

CONTRIBUTIONS TO PALEONTOLOGY

A MIOCENE FLORA FROM THE WESTERN  
BORDER OF THE MOHAVE DESERT

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*Description (supplementary).* Elliptical-oval in shape, with a rounded apex and obtuse base; 2.1 cm. long and 1.6 cm. wide; petiole missing; midrib stout; 4 to 5 alternate secondaries departing at 35° to 55°, rapidly looping upward and passing well within the margin, giving rise to tertiaries which enter marginal teeth; tertiary venation irregular and enclosing an irregular mesh of coarse character; margin entire below and crenulate above; texture medium.

*Discussion.* The modern species is now distributed along the desert slopes of southeastern California and ranges southward into northern Baja California in a similar habitat. Among its modern associates which have fossil equivalents in the Tehachapi flora are such species as *Condalia lycioides*, *Celtis reticulata*, *Mahonia fremontii*, *Prosopis juliflora*, *Populus fremontii*, *Platanus racemosa*, *Prunus fasciculata*, and *Quercus palmeri*. This is another endemic whose floristic affinities are not certainly known. While the nature of its associate flora from the Miocene to the present suggests that it may be of southern origin, any solution of this problem must await the discovery of Miocene floras in the southwestern United States and northern Mexico.

*Collection.* U. C. Mus. Pal., Paleobot. Ser., Plesiotype, No. 1467.

#### Genus ROSA Linné

##### *Rosa miocenica* new species

(Plate 8, figure 12)

*Description.* Elliptical in shape, with an acute base and apex; 1.7 cm. long and 1.1 cm. wide; petiole medium, 2 mm. long; midrib firm, straight; 4 to 5 alternate secondaries departing at 45° to 50°, looping upward into the teeth or dividing and entering the teeth by tertiaries; tertiaries irregular and enclosing an irregular mesh; margin serrate, the abaxial side of the teeth asymmetrical; texture thin.

*Discussion.* Although it is obviously difficult to separate the modern species of *Rosa* on the basis of the nature of their leaflets, it may be pointed out that the Tehachapi material compares closely with the modern *R. mohavensis* Parish, as well as with the related *R. arizonica* Rydberg of the Southwest.

This species differs from the northern *R. hillae* Lesquereux, which has been referred to the mesic *R. nutkana* Presl, in its shape, its smaller size, and its ecologic indications.

*Collection.* U. C. Mus. Pal., Paleobot. Ser., Holotype, No. 1468.

#### Family LEGUMINOSAE

##### Genus AMORPHA Linné

##### *Amorpha oblongifolia* new species

(Plate 9, figures 2-4)

*Description.* Oblong-elliptical in shape, often asymmetrical on one of the lower sides; with a broadly obtuse to truncate or retuse apex, and acute to obtuse base; 1.0 to 2.2 cm. long and 5 to 9 mm. wide; petiole stout, short, 2 mm. long; midrib firm, straight or slightly curved; thin, alternate secondaries diverging at 40° to 50° below and at a lower angle above, camptodromic in character; tertiary venation not preserved; margin entire; texture thin.

PLATE 8

FIG. 1. *Quercus mohavensis* Axelrod. Cotype. U. C. Mus. Pal., Paleobot. Ser., No. 1511.

FIG. 2. *Ficus* sp. Axelrod. U. C. Mus. Pal., Paleobot. Ser., No. 1444.

FIG. 3. *Persea* sp. Axelrod. U. C. Mus. Pal., Paleobot. Ser., No. 1446.

FIG. 4. *Umbellularia salicifolia* (Lesquereux) Axelrod. Plesiotype. U. C. Mus. Pal., Paleobot. Ser., No. 1448.

FIG. 5. *Mahonia mohavensis* Axelrod. Holotype. U. C. Mus. Pal., Paleobot. Ser., No. 1449.

FIGS. 6, 9. *Lyonothamnus mohavensis* Axelrod. Cotypes.  $\times 2$ . U. C. Mus. Pal., Paleobot. Ser., Nos. 1458, 1457.

FIG. 7. *Celtis kansana* Chaney and Elias. Plesiotype. U. C. Mus. Pal., Paleobot. Ser., No. 1442.

FIG. 8. *Prunus prefremontii* Axelrod. Plesiotype. U. C. Mus. Pal., Paleobot. Ser., No. 1467.

FIG. 10. *Photinia (Heteromeles)* sp. Dorf. U. C. Mus. Pal., Paleobot. Ser., No. 1460.

FIG. 11. *Cercocarpus praeledifolius* Berry. Plesiotype. U. C. Mus. Pal., Paleobot. Ser., No. 1454.

FIG. 12. *Rosa miocenica* Axelrod. Holotype. U. C. Mus. Pal., Paleobot. Ser., No. 1468.

FIGS. 13, 14. *Prunus prefasciculata* Axelrod. Cotypes.  $\times 2$ . U. C. Mus. Pal., Paleobot. Ser., Nos. 1465, 1464.

FIG. 15. *Holodiscus elliptica* Axelrod. Holotype. U. C. Mus. Pal., Paleobot. Ser., No. 1456.



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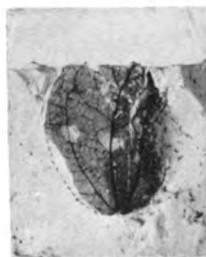
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