

Towards a new classification system for legumes: Progress report from the 6th International Legume Conference

The Legume Phylogeny Working Group 1

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Abstract

Legume systematists have been making great progress in understanding evolutionary relationships within the Leguminosae (Fabaceae), the third largest family of flowering plants. As the phylogenetic picture has become clearer, so too has the need for a revised classification of the family. The organization of the family into three subfamilies and 42 tribes is outdated and evolutionarily misleading. The three traditionally recognized subfamilies, Caesalpinioideae, Mimosoideae, and Papilionoideae, do not adequately represent relationships within the family. The occasion of the Sixth International Legume Conference in Johannesburg, South Africa in January 2013, with its theme “Towards a new classification system for legumes,” provided the impetus to move forward with developing a new classification. A draft classification, based on current phylogenetic results and a set of principles and guidelines, was prepared in advance of the conference as the basis for discussion. The principles, guidelines, and draft classification were presented and debated at the conference. The objectives of the discussion were to develop consensus on the principles that should guide the development of the classification, to discuss the draft classification's strengths and weaknesses and make proposals for its revision, and identify and prioritize phylogenetic deficiencies that must be resolved before the classification could be published. This paper describes the collaborative process by a large group of legume systematists, publishing under the name Legume Phylogeny Working Group, to develop a new phylogenetic classification system for the Leguminosae. The goals of this paper are to inform the broader legume community, and others, of the need for a revised classification, and spell out clearly what the alternatives and challenges are for a new classification system for the family.

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