

Some notes on the shelf and slope cephalopod fauna of Vietnam, and a new species of *Sepia* (Cephalopoda, Sepiidae) from this region

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On the basis of data from Russian expeditions in the Vietnamese waters (1964-65 and 1984), the faunistic complex of cephalopods, vertical stratification of main taxonomic groups, and biomass distribution are described. The fauna of shallow waters is mainly represented by Sepiidae and Loliginidae. The ommastrephid squids dominated at the depths 250-500 m, Cycloteuthidae and Histioteuthidae — deeper, down to 1100 m.

A new species of the genus *Sepia*, *S. vossi* sp. nov. is described on the basis of known and previously described material [Voss, Williamson, 1971; Khromov, 1988 a, b] from Hong Kong and Vietnam. The new species combines the characters of *S. omani* in the structure of soft body and, especially, tentacular club, and *S. rex* in the structure of sepion. So the specimens of this species were erroneously identified as *S. omani* or *S. rex*. The history of these errors is established, and the validity of the new species is proved.

Некоторые замечания к шельфовой и склоновой фауне цефалопод Вьетнама и новый вид рода *Sepia* (Cephalopoda, Sepiidae) из этого района

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На основе материалов экспедиций 1964-65 и 1984 годов проведен анализ распределения головоногих моллюсков у Вьетнама. Максимальное видовое разнообразие отмечено на глубинах до 70 м, где и по числу видов, и по биомассе доминировали Sepiidae рода *Sepia* из подродов *Acanthosepion* и *Sepia* s.str. Ниже, на 100-150 м, основу биомассы составляли полигиниды, число видов которых (5) было одинаково от 40 до 150 м, и сепиды *Sepia* (*Rhombosepion*) и *S. (Doratosepion)*. На 250-500 м (горизонт 120-240 не облавливался) и по числу видов, и по биомассе выделяются оммастрефиды. Глубже, до 700 м, по числу видов доминировали также оммастрефиды, по биомассе — они же и хистиотеутиды, а еще глубже — *Histioteuthis miranda* и *Cycloteuthis sirventi*. В верхних горизонтах — до 120 м — в уловах также единично встречались сепиолиды, в нижних — глубже 300 м — кальмары семейств *Onychoteuthidae* и *Chroteuthidae*, во всем диапазоне глубин — различные осьминоги.

Показано, что для вьетнамских вод характерна значительная стратификация таксонов (семейств кальмаров, родов и подродов сепид) по глубинам. Приведен список головоногих моллюсков Вьетнама, проанализированных автором.

На основе повторного анализа ранее описанного и нового материала выделяется новый вид рода *Sepia*, *S. vossi* sp. nov. Гонконгские экземпляры каракатиц, описанные Воссом и Вильямсоном [Voss, Williamson, 1971] как

S. omani и переописанные автором настоящей статьи [Хромов, 1988а] как *S. rex*, а также вьетнамские экземпляры, ранее определенные как *S. rex* [Хромов, 1988 а, b], на самом деле представляют собой новый вид.

Лю [Lu, in press] показал, что настоящие австралийские *S. rex* обладают булавой с одинаковыми присосками, соответственно ни упомянутые выше гонконгские, ни вьетнамские экземпляры с сильно различающимися присосками булавки не могут относиться к этому виду.

S. vossi sp. nov., названный автором в честь Г. Восса, весьма схож с *S. rex* в строении сепиона (отличается лишь розовым цветом дорсального щита). Мягкие части животного и, в частности, булавка, сильно напоминают таковые *S. omani*. Рассмотрена история ошибок в определении нового вида.

INTRODUCTION

The fauna of cephalopod molluscs of the Vietnamese waters is very complex. Notwithstanding the historically wide utilisation of various cephalopods by the Vietnamese consumers and stable fisheries, the cephalopod fauna even of the shelf waters is taxonomically insufficiently studied. The faunas of the slope bottom and bathyal are poorly explored.

During 1964-65 years the Russian vessels "Orlik" and "Pelamida" have gathered a valuable collection of fish and invertebrates, including cephalopods. Only a part of this collection has been analyzed to this moment — Sepiidae [Khromov, 1988 a] and the whole species list of this collection has never been published. In all cases this list could not be exhausting, because two above mentioned expeditions were limited only by the area of the Gulf of Tonkin.

In the late 1970s — early 1980s, several papers of Vietnamese scientists, devoted to the fauna of Vietnam, were published. Nguyen [1978] published the first cephalopod species list for the Gulf of Tonkin. This list included only 25 species (of 7 genera and 4 families) with short reviews of their depth distribution. In 1983 [Nguyen et al., 1983] this list was supplemented by brief data on the South Vietnamese cephalopods.

Practically every new expedition to this region and every more careful analysis of the old collections extend our knowledge of the composition and distribution of Vietnamese fauna. My analysis of sepiid collection stored in the Leningrad (now Saint-Petersburg) Zoological Institute of the Russian Academy of Sciences proved the presence of Indonesian *Sepiella weberi* Adam, 1939, Australian *Sepia mestus* Gray, 1849, Japanese *S. carinata* Sasaki, 1920 and *S. lorigera* Wülker, 1910 in Vietnamese waters [Khromov, 1988 a]. One new species of Sepiidae, *Sepia vietnamica* Khromov, 1987 was described from this region on the basis of "Odyssey" expedition in 1984 [Khromov, 1987 a].

The geographical proximity of Vietnam to the Chinese waters allows to suspect the presence in this region of several other species, described by the Japanese scientists [Okutani et al., 1987] from the East-China Sea.

Some notes on the Vietnamese fauna were made by me in two short papers [Khromov, 1988a; 1990], but they remain virtually unknown for foreign scientists because of the absence of English summary in the first paper and the narrow distribution of the second one, which was prepared for the ICES meeting in 1990 as a MS. May be it is not too bad because some errors were made in the above mentioned papers. *Sepia rex* was determined erroneously, in particular, and I would like to revise these errors in this paper.

MATERIAL

Interesting data on the Vietnamese cephalopod fauna were obtained in the 33rd expedition of the research vessel "Odyssey" in September, 1984. More than 20 hauls were made by this vessel between 10°20' and 16°20' N, at the depth 40-1300 m. As a result, 41 species of cephalopods, belonging to 23 genera and 13 families were identified.

A very brief analysis of this material was published in an abstract in Russian [Khromov, 1988a]. An expanded English version of this paper were prepared for the ICES Workshop in 1990, but it was not presented nor published.

Some other scientific meetings and discussions helped me to understand my errors in identification of several species and I would like to correct my mistakes in this paper. Moreover it seems to be useful to support or to reject my earlier published data on the Vietnamese fauna on the basis of re-analysed material.

The following list of species also includes the species mentioned by the author in previous publications [Khromov, 1987, 1988 a, b, 1990]. The Sepiidae species caught in 1984 are marked by an asterisk (*).