

Rhinochimaera pacifica, a Long-snouted Chimaera (Rhinochimaeridae), in New Zealand Waters

Tadashi Inada and J. A. F. Garrick

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Abstract *Rhinochimaera pacifica* previously known only from Japan and Peru is reported and described from 23 New Zealand specimens taken on the Chatham Rise, Challenger Plateau and east of Stewart Island in depths of 750~1110 m. Comparison with *R. atlantica*, the other nominal species, shows that *R. pacifica* differs only in its higher number of denticulations on the upper caudal margin of males (34~69 in New Zealand and Japanese specimens, 25~30 in *R. atlantica*).

The purpose of this paper is to identify and describe the species of *Rhinochimaera* found in New Zealand waters. Until now, *Rhinochimaera* has been known from New Zealand only from the brief report in Iwai et al. (1970) as *Rhinochimaera* sp. *Rhinochimaera* differs from *Harriotta*, the only other member of the Rhinochimaeridae reported from New Zealand (Garrick, 1971; Garrick and Inada, 1975), in having smooth dental plates (i.e. without tritons) and also in having denticulations along the upper caudal margin. It differs from the only other genus, *Neoharriotta*, in lacking an anal fin (Bullis and Carpenter, 1966). A recent and full account of the characters of the family Rhinochimaeridae and of the three included genera, *Neoharriotta*, *Harriotta* and *Rhinochimaera*, was given in Bigelow and Schroeder (1953, 1954).

The genus *Rhinochimaera* is widely distributed but comparatively rare judging by the few reports of it. It includes two nominal species, *R. pacifica* (Mitsukuri, 1895), known from Japan and Peru, and *R. atlantica* Holt et Byrne, 1909, known from both sides of the North Atlantic and also the eastern side of the South Atlantic (Karrer, 1972).

Mitsukuri (1895) first described *R. pacifica* from Japan under the name *Harriotta pacifica*. Later, Garman (1901) referred this species to the genus *Rhinochimaera* because of its smooth dental plates. The external morphology and internal anatomy of *R. pacifica* was described by Garman (1904) and Dean (1904). In 1967 Kobayashi and Sakurai reported *R. pacifica* from the northern part of Japan and

Chirichigno (1974a, b) reported it from the waters of Peru.

In 1909, Holt and Byrne described another species, *R. atlantica* from the south-west of Ireland, differing from *R. pacifica* in some proportional dimensions and in the pattern of mucous canals on the head. Subsequently, *R. atlantica* (including egg cases) was recorded by Holt and Byrne (1910), Koefoed (1927), Bigelow and Schroeder (1953), Krefft (1966, 1967), Jónsson (1969) and Maurin and Bonnet (1970) from the North Atlantic, and by Penrith (1969) from the south-west of Africa.

Views on the relationship between *R. pacifica* and *R. atlantica* are not yet clear cut. Bigelow and Schroeder (1954) in their revision of Atlantic chimaeroids noted the strong similarities between these two nominal species but had insufficient information to come to any firm conclusion as to their status.

The first New Zealand record of *Rhinochimaera* (Iwai et al., 1970) was based on two specimens from different trawl hauls made on the Chatham Rise by the R.V. Kaiyo Maru in 1968. In 1975 and 1976, about 80 further specimens were collected by the R.V. Shinkai Maru from the Chatham Rise, Challenger Plateau and east of Stewart Island. The present study is based on detailed examination of 23 of these New Zealand specimens.

Materials and Methods

The New Zealand specimens used in this study were caught by deep water otter trawl nets.

