Austrobaileya

by RICHARD E. WEAVER, JR.

One of the plants unfamiliar to most Arnold Arboretum visitors is a rather nondescript vine with opposite leaves that is growing in the conservatory section of the Dana Greenhouses. The plant has been scrambling around the conservatory for about twelve years now, but has never shown any signs of flowering until three buds were noticed a few weeks ago by the greenhouse staff. One flower opened on March 29, the first time, to our knowledge, that a plant of this species, genus, or even family has ever bloomed in cultivation. The plant is a species of *Austrobaileya*, native to the tropical forests of North Queensland, Australia. The flowers are not particularly attractive, and they have a strong, unpleasant odor, but their structure places *Austrobaileya* among the flora that theoretically most closely resemble the first flowering plants on the earth.

As shown in the accompanying photograph, probably the first ever published of a living *Austrobaileya* flower, the perianth is not differentiated into petals and sepals, but rather consists of a series of spirally arranged tepals of greatly varying size. The stamens consist of a broad, almost leaf-like structure with the anther sacs attached to the upper surface. These all are considered to be primitive characteristics, and there are numerous others that do not show in the photograph.

Ever since *Austrobaileya* was described in 1933, botanists have been puzzled as to where it should be classified. It now is usually placed in a family of its own. The name commemorates two men, F. M. Bailey, a noted Queensland botanist, and I. W. Bailey, longtime Arnold Arboretum staff member and world-renowned wood anatomist who was particularly interested in primitive flowering plants and who published a detailed account of the anatomy and morphology of *Austrobaileya*.

The Arnold Arboretum's plant was grown from seed collected by a Mr. Webb and a Mr. Tracey near Ravenshoe, North Queensland. The seeds were sent to Mr. Peter Green, then on the staff here, and were sown in 1964. The lot consisted of four seeds, and only one germinated about a year later. In the absence of flowers, the plant was tentatively identified as *Austrobaileya scandens*, the only other

species described being *A. maculata,* and it was widely distributed under the former name. Now, even with flowers, we are not able to identify the plant with certainty. It has fewer tepals than either of the described species, and the flowers are not solitary; the stamens combine characters of both species. We are reluctant to describe it as a new species because of the very few, miserably preserved herbarium specimens on hand with which we can compare it.

The Arnold Arboretum has a long association with *Austrobaileya.* The genus and both species were described in Contributions from the Arnold Arboretum and the Journal of the Arnold Arboretum. Accounts of its chromosomes, anatomy and morphology were published in the latter journal. It is fitting that our plant, the parent of most all other plants in cultivation, should be the first to flower. The botanists of North Queensland also have an attachment to the plant, since it commemorates one of the most famous of them, since it is restricted to the region, and since it has caused such a stir in the botanical world; consequently, the new publication from the Queensland Herbarium has been named *Austrobaileya.*

The flower of Austrobaileya *sp., slightly larger than life size, photographed in the Dana Greenhouses of the Arnold Arboretum. The fleshy tepals are greenish-white with purple spots. The heavily spotted structures in the center of the flower are staminodes, or sterile stamens. Photo: R. Weaver.*