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1. **Pre-exposure to simultaneous, but not individual, climate change stressors limits acclimation capacity of Irukandji jellyfish polyps to predicted climate scenarios**
   https://link.springer.com/article/10.1007%2Fs00338-017-1590-9
   Researchers have investigated the immediate effects of end-of-century climate change scenarios on many marine species, yet it remains unclear whether we can reliably predict how marine species may respond to future conditions because biota may become either more or less resistant over time. Here, we examined the role of pre-exposure to elevated temperature and reduced pH in mitigating the potential negative effects of future ocean conditions on polyps of a dangerous Irukandji jellyfish Alatina alata. We pre-exposed polyps to elevated temperature (28 degrees C) and reduced pH (7.6), in a full factorial experiment that ran for 14 d. We secondarily exposed original polyps and their daughter polyps to either current (pH 8.0, 25 degrees(C)) or future conditions (pH 7.6, 28 degrees C) for a further 34 d to assess potential phenotypic plastic responses and whether asexual offspring could benefit from parental pre-exposure. Polyp fitness was characterised as asexual reproduction, respiration, feeding, and protein concentrations. Pre-exposure to elevated temperature alone partially mitigated the negative effects of future conditions on polyp fitness, while pre-exposure to reduced pH in isolation completely mitigated the negative effects of future conditions on polyp fitness. Pre-exposure to the dual stressors, however, reduced fitness under future conditions relative to those in the control treatment. Under future conditions, polyps had higher respiration rates regardless of the conditions they were pre-exposed to, suggesting that metabolic rates will be higher under future conditions. Parent and daughter polyps responded similarly to the various treatments tested, demonstrating that parental pre-exposure did not confer any benefit to asexual offspring under future conditions. Importantly, we demonstrate that while pre-exposure to the stressors individually may allow Irukandji polyps to acclimate over short timescales, the stressors are unlikely to occur in isolation in the long term, and thus, warming and acidification in parallel may prevent polyp populations from acclimating to future ocean conditions.

2. **Effect of tea saponin on ephyrae and polyps of the moon jellyfish Aurelia sp 1**
   茶皂素对海月水母 sp1 碟状幼体的效果
   http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0182787
   The moon jellyfish (Aurelia sp.1) is thought to be a nuisance for the sea cucumber aquaculture, which commonly occur in the sea cucumber (Apostichopus japonicus) culture ponds of the Yellow Sea, China. To develop an appropriate method to control Aurelia sp.1 blooms, the toxic effects of tea saponin on Aurelia sp.1 ephyrae and polyps were tested in laboratory experiments. Our results revealed that tea saponin caused significant morphological changes, behavioral abnormality and mortality in Aurelia sp.1 ephyrae and polyps in 24 h and 48 h exposure experiments. The 24 h and 48 h median lethal concentrations (LC50) values of tea saponin for Aurelia sp.1 ephyrae were 1.9 and 1.1 mg L-1 respectively, while the LC50 value for Aurelia sp.1 polyps was 0.4 mg L-1 after 24h and 48 h of exposure to tea saponin. Comparison with literature results of tea saponin on A. japonicus indicates that the resistance of A. japonicus to tea saponin is 12–18 times greater than that of Aurelia sp.1 ephyrae. Therefore, the appropriate tea saponin dosage for the control of Aurelia sp.1 should be

paid enough attention in order to minimize possible damage for sea cucumber. We suggest that the recommended level of tea saponin to eradicate Aurelia sp.1 ephyrae and polyps in sea cucumber culture ponds be lower than 1.35 mg L-1.

3. **Offshore marine constructions as propagators of moon jellyfish dispersal**
近海海洋建造物对月亮水母传播的影响
http://iopscience.iop.org/article/10.1088/1748-9326/aa75d9/meta;jsessionid=C303A306E3B8BB7D53A975F4F18755B9.c4.iopscience.cld.iop.org
We have studied the influence of offshore marine constructions on the moon jellyfish population in the Adriatic sea, where the newly set up substrates enable the formation of a new population based in the formerly unpopulated open waters. Our five-year long computer simulation uses a high resolution coupled bio-physical individual-based model to track the dispersal of the offspring from subpopulations originating from offshore and shore-based sources. According to our study, the platforms enhance connectivity between subpopulations of jellyfish polyps, help sustain existing shore-based subpopulations, contribute to jellyfish blooms in some areas, and play an important role in establishing connection with the rest of the Mediterranean, in addition to representing substantial amounts of available substrate. This is an aspect that is usually overlooked when evaluating the ecological impact of existing and future wind farms, oil and gas platforms, etc. Our approach could serve as a role model in future studies of ecological impacts of planned offshore constructions.