Twenty-three specimens comprising 18

males, 1043~1231 mm in total length (TL), and 5 females, 1205~1305 mm TL, were examined. Ten specimens were from the Chatham Rise, 12 from the Challenger Plateau and 1 from east of Stewart Island. These specimens are preserved at the following laboratories:

Far Seas Fisheries Research Laboratory, Japan: FSFL b 1316, 1096 mm TL, male, July 15, 1968, 44°20.5'S, 179°17.5'E, 750 m in depth; FSFL B 1792, 1293 mm TL, female, July 16, 1968, 44°44.0'S, 175°42.0'E, 1110m; FSFL EI 050, 1231 mm TL, male; FSFL EI 052, 1247 mm TL, female, November 2, 1975, 39°58.5'S, 169°50.0'E, 805 m; FSFL EI 556, 1142 mm TL, male, FSFL EI 557, 1305 mm TL, female, May 29, 1976, 42°47.7'S, 178°24.0'E, 1001 m; FSFL EI 539, 1154 mm TL, male, May 29, 1976, 42°50.3'S, 178°29.1'E, 894m; FSFL EI 514, EI 515, 1060~1122 mm TL, males, June 18, 1976, 38°57.5'S, 167°21.0'E, 935 m; FSFL EI 548, 1053 mm TL, male, June 18, 1976, 37°53.0'S, 167°23.0'E, 870 m.

Faculty of Agriculture, Kyoto University, Japan: FAKU 49377, 49378, 1043~1149 mm TL, males, May 28, 1976, 42°50.0'S, 178°28.5'E, 894 m; FAKU 49376, 1179 mm TL, male, September 18, 1976, 46°55.0'S, 170°15.1'E, 960 m.

National Museum, New Zealand: NMNZ 6303, 6304, 1122~1160 mm TL, males, July 9, 1975, 42°49.0'S, 179°12.0'E, 885 m; NMNZ 6617, 1134 mm TL, male, November 15, 1975, 42°47.5'S, 178°22.0'E, 939 m; NMNZ 7216, 1097 mm TL, male, November 2, 1975, 39°58.5'S, 169°50.0'E, 805 m; NMNZ 7215, 2 males, 1140 mm and 1172 mm TL, and female, 1215 mm TL, NMNZ 7227, 2 males, 1133 mm and 1170 mm TL, and female, 1205 mm TL, November, 1, 1975, 42°05.0'S, 169°55.0'E, 956 m.

Measurements were made on formalin fixed specimens. Longitudinal measurements were taken on a horizontal line between perpendiculars at given points. Nomenclature of the head canal system follows that of Garman (1888).

Description

Proportional dimensions as in Table 1.

Trunk slender, compressed, deeper at pectoral origin than at pelvic origin, highest

at middle of body and terminating in a long slender caudal fin and filament; snout long and attenuate, soft and semigelatinous, sub-triangular (base lowermost) in cross section posteriorly, strongly depressed anteriorly and ending in a blunt tip; skin soft, smooth and without denticles, except on upper caudal margin of adult males and some females.

Eye of moderate size, ovoid, longer than high, its horizontal diameter (as defined by skin at rim of orbit) almost equal to length of gill-opening and about one-tenth of pre-orbital length. Exposed nostrils rectangular-ovoid, placed near to mouth and close together, the distance between their inner margins about half length of horizontal diameter of eye. Mouth rather small, transverse, placed slightly forward of level of anterior margin of eye. Gill-opening on each side slit-like, rather short, its length less than distance across throat between inner ends of both gill-openings.

Teeth comprising three pairs of dental plates, the vomerines, palatines and mandibulars, as in Fig. 1. All the dental plates thin, smooth on surface, grey in color, without tritons. Vomerine plates small and beak-like, hooked downward in front of the lower jaws. Palatine plates long and slender, about 1.8 times as long as vomerine plates, sub-triangular, about 3 times as long as broad, almost straight caudal fin.

Lateral line canal and associated mucous canals on head slightly upraised from surface of body. Main lateral line canal originates at junction of occipital and orbital canals; from its origin it extends backwards almost parallel to dorsal profile of trunk in a slightly irregular wavy line; it is essentially straight along most of trunk but it bends down abruptly at about anterior third of lower lobe of caudal fin and continues posteriorly along lower margin of caudal axis.

