

Flora of Australia Online

Australian Biological Resources Study, Department of the Environment and Water Resources July 2007

Tag names, elements etc used in the *Flora of Australia Online* xml schema

Base Elements

Element	Tag	Example
author of autonym	<author_autonym>	
author of name	<author>	
author of publication (not name) when the name published in that publication	<in_author>	<genus>Acacia</genus><name>pachyphloia</name><author>W.Fitzg.</author><protologue><in_author>J.H.Maiden</in_author><ref><i>J. & Proc. Roy. Soc. New South Wales</i> 51: 116</ref><date>1917</date></protologue>
bibliography of important works	<bibliography>	
chromosome info	<chromosome>	
common name	<common_name>	
conservation status	<conservation_status>	
contributor	<contributor>	<contributor>A.S.George</contributor>
date of publication of reference in protologue	<date> (within protologue)	
description of plant	<description>	
distribution	<distribution>	
doubtful names and hybrids treated at end of family/genus treatment in <i>Flora of Australia</i>	<status>	<status>hybrid</status> <status>doubtful name</status>
flowering/fruiting times	<phenology>	
habitat	<habitat>	
hybrid code	<HID>	e.g. where <HID>HID990</HID> belongs to <i>Acacia paradoxa</i>
hybrid name elements	<hybrid_parent_1> & <hybrid_parent_2>	<hybrid_parent_1>HID990</hybrid_parent_1><hybrid_parent_2>HID991</hybrid_parent_2>
illustrations, line art, photographs, maps	<image_text> <image_url>	link to jpgs
introduced/extended beyond natural range	<name_symbol>	<name_symbol>*</name_symbol> <name_symbol>#</name_symbol>
key for identification (dichotomous)	key elements: notes above or below key contributors, description, couplet number, key taxon, rank of taxon, notes, symbols	

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	(e.g. dagger), allowance for hybrid names (see above), link to next couplet in ID sequence	
name derivation	<etymology>	
name element for the given <rank>	<name>	<name>boormannii</name> <name>Mimosaceae</name>
name elements for rank given	<family><genus><species> etc	<genus>Acacia</genus>
name published 'as' another name	<as_name>	<as_name><i>Boormani</i></as_name>
name qualifier e.g. cf	<qualifier>	<qualifier>(?)</qualifier> e.g. <i>Acacia discolor</i> ?var. <i>angustifolia</i>
note relating to contributor	<contributor_note>	<contributor_note>Deceased.</contributor_note>
note relating to name	<name_note>	</name_note>p.p.<name_note> <name_note><i>non</i> E.Pritzel (Dec. 1904)</name_note>
note relating to protologue	<protologue_note>	<protologue_note><i>nom. et typ. cons.</i></protologue_note> Also for where a second reference occurs in the protologue as our d.b. structure does not accommodate two publications in the protologue
notes	<prenote> and <note> depending on position in the published text	<note>One variety in Australia.</note> <note>Often cultivated as an ornamental tree or shrub which is moderately frost resistant.</note>
publication reference for protologue	<ref> (within protologue)	
reference to publications with illustrations	<illustrations>	
source of the data	<source>Data derived from <i>Flora of Australia</i> Volume 3 (1989) a product of ABRS, ©Commonwealth of Australia</source>	
specimen citation	<specimens>	
synonymy	<synonymy>	in a chunk, could be further broken down/link to APC
type information	<typification>	in a chunk, could be further broken down/link to APC, but not always a match

Tag names, elements etc used in the Flora of Australia Online xml schema

***Flora of Australia Online* line-art captions**

Base Elements

Element	Tag	Example
caption text		
figure number		
illustrator		
scale		

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Tag names, elements etc used in the *Flora of Australia Online* xml schema

<volume>						
	<taxon>					
		<taxon description>				
			<seq>			
			<name_symbol>			
			<title>			
			<contributors>			
				<contributor_info>		
					<contributor>	
					<contributor address>	
					<contributor note>	
			</contributors>			
			<name_info>			
				<name>		
				<hybrid_parent 1>		
				<hybrid_parent 2>		
				<HID>		
				<qualifier>		
				<rank_qualified>		
				<as_name>		
				<name_note>		
				<parent>		
				<family>		
				<genus>		
				<species>		
				<subsp>		
				<var>		
				<rank>		
				<status>		
				<author>		
				<author autonym>		
				<protologue>		
					<in author>	
					<ref>	
					<date>	
					<protologue note>	
					<as_name>	

Tag names, elements etc used in the Flora of Australia Online xml schema

				</protologue>		
			</name_info>			
			<etymology>			
			<typification>			
			<synonymy>			
				<synonym>		
					<synonym_info>	
					<type>	
				</synonym>		
			</synonymy>			
			<illustrations>			
			<prenote>			
			<description>			
			<chromosome>			
			<common_name>			
			<image>			
				<image_text>		
				<image_url>		
			</image>			
			<distribution>			
			<habitat>			
			<phenology>			
			<specimens>			
			<conservation_status>			
			<note>			
			<bibliography>			
			<identification>			
				<key_title>		
				<key_contributors>		
					<key_contributor_info>	
						<key_contributor>
						<key_contributor_address>
					</key_contributor_info>	
				</key_contributors>		
				<key_note_front>		
				<key>		
					<kr>	

