THE PROPER NAME FOR THE GEODUCK: RESURRECTION OF PANOPEA GENEROSA GOULD, 1850, FROM THE SYNONYMY OF PANOPEA ABRUPTA (CONRAD, 1849) (BIVALVIA: MYOIDA: HIATELLIDAE)

Brent Vadopalas*, Theodore W. Pietsch & Carolyn S. Friedman

University of Washington, School of Aquatic and Fishery Sciences, 1122 NE Boat Street, Seattle, Washington 98105-6770, U.S.A.

INTRODUCTION

In 1849, Conrad described, illustrated, and assigned the name Mya abrupta to a new species of fossil bivalve collected from Miocene deposits along the banks of the Columbia River near Astoria, Oregon, during the United States Exploring Expedition of 1838–1842 (Conrad, 1849: 723, pl. 17, fig. 5a, b, USNM 3608; Figs. 1–3). Conrad described it as:

"Subelliptical, slightly ventricose, widely gaping posteriorly. Surface marked with concentric undulations. Beaks separated, nearly medial, slightly prominent. Anterior margin acute, obbiculate; posterior margin abrupt, arcuate, somewhat reflexed: basal (inferior) margin arcuate; dorsal margin short, straight, nearly parallel with the base."

In 1850, Gould described the valves of a new extant species collected from the Nisqually region of Puget Sound, Washington, during the same expedition and assigned it the name Panopea generosa (Gould, 1850: 215, USNM 5894; Figs. 4–7). Gould (1852: 385–386; 1860, pl. 34, fig. 507, 507a) later figured and expanded the description:

"Shell large and ponderous, chalky white, of a somewhat quadrilateral form, the basal and hinge margins being nearly parallel; the posterior extremity broadly truncated a very little obliquely, and the anterior extremity broadly rounded; anteriorly it gapes slightly, but posteriorly it gapes broadly, and the valves are here somewhat everted. The surface is coarsely undulated concentrically, and covered by an obliquely, and somewhat plumose wrinkled, dirty yellow epidermis. The beaks are sharp and prominent, placed near the middle of the superior margin; the anterior umbonal slope is tumid, the posterior a little compressed. The hinge is rather slender, having a single elevated, erect, obliquely triangular tooth in each valve, with a pit behind that in the right valve, and a crest-like elevation for the attachment of the ligament behind them. Ligament external and double. Cavity of the beaks profound, muscular and pallial cicatrices broad and well impressed; posterior muscular scar but little broader than the pallial impressions; siphonal sinus shallow, small."

MATERIAL EXAMINED

Holotype of Mya abrupta, USNM 3608; holotype of Panopea generosa, USNM 5894; Panopea spp. (n = 30) in collections of the Burke Museum of Natural History and Culture, University of Washington, Seattle, collected from lower Oligocene to Miocene deposits in Oregon, Washington, and British Columbia, Canada (catalog numbers, some of which include multiple specimens: 04471, 04510, 06650, 06697, 06705, 13348, 13891, 18423, 18892, 18924, 21391, 22341, 24860, 26317, 2712, 27611, 27762, 29556, 42797, 53669, 61705, 73465, 91557, 96501, W485); and more than 4,000 specimens of Panopea generosa collected from Puget Sound, Washington, as part of a long-term study of population genetics, maturation dynamics, and disease status.

RESULTS AND DISCUSSION

An important difference between the descriptions of Mya abrupta and Panopea generosa (see Introduction) is apparent. Contrary to Conrad (1849), Gould (1850, 1852) described his specimen as having an anterior gape, a difference evident in the respective holotypes (compare Figs. 1, 4). While compression during fossilization can lead to an apparent narrowing between the gape the valves along the