

MONTHLY SERVICE BULLETIN



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October, 1961

STAFF NOTES

The Minister for Fisheries, Mr Hutchinson, will leave with the Director, Mr A.J. Fraser, for Cronulla on October 6 to attend the inaugural training school for fisheries field officers, which will commence on October 9. The Director will give lectures on fisheries regulation and fisheries administration. On his return, Mr Fraser will participate in a tourist bureaux conference at Pemberton at which the role of sport fishing in the tourist industry and the need for the provision of more wildlife sanctuaries will be discussed. On October 20, the Minister and the Director will go to Dongara and Geraldton to hear representations to be made by fishermen regarding the future management of the crayfish fisheries in those areas.

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Our best wishes are extended to Mr D. Wright, Mate of the research vessel "Peron", and his future bride, Miss Lynette Oldfield, of Bedford Park. The young couple will be married in St. Patrick's Church of England, Mt. Lawley, on October 5.

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At an informal function at Head Office on September 29, the Director presented to Cadet Inspector and Mrs R.G. Emery, a token of appreciation from all the staff to mark the occasion of their recent marriage.

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Three officers have been on sick leave during the month. They were Inspector J. Traynor, Mr D. Kennedy,

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Engineer p.v. "Peron", and Relieving Inspector G.C. Jeffery. Immediately after completing his sick leave Mr Traynor commenced annual leave on September 12. When his leave expires early this month, Inspector Traynor will relieve at Albany during Inspector Carmichael's absence in the Eastern States. Mr D. Kennedy developed a skin ailment when the "Peron" was in northern waters and has been flown south for treatment. Mr Jeffery was admitted to the Repatriation General Hospital, Hollywood, on September 19 for surgical treatment.

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Officers resuming duty after annual leave were Inspector T.B. Baines, of Bunbury, on September 25, and Inspector A.V. Green, of Mandurah, on September 29. Inspector G.D. Houston commenced annual leave on September 25.

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Assistant Inspector N.K. Henry, who returned to the Perth district on September 29 after assisting at Mandurah, will commence annual leave on October 16. Cadet Inspector P.A. Smith, of Geraldton, will also be on annual leave this month - from October 9 - while Inspector R.M. Crawford, of Geraldton, will commence his on November 14. During Mr Crawford's absence, Inspector A.T. Pearce, of the patrol vessel "Dampier", will be in charge of the Geraldton district.

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The Supervising Inspector, Mr J.E. Bramley, carried out a routine inspection in the Geraldton district at the end of the month and also visited the Abrolhos on the p.v. "Dampier". He reported that large numbers of sea birds were noted at the nesting site on the south end of Pelsart Island. Mr Bramley will take a week's annual leave commencing October 9.

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The Director visited Kalgoorlie and addressed the gathering at the official opening of the annual Wildflower and Wildlife Show in the Kalgoorlie Town Hall on September 19. The Department's exhibit was under the care of Senior Inspector J.E. Munro. Mr Fraser, accompanied by Research officers E.K. Bowen and R.J. Black-Smith, was present at a meeting of the Trout Acclimatisation Council of W.A. at Pemberton during the week-end of September 23/24.

The Research Officer, Mr B.K. Bowen, will commence two weeks' annual leave on October 9 and will subsequently visit Tasmania to join Mr A.M. Olsen, Senior Research Officer of the Division of Fisheries & Oceanography, C.S.I.R.O. They will work together at Cape Sorell, on Tasmania's west coast, where Mr Bowen will gain experience in current research techniques in the capturing, marking and underwater observation of crayfish.

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Our congratulations are extended to Mr and Mrs A.J. Buchanan on the birth of their first daughter, Robyn Gay, on September 3.

#### OBITUARY

At Pinjarra on September 3, Mrs M.A. Cherrington, mother of Mr W.K.M. Cherrington, of Head Office, passed away suddenly. Our sincere sympathy is extended to our colleague and to all the other members of the bereaved family.

#### MOVEMENTS OF DEPARTMENTAL VESSELS

The r.v. "Peron", under command of Captain H.C.W. Piesse, returned to Fremantle from North-West waters on September 27.

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The patrol vessel "Misty Isle" was slipped on September 25 to undergo her annual refit prior to the opening of the crayfish season on November 15.

#### PERSONAL PARS

Professor E. Waring, Professor of Zoology at the University of Western Australia, left Perth on September 26 for Rome where he will attend the UNESCO Conference on arid zones. Professor Waring expects to be away for about a month.

Mr J.H. Calaby, Senior Research Officer, Wildlife Survey Section, C.S.I.R.O., passed through Perth towards the end of the month after carrying out a special termite survey in the North-West for the U.S. Navy.

ANNUAL STAFF CONFERENCE

The annual conference of departmental staff will be held in the Laboratory at Head Office from November 1 to 3 inclusive.

TWO TO ATTEND SCHOOL

Through the courtesy of Mr A.C. Bogg, Director of Fisheries & Game, Adelaide, Technical Officer R.J. McKay and Inspector B.A. Carmichael, who will leave Perth by air on October 4, will go by road from Adelaide to Sydney in the company of the four South Australian officers to attend the inaugural school for fisheries officers. They will spend one day at the office of the Department of Fisheries & Wildlife, Melbourne, then proceed to Sydney, taking two days on the journey. After completing the School, Mr McKay will visit the Australian Museum, Sydney, to discuss fish taxonomy with Mr G.P. Whitley. Inspector Carmichael will visit Canberra to discuss whaling matters with the Commonwealth Fisheries Office. Both Mr McKay and Mr Carmichael will speak on their impressions of the school at the forthcoming staff conference.

FISHERIES ACT AMENDMENT BILL

A Bill to amend sections of the Fisheries Act was read in the Legislative Assembly for the first time on September 19. The Bill seeks to overcome weaknesses in the present legislation, particularly in relation to the definition of a crayfish tail, and will strengthen the regulation-making sections of the Act. Provision is being made also to streamline the procedure concerning the furnishing of returns. The Bill, if passed, will empower the Minister to grant exemption from the labelling of fish containers in certain circumstances, and will allow the Minister to delegate his discretionary powers in this regard. The onus-of-proof provisions of Section 24B, which were found to apply only in limited situations, will be made applicable to the whole Act, while courts will be authorised to impose additional penalties in respect of undersize fish. The Bill will, it is understood, be read for a second time on October 3.

BROKE INLET AND OYSTER HARBOUR

All staff are notified that the existing restrictions on net-fishing at these places have been extended for a further period of five years.

