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CONTRIBUTIONS TO THE KNOWLEDGE OF THE
Ommastrephes bartramii (LESUER, 1821) OFF
 SOUTH-WESTERN AREA, ATLANTIC OCEAN

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ABSTRACT:

The paper presents the allometrie of Ommastrephes bartramii species (LESUER, 1821) caught off Argentinian coast in January-April 1978. There are pointed out the population characteristics comparatively with the northern populations. There are analysed the dependence between some calculated parameters: mantle length, fin length on fin width, and mantle length on IV arm length.

Ommastrephes bartramii (LESUER, 1821), Ommastrephes pterosus (STEENSTRUP, 1855), and Ommastrephes caroli (FURTADO, 1855) are presently recognized as belonging to the genus Ommastrephes. Two of these, O. pterosus and O. caroli are especially known in Atlantic Ocean (1, 3). O. bartramii may be found also in the Atlantic Ocean, Pacific and Indian Oceans (2, 3, 6). Because of this great distributions it is a cosmopolite species, with some differences to one area from the other.

The fact is, that the allometric description of the morphometric characteristics is essentially, even if only one of this characteristics are used for a species identification.

For the O. bartramii species who lives in the southeast

Atlantic, there are no data of the morphometric analyses for the identification of the particularities created by the environmental medium.

The paper wants to presents some biometric elements and the dependence between these. Such elements would contribute to the knowledgement of the species who lives off and deep waters of South Atlantic.

MATERIAL AND METHODS

The determination of the main morphologic external characteristics was made by biometric measurements suggested by VOSS (4).

There were analysed 321 specimens which was collected during the experimental fishing in the southeastern area of the Atlantic Ocean, between January - April 1978, from 30° - 45° S and $58^{\circ}45'$ - $40^{\circ}00'$ W. The lengths measurements were made with drawing compass and the results was exprimated in milimeters. The mantle lengths were centralized to the nearest centimetre all other elements being reported as per cent from it. The relationship among different parts of the body length were calculated by regressions.

RESULTS

The main biometric parameters, for the mantle length classes corresponding to 15-35 cm, both for female and male, are presented in Table 1.

The results show that, there is no seannificative differences between sexes and length classes. The samples analysed presented some slight differences comparatively with YOUNG (6) results for the same species off the Florida and Guadelupe Island for mantle length classes between 26 and 30 cm, and data presented by ZUEV and NESIS (5) for the species diagnosis. The relation between arms maintains in the form I-IV-II-III.

Observations do not permit us give an exactly identification for that population, but we are attempted to consider that is a morphologic separation between South population and Northern one.

Table 1

Biometrical elements on sex and length classes
to Ommastrephes bartramii caught off the Southwest Atlantic Ocean

Mantle length (cm)	Mean mantle length	Sex	Mantle width (%)	Fin length (%)	Fin width (%)	Head length (%)	Head width (%)	Arm I length (%)	Arm II length (%)	Arm III length (%)	Arm IV length (%)	Right manus length (%)	Left manus length (%)
15-20	17.70 18.58	F M	24.18 23.25	44.29 43.27	69.26 69.91	19.46 18.89	21.46 21.15	45.98 45.26	55.14 54.41	61.24 69.10	54.40 53.98	17.25 17.83	18.40 14.25
21-25	22.72 22.11	F M	24.17 24.15	51.51 44.45	67.51 66.41	18.57 18.90	20.64 21.39	47.22 47.62	56.07 54.40	59.59 60.51	55.01 56.17	16.95 17.10	15.35 16.10
26-30	27.50 27.66	F M	25.40 24.94	44.69 48.48	65.63 66.73	17.67 18.36	23.20 20.64	46.40 48.84	56.94 56.94	57.05 62.03	56.40 57.88	19.21 18.74	17.20 19.10
31-37	34.00 36.00	F M	28.58 21.11	52.50 40.83	62.64 55.55	19.47 19.79	24.76 23.56	54.85 53.25	64.44 67.12	67.05 63.29	64.64 65.24	18.88 17.84	19.78 19.24

