

tree taken Sept. 14, 1934, were not lobed to the middle but the leaves are quite normal this year.—DEPARTMENT OF BOTANY, UNIVERSITY OF WISCONSIN.

LITERATURE CITED

- ANDERSON, EDGAR. 1928. *Ann. Mo. Bot. Gard.* 15. 258-260.
BALL, C. R. 1943. *Castanea* 8: 67-71.

TOVARA IN MEXICO.¹—When the recent monograph on *Tovara* was completed and published in the current volume of *RHODORA*,² material of this genus from Mexico was not then available to its author. Three localities on the eastern escarpment of the Mesa Central are represented in the collections of Dr. H. E. Moore, Jr., and myself.

The Mexican specimens are relatively uniform and although differing from much of *T. virginiana* (L.) Raf. of eastern United States by having smaller leaves (rarely over 10 cm. in length) and roseate calices, they fall within the limits of variation to be found within populations of *T. virginiana*. A collection (*Burns G-39*) in the herbarium of the University of Tennessee from Townsend, Blount County, Tennessee, differs little from the Mexican material except for the paler calyx.

In determining the Mexican collections as to species, much of the Asiatic material of *Tovara* from the Gray Herbarium and the U. S. National Herbarium was examined. It is somewhat difficult to separate *T. virginiana* and *T. filiformis* (Thunb.) Nakai because of the great variability within each and the overlapping of characters. This overlap is indicated by Dr. Li's key. Further collecting may demonstrate that *T. virginiana* and *T. filiformis* are one highly polymorphic species. *T. filiformis* var. *kachina* (Nieuw.) Li and *T. apoensis* (Elmer) Li seem much more distinct.

For the benefit of future workers, the collection data from the Mexican specimens are cited below.

HIDALGO: About Lake Atexco below Molango, 1400 m., *Moore 3478*. Between Tenango de Doria and Santa María Temescalpa, 4000 ft., *Sharp 45943*. Moore's specimens are to be found at the Bailey Hortorium and the Gray Herbarium; Sharp's, in the herbaria of the University of Tennessee and the Instituto Biológico de México. **PUEBLA:** Near Huau-

¹ Contributions from the Botanical Laboratory, The University of Tennessee, N. Ser. 145.

² Li, Hui-Lin. 1952. The Genus *Tovara* (Polygonaceae). *RHODORA* 54: 19-25.

chinango, 4900 ft., *Sharp 441204*. This collection is represented at the Gray Herbarium, and the herbaria of the Smithsonian Institution, the Instituto Biológico de México and the University of Tennessee.

My sincere thanks are given to the Director of the Gray Herbarium and the Curator of the U. S. National Herbarium for the loan of *Tovara* material.—AARON J. SHARP.

WOLFFIA PAPULIFERA IN TEXAS.—In the eighth edition of Gray's Manual (p. 387. 1950), the late Prof. M. L. Fernald assigned to *Wolffia papulifera* C. H. Thompson a range from Virginia to Illinois, south to Kentucky, Missouri, Kansas, and Mexico. The year before the Manual was issued it had been recorded from Columbia County in north central Florida by Don L. Jacobs (*Amer. Midl. Nat.* **42**: 110–111. fig. 1. 1949), who suggested that it should be looked for in the region from Georgia to Texas and Missouri. At the Florida station it was accompanied by *Wolffia columbiana* Griseb. and *Lemna perpusilla* Torr., both of which were in abundant flower on 20 September, although no flowers of *W. papulifera* were seen. Since that time it has been reported from southwestern Georgia by R. F. Thorne (*Castanea* **16**: 35. 1951), and from several localities in Maryland by Neil Hotchkiss (*Rhodora* **53**: 92. 1951). It can now be recorded from Texas.

The Texas occurrence was on the ranch of Mr. Hamilton Wilson, in and along the west line of Kerr County (south-central Texas), about 20 miles west of Hunt, 23 miles NNE of Leakey, and 90 miles NW of San Antonio, on the divide between the headwaters of the Rio Frio and the South Fork of the Guadalupe River. Abundant fresh material, including many plants in flower and fruit, was sent in Nov. 1950 to the Bureau of Plant Industry, Soils, and Agricultural Engineering by Dr. R. D. Radeleff, veterinarian at the Bureau of Animal Industry station at Kerrville. According to information supplied in February, 1951, by Dr. Radeleff, the plant was first noticed by Mr. Wilson in small numbers two years before on a small fresh water pond fed by springs and with an underground outflow. During the past year the plant had reproduced rapidly, on still days completely covering the pond, which is about 30 by 300 ft. and less than 3 ft. deep at all points. With a light breeze, the plants would accumulate to the depth of several inches on the lee side. The



Sharp, Aaron J. 1952. "Tovara in Mexico." *Rhodora* 54, 305–306.

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