### DEPARTMENTAL EXHIBITS IN DISPLAYS

The Department's contribution to the annual Wildlife Show conducted jointly by the W.A. Naturalists' Club and the Gould League of W.A., featured an appeal for funds for the conservation of the short-necked tortoise. Special brochures, printed by the Government Printer in collaboration with departmental officers, were distributed by Senior Inspector J.E. Munro, who again was responsible for our exhibit. Mr Munro was also, as usual, in charge of the department's exhibition at the Australian Inland Mission's Wildlife and Wildflower Show, the official opening of which took place in the Kalgoorlie Town Hall on September 19. The Director, by invitation, attended the opening ceremony and gave a short address. Mr A.J. Buchanan, of Head Office, who prepared the Perth display, also prepared the departmental exhibit in the Marine Exposition and Festival to be held at the Esplanade, Fremantle, from October 14 to 22.

### NATIONAL FISHERIES SCHOOL

The establishment of the fisheries field officers school by the Australian Fisheries Council, marks what posterity will probably agree is one of the most progressive and enlightened steps ever taken in the history of Australian fisheries. Western Australia can take some credit in this new development because it was at our instigation that the matter originally came before the Commonwealth-States fisheries officers' conference.

Designed to provide training facilities for fisheries field officers from all States, the School, as has been reported elsewhere, will be held at Cronulla, N.S.W., from October 9 to 20. Twenty-one officers, including two from Western Australia, will attend.

The official opening will be performed by the Commonwealth Minister for Primary Industry, Hon. C.F. Adermann, M.P., and will be graced by the presence of the Ministers for Fisheries of New South Wales, South Australia, Western Australia and Tasmania. Chief officers from some of the States will also be in attendance.

The curriculum comprises lectures, practical demonstrations and inspections, as well as a field excursion to Eden, an important fishing port on the south coast of New

South Wales. The trainees will travel to Eden by charter aircraft.

Dr G.L. Kesteven, Assistant Chief (Fisheries), of the Division of Fisheries and Oceanography, C.S.I.R.O., has been appointed principal of the school, and will deliver a number of lectures. Other lecturers and demonstrators will be Dr J.M. Thomson and Messrs I.S.R. Munro and D. Vaux, Principal Research Officers; Dr R.G. Chittleborough and Messrs A.M. Olsen and J.S. Hynd, Senior Research Officers; Drs W.B. Malcolm and D.E. Kurth, Research Officers; Mr V.C.F. Han, Experimental Officer; E. Madely, Technical Assistant; and G.R. Williams, Divisional Administrative Officer, all of the Division of Fisheries and Oceanography: Mr W.A. Montgomery, Experimental Officer, C.S.I.R.O. Division of Fish Preservation: Mr A. Stark, Experimental Officer, C.S.I.R.O. Division of Mathematical Statistics: Messrs C.G. Setter, Director, A.G. Bollen, Assistant Director, and P. Lorimer, Technical Adviser, of the Fisheries Division, Department of Primary Industry: Mr J.I. Williams, Chief Inspector of Fisheries, N.S.W.: Mr D.D. Lynch, Superintendent of Marine Fisheries Management, Victoria: Mr A.J. Fraser, Director of Fisheries, W.A.; and Mr C.S.B. Boden, Naval Architect.

A report of the school will be published in the November issue of this Bulletin.

#### OBJECTIONS TO HASSELL TOWNSITE

In a recent Government Gazette, a new townsite, Hassell, was proclaimed at Cheyne Beach. The proposed townsite takes its name from an old pioneering family and has been planned to provide additional tourist facilities on the south coast. As all inspectors appreciate, Cheyne Beach is the most important salmon-fishing centre in the State, and in some years has produced more than a million pounds of this species alone. Following the receipt of a letter from the Secretary of Hunts Canning Co. Pty.Ltd., and personal and urgent representations from Messrs D. & R. Hunt, the Minister (Mr Hutchinson) has asked his colleagues to postpone the development of the townsite until its likely effects on the fishing industry and the economy of the State have been taken into consideration. The Minister has pointed out that the production of salmon and herring at this important site will be drastically reduced when tourists and amateur fishermen are attracted to it, and that the cannery may have to close in consequence. Both species, but particularly salmon, he said, were easily frightened, and the presence of such things as speed-boats, amateur netters and spear-fishermen, would

certainly frighten away the large schools of salmon which hitherto had "rested up" in these waters. Mr Hutchinson also pointed out that alternative areas attractive for tourist purposes were available at beaches comparatively unimportant to the fishing industry. He said that if the cannery were closed down it must have serious effects on the economy of Albany. The Minister's representations are being considered by the Premier, as Minister for Tourists, by the Minister for Lands, the Minister for Town Planning and the Minister for Industrial Development. We await the final decision with keen interest.

#### FREMANTLE CO OPERATIVE AT JURIEBAY

On September 26, Senior Inspector A.K. Melson represented the Department in a party of several interests which inspected the impressive facilities being provided for the crayfishing industry by the Fremantle Fishermen's Co-operative at Jurieb Bay. Mr Melson said that, including himself, there were fourteen persons in the party, which consisted of representatives of the Harbour & Light Department, banks, oil companies, crayfish buyers and the Fremantle Fishermen's Co-operative. The party saw the eight completed huts, which will house processing staff, and were shown over the main processing shed. This is a building of approximately 62 ft. x 72 ft., which is now nearing completion. A concrete floor and one large generator have been installed, and it was expected by the contractor that the plant would be operating by November 3, the date for which the official opening is scheduled. Mr Melson also noted that the jetty being built by an oil company was about 135 ft. long at the time of the visit, approximately half its intended length.

#### BAN ON IMPORT OF EXOTICS QUESTIONED

In the Legislative Assembly on Thursday, September 14, the Hon. William Hegney, Member for Mt. Hawthorn, asked the Minister for Fisheries a number of questions in relation to the ban on the import of exotic birds which was reported in the April-May issue of this Bulletin. The Hon. Mr Hegney asked -

- (1) Is it proposed to impose a ban on foreign fauna throughout the State?
- (2) If the reply to question (1) is yes, will he state the reasons?
- (3) Does he know if other States in Australia have imposed a ban?

- (4) Have known aviculturists been communicated with recently in regard to this matter?
- (5) If the reply to question (4) is yes, will he state the nature of such communication.

The following replies were given by the Minister-

- (1) Following discussions between the Agriculture Protection Board and the Fauna Protection Advisory Committee it has been agreed not to allow the importation of certain birds into the State.
- (2) It is a world-wide belief that the introduction of exotic fauna of any kind into any country is undesirable. The introduced kinds, if at liberty, can virtually in all cases exist only at the expense, either directly or indirectly, of native species, as witness the fox, rabbit, goldfinch, etc. Furthermore it is practically impossible to control them. Many introduced birds are, or could become, grain feeders and as such are inimical to agriculture. True, while these birds are caged no damage can be done, but in the case of the goldfinch, for example, the large colonies now common in the wild state in the metropolitan and near-metropolitan area are the progeny of escaped or liberated aviary birds.
- (3) No.
- (4) Yes.
- (5) There have been two communications. One was sent by the Fisheries Department to all licensed aviculturists warning that undesirable exotic birds are likely soon to be declared vermin by the Agriculture Protection Board, and suggesting that trading in and breeding of the species concerned cease. The other was sent by the Agriculture Protection Board to organisations interested in aviculture, and to prominent bird-dealers, saying that a meeting would in due course be called to discuss the whole question.