Tag names, elements etc used in the Flora of Australia Online xml schema

						<kn>
						<kd>
						<key_seq>
						<key_rank>
						<kt_symbol>
						<kt>
						<key_hybrid_parent_1>
						<key_hybrid_parent_2>
						<HID>
						<kt_extra>
						<key_to>
						<key_from>
					</kr>	
				</key>		
				<key_note_end>		
			</identification>			
			<declaration>			
			<diagnosis>			
		</taxon description>				
	</taxon>					
	<source>					
</volume						

*The <i> (italics) and (bold) attributes are allowed in some of the xml tags, but not within all (as indicated in the schema fl-australia.xsd).

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Tag names, elements etc used in the xml schema for line-art captions

<volume_ figure>						
	<figure_ caption>					
		<image_figure>				
		<figure_title>				
		<figure_number>				
		<figure_caption_text>				
		<scale>				
		<illustrator>				
		<permission>				
	</figure_ caption>					
</volume_ figure>						

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Explanation included for tag names, attributes, kinds, etc in *Flora of Australia Online* schema

<volume>							<volume> tag is the root element and it is used once only at beginning and end of a treatment (volume/family etc). This tag does not include any free text, only elements
	<taxon>						<taxon> tag is used at the beginning and end of every new plant name element (e.g. every family, every genus, every species etc). The end tag is not applied until after the last child in the hierarchy. This tag does not include any free text, only elements
		<taxon_description>					taxon_description> tag encloses all information relating to just one plant name (regardless of the rank). This tag does not include any free text, only elements
			<seq>				<seq> in the <i>Flora of Australia Online</i> relates to the numbering in the published <i>Flora</i> . It was not necessary for the upload to the database, nor for linking the keys to the text
			<name_symbol>				<name_symbol> is used for the asterisk symbol (to indicate introduced taxa) and the hash symbol (to indicate taxa extended beyond their natural range). The symbol in the <i>Flora of Australia Online</i> appears to the left of the main entry for the name
			<title>				<title> delivers as a heading online. In the majority of cases it is the same as the <name>, however in some cases it combines more information and a combination of formatting (capitals etc). It was more convenient in the <i>Flora of Australia Online</i> to make a new <title> tag than combine the different elements to accommodate instances such as <title>PROTEACEAE subfam. PERSOONIOIDEAE</title>
			<contributors>				<contributors> tag goes around all information for however many contributors. This tag does not include any free text, only elements
				<contributor_info>			<contributor_info> goes around all information for each contributor. This tag does not include any free text, only elements
					<contributor>		<contributor> is just the name of one person who contributed the treatment
					<contributor_address>		<contributor_address> is the address of the <contributor>
					<contributor_note>		<contributor_note> is any note about the contributor, e.g. deceased
			</contributors>				
			<name_info>				<name_info> tag includes all information relating to an individual <name> element (all ranks). It includes a large number of elements (shown here in red and nested beneath <name_info>). This tag does not include any free text, only elements
				<name>			<name> is the name element (only one word) of the plant at the <rank> specified. Within <name> there are four different <i>kinds</i> that accommodate hybrid names in the <i>Flora of Australia</i> as shown below
Coded examples of the <i>kind</i> within the <name> tag 1. <name kind="named_hybrid">grayana</name>							The coded examples deliver online as shown below:

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

2.°<name_info><rank>sp.</rank><parent>Prosopis</parent><name kind="hybrid_formula"><hybrid_parent_1>HID9991</hybrid_parent_1><hybrid_parent_2>HID9992</hybrid_parent_2></name></name_info>

where *Prosopis glandulosa* has been defined by the hybrid identifier tag (HID) 9991 in the following xml coding:
 ...<taxon><taxon_description><seq>3</seq><HID>HID9991</HID><name_symbol>*</name_symbol><name_info><rank>sp.</rank><parent>Prosopis</parent><name>glandulosa</name>

and
 where *Prosopis velutina* has been defined by the hybrid identifier tag (HID) 9992 in the following xml coding:
 ...<taxon_description><seq>4</seq><HID>HID9992</HID><name_symbol>*</name_symbol><name_info><rank>sp.</rank><genus>Prosopis</genus><parent>Prosopis</parent><name>velutina</name>

3°<name_info><status>hybrid</status><rank>sp.</rank><parent>Phyllodineae</parent><genus>Acacia</genus><name kind="hybrid_formula_?"><hybrid_parent_1>HID990</hybrid_parent_1><hybrid_parent_2>HID991</hybrid_parent_2>

where *Acacia paradoxa* has been coded with hybrid identifier 990 in the following xml coding:
 ...<taxon_description><seq>453</seq><HID>HID990</HID><name_info><rank>sp.</rank><parent>Phyllodineae</parent><genus>Acacia</genus><name>paradoxa</name>..

and where *Acacia dodonaeifolia* has been coded with hybrid identifier 991 in the following xml coding:
 ...<taxon_description><seq>458</seq><HID>HID991</HID><name_info><rank>sp.</rank><parent>Phyllodineae</parent><genus>Acacia</genus><name>dodonaeifolia</name>...

