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Two New Records of *Tetraplatia chuni* Carlgren from the South Atlantic

By

William J. Rees and Ernest White

(British Museum (Nat. Hist.), London)

(*With 1 Plate & 1 Text-figure*)

Tetraplatia is an aberrant medusa with a pelagic habitat, and its type species, *T. volitans* Busch, 1851, has been found in all oceans(Beyer 1955; Hand 1955; Rees & White 1957). Until Carlgren (1909) reported on the collections of the *Valdivia* only one species was known, and a second species was described by him from the Benguela Current (*Valdivia* St. 115, 36°24′4″ S., 17°38′1″ E.) in an open vertical haul from 2500 m. Only a single specimen was found and subsequently some doubt has arisen as to whether *T. chuni* was in fact an abnormal specimen of the better known *T. volitans* (Hand 1955).

The discovery of a second specimen of *T. chuni* is therefore of great interest and we have thought it desirable to publish a description of it. We wish to thank Dr. Helene Bargmann for drawing our attention to this specimen which came to light among collections of hydromedusae studied by P. L. Kramp (1957), and also Dr. N. A. Mackintosh, C.B.E., National Institute of Oceanography, for readily making this material available for report. The *Discovery* specimen is a very large one for *Tetraplatia* and proved on examination to agree in so many points of detail with Carlgren's *T. chuni* that we have no hesitation in regarding it as the same species.

This led us to re-examine our collections of *Tetraplatia* (Rees & White 1957) and among these we found a very young specimen (*Discovery* St. 2496) which is probably this species, for it was without any flying buttresses.

The dimensions of the three known specimens of *Tetraplatia* without flying

Table 1. Measurements in mm.

	Discovery St. 2008.	*Discovery* St. 2496.	*Valdivia* St. 115
Total length	12.95	1.61	8.0
Width of face at level of lappets	5.95	0.88	4.12
Length of apical part	7.0	0.84	4.53
Length of oral part	5.95	0.77	3.47
Width of lappet	1.1	0.20	0.6-0.7

Jour. Fac. Sci. Hokkaido Univ. Ser. VI, Zool. 13, 1957 (Prof. T. Uchida Jubilee Volume).

buttresses are given in Table 1; those for the holotype of *Tetraplatia chuni* have been calculated from Carlgren's figure (1909, Taf. X fig. 10).

It should be noted that the width of the face at the level of the lappets is much less than the maximum width of the animal. As has been repeated by Komai (1939) : — "The shape of *Tetraplatia* has been compared often with two elongate pyramids fused together by the bases" and in *T. volitans* one of these pyramids, the oral one is "two to three times as high as the other." In Carlgren's specimen and ours these proportions are different and the apical part is the larger of the two.