Subsequently, on September 26, Mr C.J. Jamieson, M.L.A., Member for Beeloo, asked a further fourteen questions on the same broad subject. In reply the Minister gave the detailed information asked for. In the course of his reply

he indicated that he was not prepared at this stage to consider the appointment of a representative of the Avicultural Society on the Fauna Protection Advisory Committee, which Mr Jamieson had sought. To do this would necessitate an amendment of the Act.

#### ABROLHOS CRAYFISHERY

At folios 134, 135 & 136 are published tables of crayfish production and fishing effort at Houtman Abrolhos during the 1961 and the ten immediately preceding seasons. For record purposes, the catch for the month of July, 1961, with the comparative 1960 figures, are also shown. It will be seen that the total production this year, as expected, set a new record. It is interesting to note that although the number of men has almost trebled since 1951, the total catch has increased only about  $2\frac{1}{2}$  times, with the result that the average catch-per-man has been reduced by approximately 18%. The increase in total production, together with the steady increase in the price paid for the catch, has kept the economy of the fishery in a healthy state.

#### 1961 WHALING SEASON

Assistant Inspector E.H. Barker, who acted as whaling inspector at the Nor'-West Whaling Company's station at Carnarvon this year, returned to Perth on September 1 to resume normal duties. Mr Barker reported that the season which opened at Carnarvon with the taking of the first whale on June 26, closed on August 26. By that time 477 whales had been taken. Originally the company's quota for this season was fixed at 450 humpbacks, but an increase of 25 was approved by the Minister for Primary Industry (Mr Adermann) on August 24. The additional two whales were both brydes whales, which are not subject to quota restrictions. This was the first year since 1957 that this company has filled its quota. It was also the smallest quota allotted in that period.

Mr Barker also reported that there had been an improvement in the catching organization and this, together with the assistance of two spotting planes and the introduction of incentive bonuses, was responsible for the better catch rate. The majority of whales, he said, were taken in waters outside Shark Bay and operations extended over a wide area. Weather conditions were generally very good, somewhat better than in previous years. At the end of the season, Mr Barker continued, some aerial spotting for sperm whales was made and some were sighted, but not sufficient could have been taken to allow the station to function economically.

He added that several reports were made during the season by the catchers and aircraft of the presence of whales other than humpbacks, but it was not possible to identify them, to find out actual numbers, or to determine with sufficient accuracy localities of occurrence. It seemed probable, however, that several blue whales and possibly fin whales were in the area early in the season. Schools of whales similar to the sei, and up to 30 in a school, were frequently sighted: they could have been either minke or brydes whales, or both.

It will be remembered that the Cheynes Beach Whaling Company Ltd. fulfilled its quota of 105 humpbacks on July 15.

The 1961 whale production figures will be published as soon as final statistics are available from the Nor'-West Whaling Company which had not completely cleaned out its oil tanks at the time of Mr Barker's departure.

#### INSPECTORS RESPONSIBLE FOR LICENSING

All inspectors are reminded that it is an important part of their duties to see that the licensing requirements of the Fisheries Act and Regulations are carried out. Licensing is essential, not only because it produces revenue for the State, but also because it is a corner-stone of our conservation programme. It also provides to the statistician useful information concerning employment and capital investment in the industry.

Each new year, every previously licensed fisherman may be given one month's grace, i.e., to the end of January, for renewing his license. If a fisherman has not renewed by February 1, however, the inspector must take whatever steps are possible, if he is satisfied that the fisherman is still fishing, to ensure that the license is renewed forthwith. If he fails to re-license, a report should be made with a view to prosecution. This applies equally to fishing-boat owners. Any fisherman not previously licensed, and found to be fishing for sale, must be warned that if he does not apply for a license within fourteen days, he will be prosecuted. This time limit is to apply irrespective of where the man is fishing or the boat operating.

Sufficient evidence must be secured in the first case to support a prosecution so that the warning is not an idle threat. Prosecutions cannot be lodged on hearsay evidence, and inspectors must procure sufficient proof to establish beyond doubt that the offending person actually

took fish for sale. Similarly, all fishing-boats engaged in the taking of fish for sale must be licensed and their license number must be clearly painted on the boats. It should be a relatively simple matter to obtain evidence for prosecution, provided there is co-operation between all inspectors, particularly sea-going inspectors.

While the primary responsibility for ensuring that all fishermen and fishing-boats in his district are licensed rests with the district inspector, all other inspectors (including assistant and cadet inspectors) are responsible for assisting in policing these provisions. They must make written notes of the names and addresses of all persons found to be engaged in the taking of fish for sale, irrespective of whether they are licensed or not. A report setting out the names of such, and particulars of boats engaged in the taking of fish, must be recorded by the inspectors in their diaries. They should remember when they are making their original notes that they might be required, subsequently, to produce them in Court to substantiate charges. Every inspector must always, when ascertaining the fisherman's name and address, enquire whether he holds a current fisherman's license and obtain the license number to quote later in his diary. Full names (not initials) of all fishermen reported must be furnished.

Compliance with these instructions is a major responsibility of all inspectors.

#### WHALE MARK RECOVERIES

Details of the firing of two whale marks recovered last July at the Nor'-West Whaling Company's station at Carnarvon, have been received from the Division of Fisheries and Oceanography, C.S.I.R.O. Writing from Cronulla, N.S.W., Dr R.G. Chittleborough, research officer in charge of whale studies, has advised that both marks had been fired in Shark Bay from our research vessel "Lancelin".

The first, No.11906, had been fired on August 2, 1955. It was recovered on July 9, 1961, from the back meat of a pregnant female humpback measuring 39'6". Its foetus was a 12'6" male.

The second, No.14202, had been fired on September 11, 1957. This mark was found in a cooker on July 31, 1961, hence no details of the whale which had carried it for nearly four years are available.