4. **Significant genetic differentiation among meroplanktonic barrel jellyfish Rhizostoma pulmo (Cnidaria: Scyphozoa) in the Mediterranean Sea**
meroplanktonic barrel jellyfish Rhizostoma pulmo (Cnidaria: Scyphozoa)显著的遗传分化
http://www.tandfonline.com/doi/abs/10.2989/1814232X.2017.1303395
Molecular data have shown that jellyfishes are more geographically restricted and evolutionarily divergent than previously thought. We examined genetic variation and divergence within the meroplanktonic barrel jellyfish Rhizostoma pulmo in the Mediterranean Sea; specific sampling areas were the northern Adriatic, western Mediterranean and Tunisian coast. A total of 19 sampling sites and 68 sequences of the mtDNA cytochrome c oxidase subunit I (COI) gene were used. Of the 68 COI sequences, 45 were newly collected specimens which originated from nine sampling sites along the Tunisian coast. A total of 24 haplotypes were obtained and the specimens sampled were characterised by relatively high levels of haplotype diversity ($h = 0.866$) and low levels of nucleotide diversity ($\pi = 0.004$). Haplotype network analysis showed the presence of three distinct phylogenetic lineages (populations), with separate geographic ranges in the northern Adriatic, western Mediterranean and Tunisian coast. The observed genetic differentiation between these three lineages was supported by the presence of significant genetic differentiation between the 19 populations ($FST = 0.757$, $p < 0.001$). The high level of genetic differentiation detected in the barrel jellyfish investigated could be attributed to either intrinsic and/or extrinsic barriers to genetic exchange between different populations that may have adapted to different environmental conditions.

5. **Solving an old puzzle by dismissing new pieces? Moving beyond scientific traditions to understand the life cycle of scyphozoan jellyfish: reply to Morandini et al. (2016)**
   http://www.ingentaconnect.com/content/umrsmas/bullmar/2017/00000093/00000003/art00011;jsessionid=555bs0it39i81.x-ic-live-01
   In a recent comment, Morandini and colleagues raised concerns about our article, "The elusive life cycle of scyphozoan jellyfish – metagenesis revisited." The main goal of our article was to motivate jellyfish scientists to pursue an improved understanding of bloom-forming jellyfish through critical examination of the current jellyfish life cycle model, and not to overthrow a long-standing paradigm. The Structure of Scientific Revolutions, by Thomas S. Kuhn, describes that for well-integrated members of a particular discipline, a paradigm in science might be so conclusive that even considering alternatives appears unconvincing and counter-intuitive. Because resistance might hinder progress within a discipline, we believe that paradigms should neither be challenged, nor defended, but constantly re-evaluated when new evidence appears. Following our original goal to move the field of jellyfish research forward, we are hoping to clear Morandini et al.'s concerns: (1) all points of criticism are addressed; and (2) we discuss why jellyfish ecologists ought to consider the current paradigm as a starting point, and not as the dead end, of our understanding of scyphozoan life cycles.

6. **Earth's oldest jellyfish strandings: a unique taphonomic window or just another day at the beach?**
   https://www.cambridge.org/core/journals/geological-magazine/article/earths-oldest-jellyfish-strandings-a-unique-taphonomic-window-or-just-another-day-at-the-beach/BD3A332A705E4AFB44E32FFAD2060D56
   Discoidal macrofossils reported herein from the lower Cambrian Zabriskie Quartzite (Great Basin, western United States) record the oldest Phanerozoic medusozoan body fossils, as well as the oldest medusozoan stranding event on record. Moreover, these fossils provide evidence of a significant shift in the taphonomic mode characteristic of preservation of nonmineralized taxa in coarse-grained siliciclastic successions near the onset of the Phanerozoic. Taphonomic and sedimentological evidence recorded by these and younger examples of stranded Cambrian medusae is consistent in suggesting that several of the requirements for preservation of these fossils were holdovers from the Ediacaran Period, including the presence of microbial mats and a lack of carcass disturbance by scavenging and/or bioturbating taxa. To shed further light upon the taphonomic factors necessary for the preservation of Cambrian medusae, we compared the biostratinomy and sedimentology of Cambrian medusa strandings to those of Ediacara Biota assemblages from lithologically similar successions. We find key secular disparities in the taphonomic histories of these two types of fossil assemblage. Inconsistencies between the preservational styles characteristic of fossil assemblages preserved in sandstone lithofacies on each side of the Precambrian-Cambrian boundary are explained by a considerable change in the preferred depositional setting in which these macrofossil assemblages are preserved. Thus, rather than documenting a single taphonomic continuum through the Precambrian-Cambrian transition, the Zabriskie and younger medusozoan body fossil assemblages record the advent of an entirely new, yet still very rarely exploited, taphonomic window exclusive to the Cambrian Period.