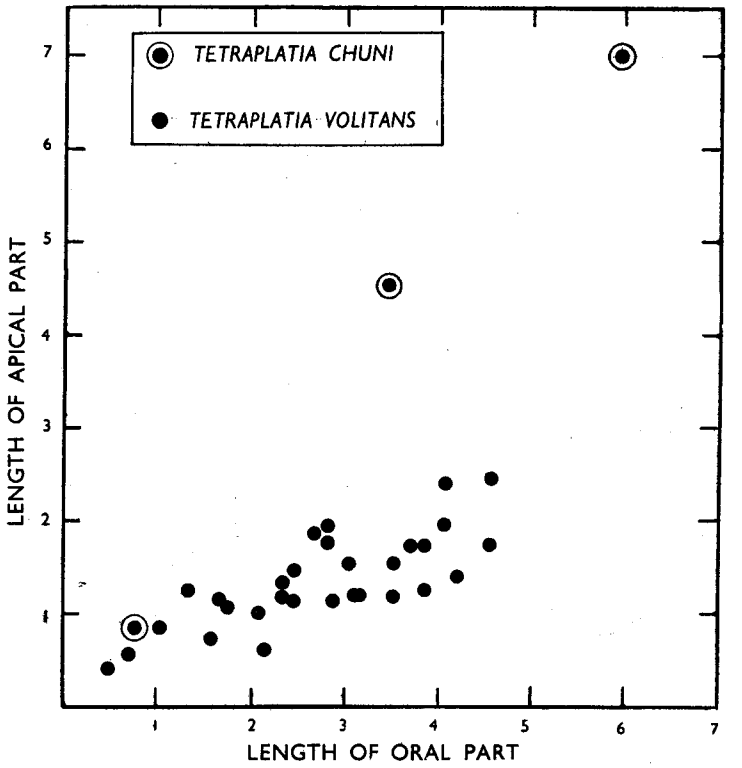

Fig. 1. The relative proportions of the apical and oral parts in *Tetraplatia chuni* and in *T. volitans*; the scale is in millimetres.

In Figure 1 the length of the oral part is plotted against the length of the apical part for the three known specimen of *T. chuni*, together with the same dimensions for representative specimens of *T. volitans* from the collections of the British Museum. It will be noted that in the smallest individuals of both species, the

oral and apical parts are approximately equal in length, but in *T. volitans* the former outstrips the latter markedly in older specimens : thus, as already noted, the oral part may be more than twice the length of the apical part.

By contrast there is no such noticeable difference in growth in *T. chuni*, so that the two remain approximately equal in size, and if we can regard the large *Discovery* specimen as typical, the apical part may exceed the oral one in length.

Apart from body proportions, the significant taxonomic feature of Carlgren's diagnosis is the absence of flying buttresses, joining the basal corners of the pyramids. In the species *volitans* these have always been regarded as a special feature separating the species from *T. chuni*. It has however been recently demonstrated by Hand (1955) that these structures are subject to variation in *T. volitans* and he has recorded abnormalities as regards buttresses in four out of 211 specimens from the Eastern Pacific. In two examples, normal in other respects, there are only two and three flying buttresses each, the others being missing. Hand thought that "Carlgren's *T. chuni* seems to be very little different from *T. volitans*, the major differences being the absence of buttresses and the narrower lappets of his species as compared with *T. volitans*". He is inclined to regard the latter feature as unreliable and we are in agreement about this for the width of the lappets is difficult to measure and the width of individuals of *Tetraplatia* is frequently related to the method of preservation. Although Hand was inclined to regard Carlgren's *T. chuni* as a freak specimen and to merge the two species, he did not do so.

We do not have enough material of *T. chuni* to make a comprehensive study of its geographical range and its vertical distribution but the following stations provide some details.

Valdivia St. 115, 36°23′4″ S., 17°38′1″ E., 14. xi. 1898; vertical net, 2500–0 m. 1 specimen (type locality).

Discovery St. 2008, 66°06′5″ S., 06°45′6″ W., South Atlantic, 20. iii. 1937; TYFB, 1500–1300 m. (1 large specimen).

Discovery St. 2496, 50°20.7′ S., 01°03·3′ E., South Atlantic, 2. xii. 1938, N70V, 1000–750 m. (1 juvenile specimen).

All the above localities are in the South Atlantic, the first being in the Benguela Current off the West coast of S. Africa, the second north of the Antarctic ice edge, and the third north-west of Bouvet Island.

The two records from the closing-net hauls of the Discovery Expeditions show that *T. chuni* can be found at considerable depths, that is, between 750 m. and 1500 m. At St. 2496, at a depth of 930 m., the temperature was 2.23°C., the salinity 34.69‰ and the density (σ_t) 27.72.

The two new specimens of *T. chuni* now found indicate that the species is distinct from *T. volitans*, not only in the absence of all buttresses, but also in body proportions and in growth rates.