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ABROLHOS CRAYFISH PRODUCTION

Year	Number of Men				Total
	North Island	Wallabi Group	Easter Group	Pelsart Group	
1951	7	29	24	34	94
1952	8	20	32	24	84
1953	7	26	40	17	90
1954	15	36	41	21	113
1955	18	39	47	45	149
1956	31	42	38	40	151
1957	26	45	60	46	177
1958	30	58	64	40	192
1959	43	70	67	51	231
1960	62	71	81	45	259
1961	74	68	80	55	277

ABROLHOS CRAYFISH PRODUCTION

Year	Total Catch (lb)				Total
	North Island	Wallabi Group	Easter Group	Pelsart Group	
1951	116,206	483,834	545,565	502,219	1,647,824
1952	132,437	441,684	579,773	395,556	1,549,450
1953	123,243	573,081	647,967	294,020	1,638,311
1954	208,972	679,781	814,848	415,797	2,119,400
1955	278,681	717,699	802,879	672,885	2,472,144
1956	395,831	713,153	774,172	561,512	2,444,668
1957	433,185	774,926	1,042,910	653,685	2,904,705
1958	512,126	1,026,150	1,153,189	580,667	3,276,132
1959	659,180	980,053	1,151,347	760,542	3,551,122
1960	776,798	937,587	1,165,603	662,773	3,542,761
1961	1,021,771	1,010,220	1,167,193	751,364	3,950,548

ABROLHOS CRAYFISH PRODUCTION

Year	Catch per man				
	North Island	Wallabi Group	Easter Group	Pelsart Group	Whole Abrolhos Area
	lb.	lb.	lb.	lb.	lb.
1951	16,601	16,684	22,732	14,771	17,530
1952	16,555	22,084	18,118	16,481	18,446
1953	17,606	22,041	16,199	17,294	18,203
1954	13,931	18,883	19,784	19,800	18,756
1955	15,482	18,402	17,082	14,952	16,592
1956	12,769	16,979	20,373	14,038	16,189
1957	16,661	17,221	17,382	14,211	16,411
1958	17,204	17,692	18,018	14,516	17,063
1959	15,329	14,001	17,184	14,912	15,373
1960	12,529	13,205	14,391	14,728	13,679
1961	13,807	14,857	14,590	13,661	14,229

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ABROLHOS CRAYFISHERY

AREA	July, 1960			July, 1961		
	No. of men	Total Catch	Catch per man	No. of men	Total Catch	Catch per man
		lb.	lb.		lb.	lb.
North Island	31	25,522	823	56	55,222	986
Wallabi Group	55	50,157	912	70	70,588	1,008
Easter Group	56	58,937	1,052	54	68,603	1,270
Pelsart Group	34	42,735	1,257	42	44,837	1,067
TOTAL	176	177,351	1,008	212	239,250	1,128

Total for five months -- March-July

1956	2,327,232	Season opened	March	15
1957	2,828,212	"	"	15
1958	3,138,451	"	"	15
1959	3,438,107	"	"	15
1960	3,442,725	"	"	1
1961	3,839,069	"	"	1

FORMATION OF AUSTRALIAN FISHERIES COUNCIL

As was mentioned in the September issue, a meeting of State Ministers charged with the administration of the fisheries laws with the Minister for Primary Industry and other Commonwealth Ministers was held at Parliament House, Canberra, on September 1.

The most far-reaching decision taken was for the formation of an Australian Fisheries Council. This will be a top-level body, comprising Ministers only, which will be responsible for promoting the welfare and assisting in the development of Australia's fisheries, including improvement in quality of the products of the fisheries and the maintenance of high-grade standards; for ensuring a cooperative approach to management problems and to the formulation of export marketing policies; to consult in relation to granting financial assistance; and to consider matters submitted by the Standing Committee.

The creation of a Standing Committee on Fisheries was also approved. The committee will consist of the chief fisheries officer of each State and Territory, the Director of the Fisheries Division of the Department of Primary Industry, and the Chief of the C.S.I.R.O. Division of Fisheries & Oceanography, or his nominee. Its duty will be to present to the Council in due form the matters on which the latter will be asked to take decisions, to secure co-operation in and co-ordination of fisheries development, management and research throughout the Commonwealth, to advise both Commonwealth and State Governments, either direct or through the Council, on matters pertaining to the initiation and development of research on fisheries problems, and generally to secure co-operation between Commonwealth and States, and between the States themselves, on other matters relating to fisheries.

It was agreed that the Council would meet again within one year, in Sydney, and that the Standing Committee meet within 6 months.

Certain remarks made by Mr Adermann, who presided at the meeting, in his opening speech are worthy of note. He said, "The responsibilities of the States and the Commonwealth are clear in such matters as the management of fisheries in territorial and extra-territorial waters, but as fishermen operate from State ports and the fisheries overlap the respective State/Commonwealth boundaries of administration, the need for close co-operation among all

Government authorities is self-evident.....It is highly important to co-operate in our efforts to protect and conserve our fisheries. Owing to the migratory habits of fish it is necessary that we examine each fishery carefully and introduce measures of management which will be to the mutual benefit of all concerned in the fishing industry - whether it be the fisherman, the processor or the consumer - regardless of the State in which they may live. Similarly continuing liaison between all the Governments represented here today is most important for the development of our fishing industries. A feature of the agenda we have before us is the number of items which require the close co-operation of us all.

"A basic problem is that the Australian catch has not kept pace with our increase in population. While Australian production has remained more or less stable, imports have increased considerably to meet consumer demand. The inability of Australian production to grow at a desirable rate may well be attributed to both biological and economic reasons which require the attention of Governments to encourage efficient and economic development in all sectors of the industry.

"Although production from some fisheries has increased, there has unfortunately been a significant fall in the quantity of fish taken in other sections of the industry and as a result the overall production has remained relatively stationary. The decline of certain fisheries, particularly the East Coast trawling industry, may be due partly to scarcity of fish and partly to economic reasons.

"Statistics show that the production of Tiger Flathead in New South Wales last year was 1,265,000 lb., which is only 40% of the catch seven years ago. Similarly, the 1959-60 barracouta catch of 5,870,000 lb. was less than two-thirds of the 1952-53 catch. There has also been a recent and serious fall in Australian Salmon production. Last year the quantity landed was 7,600,000 lbs., as compared with 12,160,000 lb. only three years ago.....

"There has been a substantial increase over recent years in the volume of imported frozen filleted fish. This is somewhat disquieting. Much of this imported fish is coming from the United Kingdom, South Africa and New Zealand. The value of these imports in 1959/60 was approximately £3½m., compared with about £1½m. in 1956/57. This development in itself emphasises the need to encourage the production of a good quality Australian pack which can be sold in competition

INAUGURAL MEETING OF AUSTRALIAN FISHERIES COUNCIL, CANBERRA,  
SEPTEMBER 1, 1961



Front row (l. to r.).—Mr. C. G. Setter (Commonwealth Director of Fisheries); Hon. D. A. Cameron, O.B.E., M.P., Minister in Charge of C.S.I.R.O.; Hon. C. F. Adermann, M.P., Minister for Primary Industry; Hon. A. D. Rylah, E.D., M.L.A., Chief Secretary, Victoria.

Back row (l. to r.).—Hon. D. A. Cashion, M.H.A., Acting Minister for Agriculture, Tasmania; Hon. D. N. Brookman, M.L.A., Minister for Agriculture, South Australia; Hon. N. J. Mannix, M.L.A., Minister for Justice, New South Wales; Hon. Ross Hutchinson, D.F.C., M.L.A., Minister for Fisheries, Western Australia; Hon. T. A. Hiley, M.L.A., Treasurer, Queensland.

and still be profitable to both fishermen and processors.

