



FIGURE 4—*Glycymeris pacifica* (Anderson, 1902). Specimens coated with ammonium chloride. All  $\times 1$ , except where otherwise noted. 1, 2, hypotype CASG 70504, LACMIP loc. 23767, left? valve: 1, lateral view; 2, lateral view,  $\times 2.7$ ; 3, hypotype LACMIP 13597, LACMIP loc. 10789, left? valve; 4–8, hypotype LACMIP 10819, LACMIP loc. 10747, right valve: 4, lateral view; 5, anterior? view; 6, beak view; 7, lateral view,  $\times 1.6$ ; 8, lateral view showing radial striae on posteroventral area,  $\times 4.3$ ; 9, hypotype LACMIP 13598, LACMIP loc. 8194, right? valve; 10, hypotype LACMIP 13599, LACMIP loc. 8194, right?-valve hinge,  $\times 3.4$ .

Umbones low to rarely moderately low (single-valve convexity/height ratio = 0.23–0.37). Beaks central, orthogyrate. Anterodorsal and posterodorsal slopes nearly equal in inclination or posterodorsal slope slightly steeper. Cardinal area small, narrow, and bearing up to six to seven, chevron-shaped, symmetrical ligamental ridges/grooves. Hinge plate wide, arched distally toward valve margins, and bearing taxodont teeth. Mesial teeth can be obliterated by being massively fused together, especially beneath beak. Distal teeth moderately small, narrow, straight to slightly curved away from beak, and in two series: anterior? series slightly shorter or same length as posterior series; up to approximately 11–12 teeth in each series. Interior margin smoothish. Concentric growth lines very numerous; growth checks common.

*Type*.—Holotype missing (CASG Collection), formation unknown but in Santiago Creek area, Santa Ana Mountains, Orange County, southern California (Area 28).

*Occurrence*.—Upper Cenomanian to upper Turonian. UPPER CENOMANIAN: Budden Canyon Formation, upper Bald Hills Member, Ono area, Tehama County, California (Area 11). LOWER TURONIAN: Venado Sandstone, Elder Creek, Tehama County, California (Area 11). LOWER TURONIAN TO MIDDLE TURONIAN: Redding Formation, Bellavista Sandstone Member, east of Redding, Shasta County, California (Area 8). Middle to upper Turonian: Redding Formation, Frazier Siltstone Member, east of Redding, Shasta County, California (Area 8). UPPER TURONIAN: Hornbrook Formation, south of Phoenix (at the “49” mine), Jackson County, southwestern Oregon (Area 6); Redding Formation, Melton Sandstone Member, east of Redding, Shasta County, California (Area 8); Budden Canyon Formation, Gas Point Member, Ono area, Shasta County, California (Area 11); Panoche Formation, Arroyo Pinoso, Reef Ridge, Coalinga area, Fresno County, California (Area

TABLE 1—Check list of key morphologic characters used in differentiating the studied taxa.

Genus/species	Max. length (mm)	Main shape	*ribs/10 mm	Other
<i>Glycymeris</i> : commonly subcircular, valves lowly to moderately lowly inflated, radial ribs flat, radial striae abundant				
<i>pacifica</i>	36.5	subcircular	n.a.	valves lowly inflated, ribs flat and narrow with narrow interspaces, radial striae common
<i>yoloensis</i>	23.3	subquadrate	n.a.	posterodorsal slope sulcate, umbones angulate posteriorly, ribs flat and narrow, radial striae common
<i>Glycymerita</i> : commonly subquadrate, valves well inflated, radial ribs prominently raised, radial striae rare				
<i>veatchii</i>	84	subquadrate	3–6	posterodorsal slope sulcate, umbones angulate posteriorly, ribs raised and narrow to wide, shape can be quadrate, radial striae rare
<i>banosensis</i>	65	subquadrate	5–6	posterodorsal margin commonly truncate, umbones posteriorly angulate, ribs raised and moderately narrow with wide interspaces, shell can be posteriorly elongate, shape can be quadrate
<i>aleuta</i>	44	trigonal	5	posterodorsal slope weakly sulcate, ribs raised and narrow to moderately narrow, sculpture tends to become obsolete ventrally, shape can be slightly subquadrate
<i>major</i>	65.3	quadrate	6	anterodorsal and posterodorsal slopes truncate, umbones posteriorly weakly angulate, ribs raised and narrow with narrow interspaces, radial striae rare

\* Measured parallel to length at 40 mm ventral of beak.  
n.a. = not applicable.