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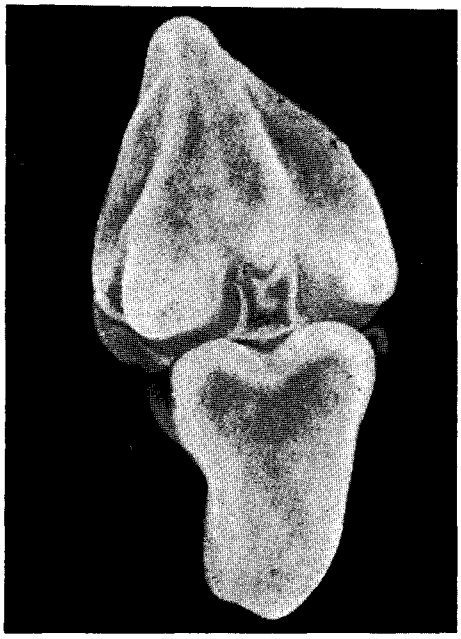
Explanation of Plate III

Tetraplatia chuni Carlgren and *Tetraplatia volitans* Busch

Figs. 1-3. Different views of *Tetraplatia chuni* from *Discovery* St. 2008, S. Atlantic, 20 March, 1937. Note the absence of flying buttresses and the body proportions. Fig. 4. *Tetraplatia volitans* : specimen from *Discovery* St. 3272, Bay of Biscay, 27 June, 1953, stained with anthracene blue. Note the flying buttresses and the long oral part of the body.



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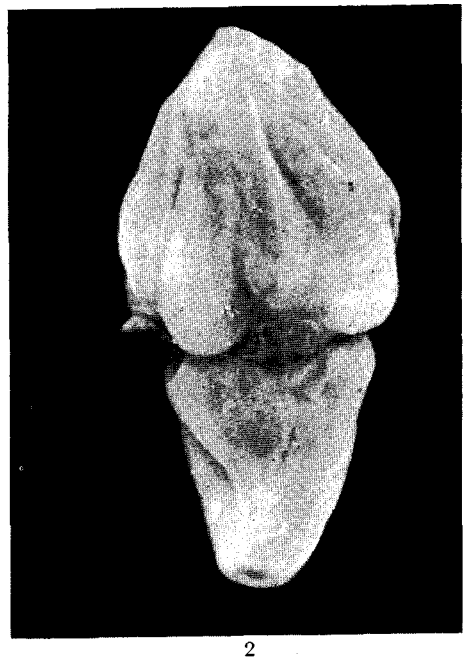

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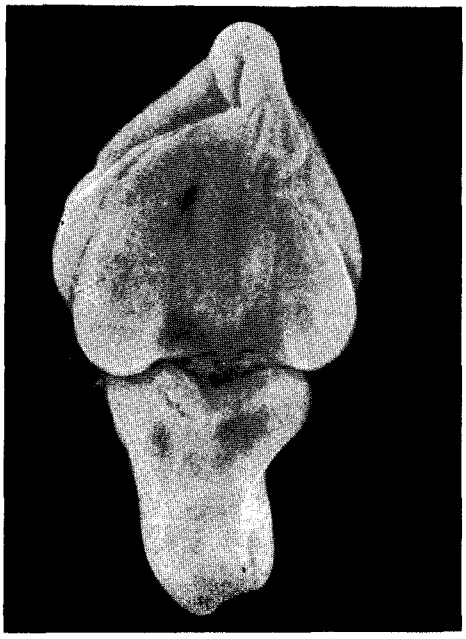

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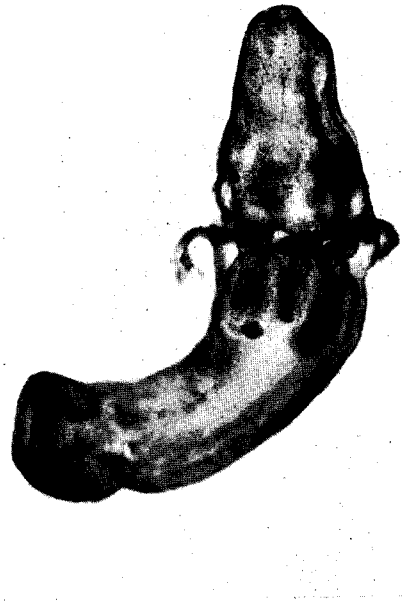

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