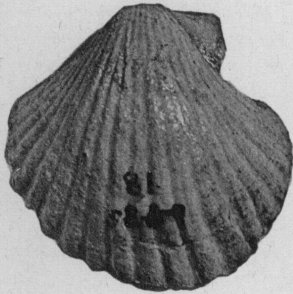


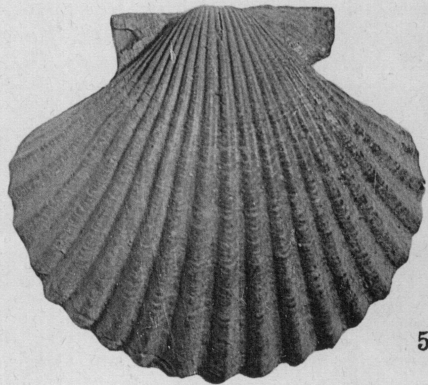
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2



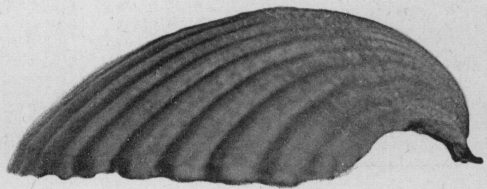
3



5



4



6

Grant and Stevenson, Upper Miocene *Pecten*

in the same fossil reef about 3.6 miles North 29° West of UCLA Locality 435, sandstone, strike N29W, 85° northeasterly.

*Paratype*.—U. S. National Museum, from UCLA Locality 435.

This new species differs from *Pecten coalingaensis* Arnold of the upper Pliocene in its lack of ribs on the ears of the right valve, in its lower, broader, less convex ribs with narrower interspaces, and in its greater ventricosity. Both species appear to have the same average number of ribs, which is about 20 on the right valve.

From *Pecten vogdesi* Arnold, the new Miocene species differs in its smaller size, less ventricosity and smooth ears. *P. vogdesi* has 3 or 4 strong ribs on the right anterior ear with more, slightly less prominent ribs on the posterior ear. Both ears of the new Miocene species are smooth.

The similarities between the new species and *P. coalingaensis* Arnold (Arnold in Anderson 1905, p. 197; Arnold 1906, p. 97) is greater than the similarities between the new species and *Pecten bellus* Conrad (Proc. A. N. Sci. Phila. 1856, p. 312; Arnold 1906, p. 95). We believe that *P. juanensis*, *P. coalingaensis* and *P. vogdesi* are genetically related and form a clan to which *P. bellus* is only related as a possible off-shoot from the upper Miocene species here described, or from an earlier common ancestor. The matrix of the surrounding sediment and the

associated fauna indicate that *P. juanensis* probably was a dweller in shallow, warm water of normal salinity. The chief interest in this new upper Miocene species is that it appears to be ancestral to *P. coalingaensis* and *P. vogdesi*.

Types of this new species were examined by Dr. Leo G. Hertlein of the California Academy of Sciences, an authority on Pectens, who concurs with us in its distinctness from the other species mentioned above. Dr. Hertlein called our attention to the apical angle of the umbones, which in the new species is about 90 degrees, but in *P. vogdesi* is about 95 to 100 degrees. He also mentioned that *Pecten heimi* Hertlein (Proc. Calif. Acad. Sci. 1925, pp. 9-10) of the lower Pliocene(?) of Lower California, Mexico has but weakly sculptured ears. In general appearance it closely resembles the new Miocene species which, however, has unsculptured ears. Possibly the relationship of the new species is closer to *P. heimi* than to *P. vogdesi*.

## REFERENCES

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—, 1906, U. S. Geol. Surv. Prof. Paper 47, p. 97, pl. 4, figs. 4, 4a, 5.  
Proc. Acad. Nat. Sci. Phila. for 1856, p. 312, (1857)  
Proc. Calif. Acad. Sci., Ser. 4, Vol. 14, No. 1, pp. 9-10, pl. 1, fig. 3, pl. 3, fig. 3, July 1925.

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