Pattern of mucous canals on head (Fig. 1) is not always the same on both sides of head, but usually there is more variation between different specimens than between the two sides of the same specimen. Variation is particularly evident in: the nature of the junction of the oral and jugular canals with the orbital canal; the shape of the nasal loop (called angular loop in some accounts); and

Table 1. Counts and measurements of *Rhinochimaera pacifica* and representatives of the two nominal species. Proportional dimensions in percent of body length (measured from gill-opening to origin of upper caudal fin). * data from personal communication; ** after Bigelow and Schroeder (1954).

Sex	Male					Female				
	<i>R. pacifica</i>		<i>R. pacifica</i>		<i>R. atlantica</i>	<i>R. pacifica</i>		<i>R. pacifica</i>		
Region	New Zealand		Japan	Peru	Atlantic	New Zealand		Japan	Japan	Peru
Number of specimens	18		1	1	1	5		1	1	1
Author			Garman (1904)	Chirichigno*	Holt & Byrne (1910)			Dean (1904)	Nakaya*	Chirichigno*
Character	Range	Mean				Range	Mean			
Total length (mm)	1043~1231		902	784	1165	1205.~1305.		1300	875	664
Length snout tip to upper caudal origin (mm)	741~840		—	610	850	930~1035		—	618	501
Body length (mm)	436~498		—	378	477	525~618		—	338	282
Snout tip to: eye	53.5~62.9	58.7	58.6	43.9	61.4	50.1~63.2	54.9	51.6	66.3	60.3
: mouth	45.5~54.5	49.7	50.7	—	52.1	41.2~51.4	45.9	40.1	56.5	—
: gill-opening	68.8~78.3	73.5	78.8	60.8	78.1	66.2~78.1	69.3	67.0	85.2	78.4
: pectoral origin	69.8~81.6	75.7	81.7	61.1	83.0	68.4~81.0	71.8	67.8	89.1	79.8
Gill-opening to: 1st dorsal origin	4.4~7.9	5.6	1.5	2.4	4.6	5.5~6.8	6.2	6.2	0.9	1.8
: 2nd dorsal origin	34.8~41.5	38.2	40.2	42.3	39.2	36.9~40.1	38.6	38.6	36.1	44.7
: pelvic origin	47.2~55.0	51.6	54.0	51.1	—	51.3~55.8	53.4	45.8	50.0	45.0
: lower caudal origin	77.3~87.4	83.6	87.5	91.3	85.3	81.0~88.2	84.8	86.3	87.0	84.8
Nostrils: distance between	2.6~3.1	2.9	—	2.6	—	2.8~3.4	3.0	—	2.4	2.8
Mouth: width	7.0~8.5	7.7	—	10.8	—	6.6~8.6	7.4	—	9.2	9.2
Gill-opening: length	4.8~7.0	6.1	—	10.1	—	6.1~6.9	6.5	—	6.5	8.5
Eye: horizontal diameter	5.7~6.7	6.2	4.6	8.5	6.0	4.9~6.1	5.4	5.8	6.5	6.7
1st dorsal: length base	16.5~25.8	22.2	24.8	23.5	—	20.2~24.8	22.2	21.2	21.0	28.7
: length spine	22.2~26.8	24.0	23.8	43.4	23.8	20.7~26.2	23.4	21.4	19.2	35.8
2nd dorsal: length base	43.2~51.2	46.3	52.1	41.0	44.2	44.8~48.4	46.5	54.0	54.1	36.9
: vertical height	3.0~4.7	4.2	3.2	5.8	—	3.1~4.5	3.7	4.2	7.4	5.3
Pectoral: length anterior margin	34.1~40.3	36.7	43.4	39.2	41.9	32.3~41.2	36.5	39.5	42.9	40.8
Pelvic: length anterior margin	20.1~23.9	22.1	23.5	22.8	23.2	18.3~21.6	20.2	24.8	24.3	26.2
Caudal: upper lobe vertical height	0.6~1.4	1.0	—	2.1	—	0.7~1.0	0.8	—	1.2	1.1
: lower lobe vertical height	6.6~9.1	7.7	9.0	9.3	—	5.7~7.5	6.5	5.7	5.9	7.4
: length filament	1.1~9.8	4.8	—	—	—	1.3~4.1	2.7	—	—	3.5
Distance origin to origin: pectoral and pelvic	44.0~53.1	49.7	49.6	49.5	53.2	50.2~53.1	51.4	45.8	47.0	46.1
Clasper length	5.0~20.5		21.9	21.7	17.8					
Number of caudal denticulations on upper caudal	41~68	55.2	47~52**	25	25~30**	64	—	—	69	23

