

## **Preliminary results on biodiversity of Campeche knolls, Mexico: high connectivity of species**

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The geomorphology of the Campeche knolls harbors ridges and knolls with hydrocarbon seep ecosystems and diverse habitats. Among the common seep biota that has been recorded in the area are zoarcid fish (*Pachycara* sp.), tube worms (*Escarpia* sp.), mussels (*Bathymodiolus heckerae* and *B. brooksi*), holothurians (*Chiridota heheva*), decapod crustaceans (*Alvinocaris muricola*, *Munidopsis geyeri* and *M. exuta*). This work describes the preliminary results on biota recorded during the expedition M114 (R/V Meteor; March 2015). A total of 66 taxa have been identified so far (80% at higher taxonomic groups). New records extend the geographic distribution to the southern Gulf of Mexico and support the connectivity on the Atlantic Equatorial Belt: Among the megabiota the sponge *Abyssocladia* sp. was recorded attached to rough asphalt on the knolls from the Chapopote (2155-2875 m) and Mictlan (2201-3077 m) sites. *Fucaria* sp., *Provanna* cf. *sculpta* and *P. cf. reticulata* gastropods were recorded on Chapopote, Mictlan and Tsanyao Yang (2223-3301 m) sites. *Fucaria* sp. was the more abundant form on the carbonate layers near gas hydrates (GH), in contrast with provannids which were more abundant over rough asphalt close GH. The clam species *Abyssogena southwardae*, recorded on Mictlan and Tsanyao Yang sites had previously been found on hydrothermal vents (Mid Atlantic Ridge, 2950-3050 m) and cold seeps (Barbados, 4935 m and Florida Escarpment, 3313 m). The ophiuroid species *Ophioctenella acies* recorded a similar eurigraphic distribution as the clams, occurring in both chemosynthetic ecosystems, and extending into the cold-water coral reef (Logachev Mound, 800-683 m). Relevance of colonist species supports the stepping stone theory from deep-sea ecosystems links with abundant organics matter.