ACTA PALAEONTOLOGICA POLONICA

Mollusks from Miocene hydrocarbon-seep deposits in the Ilocos-Central Luzon Basin, Luzon Island, Philippines

Steffen Kiel, Allan Gil S. Fernando, Clarence Y. Magtoto, and Tomoki Kase
Acta Palaeontologica Polonica 67 (4), 2022: 917-947 doi:https://doi.org/10.4202/app.00977.2022

We report 35 molluscan species from Late Miocene cold-seep carbonates from the Amlang Formation in the Ilocos- Central Luzon Basin in Luzon Island, Philippines, collected in a large quarry in the province of Pangasinan. The 19 bivalve species are largely representatives of chemosymbiotic families; the six new species are the nuculid *Acila (Truncacila) interferencia* sp. nov., the mytilid *Bathymodiolus labayugensis* sp. nov., the thyasirid *Conchocele pangasinanensis* sp. nov., the lucinid *Megaxinus gorrospei* sp. nov., the vesicomyid *Pliocardia ballesterosi* sp. nov., and *Sisonia frijellanae* gen. et sp. nov., of uncertain taxonomic affinity. The 16 gastropods include one species restricted to seep deposits, the neritid species *Thalassonerita hagai* sp. nov.; the buccinid *Enigmaticolus semisulcata* represents the first fossil record of its genus. Biogeographically, the Pangasinan seep fauna shows several links to Neogene seep faunas in other tropical/subtropical areas, namely the Mediterranean and Caribbean regions. In contrast, shared taxa with nearby but extratropical Japan are few, as are shared taxa with Miocene seep deposits in New Zealand.

Key words: Gastropoda, Bivalvia, chemosynthesis-based ecosystem, deep sea, hydrocarbon seep, Miocene, Philippines.

Steffen Kiel [steffen.kiel@nrm.se], Swedish Museum of Natural History, Department of Palaeobiology, Box 50007, 10405 Stockholm, Sweden. Allan Gil S. Fernando [asfernando@up.edu.ph] and Clarence Y. Magtoto [renz_y_magtoto@yahoo.com], National Institute of Geological Sciences, University of the Philippines Diliman, Quezon City 1101, Philippines. Tomoki Kase [neritopsis@gmail.com], National Museum of Nature and Science, Department of Geology and Paleontology, Tsukuba, Ibaraki 305-0005, Japan.

Full text (2,356.4 kB)