**Stacy, B. A., Chapman, P. A., Stockdale-Walden, H., Work, T. M., Dagenais, J., Foley, A. M., ... & Rodriguez, M. (2019). Caryospora-like coccidia infecting green turtles (Chelonia mydas): an emerging disease with evidence of interoceanic dissemination. *Frontiers in veterinary science*, *6*, 372.**

Abstract: Protozoa morphologically consistent with *Caryospora* sp. are one of the few pathogens associated with episodic mass mortality events involving free-ranging sea turtles. Parasitism of green turtles (*Chelonia mydas*) by these coccidia and associated mortality was first reported in maricultured turtles in the Caribbean during the 1970s. Years later, epizootics affecting wild green turtles in Australia occurred in 1991 and 2014. The first clinical cases of *Caryospora*-like infections reported elsewhere in free-ranging turtles were from the southeastern US in 2012. Following these initial individual cases in this region, we documented an epizootic and mass mortality of green turtles along the Atlantic coast of southern Florida from November 2014 through April 2015 and continued to detect additional, sporadic cases in the southeastern US in subsequent years. No cases of coccidial disease were recorded in the southeastern US prior to 2012 despite clinical evaluation and necropsy of stranded sea turtles in this region since the 1980s, suggesting that the frequency of clinical coccidiosis has increased here. Moreover, we also recorded the first stranding associated with infection by a *Caryospora*-like organism in Hawai'i in 2018. To further characterize the coccidia, we sequenced part of the 18S ribosomal and mitochondrial cytochrome oxidase I genes of coccidia collected from 62 green turtles found in the southeastern US and from one green turtle found in Hawai'i. We also sequenced the ribosomal internal transcribed spacer regions from selected cases and compared all results with those obtained from *Caryospora*-like coccidia collected from green turtles found in Australia. **Eight distinct genotypes were represented in green turtles from the southeastern US.** One genotype predominated and was identical to that of coccidia collected from the green turtle found in Hawai'i. We also found a coccidian genotype in green turtles from Florida and Australia with identical 18S and mitochondrial sequences, and only slight inter-regional differences in the internal transcribed spacer 2. We found no evidence of geographical structuring based on phylogenetic analysis. **Low genetic variability among the coccidia found in green turtle populations with minimal natural connectivity suggests recent interoceanic dissemination of these parasites, which could pose a risk to sea turtle populations.**

* Question:
	+ A juvenile green sea turtle presents dead on arrival in good body condition with no evidence of traumatic injury. Gross necropsy shows enterocolitis with watery enteric contents and diphtheritic membranes, most severe in the distal small intestines and colon. The following organisms is found on microscopic evaluation of feces. What is your diagnosis?



* Answer: Enteric coccidiosis – *Caryospora spp*

Q: What genus of coronaviruses have been shown to infect cetaceans?

A: Gammacoronavirus

***Lactococcus garvieae*: an emerging bacterial pathogen of fish**

CM Meyburgh, RR Bragg, CE Boucher

Dis Aquat Organ. 2017 Feb 8;123(1):67-79.

**What is an expected gross finding on necropsy of a fish with *Lactococcus garvieae*?**

1. Hepatic abscesses
2. Severe emaciation
3. **Widespread hemorrhage**
4. Pale gill and muscle
5. Gastrointestinal ulcers

**Coelomic Fluid Evaluation in Pisaster ochraceus Affected by Sea Star Wasting Syndrome: Evidence of Osmodysregulation, Calcium Homeostasis Derangement, and Coelomocyte Responses**

Sarah J. Wahltinez, Alisa L. Newton, Craig A. Harms, Lesanna L. Lahner and Nicole I. Stacy

Front Vet Sci. 2020;7:131

**Practice question:**

Which of the following is found in Sea Star Wasting Syndrome?

1. Generalized edema
2. Intranuclear inclusion bodies
3. Hypercalcemia
4. White epidermal lesions
5. Nonseptate hyphae

Answer: D

**Disease epidemic and a marine heat wave are associated with the continental-scale collapse of a pivotal predator (*Pycnopodia helianthoides*)**

C. D. Harvell, D. Montecino-Latorre, J. M. Caldwell, J. M. Burt, K. Bosley, A. Keller, S. F. Heron, A. K. Salomon, L. Lee, O. Pontier, C. Pattengill-Semmens, J. K. Gaydos

*Sci Adv*. 2019;5(1):eaau7042

**Practice Question**

What was the reported cause of the precipitous decline in sunflower sea star abundance in the Northeast Pacific following 2013?

Answer: Sea Star Wasting Disease

Question:

Which of the following is a characteristic of morbilliviruses?

1. **eosinophilic inclusion bodies**
2. intranuclear replication
3. double stranded RNA virus
4. positive stranded
5. non-enveloped

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