

## Gastropods from Late Cretaceous Omagari and Yasukawa hydrocarbon seep deposits in the Nakagawa area, Hokkaido, Japan

Andrzej Kaim, Robert G. Jenkins, and Yoshinori Hikida


*Acta Palaeontologica Polonica* 54 (3), 2009: 463-490 doi: <http://dx.doi.org/10.4202/app.2009.0042>

Sixteen gastropod species from two Campanian (Upper Cretaceous) hydrocarbon seep localities in Hokkaido, Japan are described. Seven species are new: the acmaeid limpet *Serradonta omagariensis*; three turbinids: *Homalopoma abeshinaiensis*, *Cantrainea yasukawensis*, and *C. omagariensis*; the trochid *Margarites sasakii*; the seguenzioid *Cataegis nakagawensis*; and the provannid *Provanna nakagawensis*. The most common species in the investigated localities are acmaeid limpets (*S. omagariensis*), tiny turbinids (*H. abeshinaiensis*, *C. yasukawensis*, *C. omagariensis*), and provannids/hokkaidoconchids (*P. nakagawensis* and *Hokkaidoconcha hikidai*). The Upper Cretaceous associations described here do not resemble Lower Cretaceous associations known from other regions but are composed of species similar to gastropods from Recent hydrocarbon seeps and hydrothermal vents in the Northwestern Pacific. This strongly suggest that this region possesses a regional pool of gastropods in chemosynthesis-based communities at least since Late Cretaceous time. The only group of gastropods described here which has no Recent counterpart is the Hokkaidoconchidae. A comparison to gastropods from plesiosaur falls and sunken wood of the same age and region strongly suggest that these invertebrate communities do not differ significantly from the coeval hydrocarbon seep communities described herein.

**Key words:** Gastropoda, hydrocarbon seeps, Cretaceous, Hokkaido, Japan.

Andrzej Kaim [[kaim@twarda.pan.pl](mailto:kaim@twarda.pan.pl)], Instytut Paleobiologii PAN, ul. Twarda 51/55, 00-818 Warszawa, Poland; Robert G. Jenkins [[robertgj@ori.u-tokyo.ac.jp](mailto:robertgj@ori.u-tokyo.ac.jp)], HADEEP, Ocean Research Institute, University of Tokyo, 1-15-1 Minamidai, Nakano-ku, Tokyo 164-8639, Japan; Yoshinori Hikida [[nmhikida@coral.ocn.ne.jp](mailto:nmhikida@coral.ocn.ne.jp)], Nakagawa Museum of Natural History, Hokkaido 068-0835, Japan.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see [creativecommons.org](http://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(3,048.5 kB\)](#)