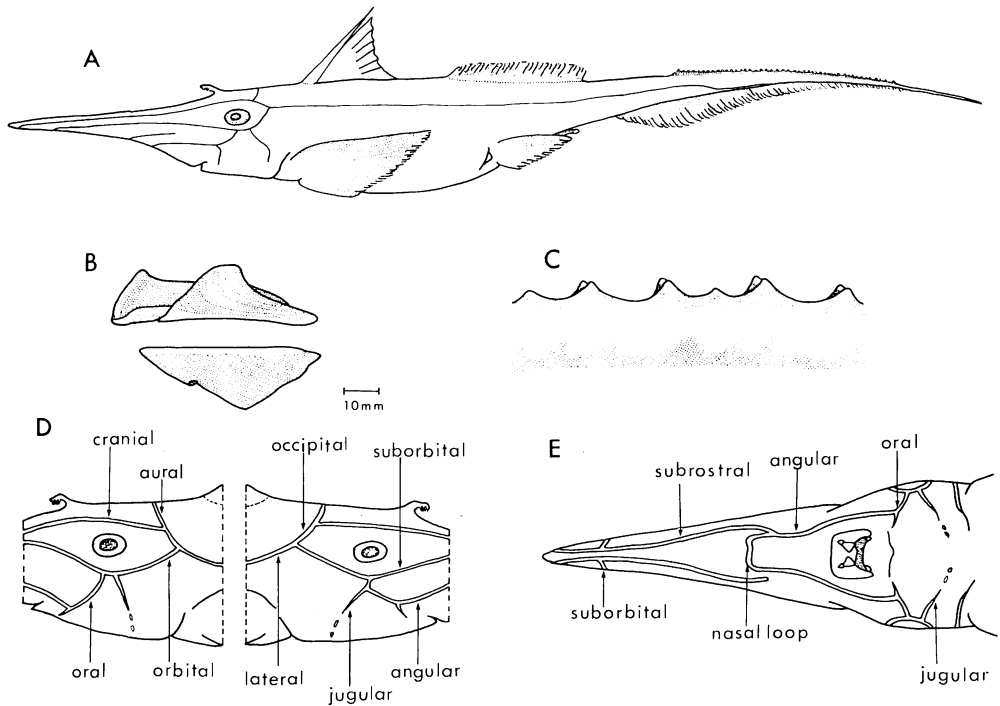


Fig. 1. *Rhinochimaera pacifica* from New Zealand. A: Lateral view, male, 1231 mm in total length (TL) (FSFRL EI050). B: Dental plates, left side outer view (upper: vomer and palatine, lower: mandibular), same specimen. C: Lateral view of upper margin of caudal fin to show the denticulations, same specimen. D: Diagram showing pattern of mucous canals on head, male, 1060 mm TL (FSFRL EI514). E: Diagram showing pattern of mucous canals on underside of snout, male, 1179 mm TL (FAKU 49376).

the nature of the junction of the two aural canals middorsally. In 10 specimens examined bilaterally, i.e. allowing 20 sides to be compared, the oral and jugular canals on 12 sides join the orbital canal separately though close together; on a further 6 sides the oral and jugular canals have a common junction with the orbital canal; and in the remaining 2 sides the oral and jugular are fused for a short distance before joining the orbital. The size and configuration of the nasal (angular) loop is generally as in Fig. 1, but the shape of the anterior, transverse portion of it varies from being essentially straight as in Fig. 1 to slightly concave or convex or notched or irregularly wavy, and in 1 of 10 specimens it was incomplete, with a narrow gap separating the two sides. The aural canals on the two sides of the occiput usually have a simple transverse junction middorsally (as in 5 of 10 specimens examined) but in two others this

junction is extended posteriorly by a short canal bent to one side, while in the remaining 3 each of the two aural canals is reflexed posteriorly before fusing in the midline and on the cutting edge. Mandibular plates are similar in size and shape to the palatine plates.

