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.

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