7. **New Methods of Morphometric Analyses on Scyphozoan Jellyfish Statoliths Including the first Direct Evidence for Statolith Growth Using Calcein as a Fluorescent Marker**
使用钙黄绿素作为荧光标记分析 scyphozoan 水母耳石生长的新方法
https://www.cambridge.org/core/journals/microscopy-and-microanalysis/article/new-methods-of-morphometric-analyses-on-scyphozoan-jellyfish-statoliths-including-the-first-direct-evidence-for-statolith-growth-using-calcein-as-a-fluorescent-marker/2810184B4A5DF801E0F518DD0BE1112B
Statoliths are the only hard structures in the gelatinous bell of most scyphozoan medusae and investigations on these structures could promote investigations of the understudied population dynamics and phylogeny of jellyfish. We examined the statoliths of Aurelia aurita jellyfish of different ages by light microscopic and microtomographic measurements supplemented by scanning electron microscopy. The morphometric analyses confirmed that statolith numbers and sizes increase during jellyfish development and revealed that newly-formed statoliths had similar shapes that may change during statolith growth. Nevertheless, most statoliths had a typical compact rod shape with an aspect ratio of 1–2.5 at all ages and we suggest that the composition of statolith shapes may be taxa specific. We developed a new approach allowing exact measurements of statolith growth for the first time. The application of calcein as a fluorescent marker resulted in clear fluorescent lines within the statoliths, allowing calculations of the statolith side face growth increments (0.1 µm/day; n=252). A single-crystal analysis revealed that the calcein incubation did not affect the statolith crystal structure. In conclusion, calcein labeling is an excellent method to follow the growth of bassanite statoliths.

8. **The first record of the white-spotted Australian jellyfish Phyllorhiza punctata von Lendenfeld, 1884 from Maltese waters (western Mediterranean) and from the Ionian coast of Italy**
白点澳大利亚水母 Phyllorhiza punctata Lendenfeld 的首次记录
http://www.int-res.com/abstracts/meps/v568/p101-110/
The occurrence of the white-spotted Australian jellyfish Phyllorhiza punctata Lendenfeld, 1884, an Indo-Pacific scyphozoan species mainly restricted to the Levantine Basin, is hereby reported for the first time from Maltese waters (western Mediterranean) and from the Ionian coast of Italy. Considerations on possible vectors of introduction of the jellyfish species to this part of the Mediterranean are made.

9. **Mnemiopsis leidyi in the northern Adriatic: here to stay?**
北亚得里亚海的 Mnemiopsis leidyi
http://www.sciencedirect.com/science/article/pii/S138511011630363X?via%3Dihub
Mnemiopsis leidyi has successfully made the transition from its native spatial range along the Atlantic coast of North and South America to many areas of the Eurasian seas. In summer 2016, we observed M. leidyi at several sites within the northern Adriatic (Mediterranean Sea). Here we describe the spatio-temporal distribution of this invasive ctenophoreand its morphological and biometric characteristics, and we present laboratory data on egg production and microscopic observations. M. leidyi was

observed in the offshore, coastal and lagoon systems of the northern Adriatic, at temperatures ranging from 13 degrees C to 29 degrees C and salinity from 11 and 38, from July to December 2016. Dense blooms were detected intermittently from mid-August to November 2016. Total length (TL.) of M. leidyi ranged from 2.0 to 13.5 cm with overall dominance (68.9 +/- 14.2%) of the 5-9 cm size fraction. In the eastern part of the northern Adriatic, we always observed individuals with TL < 3 cm from August to November and cydippid larvae were found in net samples indicating successful reproduction throughout the studied' period. Egg production under laboratory conditions (temperature 20-22 degrees C, salinity 37-38) was high, with mean of 4320 +/- 3980 eggs ind(-1) day(-1) and maximum of 13,512 eggs ind(-1) day(-1).

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