First dorsal spine erectile, its origin above pectoral base, its length almost as long as base length of first dorsal, its tip extending to or slightly beyond apex of dorsal fin; when folded the tip does not reach to second dorsal origin; distal half or one-third of spine free from fin; spine rather strong though slender, triangular in cross section, keeled in front, its posterior edges with a few serrations distally and its posterior face shallowly grooved. First dorsal fin triangular, with about seven to eight stout branching rays, its apex pointed, its distal margin concave and connecting to second dorsal fin by a very low fold of

membrane; second dorsal fin rather low, its base fleshy and skin-clad, maximum height less than horizontal diameter of eye; caudal fin elongate and tapered, upper lobe of caudal fin low and without visibly distinct rays; in adult males and some females its margin set with a row of 41 to 68 rather irregularly distributed denticulations; these denticulations are usually paired, with the members of each pair directed laterally; between successive paired denticulations there are frequently unpaired minor denticulations; in some females the upper caudal lobe is very low and lacks denticulations; lower lobe of caudal fin of both sexes well developed, with boldly arched outline anteriorly, its origin about below end of second dorsal, its base fleshy and skin-clad, its base length a little longer than distance from snout tip to base of dorsal spine; caudal filament variable, but usually very short, up to about 10% of body length. Pectoral fin large and slender, its breadth (measured at right angles to the anterior margin) about 40 to 50% of length of the anterior margin, its tip somewhat pointed and not reaching pelvic origin. Pelvic fin almost two and one-half times as long as broad, its tip extending about halfway between origin of pelvics and lower lobe of extending back as a short median canal.

As well as the above variation we note that in 2 of 23 specimens examined the posterior end of the subrostral canal on one side of the head joins the side of the nasal (angular) loop, i.e. it does not end blindly a short distance from the loop.

Ventral surface of snout with numerous pores, especially in front of mouth and region of nasal (angular) loop, and a few large pores located lateral to each branch of suborbital canal near tip of snout; many minute mucous pores, often grouped, on lateral and dorsal surfaces of head, especially in the angle formed by the occipital and orbital canals, near oral canal, under suborbital canal in front of eyes and lateral to each cranial canal near head clasper.

Posterior pelvic claspers slender, subcircular in cross section, rod-like, slightly tapered and terminating in a subconical club and with numerous small erectile thorns pointing toward

the base; openings of prepelvic pouches oblique; prepelvic claspers (tenacula) flat, blade-like, concave ventrally, their posterior margins fleshy, their inner margins armed with a few (about 5) strong hooks pointing toward base, which increase in size from posterior to anterior; head clasper club-shaped, almost same length as vertical diameter of eye, its anterior end curved downwards to fit into a pocket on the head, its base a little anterior to eye, the undersurface of its club-shaped head armed with numerous hooked denticles pointing rearward. Although there is no head clasper in females, there is an indication in the skin at the same position as in the male.

Color of body pale brownish, without stripes or mottling, a little paler below and almost white on snout and first dorsal; margins of fin membranes dark brown.

Discussion

According to Holt and Byrne (1910), *R. atlantica* differs from *R. pacifica* in the relative length of the base of second dorsal fin (shorter than the distance from gill-opening to pelvic origin in *R. atlantica* but longer than this distance in *R. pacifica*) and in the nature of the head canals (posterior end of subrostral canal that runs rearward along the lower surface of the snout ending blind in *R. atlantica* but joining the nasal (angular) loop in *R. pacifica*).

