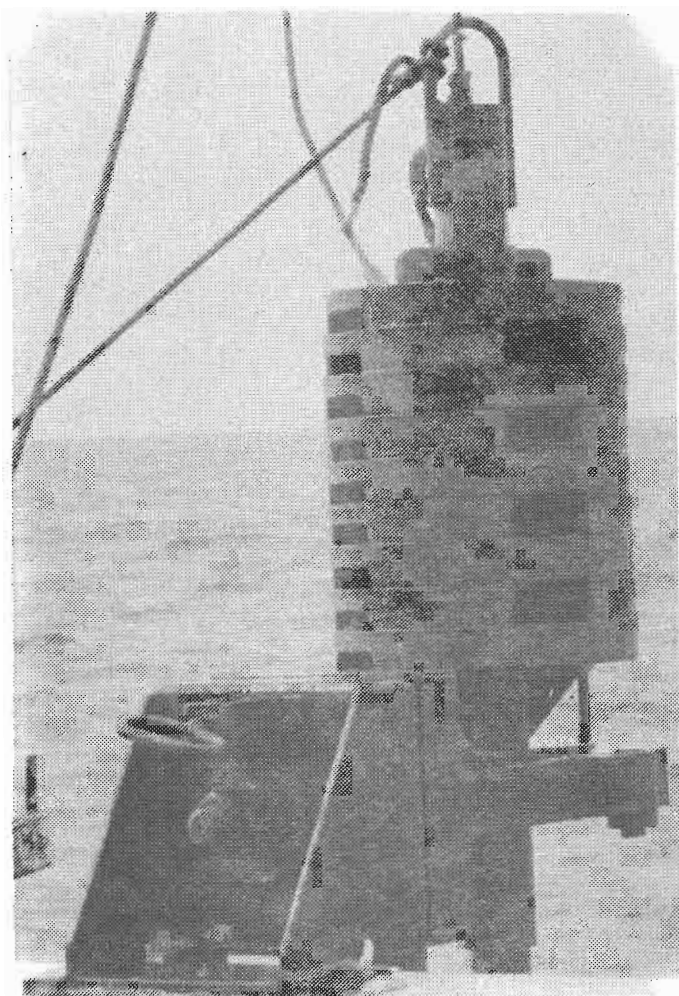
- PHOTOGRAPH CAPTIONS -

1 - 2 - 3 - 4 - Kullenberg corer in various positions - On the photo n° 2, we can see that the top of the corer is covered up with mud as the device penetrated into the sea bottom. The photo n° 4 shows the extraction of the core from the inside of the tube -

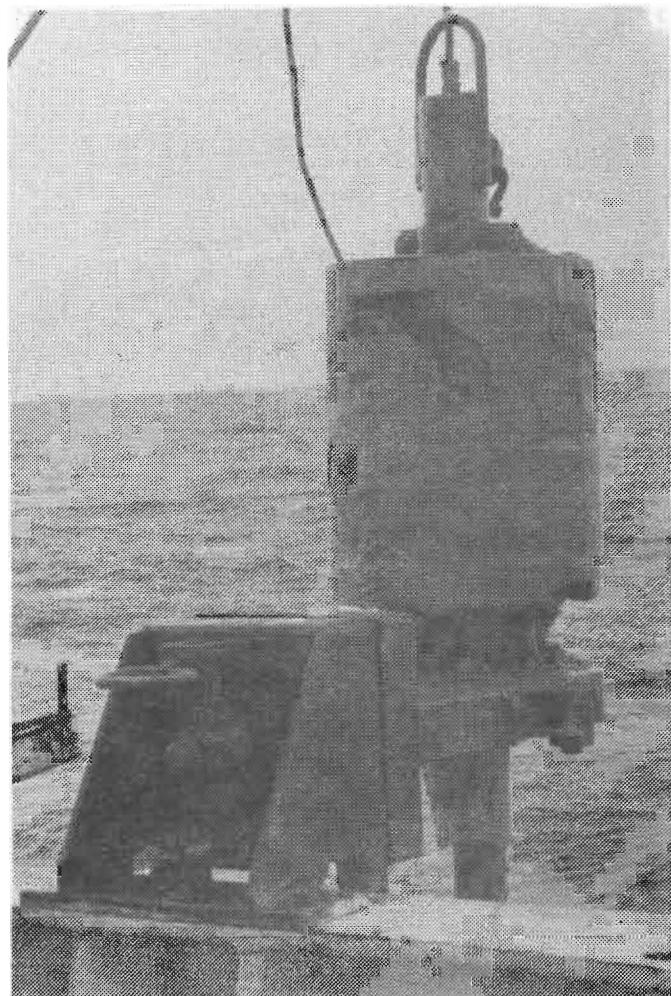
5 - Beam trawling.

