

forenoon flowers begin to open almost in unison here and there in the various clusters of flower buds all over the tree. These flowers have not been open before. In this first-opening of flowers the six leaf-like segments of the perianth separate and bend outward; the two sets of six outer and three inner stamens follow and when the flower is fully open the stamens lie against the perianth and are nearly at right angles to the main axis of the pistil, as seen in the open flowers shown in Figure 1. Thus the pistil stands erect, alone, conspicuous, and fully exposed with the slightly expanded end (the stigma) white, fresh and evidently ready to receive pollen. Soon nectar appears as a glistening film or as droplets on the surface of the inner set of three nectaries which stand erect from between the inner set of stamens. Now bees and other insects seeking nectar can scarcely fail to brush against the stigma. The pistil is ready for pollination but no pollen is being shed from the stamens of the flower. The flower is, for the time being, functioning only as a female.

Directing attention to the numerous flowers open on the entire tree during the forenoon one finds that all the flowers which are open are in the same condition as the flower just described. No flowers are shedding pollen; all have pistils ready for pollination. This condition continues throughout the forenoon during which the entire tree functions as a female. About midday the numerous flowers of the set that was open during the forenoon close without shedding pollen. In doing this the perianth segments fold inward over the pistil until the flower is completely and tightly closed (see 3 in Fig. 2).

Thus an entire set of flowers, numbering several thousand for a large tree in the maximum of blooming, has been open and in the female stage during several hours of the forenoon, and during midday these flowers have all closed almost in unison.

**The Second Period of Opening:**—During the hours of midday, and usually while the flowers which were open in the forenoon for their first period are in the process of closing, the flowers of another set begin to open. To a casual observer it would doubtless appear that the same flowers open in the forenoon merely continue open during the afternoon. But if a number of individual flowers be tagged for identification the complete midday shift of sets can readily be determined and also the two periods of opening of a set of flowers can be observed and properly related to the daily sequence or alternation.

The flowers of a set opening for their second opening in the