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1. **Occurrence and temporal variation in the size-frequency distribution of 2 bloom-forming jellyfishes, Catostylus perezi (L. Agassiz, 1862) and Rhizostoma pulmo (Cuvier, 1800), in the Indus Delta along the coast of Sindh, Pakistan**
   巴基斯坦信德省沿岸的印度河三角洲中两种暴发性水母的出现及尺寸分布的时空变化
   http://journals.tubitak.gov.tr/zoology/issues/zoo-15-39-1/zoo-39-1-12-1401-13.pdf

Blooms of jellyfishes were studied at 3 sites, namely Bhanbore, Mirpur Sakro, and Keti Bunder. The sampling was carried out from April 2005 to March 2006. Only 2 species of jellyfish, Catostylus perezi and Rhizostoma pulmo, were found in samples. C. perezi was present at all 3 sampling sites, whereas R. pulmo was found only at Keti Bunder. Specimens of C. perezi appeared in the subsurface waters for a period of 6-8 months during April to August 2006 and February to March 2006. The smallest specimens of C. perezi appeared in January, and a gradual increase in size was observed in the population until August. The smallest specimens of R. pulmo were found in February, and their largest specimens occurred in July. The numeric abundance of medusae in zooplankton was also studied. They were more abundant at Mirpur Sakro, with a peak in December and January, while at Keti Bunder their highest number was noted in May. Their number at Bhanbore was comparatively lower than at the other 2 sites. No significant difference in physical oceanographic factors such as salinity, pH, dissolved oxygen, and suspended load of the sampling site was found, except for water temperature.

2. **Effects of hyposalinity on survival and settlement of moon jellyfish (Aurelia aurita) planulae**
   hyposalinity 对海月水母(Aurelia aurita)幼体生存和定居的影响
   http://www.sciencedirect.com/science/article/pii/S0022098114002792

Presettlement processes likely influence the geographical distribution and abundance of scyphozoan jellyfish medusae. In East Asian coastal waters, Aurelia aurita s.l. spawning coincides with the summer monsoon season, and extreme rainfall events subject planulae to hyposaline conditions, presumably jeopardizing their survival and settlement. In this study, laboratory experiments were conducted to determine how prolonged exposure to hyposalinity (25, 20, and 15, in addition to control salinity 32) affects swimming speed, survivorship and settlement of planula larvae, and subsequent development of metamorphosed polyps. Nearly all planulae (>= 95%) in 32, 25, and 20 were geonegative during the first 4 h of exposure to respective salinities, but the majority of planulae (70%) in 15 were geopositive. Although no mortality was induced, hyposaline conditions affected larval behavior and the sequence of post-metamorphosis events. Salinity of 15 significantly increased planktonic larval duration and settled polyps had morphological deformities. At a salinity of 20, settled polyps had delayed tentacle development compared to control and 25 treatments. These anomalous results demonstrate that the response of planulae to environmental stress is more complex than previously assumed and may depend on the ability of the settled polyps to develop viable feeding tentacles. Salinity is proposed to be a principal factor influencing planulae dispersion and distribution in temperate monsoon regions.

3. **Elevating the predatory effect: Sensory-scanning foraging strategy by the lobate ctenophore Mnemiopsis leidyi**
掠食效果的提升：叶状栉水母 Mnemiopsis leidyi 的感官扫描觅食策略
http://onlinelibrary.wiley.com/doi/10.1002/lno.10007/abstract;jsessionid=F3CF4FAA2C0C98D5DB421380FB1319C4.f02t04

The influential predatory role of the lobate comb jellyfish *Mnemiopsis leidyi* has largely been attributed to the generation of a hydrodynamically silent feeding current to entrain and initiate high encounter rates with prey. However, for high encounter rates to translate to high ingestion rates, *M. leidyi* must effectively capture the entrained prey. To investigate the capture mechanisms, we recorded and quantified, using three-dimensional videography, the outcome of encounter events with slow swimming *Artemia* prey. The auricles, which produce the feeding current of *M. leidyi*, were the primary encounter structures, first contacting 59% of the prey in the feeding current. Upon detection, the auricles manipulated the *Artemia* to initiate captures on the tentillae, which are coated with sticky cells (colloblasts). Using this mechanism of sensory-scanning to capture prey entrained in the feeding current, *M. leidyi* uses a similar foraging strategy to that of feeding-current foraging copepods. As such, *M. leidyi* has a higher capture efficiency than do medusae, contributing to the greater predatory effect of *M. leidyi* in both its endemic and invasive ecosystems.

4. **Jellyfish diversity and distribution patterns in the tropical Southwestern Atlantic**
热带西南部大西洋的水母多样性与分布模式
http://onlinelibrary.wiley.com/doi/10.1111/maec.12119/abstract

Jellyfish are often the most prominent components of plankton, with severe consequences for fisheries and tourism. However, in tropical regions, there is much uncertainty about these consequences due to the lack of basic data. Our objective was to improve the knowledge about jellyfish in the Western Atlantic, with an emphasis on understanding diversity, abundance, and distribution patterns. Samples were collected at 34 stations in 1995 using a 300-mu m-mesh Bongo net. The 21 species identified belonged to Hydromedusae (11), Siphonophora (nine), and Scyphomedusae(one). The overall mean density was low (5.2 +/- 5.3 ind. m(-3)). Total Hydromedusae biomass was 130.86 mg C m(-3), and total Siphonophora biomass was 19.04 mg C m(-3). Chelophyes appendiculata (Eschscholtz, 1829) was the most frequent species captured in the oceanic samples, and Aglaura hemistoma (Peron & Lesueur, 1810) was the most common in the neritic region. The latter species is sometimes characterized as a bloom associated with the most polluted and eutrophic river plumes. The main role of jellyfish species in the area is as a higher-order carnivore. A cross-shelf significant difference ($P < 0.05$) was registered, with higher species numbers in oceanic regions and higher densities and biomass in neritic regions.

