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AGE-INFLUENCED CHANGES OF THE OCCIPITAL REGION IN *LEPTESTHERIA SAETOSA* MARINČEK ET PETROV, 1992 (CONCHOSTRACA, CRUSTACEA).

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Due to a great variability of morphological characteristics utilized for the distinction of species and genera, it is very difficult to understand systematic and phylogenetic relationships within the genus *Leptestheria* G. O. Sars, 1896, family Leptestheriidae, and within the entire group of Conchostraca. A great morphological variability is certainly related to specific mode of life of these organisms and that of their life cycle. Investigations of morphological feature changes during the maturation and ageing of conchostracans are very few and mainly include some taxonomically unimportant characteristics or deal with a certain period of individual life span (Kapler 1960, Botnariuc 1947). Petrov and Marinček (1995) have observed morphological characterisitics throughout the entire life of a conchostracan species *Leptestheria saetosa* and have established that the greatest number of the characteristics analyzed change intensively after sexual maturation what brings about considerable morphological differences between adult specimens of different age.

In this study in laboratory cultured specimens of different age of the species *L. saetosa* the appearance of the occipital region, one of the most important characteristics for the taxonomy within the family, was observed. In order to establish the length of the occipital region and its basal width, occipital and occipitobasal indexes were calculated according to Petrov (1990).

We found that during the entire life span, even in old specimens, occipital region changed. In young ones it is feebly developed, short and round. Further on it becomes more and more elongated, narrower and more pointed in both sexes. During the ageing it is often bent backward, especially in females.

The highest values of occipital and occipitobasal indexes were found in young specimens (Table 1). Certain differences between sexes have been observed. In females they rapidly decrease in the first ten days after hatching, to remain almost unchange in the period of sexual maturation and intensive egg production, while in old females the values of both indexes rapidly decline again. On the other hand, the period of a rapid decrease in males is longer, but in old males occipital and occipitobasal indexes increase. Therefore, a sexual dimorphism exists; in young specimens the occipital region is shorter and wider in males, in sexually active individuals the difference is not so pronounced, while in old specimens females have a much longer and narrower occipital region.

The unweighted pair-group and cannonian analyses detected that the young sexually undifferentiated specimens had significantly different occipital and occipitobasal indexes from all the others. The old females were also different but this difference was not statistically significant. A difference between sexes was the smallest in young specimens and the highest in the old ones. Within males the youngs, whereas in females the old specimens were distinctly different from the others.

The variability of both indexes is relativelly high, especialy in the period of intensive changes, *i.e.* in young specimens of both sexes and in old females.

Table 1. Analysis of the occipital region in specimens of *Leptestheria saetosa* of different ages (Ioc–occipital index, Iob occipitobasal index, 1, 2, 3–different types of the shape of the occipital region, y–young specimens, ysm–young exually mature specimens, sm–sexually mature specimens, o–old specimens, sun–sexually undiferentiated specimens, m males, f females)

		Ioc				Iob				shape		
		min	max	M	CV(%)	min	max	M	CV(%)	1(%)	2(%)	3(%)
y	sun	13.75	32.00	22.84	28.13	2.25	4.50	3.38	21.31	100.00	0.00	0.00
	m	10.87	19.33	15.32	20.61	1.47	2.67	2.03	21.01	88.89	11.11	0.00
	f	9.28	39.33	17.89	64.24	1.37	2.67	2.07	24.81	94.12	5.88	0.00
ysm	m	8.56	18.00	12.34	21.00	1.25	2.71	1.79	19.62	85.71	14.29	0.00
	f	8.50	18.40	12.49	18.43	1.18	2.80	1.83	25.05	93.33	6.67	0.00
sm	m	9.21	12.75	10.90	11.86	1.44	1.69	1.55	6.01	100.00	0.00	0.00
	f	9.82	18.30	13.16	22.80	1.28	2.50	1.81	22.44	83.33	16.67	0.00
o	m	8.89	15.57	12.36	20.27	1.28	2.28	1.65	24.85	75.00	25.00	0.00
	f	7.33	11.11	9.01	15.03	0.97	1.35	1.21	13.13	40.00	30.00	30.00

Regarding the general shape of the occipital region, three types could be set apart: in the first the occipital region gradually bends backward and then slowlly comes down, in the second it gradually bends backward but abruptly comes down, and in the third the whole region is sharply turned backward. In young sexually undifferentiated specimens only type 1 was found. Together with sexual differentiation type 2 appears; it becomes more frequent only in old specimens. Type 3 was observed only in old females. Using contingence tables it was established that in young specimens the shape of the occipital region was not related to the sex (type 1 was dominant both in males and females), while in mature and old specimens sexual dimorphism was prešent (in males type 1 was dominant and in females type 2).

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