

The importance of Families in my appreciation of and work with plants

By *Dr. Robert Carl Zimmemann*

I have had both an avocational and a professional interest in plants (primarily trees) most of my conscious and working lives. The following is a summary of the importance I attach to an understanding of Families as it relates to both types of interests, and of the role that the course in Costa Rica has played in achieving this understanding .

Trained primarily as a forest ecologist/hydrologist, I have worked professionally with (mostly) tree species for more than 40 years in three continents. Like most students who work with plants but whose focus is not on the plants themselves, I have received basic taxonomic training which touched briefly on Families but concentrated mainly on species identification using reproductive organs. In my initial work this training was adequate, as I dealt mainly with selected tree species that had indicator value in watershed hydrologic research, with tree and shrub species (mostly exotic) used in rural forestry and agroforestry, and with tree species used in commercial logging. As a result, over the years I have learned to identify hundreds of tree and shrub species, usually after initial identification with the aid of specialized guides or of local taxonomic experts.

Inevitably all this species information became overwhelming, and eventually had to be structured and cross-referenced in terms of Families. In addition, in cases where new species had to be identified (as occurred more and more as I got involved in certification of forest management in natural forests) it became increasingly clear that the use of regional or national floras is very difficult (and definitely impractical) unless unknown species can at least be assigned to Families (and, ideally, to Genera). Moreover, in dealing with herbaria and with professional taxonomists, it has been my experience that the ability to label and discuss specimens in terms of at least Families helps to create an easier relationship of collaboration among professional colleagues.

I have, of course, tried over the years to become familiar with plant Families. I have, as a result, assembled formal descriptions of Families from various sources, as well as keys to Families (and Genera) from various floras. I have also discovered that, without formal training with an expert, the identification of Families in the field remains difficult and extremely time-consuming as lengthy Family descriptions cannot really be used for this purpose. Even most keys to Families in floras are difficult to use, particularly as many keys rely in part on reproductive organs that are either inaccessible or otherwise unavailable.

Concerning my avocational interest in plants, particularly tropical trees, my ambition has always been limited to the identification of Families and Genera, particularly when confronted with the extreme diversity of the tropical rainforest. I consider the identification of species as a bonus (great if it happens), but not as a realistic goal in my circumstances. I find my need to gain some familiarity with the tropical forest –when I visit it for purely aesthetic or other subjective reasons -- is satisfied if I can place a tree in at least the Family. Similarly, if someone identifies an unknown species for me, this information

means little to me today unless I can place the species in a Family. The Family, then, is the key to my more subjective appreciation of the flora, particularly the tropical flora. In approaching the flora as an amateur, I am also no different from the way birdwatchers approach birds: even the most casual of birdwatchers, if he or she wants to use the bird guide efficiently, must be able to assign birds to the main Families, be they the sparrow-like (Passerinae), thrush-like (Turdidae), the crow-like (Corvidae) etc.

The Tropical Dendrology course given by Dr. Humberto Jimenez Saa has provided me with the basis for the kind of familiarity with Families I have been seeking for years. I say “basis” because it is now up to me to apply the method of identification, and to refine it and become more skilled with it in a particular flora. I found two weeks of intensive work (review of the basics of taxonomy; familiarity with the method; application of the method) about right; less than two weeks is definitely not enough, an additional week in the field might have helped, but was not essential. I found the use of icons for rapid yes/no decisions to be particularly clever and useful. Short remarks on key traits are, of course, also essential but inevitably not as easily scanned by the eye; I found adding warnings in red for my own particular failures to notice diagnostic or misleading traits an additional help, at least for me. In my own case, the course also forced me to stop relying on overall appearance (as I had been doing for years for tentative identifications), and to concentrate on unmistakable diagnostic traits. A case in point is the Fabaceae; it is a Family relatively easy to identify (except where there are Genera without leguminous pods, as in East Africa), but for years I never really took the time to separate the three Sub-Families Pap, Mim and Caes with any degree of reliability (except when flowers were available). The course in Costa Rica has finally taught me how to do that without flowers.

On the last day of this two- week course, I was able to walk along the edge of a tropical rainforest and identify about 70% of the Families; even though I still made some appalling mistakes, I felt I had taken a huge step towards my professional and avocational goal of being able to place most trees I see in at least their Families. For me, that says it all.

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