5. **Model-to-data comparisons reveal influence of jellyfish interactions on plankton community dynamics**
模型与数据的对比揭示了水母对浮游生物群落动力学的影响
http://www.int-res.com/abstracts/meps/v517/p105-119/

Taxonomic shifts can alter predator feeding preference and modify ecosystem dynamics through top-down control. In Barnegat Bay-Little Egg Harbor Estuary (New Jersey, USA),

sea nettle Chrysaora quinquecirrha abundances have increased in the northern portions of the estuary. We evaluated the geographical variation in top-down influence of C. quinquecirrha on plankton community dynamics. We simulated a range of jellyfish-to copepod-dominated ecosystems using a size-resolved nutrient-phytoplankton-zooplankton (NPZ) model. Zooplankton feeding was parameterized as a community average based on predator-prey size ratios and breadth of prey sizes of dominant species. We compared model outputs to data collected in the estuary during 2 summer months of high C. quinquecirrha abundance. We predicted that data from the northern region would be more similar to the jellyfish-dominated model outputs, because C. quinquecirrha abundance is higher in the north. Contrary to expectations, all northern sites had observational data more similar to the copepod-dominated model outputs, and the site that was most similar to the jellyfish-dominated model outputs was in the C. quinquecirrha-free southern region. These results may indicate complex interactions between C. quinquecirrha and the ctenophore Mnemiopsis leidyi, a voracious copepod predator that is nearly absent in the northern region despite having wide environmental tolerances. Predation by C. quinquecirrha may limit the distribution of M. leidyi and indirectly strengthen copepod dominance in the northern region of the estuary. These results suggest that top-down control by jellyfish can be strongly influenced by competition among gelatinous taxa.

6. **Can Aurelia (Cnidaria, Scyphozoa) species be differentiated by comparing their scyphistomae and ephyrae?**
   可以通过比较 scyphistomae 和 ephyrae 来区分水母种群吗？
   http://www.europeanjournaloftaxonomy.eu/index.php/ejt/article/view/230

Debate exists regarding the number of species of the moon jellyfish (genus Aurelia), a common member of the planktonic community of the coastal shelf seas around the world. Three Aurelia congeners (A. aurita, A. labiata and A. limbata) are currently considered to exist but recent genetic analyses suggested that this is an oversimplification. We analyzed the morphological characteristics of scyphistomae, morphological characteristics of ephyrae and differences in the time span of the strobilation process of Aurelia congeners from 17, 7 and 6 different source populations, respectively, of known species. Morphological characteristics of scyphistomae were similar among the 17 populations but those of ephyrae, such as the shape and form of lappets, were effective discriminators in the 6 cases examined. We recommend identifying species based on differences in 1) the morphological characteristics of scyphistomae and ephyrac (and not only medusae), 2) the genetics of individuals, and 3) the geographical occurrence of the population. This study adds to the growing body of knowledge on scyphozoan scyphistomae and ephyrae, stages of the metagenic life cycle of scyphozoans that have received relatively little study compared to medusae.

7. **Changes in abundance and community structure of the zooplankton population during the 2008 mucilage event in the northeastern Marmara Sea**
   东北部马尔马拉海 2008 年 mucilage 事件中浮游动物种群丰度和群落结构的变化
   http://journals.tubitak.gov.tr/zoology/issues/zoo-15-39-1/zoo-39-1-3-1308-11.pdf

The composition and abundance of zooplankton and the corresponding environmental conditions were investigated during the 2008 mucilage event (April-December 2008) in the

Marmara Sea. As a result, 46 zooplanktonic taxa were identified. Copepods and cladocerans were generally the most abundant groups. Mnemiopsis leidyi had a significant seasonality, and abundance was related to fluctuations in temperature and salinity. The most important species were Acartia clausi and Penilia avirostris, but these species did not reach their usual autumn maximum. As a result, the mucilage event in 2008 caused significant shifts in zooplankton abundance and community structure in the Marmara Sea.

8. Current-Oriented Swimming by Jellyfish and Its Role in Bloom Maintenance
水母的洋流定位式游泳与其在水母暴发中的作用

Cross-flows (winds or currents) affect animal movements [1-3]. Animals can temporarily be carried off course or permanently carried away from their preferred habitat by drift depending on their own traveling speed in relation to that of the flow [1]. Animals able to only weakly fly or swim will be the most impacted (e.g., [4]). To circumvent this problem, animals must be able to detect the effects of flow on their movements and respond to it [1, 2]. Here, we show that a weakly swimming organism, the jellyfish Rhizostoma octopus, can orientate its movements with respect to currents and that this behavior is key to the maintenance of blooms and essential to reduce the probability of stranding. We combined in situ observations with first-time deployment of accelerometers on free-ranging jellyfish and simulated the behavior observed in wild jellyfish within a high-resolution hydrodynamic model. Our results show that jellyfish can actively swim countercurrent in response to current drift, leading to significant life-history benefits, i.e., increased chance of survival and facilitated bloom formation. Current-oriented swimming may be achieved by jellyfish either directly detecting current shear across their body surface [5] or indirectly assessing drift direction using other cues (e.g., magnetic, infrasound). Our coupled behavioral-hydrodynamic model provides new evidence that current-oriented swimming contributes to jellyfish being able to form aggregations of hundreds to millions of individuals for up to several months, which may have substantial ecosystem and socioeconomic consequences [6, 7]. It also contributes to improve predictions of jellyfish blooms' magnitude and movements in coastal waters.

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