However, Bigelow and Schroder (1954) showed that *R. atlantica* and *R. pacifica* cannot be separated by these characters and did not find any obvious differences in proportional dimensions or in morphology of the fins, fin-spine or dental plates. They noted that although the base of the second dorsal fin is shown as longer than the distance from gill-opening to pelvic origin in Dean's (1904) illustration of *R. pacifica* it is only about as long as that distance in Mitsukuri's (1895) illustration and shorter than that distance in Garman's (1904) illustration and in two specimens of *R. pacifica* in the Museum of Comparative Zoology, Harvard University. They also examined the subrostral canals in the last mentioned two specimens of *R. pacifica* and found that their posterior ends terminated blindly, although in some instances the blind

ends were very close to the loop as can also be found in *R. atlantica*. These findings discount the differences which Holt and Byrnes (1910) proposed, but despite this Bigelow and Schroeder (1954) continued to recognize the two species because they had observed that the length of the caudal filament of *R. atlantica* appeared on average to be shorter than that of *R. pacifica* and that the denticulations on the upper caudal margin of males were not only larger but also fewer in *R. atlantica* (25~30) than in *R. pacifica* (47~52). They further pointed out that only some *R. atlantica* females had similar denticulations, whereas all *R. pacifica* females appeared to have them. In evaluating the significance of these differences they noted that the denticulations are secondary sexual characters subject to considerable variation from specimen to specimen, and that the caudal filament length is suspect because it is susceptible to damage. Their final conclusion was that *R. atlantica* may eventually be reduced to the rank of subspecies.

Our New Zealand material comprises a much larger sample than has been reported on by other authors. Our findings from it are that it can be referred to *R. pacifica*, and that comparison with *R. atlantica* yields essentially the same results as those of Bigelow and Schroeder (1954). Proportional dimensions of New Zealand specimens (Table 1) are very variable, but even so they do not encompass those of some specimens from Japan, Peru and the Atlantic shown in the same table. Despite these considerable discrepancies, as for example in the male specimen from Peru and Nakaya's female specimen from Japan, we feel that little emphasis can be placed on them

because they do not conform to an obvious pattern for any one locality. The length of the second dorsal base is, on average, noticeably less than the distance from gill-opening to pelvic origin in the New Zealand sample (Table 1, and see also Table 2 for comparison with Bigelow and Schroeder's (1954) findings). The posterior ends of the subrostral canals end blindly in 21 of 23 New Zealand specimens; in the remaining 2 specimens the subrostral on one side joins the nasal (angular) loop. The caudal filaments of New Zealand specimens are very short, particularly in the females, and for both sexes combined average less than 10% of the length of the second dorsal base. In this feature they agree better with published data for *R. atlantica* rather than for *R. pacifica*, and hence run counter to Bigelow and Schroeder's (1954) findings. However, we note that their lengths are very variable (e.g. ranging from 1.1 to 9.8% of body length in our males), their points of origin are not well defined, and they are so slender as to be easily damaged or broken, and hence we place little significance on them. Caudal denticulations are present on all of our males, but only on some of our females where they are much less well developed by comparison. In 1 of the 5 females they are lacking, in 3 they are represented by traces, and only in 1 can they be counted, but our count of 64 for this specimen is still an approximation. For comparison, in 1 female from Japan the number of caudal denticulations is 69 (data from Nakaya, pers. comm.). In our 18 males, the number of denticulations is 41~68 (mean 55.2) and hence extends the range of 47~52 given by Bigelow and Schroeder (1954) for *R. pacifica*, but nevertheless is still very dif-

Table 2. Ratios between length of base of second dorsal and distance from gill-opening to pelvics in two nominal species and in New Zealand specimens. M, mean; * after Bigelow and Schroeder (1954); ** length to rear base of 2nd dorsal.

