Figure 3.

Chronological representation of the families in which Dracaena & Sansevieria (=Dracaenaceae) have been positioned, with some of the key authors and evidence. For a discussion, see the text. Some of the important advances in our understanding are presented, but by no means all of them. These systems represent the views of the authors about what are primitive and what derived characters states.

Order	Dracaena Family / infra-family placement	Rationale	Notable Family Systems and Publications & Authors
Liliflorae / Liliales	Liliaceae Juss.	Early family arrangements were based on ovary position, hence, Dracaena, Yucca and other superior ovaried genera were placed in Liliaceae (or near equivalent) whereas *Agave* and inferior ovaried species went into other families such as Amaryllidaceae. Bogler & Simpson, 1996.	Bentham & Hooker 1883 Engler *et al.,* 1914
Liliales	Agavaceae Endl.	Hutchinson elevated arborescence, from secondary thickening, combined with cytology to primacy in delineating Dracaena-related families. Hence an association with Agave, in the family Agavaceae, was established, which Cronquist used - “habit agavacious” or “habit liliaceous” - in his key to families. Only *Agave* and Yucca are reported to have 30, bimodal chromosomes, Dracaena and other genera placed here have 18-20 of one size, Xanthorrhoeaceae are distinguished by having only 11. The presence of xylem vessels only in the roots is another feature which delineates a	Hutchinson 1934, 1971 Cronquist, 1988

		group including Agavaceae and Liliaceae from many other families in this order. Cronquist, 1981.	
Asparagales	Dracaenaceae Salisb .	A range of characters is used to distinguish Asparagales from Liliales, including absence of patterning of the tepals, presence of succulence, and presence of phytomelan or absence of the outer testa epidermis altogether, in Asparagales. This arrangement seeks to delimit monophyletic families on a wide range of morphological and chemical characters, and therefore underpins many later systems, including APG. Judgements about primitive and derived characters are assisted by cladistic techniques and show, for example the very likely independent development of woody trunks in Dracaenaceae and related families. However, characters recognised to be derived are used to key out families, such as superior or inferior ovaries and type of fruit. Hence Agave and Yucca, placed in the Agavaceae, but with different ovary positions, are arrived at by different paths through the key. This system concludes that Dracaena and Sansevieria, as one or two genera comprise a distinct family. Dahlgren et al., 1985. Work by Bogler & Simpson, 1996, synthesises previous molecular analysis and combines it with new ITS rDNA sequencing to conclude that Dracaenaceae form a strong monophyletic clade with Convallariaceae and Nolinaceae, all three in the sense of Dahlgren, 1985. The authors stop short of proposing a family Convallariaceae, though they recover strong affinities with this family. Asparagaceae is the likely sister group. Ruscaceae sensu Dahlgren 1985 is not considered in this study. Morphological support for this clade comes from the absence of phytomelan in the seed coat, and the berry or berry-like fruit. Immunological evidence is also presented. Chromosome numbers previously established to be 18, 19, or 20, are used to evidence the unity of this clade, and its separation from Agave. Bogler & Simpson 1995, 1996	Dahlgren et al., 1985, Bolger & Simpson, 1996 Bos, 1998

