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[JJ] Evening Poster | B (Biogeosciences) | B-PT Paleontology

## [B-PT06]Biotic History

convener: Isao Motoyama (Department of Earth and Environmental Sciences, Yamagata University), Takao Ubukata (Division of Geology & Mineralogy, Department of Earth & Planetary Sciences, Kyoto University), Kazuyoshi Moriya (早稲田大学 教育・総合科学学術院 地球科学専修)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

The Biotic History session covers all aspects of ancient life and the history of biosphere through the geologic time. The study of ancient life is essential for unveiling mysteries of our planet earth. It also provides evidence for evolution of oceans, continents and island arcs. Modern progress in this field has been enhanced by interdisciplinary collaboration with allied sciences, such as paleoceanography and evolutionary biology. Our session intends to be a hub of communication amongst all earth scientists studying the biosphere; we welcome biological and biogeochemical approaches toward the understanding of the history of life.

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## [BPT06-P03] Can we identify Desmostylia based on only humeral morphology?

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Keywords: Taxonomy, Vertebrate Paleontology, Desmostylia

Desmostylia is one clade of extinct marine mammals. They belong Tethytheria (Afrotheria) or Perissodactyla (Laurasiatheria) and existed during the period between the early Oligocene and late Miocene. All occurrences of their fossils are limited to marine strata along the coasts of the North Pacific Ocean. Desmostylian fossils in many shapes and forms, including whole or partial skeletons, skulls, teeth, and fragmentary bones have been discovered from both Pacific coasts, but detailed taxonomic identification based on fragmentary or isolated postcranial materials has been difficult owing to our limited knowledge of the postcranial diagnostic features of desmostylian taxa.

For this reason, I established desmostylian diagnostic characters found in the humerus to identify desmostylian genus. I could find 6 diagnostic characters for desmostylia, 5 diagnostic characters for *Behemotops*, 7 diagnostic characters for *Archaeoparadoxia*, 7 diagnostic characters for *Paleoparadoxia*, 4 diagnostic characters for *Neoparadoxia*, 6 diagnostic characters for *Ashoroa*, and 6 diagnostic characters for *Desmostylus*. All these characters found in this study can be used to identify isolated desmostylian humeri to genus level. Therefore, these results will contribute a better understanding of the stratigraphic and geographic distribution of each desmostylian genus.