Species	Body length (mm)	Sex	Ratio, base 2nd dorsal to distance gill-opening to pelvics
<i>R. atlantica</i> *	727~755 (n=2)**	males	1.0 : 0.98~1.09 (M=1.04)
<i>R. atlantica</i> *	770~880 (n=4)**	females	1.0 : 1.0~1.08 (M=1.02)
<i>R. pacifica</i> *	575~590 (n=2)**	males	1.0 : 1.0 (M=1.0)
New Zealand specimens	436~498 (n=18)	males	1.0 : 0.96~1.27 (M=1.12)
New Zealand specimens	525~618 (n=5)	females	1.0 : 1.07~1.24 (M=1.15)

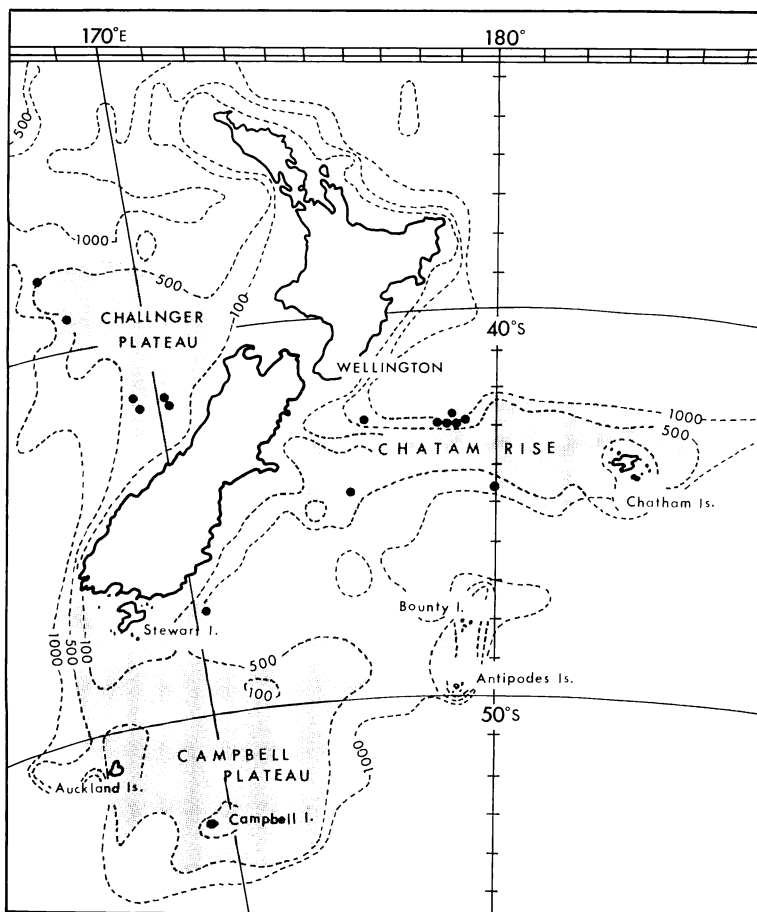


Fig. 2. Distribution of *Rhinochimaera pacifica* in New Zealand waters. Shaded areas show the researched areas by the Kaiyo Maru (1968) and Shinkai Maru (1975, 1976). Black spot shows the position of record of this species. Water depth measured by fathoms.

ferent from the 25~30 known for *R. atlantica*.

On the basis of the above we conclude that our New Zealand material should be identified as *R. pacifica* (Mitsukuri, 1895), which in any case is the older of the two names for *Rhinochimaera* species, and that the only obvious difference between *R. pacifica* and *R. atlantica* is in the number of caudal denticulations. However, this still leaves open the question as to whether the Atlantic form deserves full specific rank. We have no new information on Atlantic specimens but data from Kobayashi and Sakurai (1967) and from Chirichigno (1974 a, b and pers. comm.) on Japanese and Peruvian specimens respectively should be taken into account. Kobayashi and Sakurai reported one male, with about 34

