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New Occurrences of the Malleid Bivalve Nayadina (Exputens) from the Eocene of Jamaica, Mexico, and Washington

by

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Abstract. New collecting extends the geographic range of two of the three known species of the warm-water, Eocene malleid bivalve Nayadina (Exputens). Nayadina (E.) batequensis Squires, 1990, formerly known only from north-central Baja California Sur, Mexico, is now also known from north-western Jamaica and southern Baja California Sur, Mexico. Nayadina (E.) llajasensis (Clark, 1934), formerly recognized from southern California to central Oregon is now also known from northwestern Washington.

INTRODUCTION

Nayadina (Exputens) is a warm-water malleid bivalve with Old World Tethyan affinities (PALMER, 1967; GIVENS, 1989). Three species are known: N. (E.) batequensis Squires,
1990, from the lower Eocene part of the Bateque Formation, Baja California Sur, Mexico; N. (E.) llajasensis (Clark, 1934) from middle lower to lower middle Eocene deposits in southern and central California and central western Oregon; and N. (E.) ocalensis (MacNeil, 1934) from upper Focene deposits in Florida, Georgia, and North Carolina. These species are reviewed and compared in SQUIRES (1990). New collecting has revealed additional occurrences of N. (E.) batequensis from Jamaica and Baja California Sur, Mexico, and N. (E.) llajasensis from northwestern Washington. It is the purpose of this present study to report on these new occurrences.

Abbreviations used for catalog and/or locality numbers are: CSUN, California State University, Northridge; IGM, Instituto de Geología, Universidad Nacional Autónoma Museum de México; LACMIP, Los Angeles County Museum of Natural History, Invertebrate Paleontology Section; UF, University of Florida, Gainesville.

NEW OCCURRENCES OF NAYADINA (EXPUTENS) BATEQUENSIS

The author obtained four specimens of Nayadina (E.) batequensis from limestones in the Chapelton Formation in northwestern Jamaica. LEWIS & DRAPER (1990) assigned this formation to the lower to middle Eocene. Three of the specimens are from locality UF XJ012 near Montego Bay, and one specimen is from locality UF XJ018 near Christiana. Two of these specimens are illustrated (Figures 1-3). Specimen UF 37089 (Figure 3) is larger than those previously known for N. (E.) batequensis. Additional collecting from the Bateque Formation, Baja California Sur, Mexico (SQUIRES & DEMETRION, in press), however, has yielded comparable large-sized specimens (Figure 4).

The author obtained three early adult specimens of Nayadina (E.) batequensis from sandstones in the upper part of the Tepetate Formation about 75 km north of La Paz in southern Baja California Sur, Mexico. SQUIRES & DE-METRION (1991) showed that these sandstones are coeval with the lower Eocene ("Capay Stage") part of the Bateque Formation that is about 200 km to the north in north-central Baja California Sur. One of the Tepetate Formation specimens is from locality CSUN 1491, and two other specimens are from locality CSUN 1522. One of the specimens from locality CSUN 1522 is illustrated in Figures 5 and 6.

Nayadina (Exputens) batequensis is the earliest species of Exputens and can now be shown to have ranged more easterly than the other species of Exputens. The presence of this species in Jamaica and Baja California Sur strongly suggests that either the subgenus emigrated from the Old World into the North America region via the circumequatorial current that flowed from east to west during