6 - 7 Grab in open position (6) and closed (7)

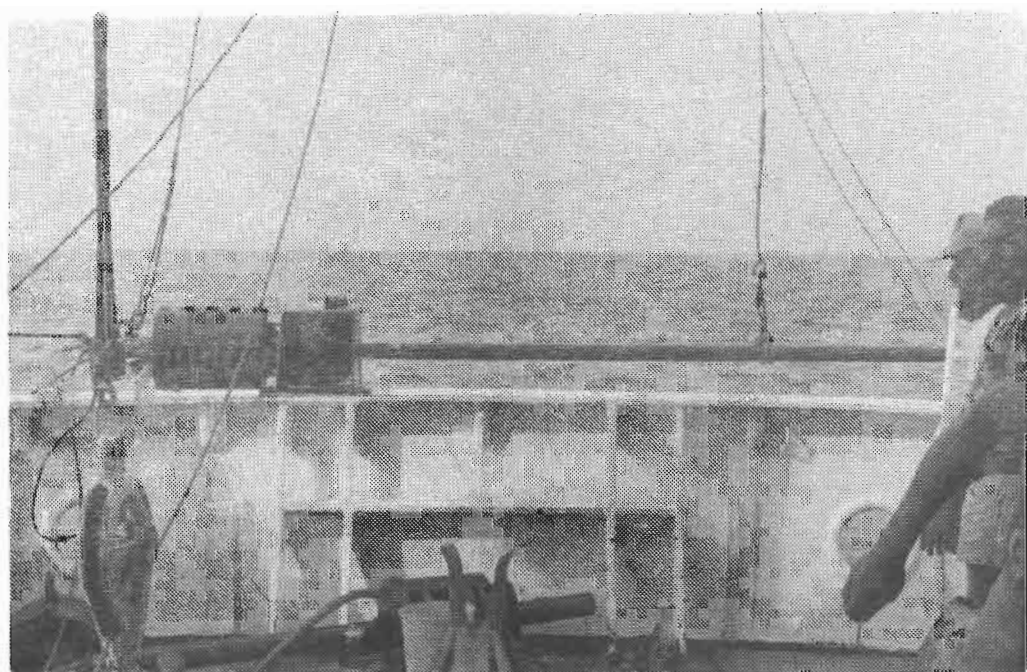
All the photographs are by J. LAUNAY.