caudal denticulations, a number that is almost intermediate between the lowest count for *R. pacifica* and the highest count for *R. atlantica*. Chirichigno recorded a male and a female, with 25 and 23 denticulations respectively. The count of 25 for the male falls into the range for *R. atlantica*. However, this male which was only 784 mm total length, 378 mm body length, is smaller than any of our specimens, although it was mature judging by a clasper length of 21.7% BL (data from Chirichigno, pers. comm.). We do not know whether there is a full complement of denticulations (which are secondary sexual characteristics) when they first appear, or whether the number increases progressively or with increase in length of the male. In our males

there is no obvious correlation between number and length, but they are all large and cover a limited size-range (1043~1231 mm TL, 436~498 mm BL). Nevertheless we note that our smallest male (1043 mm TL, 436 mm BL) has the smallest number of denticulations (41) and is the only one that is immature (clasper length only 5.0% BL). On this slender evidence the small size of Chirichigno's male could be used to support a suggestion that it had not yet achieved its full complement of denticulations, though countering this there is the fact that it is already mature. The male reported by Kobayashi and Sakurai with 34 denticulations was, however, not only mature but also of much larger size (1060 mm TL). These sparse data are open to several interpretations including the possibility that the number of denticulations varies by locality, not only between the Pacific and Atlantic but also within the Pacific, and that this variation may eventually be found to be clinal. Until there is further evidence available we prefer not to reach a firm decision on the status of *R. atlantica*, but we point out that the difference in a secondary sexual character between the Pacific and Atlantic forms of *Rhinochimaera* is paralleled in *Harriotta* where only one species, *H. raleighana*, is recognised although adult Atlantic males have only a few large wart-like knobs on the snout whereas adult Pacific males examined to date have numerous small knobs such as occur on immature Atlantic males (Garrick and Inada, 1975).

Within New Zealand the known distribution of *R. pacifica* is shown in Fig. 2. At the Catham Rise it occurs at depths greater than 750 m, and bottom temperatures between 5.7° and 6.4°C; at the Challenger Plateau it is at depths greater than 805 m, and bottom temperatures between 5.5° and 7.1°C; and to the east of Stewart Island it is in depths of 960 m and more, with bottom temperatures of 4.1°C. The maximum depth at which it was taken was 1110 m.

Considering that this species is recorded from such wide-spread localities in the Pacific as Japan, Peru and New Zealand, it is likely that it has a much wider distribution in deep waters than appears to be the case at present.

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- (TI: Japan Marine Fishery Resources Research Center, 3-4, Kioicho, Chiyodaku, Tokyo 102, Japan; JAFG: Victoria University of Wellington, Private Bag, Wellington, New Zealand)
- ニュージーランド近海から得られたテングギンザメ *Rhinochimaera pacifica*
- 稲田 伊史・J. A. F. Garrick
- テングギンザメ属 *Rhinochimaera* 魚類には日本とペルーから記録されているテングギンザメ *R. pacifica* と大西洋産の *R. atlantica* の二種が知られている。調査船開洋丸によりニュージーランドから本属魚類 *Rhinochimaera* sp. が得られ、さらに深海丸のニュージーランド航海(1975, 1976)において再びこの *Rhinochimaera* sp. が約 80 個体採集された。
- これらのニュージーランドから得られた標本を前二種と比較した結果、ニュージーランドの雄の成体の尾鰭背縁にみられる棘状突起 (denticulation) の数は 41~68 であり、*R. pacifica* に対し与えられた範囲 (47~52) より大きい。また、*R. atlantica* の 25~30 の範囲とは大きく異なっているため、ニュージーランド産の *Rhinochimaera* sp. を *R. pacifica* と同一種であると同定した。しかしながら日本およびペルー産の *R. pacifica* の棘状突起の数は各々 34, 69 および 23, 25 と記録されているため、本形質は太平洋と大西洋の種の間の違いのみならず、太平洋の種内においても海域により変異がみられ、本属魚類の種の地位について十分な資料を得たうえ、さらに検討を要するものと考えられる。
- (稲田: 102 東京都千代田区紀尾井町 3-4 海洋水産資源開発センター; Garrick: ニュージーランド ウェリントン ヴィクトリア大学)