

## Discovery of the Late Triassic megalodont limestone in the Shiriya area, Aomori Prefecture, Northeast Japan

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Megalodonts are the bivalves belonging to the Superfamily Megalodontoidea; they have large and thick shells, and massive hinge parts; they flourished in the carbonate platforms in the tropical seas all over the world especially in the Middle Paleozoic and the Late Triassic. Two large (up to about 20 cm in shell size) and one small (about 5 cm in shell size) megalodonts were recently discovered from a micritic limestone block in the Shiriya area, Northeast Japan. Each large one is assigned to Megalodontidae and Dicerocardiidae, small one to Megalodontidae. Tamura (1983) described two large megalodont species: *Triadomegalodon* sp. cf. *tofanae* and *Dicerocardium kuwagataforme* from the Upper Triassic limestone in the Kuma area, Central Kyushu, Southwest Japan. Two large megalodonts from the Shiriya area possibly belong to these species. However, hinge parts of Tamura's megalodonts have not been described yet, although the characters in this part are very important to identify megalodont genus. Furthermore some species of recently-established genus *Quemocuomegalodon* are similar to *Triadomegalodon tofanae* in the outer shape. Thus we hesitate to use these species names at this moment. On the other hand, small species of megalodontid megalodont is firstly recognized from Japan.

The Shiriya Complex, a probable Late Jurassic-earliest Cretaceous accretionary complex, is distributed in the Shiriya area. It has previously been considered that all the limestone blocks in this area were of Late Jurassic age, based on the occurrences of corals and stromatoporoids in some blocks. However, discovery of dicerocardiid and megalodontid megalodonts suggests the Late Triassic age for some limestone blocks in this area. Besides the presence of megalodont bivalves, 1) abundance of micritic lithofacies with rare fossils; 2) association of basaltic rocks with limestone; 3) presence of alternating beds of limestone and chert; 4) very few insoluble residue in the limestone; 5) occurrence of limestone conglomerates around some limestone bodies, also indicate that at least larger limestone blocks in this area originally deposited on the top or foot of accreted seamount possibly located in the Panthalassa. Since these characters are also similar to those of other Late Triassic limestone bodies in Northeast Japan, correlation between the Shiriya Complex and other accretionary complex in Northeast Japan should be reconsidered based on the presence of Late Triassic limestones in these units.

### References

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