A NOTE ON THE CLASSIFICATION OF FRUITS

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Angiosperm fruits are broadly classified into three groups--simple, aggregate, and multiple. Simple fruits develop from one simple or compound ovary of one flower. Aggregate fruits develop from many ovaries of one flower. Multiple or composite fruits develop from many ovaries (1 per flower) of an inflorescence and develop as a single unit.

The fruits of a few taxa in Apocynaceae, Asclepiadaceae, Boraginaceae, Lamiaceae, Limnanthaceae, etc. do not correctly fit into any of these three categories. Individual flowers are involved in the formation of fruits in these taxa so their fruits are not multiple ones. These taxa have two free ovaries or four ovaries and all the ovaries of a flower are connected by a compound style or stigma. The presence of more than one ovary per flower rules out the choice of simple fruits. But their fruits are not the aggregate type because the carpels are not free (apocarpous gynoecia occur in Rosaceae, Magnoliaceae, and related families). The fruits of milkweed (Asclepias) are often called simple follicles but they are not simple fruits since they develop from more than one ovary. Delphinium in the Ranunculaceae is a correct example of a simple follicle.

The fruits of the taxa discussed here appear to be intermediate between simple and aggregate types. Simple fruits could be further divided into two groups. All fruits developing from a single simple or compound ovary are simple fruits (1-ovariate). The fruits developing from two or more ovaries of an apoovarious gynoecium are simple fruits (apo-ovariate). The simple fruit (apo-ovariate) may include pairs of follicles (eg., Asclepias, Calotropis, Catharanthus, Plumeria, etc.), four nutlets (eg., Cynoglossum, Heliotropium, Lamium, Leucas, Ocimum, etc.), and four achenes (eg., Limnantha). The simple fruits (apo-ovariate) should not be confused with schizocarpic fruits of the simple (1-ovariate) type. A schizocarpic fruit develops from one compound ovary and its carpels separate from each other only at maturity.