"Actually half of the total fish and fish products consumed in Australia is imported. The total value of imports of fish of all kinds was £6,145,000 in 1957/58 and £8,047,000 in 1959/60. On the other hand, fish exports from Australia which in 1957/58 were valued at £2,800,000 had risen in value to £4,196,000 in 1959/60. However, crayfish exports to the U.S.A. represented about 90% of the total.

"With regard to imports of fish, one of the problems we face is the direct Government assistance that is being given to fisheries overseas. This makes it possible for fish products to be landed in Australia at relatively low prices. The assistance varies from the subsidisation of boat building, fishing operations, consumption and exports, to import restrictions. In the U.S.A. a part of the money raised by Customs duty on fish products is used for research and development, while a loan fund has been established to improve fishing fleets and to encourage more profitable operations.

.....

"I hope it will be possible to raise our production so that we are not only self-supporting but are able to export substantial quantities of tuna in the round as well as in canned form. To do this we must aim at the development of this particular fishery, not only in the existing areas but also in other States. As Ministers are probably aware, a survey of the tuna fishing potential was commenced recently in Western Australian waters in collaboration with the Western Australian Government and the C.S.I.R.O. I hope that not only will this survey lead to the successful establishment of a tuna industry in that State but also that it will encourage further development in other States as well.

"Pearling - As a result of competition from the plastics industry the Australian pearling industry is going through a difficult period. Prices for the lower grade shell have been poor, due mainly to the loss of the shirt button trade. Fortunately, Australian pearl oysters are capable of producing the larger cultured pearls and it is expected that a portion of the pearling fleet will eventually be used to supply live shell for the pearl culture farms. There are significant developments in this direction and I understand that some fifteen leases in all have been granted for this industry".

A group photograph taken at the conference appears in this issue.

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CONVICTIONS, JULY-SEPTEMBER, 1961

Date	Defendant	Court	Charge	Result
<u>Fisheries Act</u>				
22.8.61	CRAIG, Robert	Albany	Netting closed waters	Fined \$5
22.8.61	RALPH, Robert Roy	Albany	" "	Fined \$5
21.6.61	SOFILAS, Peter	Bunbury	" "	Fined \$5
10.7.61	LA MACCHIA, Gaitano S.	Fremantle	U/s crayfish	" \$10
"	SICLARI, Johnny	"	" "	" \$10
"	MIRIGLIOTTA, Carlo	"	" "	" \$10
"	CAPUTI, Guiseppe	"	" "	" \$10
"	" "	"	" "	" \$10
"	CASTROVINCI, Antonio	"	" "	" \$10
"	" "	"	" "	" \$10
"	" "	"	" "	" \$10
"	" "	"	" "	" \$10
"	SANTAROMITA, Luigi	"	" "	" \$10
"	BROZ, Frank	"	" "	" \$10
"	VINCI, Antonio	"	" "	" \$10
"	CAMARDO, Fidele	"	" "	" \$10
"	" "	"	" "	" \$10
"	ARANGIO, Guiseppe	"	" "	" \$10
"	OTERI, Santro	"	" "	" \$10
17.7.61	CRABBE, Kenneth	"	" "	" \$10
"	BERINGHELI, Tony	"	" "	" \$10
"	" "	"	" "	" \$10
"	" "	"	" "	" \$10
"	" "	"	" "	" \$10
"	PAPARELLO, Carrado	"	" "	" \$10
"	FEDELE, Genaro	"	" "	" \$10
"	LOPRESTI, Salvatore	"	" "	" \$10
"	" "	"	" "	" \$10
"	RUBJANCICH, Luke	"	" "	" \$10
"	CAVALEA, Antonio	"	" "	" \$10
"	RODICH, Luka )	"	" "	" \$10
"	SORIC, Antonio )	"	" "	" \$10
22.5.61	SGHERZA, Dominic	"	Brushed Spawners	" \$25
24.7.61	WANN, Lawrence Charles	"	U/s crayfish	" \$10
"	OTERI, Santo	"	" "	" \$10
"	KATNIC, Ivan (Jnr.)	"	" "	" \$10
"	FRENIS, Antonio	"	" "	" \$10
"	BENNETTS, Dennis	"	" "	" \$10
"	AMATO, Francesco	"	" "	" \$10

CONVICTIONS  
(continued)

Date	Defendant	Court	Charge	Result
24.7.61	SERSIO, A. )	Fremantle	Fishing	Fined £5
"	CULICA, V. )		closed waters	
4.9.61	PALMIOTTI, Guiseppe	"	U/s crayfish	Fined £25
"	" "	"	" "	" £25
"	" "	"	" "	" £25
"	PITTORINO, Umberto	"	Illegal netting	" £5
"	FOXELY, Sydney George	"	"	" £10
"	" "	"	U/s sea mullet	" £10
"	GARCIUS, Manuel Silva	"	U/s crayfish	" £12.19.
"	LA ROSA, Vinci	"	" "	" £25.14.
"	PAPARELLO, Vito	"	" "	" £25
"	" "	"	" "	" £25
"	" "	"	" "	" £25
"	BILCICH, Vinko	"	" "	" £25
"	CAPPELLUTI, Sergio	"	" "	" £28.15.
"	FERRO, Vercenzio	"	" "	" £17.2.
"	" "	"	" "	" £12.13.
"	" "	"	" "	" £13.12.
"	" "	"	" "	" £11.3.
"	RUTIGLIANO, Donato	"	" "	" £25
18.7.61	HORSEMAN, James	Geraldton	" "	" £10
"	TWISS,	"	" "	" £10
"	Brian Carrington	"	" "	" £25
"	BAKER, Harold	"	" "	" £10
"	JENNINGS, Robert	"	" "	" £25
"	LANG, John L.	"	" "	" £15
"	THOMPSON, David Henry	"	" "	" £10
"	GREGORY, William O.	"	" "	" £25
"	RUSSELL, Christopher	"	" "	" £25
"	Frederick	"	" "	" £25
"	PERHAM, Laurie J.	"	" "	" £25
"	BARKER, George W.	"	" "	" £25
"	SHIELDS, John	"	" "	" £10
"	PARRY, Douglas	"	" "	" £25
"	GARTON, Percy R.	"	" "	" £10
"	CORNELL, Edward A.	"	" "	" £10
1.9.61	JOHNSON, Henry )	"	" "	" £10.13.
"	FITZGERALD, Neville)	"	" "	" £28.13.
"	LANG, John	"	" "	" £28
"	CAIRN, Donald Joseph	"	" "	" £10.19.
"	" "	"	" "	" £10.19.