1



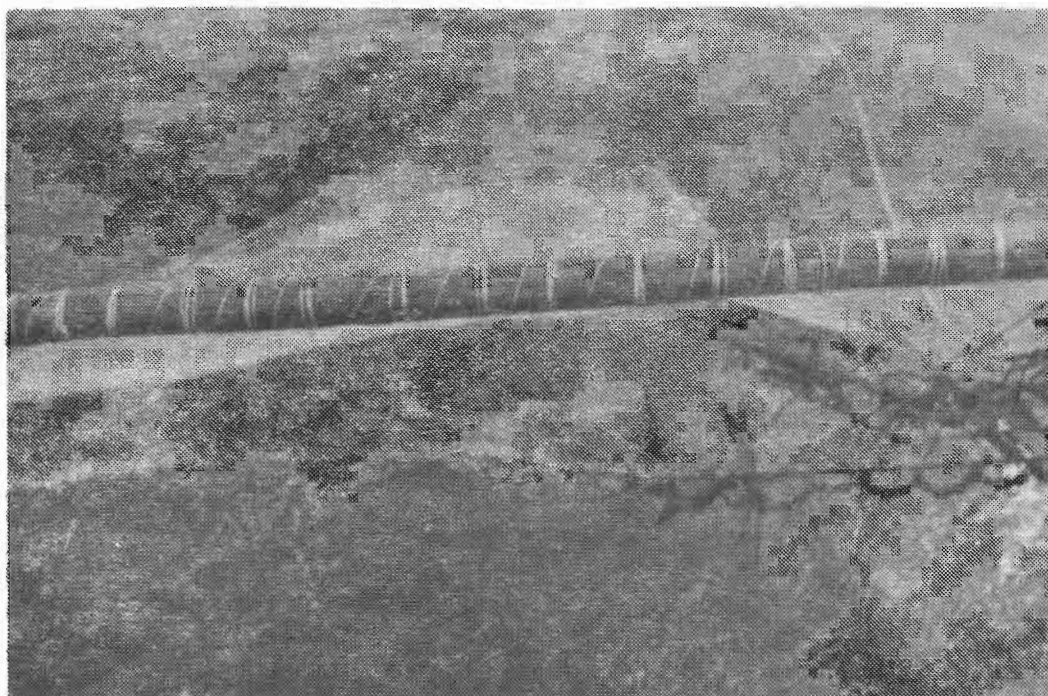
2



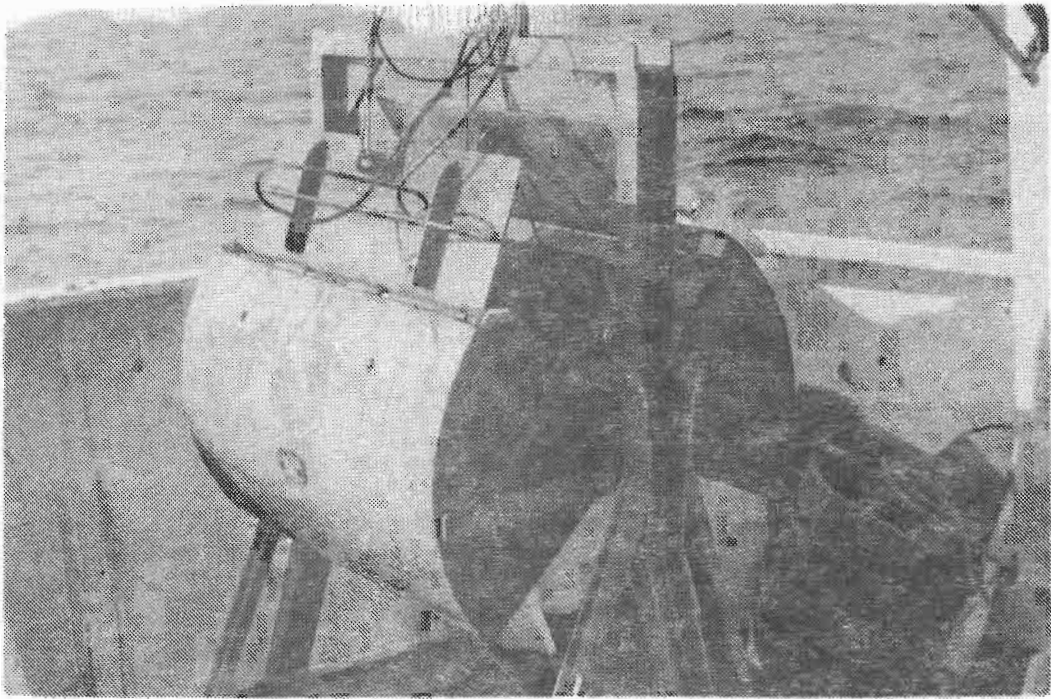
3



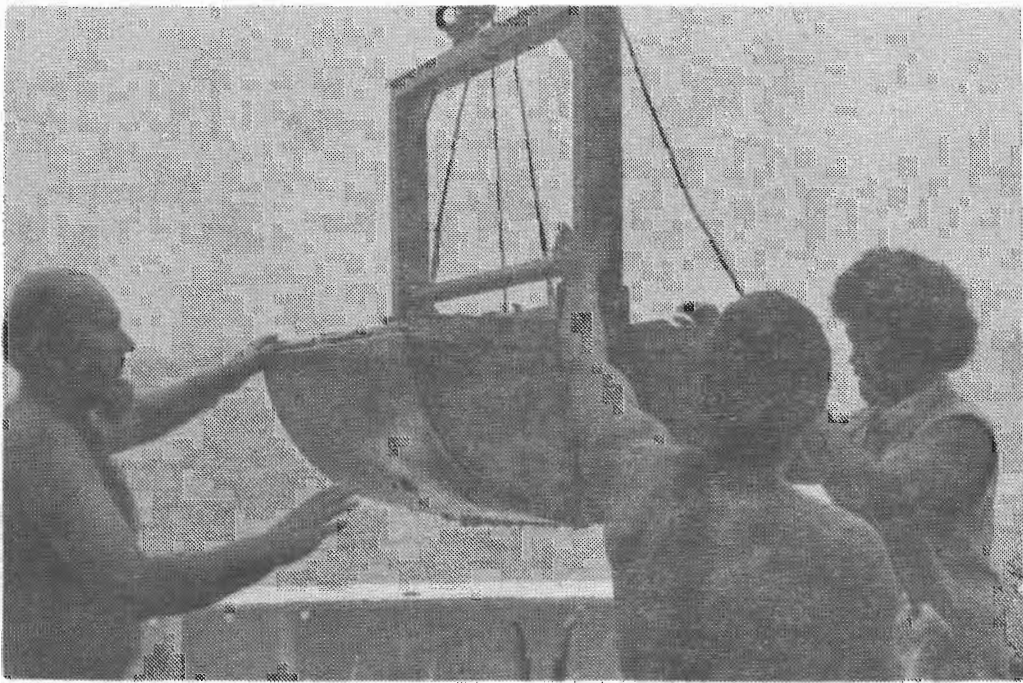
4



5



6



7