

## Dimorphism in tetragonitid ammonoid *Tetragonites minimus* from the Upper Cretaceous in Hokkaido, Northern Japan

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Mature modifications, ontogeny, and dimorphism of the small-sized tetragonitid ammonoid *Tetragonites minimus* were investigated in 43 specimens from the Santonian, Upper Cretaceous of the northwestern area of Hokkaido, Japan. Four types of mature modifications were recognised in the shell diameters of 11–13 mm and 16–19 mm, and two differently sized adults were regarded as microconchs and macroconchs respectively. The conch forms of dimorphic pairs were similar in juvenile but differ in the later stage. The supplementary analysis showed that the remarkable adult size differences in antidimorphs continued at least in the Turonian–Santonian. The mature size and size difference between dimorphic pairs decreased chronologically. 36 specimens (84% of examined specimens) were mature, and immature shells were rare in the Santonian. Most of the shells were remarkably well preserved, indicating that *T. minimus* assemblage fossilised quickly near their original habitat without long-distance post-mortem transport. Hence the bias in the fossil occurrence of adult *T. minimus* is unlikely to be due to taphonomy such as the bias of fossilisation potential and floatability in the bottom currents. *Tetragonites minimus* might have been changing their habitats during their life cycle.

**Key words:** Ammonoidea, *Tetragonites*, dimorphism, taphonomy, Late Cretaceous, Yezo Group, Hokkaido.

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