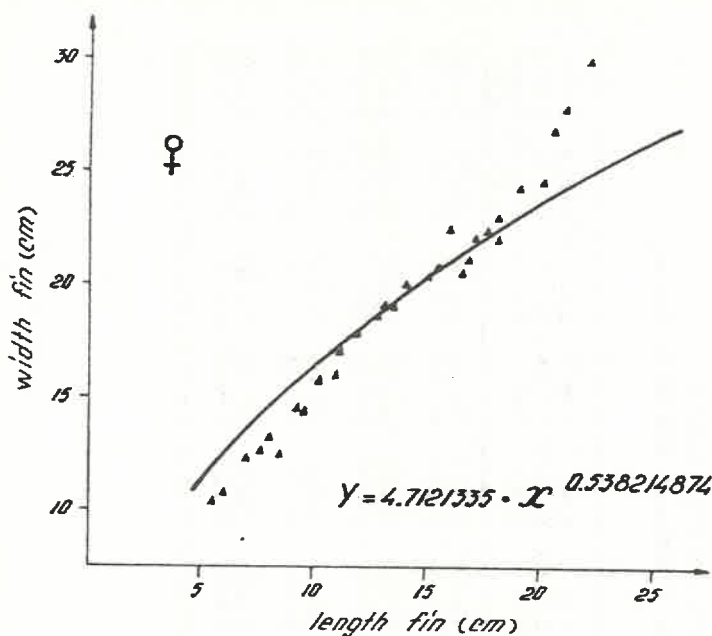


Fig.1 - Relationship between length and width fin

Taking into account the fact that the fin form is the main characteristic to a species determination we have calculated the relationship between fin length on fin width. Thus, resulted the following equation: $y = 4.71213 : x^{0.53821}$ for female (fig.1) were y = fin length, and x = fin width, both in centimeters.

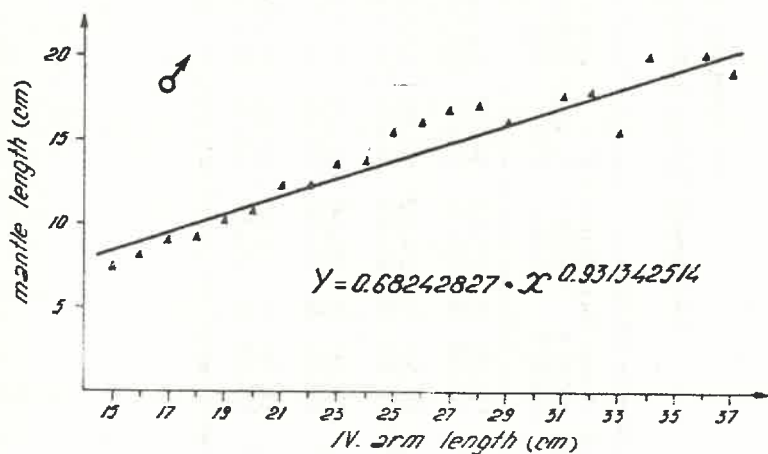


Fig.2 - Relationship between mantle length and IV arm length

An approximately linear relation, in the form $y = 0.68242 \cdot x^{0.9314}$, was obtained for the male of O. bartramii between mantle length and IV arm length, where y = mantle length and x = arm length (Fig.2).

The dependence between mantle and head length of the analysed female, was determined to be in the form: $y = 0.16920 \cdot x^{1.28419}$ where y = the mantle length and x = fin length (Fig.3).

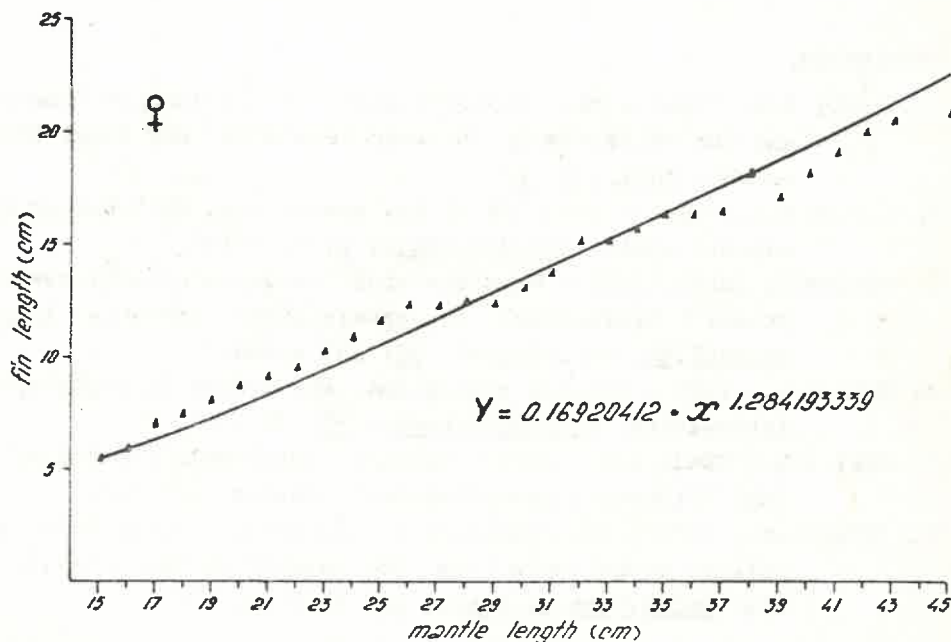


Fig.3 - Relationship between fin length and mantle length

The results tell us that in this case is producing an exponential increase of the two values calculated.

CONCLUSIONS

1. The biometric measurements carried out to Omnastrephes bartramii, on periode January-April 1978, show that there is no distinguished characters between sexes.

2. The relation acquired between different parameters has a linear dependence, without marked inflexions in dependence with mantle length.

3. The results obtained for O. bartramii off Southwest Atlantic Ocean are closely to those from off Florida and Guadelupe Island, with lightly differences due area and time of the analysis.

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