Asparagales	Convallariaceae Horan.	This system is detailed below, as Ruscaceae. Fay *et al.,* 2000, proposed this family name for the widely drawn, monophyletic clade recognised by Bogler *et al.,* 1996 and others, which includes Dracaenaceae and several other smaller families. However, Rudall *et al.,* 2000 very quickly recognised that the name Ruscaceae Spreng. has priority. Kim *et al.,* 2010.	Fay *et al.,* 2000
Asparagales	Ruscaceae Spreng., nom. cons.	No longer can growth habit features unite these amalgamated Dahlgrenian families. The 28 included genera range widely from herbs such as Polygonatum and Maianthemum, to trees and shrubs such as Dracaena and Sansevieria. Molecular evidence for monophyly derives from analysis of combined plastid DNA sequences, including rbcL, atpB, trnL intron, and trnL-F intergenic spacer sequencing, Fay et al., 2000, which is strongly supported by other studies including Chase et al., 1995, and detailed morphology, Rudall et al., 2000. Kim et al., 2010	Rudall et al., 2000
Asparagales	Asparagaceae Juss. / [Ruscaceae Spreng. nom. cons.]	Quite distinctly, Asparagaceae have racemal inflorescences whereas Alliaceae, forming the remainder of the order, are umbellate, with few exceptions. Asparagaceae is a monophyletic unification, for the purpose of simplicity, of several families including Agavaceae and Ruscaceae,as circumscribed by Fay *et al.,* 2000, Rudall *et al.,* 2000 and others (see Ruscaceae above), in which Dracaenaceae is taken from earlier studies to reside. Ruscaceae is accepted as a monophyletic, available, alternative to Asparagaceae. APG II 2003	APG II 2003
Asparagales	Dracaenaceae Salisb.	Recognising the interceding evidence, this adherence to a Dahlgren-defined, narrow Dracaenaceae, accepts a paraphyletic Convallariaceae. Convallariaceae, Nolinaceae and Agavaceae are also treated *sensu* Dahlgren and therefore all are paraphyletic. One genus, *sensu* Bos, 1998, Dracaena, containing *Sansevieria* and Pleomele. Heywood *et al.,* 2007.	Heywood *et al.,* 2007

Asparagales	Ruscaceae Spreng.	Judd *et al.,* 2008 in their textbook follow APG II and refer to subsequent studies which support two clades within the broadly circumscribed family which contain the woody species, Dracaena and *Sansevieria* (the Dracaenaceae *sensu* Dalhgren, 1985) is one, united by resin producing canals. Nolina, Dasylirion, Calabanus and Beaucarnia (formerly Nolinaceae), the other, having 3-angled fruit, minutely, longitudinally ridged leaves, and oil in their stomata guard cells. Judd, 2008	Judd *et al.,* 2008
Asparagales	Asparagaceae Juss.	A widely drawn Asparagaceae, without the fall-back of a “bracketed” Ruscaceae characterises this system. Evidence is the molecular and morphological studies used to define Ruscaceae, as depicted in APG II, with further support, though not unequivocal, see Seberg *et al.,* 2012, from e.g. Pires *et al.,* 2006 (not seen) and others. APG III (2009)	APG III
	Asparagaceae Juss. / Nolinoideae Burnett	In recognition of the heterogeneity of the Asparagaceae, and the practical difficulties of teaching and recognition that causes, Chase *et al.,* 2009 published a system of subfamilies, based upon the evidence which defined Ruscaceae and other families within Asparagaceae *sensu* APG II. Nolinoideae is the name given to the Ruscaceae, *sensu lato*, since it has priority; it contains Dracaenaceae. Meanwhile, Kim *et al.,* 2010 using rbcL, matK and 18S rDNA) found very strong support for the Ruscaceae, *sensu* APG II, and therefore for the tribe Nolinoideae but also strong recognition for Dracaenaceae *sensu* Dahlgren and other smaller families within it. Asparagaceae *sensu stricto* is confirmed as the sister group. Recent molecular evidence from Seberg, sampling more taxa than any previous studies, using plastid genes, matK, ndhF, rbcL and mitochondrial genes, atp1 and cob, however, finds little evidential support for the arrangement of Ruscaceae as set out in APG III, nor for several of the molecular studies upon which it is based. A requirement to include Asparagaceae *sensu stricto* in Ruscaceae to preserve its monophyly is found. These authors conclude that there is as yet insufficient unchallenged evidence to support the adoption of Asparagaceae in the sense of APG II and III.	Chase *et al.,* 2009

		Chase *et al.,* 2009, Seberg *et al.,* 2012	

It is unfair to characterise APG III as relying entirely on the rationale given here, since it provides an extensive justification for its proposal. However it is reasonable to say that from the welter of information cited that this is a summary of important evidence.