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CONVICTIONS

(continued)

Date	Defendant	Court	Charge	Result
1.9.61	ORMEROD, Richard	Geraldton	U/s crayfish	Fined £10.12.
"	FLORIAS, Dennis	"	" "	" £25.10.
"	BROCKWELL, Herman R.	"	" "	" £10.7.
"	JOHNSON, Eric	"	" "	" £27.7.6.
31.8.61	AINSWORTH, Allan	Mandurah	U/s sea	" £10.19.
"	Frederick	"	mullet.	"
"	" "	"	Refusing name	" £5
"	" "	"	& address.	"
"	" "	"	Obstruction.	" £10
"	ABLETT, Norman	"	U/s sea	" £10.19.
"	" "	"	mullet.	"
"	" "	"	Refusing name	" £5
"	" "	"	& address.	"
"	" "	"	Obstruction.	" £10
6.7.61	BOWRA, John William	Perth	Netting	" £5
"	BOWRA, Arthur Norman			
"	KELLY, Raymond	"	Found in	" £2
"	"	"	closed waters.	"
18.7.61	CORSER, Douglas	"	U/s crayfish	" £10
"	BERNARDI, Claude	"	" "	" £10
"	HASTINGS, Hugh	"	" "	" £10
"	PARKIN, Edward	"	" "	" £10
"	SILVA, Jose Frizado	"	" "	" £10
"	COUBROUGH, John	"	" "	" £10
"	BARWICK, James	"	" "	" £10
"	William	"	" "	" £10
"	CALDERA, Angelo	"	" "	" £10
15.8.61	WANN, Lawrence Charles	"	" "	" £10
"	ALLEGRETTA, Modesto	"	" "	" £10
"	CHALLEN, Brian	"	" "	" £15
"	MORCK, Hans	"	" "	"
31.8.61	HARRIS, Harry	"	U/s sea	" £10
"	"	"	mullet	"
"	HEATON, Arthur	"	U/s crayfish	" £10
"	WILLIAMS, Ralph	"	" "	" £10
"	LAGALLA, Nicola	"	" "	" £10
"	WREN, K.	"	" "	" £10
"	SMITH, Robert Lionel	"	" "	" £10
7.9.61	STARR, Charles	"	Obstruction	" £10
"	ULINOVICH, Riccardo	"	U/s crayfish	" £10

## CLEARING HOUSE

### Plant Specimens for Identification

by R.D. Royce, B.Sc. (Agric.) Senior Botanist,  
and N.G. Merchant, Herbarium Assistant.

The most important requirement for the successful naming of a plant is a good specimen.

When selecting material for the preparation of a botanical specimen, many factors have to be considered.

In the case of small herbs, the whole plant including roots should be taken, and when collecting those which have only one flower per plant, a number of such plants should be gathered and treated as the one specimen. It is particularly important that small plants which have the leaves concentrated in basal rosettes at ground level, and with erect leafless flowering stems, should be gathered with leaves and stems intact.

Grass specimens should be collected in this manner, so that they show the base of the plant, the roots and the barren stems as well as the flowering stem.

When collecting a specimen from a tree or shrub, it is essential that the piece taken should be truly representative of the plant from which it came.

To be of maximum use a specimen should be at least 9 to 10 in. in length and show the arrangement and attachment of the leaves on the stem, and should carry a number of buds, flowers or fruits.

When only one or two specimens are being prepared, no elaborate precautions are necessary. Individual plants, particularly herbs and other slender species, can be laid out between pages of a book, or into the fold of the daily paper. Pressure can then be applied by placing two or three books or newspapers on top.

The most useful size of paper for the average specimen is approximately 10 inches by 12 inches, and this is obtained by folding sheets of the daily paper in halves.

All specimens submitted for naming should be clearly numbered for easy recognition. Two pieces of each plant should be tagged with the same number. One is then forwarded to the State Herbarium and the other is retained for reference and comparison with the list of identification when it is received.

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The value of these specimens can be greatly increased if a few notes concerning each plant are forwarded with the pressed material.

Lastly it is most important that the name and address of the sender should be placed inside the parcel.

(The Tree Society Newsletter Perth July, 1961)

### The Decca Record

Fitted in 41 Navies.

On July 26 the Decca Radar Co. officially opened their new radar training headquarters at Lambeth Pier. They have leased it from the Port of London Authority and have given up the lease of Scantlin Pier at Blackfriars, where they have had their training school for the last 41 years.

The move will benefit all concerned as Lambeth Pier is close to the company's head office on the Albert Embankment and trainees can be embarked from there in the demonstration vessels Navigator and Scanner.

At the opening Mr C.L. Tayler, director of the Company's marine activities, gave some impressive figures concerning its record in the comparatively few years it has been in business.

Of the 22,000 radar fitted merchant ships in the world, 11,000 are fitted with one or more Decca radar sets. And no less than 41 of the navies in the world now use Decca radar equipment. Some 4,300 men, including over 2,000 masters and watch-keeping officers have trained at the school in London alone.

### The Quality

The "quality" of sales has been as impressive as their quantity. Recently, for instance, the American Telephone and Telegraph Company, which is having a new cable layer built at Schleikwerft, Hamburg, chose Decca radar sets in preference to any produced in Europe or America. And she will be equipped with a dual channel installation comprising TM-S.2400 (10 cm.) and TM 969 (3 cm.). True Motion radars with remote displays.

Altogether 16 cable ships in service in various parts of the world, including all the most modern ones, are

fitted with Decca Radar sets.

Guests at the opening were taken for a short trip down the Thames and given an opportunity to observe the Decca River Radar in action. It's not a set that is likely to have much application in fishing vessels though it would be extremely handy to have on board when entering or leaving harbour in thick weather.

We could pick out every floating object on the river with greatest of ease and even the buttresses of the bridge when we were passing between them.

River Radar sets are mostly used on such rivers as the Rhine and over five hundred of them have been sold - the majority in Europe and North America.

#### Training

Skippers and Radio Officers of fishing vessels will, if they are unable to do so in their home ports, be able to receive training at the new school. Courses will normally occupy two days and cover operational training in the use of the types of radar installed in their ships, maintenance and trouble-shooting. The school has three independent radar installations from the D.11 series and can provide training on 16, 12 and 9-in. displays with both True and Relative Motion. The Navigator and the Scanner will also be available from time to time for practical instruction.

(The Fishing News

London

August 11, 1961)

#### Experts Discuss Survival Problems

Can a fish, immune to lamprey attacks, replace the lake trout? Can lampreys be eliminated? A panel of experts at the 16th annual meeting of the Fisheries Council of Canada answer.

Dr A.G. Huntsman: The most spectacular happening in recent years has been the spread of the lamprey eel in the Great Lakes, where it does harm by clinging to other fish, sucking their blood like a leech. What has this done to the populations of valuable fish?

Dr F.E.J. Fry: There is no doubt in my mind that the lamprey was responsible for the virtual disappearance of lake trout in Lakes Michigan and Huron, and that it is responsible for the severe decline which is now taking

place in Lake Superior.

I was fortunate enough to take part in the study in which we followed the fate of the last major year class of lake trout to live in South Bay, an arm of Lake Huron. These fish did well until 1949. The lamprey apparently began to be abundant in South Bay in 1948 and the trout had completely disappeared by 1951.

This disappearance was certainly not due to fishing.

The lamprey appears to have had its greatest effect on the lake trout. Whitefish are attacked but there is no indication that they are attacked so completely that none survive to spawn.

\* \* \*

Dr Huntsman: Can the lamprey be controlled or eliminated?

Dr W. Kennedy: No definite answer can be given at the present time, although information which will enable a definite answer to be given may be available later this year or in 1962.

\* \* \*

Dr Huntsman: What will it cost?

Dr Kennedy: To continue the present control attempts will cost well over one million dollars a year.

\* \* \*

Dr Huntsman: Can a kind of fish, immune to lamprey, replace the lake trout?

Mr K.H. Loftus: Yes, at least we are optimistic that this can be done, and we are working on this with our hybrid between speckled trout and lake trout, commonly called splake. In this programme which is being undertaken at the Maple Laboratory of the Department of Lands and Forests, our objective is to develop a fish which will live in those parts of the lakes formerly inhabited by lake trout, and which will reproduce at least once before becoming vulnerable to sea lamprey attack.

The splake will not be immune to the sea lamprey but should be able to live with lamprey and to support a fishery.

Live shells to enforce Norway limit

Norway will have six armed naval vessels on constant patrol along its territorial waters limit from September 1 when the new 12-mile fishing limit will come into force, Vice-Admiral Erling Hostvedt, chief of the Norwegian Naval defence said in Oslo on Thursday last.

The ships, he said, according to a British United Press report, had strict orders to use live ammunition on foreign trawlers caught violating the limit.

"The Naval patrol vessels have guns to be used, not only to be polished," he went on.

"However, we do not want to have too many trawler captains killed".

Experienced Men

He emphasised that the officers and crews of the patrol ships would be experienced and would know if any foreign trawlers tried to operate under flags other than their own.

A concession to operate in the zone between six and twelve miles from the Norwegian coast has so far been granted only to Britain, though other nations claiming "historical rights", including Russia, have indicated their interest in negotiating for similar privileges.

(The Fishing News

London

August 18, 1961)

Mystery of Rubber Banded Inshore Fish

Among the many specimens sent to the Scottish Marine Laboratory, fish with rubber bands round them are prominent in the list. During the last 10 years, 41 such specimens have been received. Of these, 12 were mackerel, 12 whiting, six haddock, six dog-fish, three plaice, one cod and one trout. From other countries, including U.S.A. and Canada, specimens of a similar nature have been reported.

Contrary to what is often supposed, these have not been tagged in this way by fishery scientists. The question then arises to how the fish came to acquire the rubber bands, and, perhaps of greater importance, what the effect has been on the fish themselves.

The rubber bands are of different types; square-

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sectioned or flat, sometimes coloured, stationery bands; sealing rings from canned or bottled food containers and a thin, round type often found in sewage.

One or the other of the first two types occurred on all species, particularly dogfish and plaice, while the third type was most frequently found on mackerel and whiting.

How did these fish acquire these bands? It would appear that some were put on by fishermen, either as a joke or in a crude attempt at unofficial tagging.

In most cases, however, the evidence suggests that they were acquired accidentally.

#### A correlation

In regard to this latter theory, it is significant that in the U.S.A., a correlation was found between the proximity to the large cities of recoveries bearing the third type of ring and the high incidence of the inshore concerned, such as mackerel. Scottish records agree closely with this finding, the majority of such bands coming from the heavier sewage effluent regions of the east coast between the Firth of Forth and the Moray Firth and from the Firth of Clyde, and involving, as in the U.S.A., a high proportion of mackerel.

The where and how of the 41 Scottish "rubber-banded" fish, though not without interest, is unimportant compared with the effect on the victims.

In the majority of cases, the band has obviously been acquired when the fish was smaller and, with the growth of the fish, constriction had become more and more severe until parts of the ring had become embedded in the flesh and in some cases overgrown by the skin.

In some specimens, the overgrowth was so perfect as to give the impression that the band had been threaded through the flesh.

Other specimens included a dogfish with a ring through and athwart its mouth, a plaice with a coloured stationery band stretched diagonally across its body, cutting into the gut on the ventral side (where the band had been caught by the anal spine) and into the fin and the flesh on the dorsal side, and a haddock with a wide band causing severe restriction of the throat.

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Rather surprisingly, most of these specimens were in a fairly healthy condition but others showed considerable laceration and suppuration of flesh, damage to gill-covers and fins and severe emaciation.

(The Fishing News

London

August 18, 1961)

Pollution Strikes Trout Farm Again

Pollution has again struck the Withern Mill trout farm, near Louth.

At the weekend, half the stock of fry were discovered floating dead in their pools, but no bigger fish were affected.

A Lincolnshire River Board pollution expert visited the farm and samples of water were taken for analysis.

Effect of Rain

"Whatever it was that killed the fish passed through like a flash," commented Mr Martin Hallam. "I think the heavy rain on Saturday probably washed some kind of pollution through the farm."

About a month ago almost the entire stock of the farm was wiped out, and damage was estimated at £50,000.

(The Fishing News

London

August 18, 1961)

Sir: Fishing on the South West coast of W.A. a week or so ago at a place called Nornalup, we were successful in hooking and landing a very large snapper which weighed out at 31 lb. 4 oz.

Considerable discussion ensued afterwards as to the possible age of such a fine specimen and I promised my Western Australian friends that I would submit some of the shoulder scales of this fish to you for the purpose of reading, as I understand it is possible to determine the age of fish by this method.

If it would interest you at all the fish was caught on a bait comprised of a small silver whiting, hooked through the eye and took well over a quarter of an hour to boat on a line of about 80 lb. breaking strain.

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Incidentally the eating qualities of the flesh were extremely delicious, contrary to my own thoughts that the flesh from a snapper of this weight would have been exceptionally coarse. - H.J. Darling, Mascot, N.S.W.

Editor's Note: I referred this letter to Mr Gilbert Whitely, Curator of Fishes at Sydney Museum. I feel sure all Outdoorsmen will be grateful for the interesting comments Mr Whitely makes in this reply:-

"The age of some fishes can be told from their scale rings, especially in colder countries like Britain and the United States where there is more difference in water-temperatures (affecting growth and giving clearer rings) than there is in the tropical and temperate seas here. In Australia, too, very few species have been studied and the reading of scales is outside the scope of Museum work. I have discussed the snapper scales with Mr Ian Munro of C.S.I.R.O. Division of Fisheries, Cronulla. He says some work on the age and growth of snapper has been done by the late W. Fairbridge some years ago at Cronulla but the results were not published.

I have examined the snapper scales from Nor-nalup (and retained three of them for the Museum). The rings are not distinct on them and we do not know whether rings would be seasonal or annual but I would roughly estimate the age of the fish as at least four or five years old."

(Outdoors Sydney August, 1961.)

#### Anti-venene for Redbacks

The Commonwealth Serum Labs. in Melbourne have done another good piece of work in producing an anti-venene for the Redback spider. However, despite intensive research they have not yet been successful in finding one for the Sydney Funnelweb. Work on this is still going on.

The Redback is found all over Australia and New Zealand and is closely allied to the Black Widow found in the United States. They live in dark places such as under a pile of boxes or stones. The Redback is quiet and very slow to anger. However, there have been some deaths reported following bites by this spider.

The Funnelweb, on the other hand, is easily

antagonised. It has been responsible for the majority of fatalities caused by spider bite. The centre of the Funnelweb district is the Sydney area, where it lives in gullies, making a burrow under rocks or tree roots. This is lined with a funnel of gossamer, and the entrance is covered with a canopy of web. The Funnelweb is a nocturnal spider, so that one is unlikely to encounter a specimen except when gardening or moving rocks. Their natural prey are small frogs, lizards, beetles etc. The best way to discourage Funnelwebs near the house is to make sure that there is no suitable cover to attract them. It is advisable to wear shoes if you have to go outside at night. The bite should be treated as for snake bite and the doctor contacted immediately. It has been calculated that weight for weight of venom, that produced by the much rarer male, is about five times as deadly as that of the female.

Dr Saul Weiner, of the Commonwealth Serum Labs., who developed the Redback anti-venene, and is at present engaged on the work with the Funnelweb, periodically milks venom from a Funnelweb spider by annoying it until a bead of venom drips on to the end of each fang. This is then collected with a Pasteur pipette, and freeze-dried and kept until needed at some future date. Funnelwebs for this research were donated in large numbers by people from both Sydney and the Gosford area. They are still needed and for this purpose the Health Dept. in Sydney and the Australian Reptile Park in Gosford act as receiving centres.

Redbacks are brought in by the thousands locally in Melbourne, and the venom glands are then dissected out so that the anti-venene may be prepared.

(Outdoors Sydney August, 1961)

(Note: The Sydney Funnelweb does not occur in W.A.)

### Conic Octopi

During the last war, with the development of frogmen techniques, special instructions had to be formulated for beginners. According to Fishing News, in 1954, reviewing a book on the subject, the best thing to do when caught by an octopus, for instance, is to remain motionless.

"The octopus will probably feel you all over for perhaps a quarter of an hour and then it will get bored and withdraw."

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The instructions continue: "The octopus is very sensitive where the tentacles join the body. Try to tickle it under the arm, when it will be convulsed with laughter and let go. Another method is to jab it in the eye with a knife."

(The Fishing News

London

September 1, 1961)

#### Research vessels: Tokyo forum

Scientists will meet to Develop Latest Ideas

The modern fisheries research vessel more and more has become a floating laboratory, designed to do on the spot tests and, in some cases, pass on the information to a waiting fishing fleet. But even in a land-locked laboratory, where does one put water samples of a half ton each?

Such huge water samples are needed to test for radioactivity, for the days are gone when a scientist lowered a string of small bottles over the side and brought up water from different depths to determine the kind of plankton or the chemical content.

Now, in this atomic age, scientists must test the oceans for radioactive waste, and since this waste diffuses, the water samples have grown from a quart to half a ton. But still the problem remains - how to process it?

Testing for radioactive waste, the possibility of using ocean going catamarans or twin hull craft for marine research, the Japanese development of a ship that causes no waves, these and many more advanced ideas will be explored at a Food and Agriculture Organisation sponsored forum on research vessels in Tokyo from September 18-30.

Purpose is to compile and exchange new information on the design and operation of research vessels and to bring together oceanographers, biologists and naval architects to discuss mutual problems and accomplishments.

#### A Waveless Ship

The men involved in developing these new ideas will be present at the forum, men like Prof. Takao Inui of the University of Tokyo whose particular project has been creating a ship that causes no waves.

"We have known that a bulbous bow will reduce wave resistance," said Mr Jan-Olaf Traung, chief of FAO's fishing

Boat Section, and secretary of the forum, "but Prof. Inui has been studying the exact relation of waves to the bow and has developed and proved one type to completely eliminate the bow wave."

The advantages of a waveless ship? "Using 1,000 hp where you would use 1,500 hp - much less pitch and much more space," said Mr Traung.

"The problems of taking radioactive samples at sea is a fascinating subject," he continued, "and they will be presented by oceanographers from the Scripps Institute of Oceanography, La Jolla, Calif., who have been involved in trying to develop a vessel for this purpose."

The possibility of using catamarans, twin hull ships, as research vessels will be reported by representatives of the University of Miami, Fla. The university has been considering using an ocean-going catamaran for fisheries research and already has a small one in operation. Purported to be cheaper to operate due to less wave resistance, the catamaran has the practical advantage of providing more working space on the large platform that joins its twin hulls.

#### Tailored for Job

However, one of the greatest factors to be considered in designing a new research vessel is not only cost of construction, but of operation and maintenance. The new ship must be tailored to its job and such a tailoring job will be reported on at the forum by Dr H.F.P. Herdman of the National Institute of Oceanography, Wormsley, England, who is supervising the building of a new ship to replace Discovery II, latest in a series of pioneer British fishery research ships.

The boat, now under construction in Aberdeen, will incorporate all the new features learned from patient experiments with its parent craft. This will include such items as a bow propeller to increase manoeuvrability when retrieving modern oceanographic or biological apparatus moored in the open sea.

"Lately, research vessels have a new function: doing research and providing general knowledge on ship behaviour that the naval architect can utilise in ship design," said Mr Traung. "Papers will be given on how these research vessels may give naval architects insight into ship behaviour - insight that can be directly used when designing passenger

ships and super tankers."

The forum will spend its first two days discussing work done on board a research vessel. The participants will then board the 1,215 ton research vessel, the Koyo Maru of the Shimonoseki College of Fisheries, for a two-day practical demonstration and then resume the meeting ashore.

(The Fishing News

London

August 25, 1961)

#### Hermaphrodite Crab: A Unique Discovery

A crab combining male and female characteristics was discovered last week by an observant young marine scientist, Mr Eric Edwards, of the Ministry's Shellfish Laboratory, Burnham-on-Crouch.

The back of the shell had the appearance of a male, while the flap was distinctly female. When the flap was raised it revealed male organs.

It was found while Mr Edwards was continuing an extensive crab survey in the N.E. Fisheries Committee District on board the Grimsby keel-boat Normanby (Skipper Stan Upcraft), just off Withernsea.

Mr Edwards was recording the proportion of soft crabs in relation to others, and at the time recording the ratio of female crabs that had been fertilised, when he noticed this freak.

Mr Edwards, who has handled thousands of crabs in similar surveys throughout the country, says it is the first he has ever seen.

It aroused much interest in local inshore circles and when he showed it to Mr J.H. Dales, the Fishery Officer at Grimsby, and several inshore fishermen they agreed that they had never before seen a similar crab.

He is taking it back to the laboratory to carry out a "postmortem" on its structure and to check if any other specimen of a hermaphrodite crab has ever before been placed on record.

(The Fishing News

London

August 25, 1961)