4.°<name kind="hybrid_formula_?"><hybrid_parent_1>HID9995</hybrid_parent_1></name>

where *Acacia exemplii* has been coded with hybrid identifier 9995 in the following xml coding:
 ...<taxon_description><seq>999</seq><HID>HID9995</HID><name_info><rank>sp.</rank><parent>Phyllodineae</parent><genus>Acacia</genus><name>exaplii</name>....

In this example there there is no second name, just a question mark

1. ×grayana
2. glandulosa × velutina
3. paradoxa × ?dodonaeifolia
4. exemplii × ?

				<hybrid_parent_1>			this field is used to format the name of hybrids: see example under <name> above
				<hybrid_parent_2>			this field is used to format the name of hybrids: see example under <name> above
				<HID>			used to give parent elements of hybrid an ID. See examples of use under <name> and <kt> below
				<qualifier>			<qualifier> is used to qualify a <name> e.g. cf or a question mark. In the online delivery the qualifier appears in front of the plant name it qualifies
				<rank_qualified>			<rank_qualified> is used to define the rank of the name that has been qualified. This ensures the online delivery places the qualifier in front of the correct name element . e.g. <rank_qualified>sp.</rank_qualified> where the <name> element is brownii and the <qualifier> is cf will deliver cf. brownii online

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

				<as_name>		<as_name> indicates it was published <i>as</i> the name indicated. Normally this element will be nested within <protologue>. However where there is no <protologue> then it is placed under <name_info>
				<name_note>		<name_note> is used for a note about the name such as <name_note><i>nom. inval.</i></name_note>
				<parent>		<p><parent> indicates the next highest name. In most instances it is the same as the <name> at the next level up. It can consist of more than one word.</p> <p>The example below shows coding for a subgenus: <rank>subg.</rank><parent>Conospermum</parent><genus>Conospermum</genus><name>Isomerium</name></p> <p>The example below shows coding for a species within the above subgenus(i.e. <parent> for the species is the subgenus name, not the genus name): <name_info><genus>Conospermum</genus><rank>sp.</rank><parent>Isomerium</parent><name>flexuosum</name></p> <p>However in the <i>Flora of Australia</i> the <parent> of an infraspecific name includes both the genus and the species names (i.e. more than just the name element). <name_info><rank>subsp.</rank><parent>Persoonia laurina</parent><genus>Persoonia</genus><species>laurina</species><name>intermedia</name></p> <p>In theory the <parent> field is not required (the database does not require it for the xml to load to the database in the correct sequence). Also, the delivery of the names online does not require it (all taxa names can be produced from the <family><genus><species><name> tags. However, it was a great assistance in ensuring the taxa were coded correctly (especially since the <i>Flora of Australia</i> includes ranks such as subgenus)</p>
				<family>		<family> is used within <name_info> when the <rank> equals genus, tribe subfamily etc (not used for ranks such as species or lower). It is the name of the family
				<genus>		<genus> is the name of the genus
				<species>		<species> is the name of the species (used only when there is an infraspecific name i.e. <rank> = subsp., var. or f.
				<subsp>		<subsp> is the name of the subspecies (used only when the taxon name includes another infraspecific name i.e. with <rank> = var. or f.. Not used when <rank> = subsp.
				<var>		<var> is the name of the variety (used only when the taxon name includes an infraspecific name at <rank> = f. Not used when <rank> =

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

				<rank>		<p>subsp. or var.</p> <p><rank> is usually the level of the rank of the <name>. In the <i>Flora of Australia</i> the following ranks and abbreviations are used. (Note that ranks such as <i>species list</i> are used for convenience to match the <i>Flora of Australia</i> format and are not formal botanical ranks):</p> <p>kingdom division class order fam. subfam. trib. subtrib. gen. subg. sect. subsect. ser. subser. sp. subsp. var. f. formtaxon group subgroup informal key specieslist</p>
				<status>		<p><status> has two values <i>doubtful</i> and <i>hybrid</i></p> <p>e.g. <status>doubtful</status> is used for the listing of doubtful or dubious names in the <i>Flora of Australia</i></p>
				<author>		<p><author> is the entire authority for the <name></p>
				<author_autom>		<p><author_autom> is used for autonyms at infraspecific rank. It is the <author> of the species name</p> <p>e.g. <name_info><rank>subsp.</rank><author_autom>R.Br.</author_autom><parent>Petrophile ericifolia</parent><genus>Petrophile</genus><species>ericifolia</species><name>ericifolia</name></name_info></p>

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

						will deliver online as Petrophile ericifolia R.Br. subsp. ericifolia
				<protologue>		<p><protologue> contains the information about publication of a <name>. This tag does not include any free text, only elements</p> <p>e.g. <protologue><ref><i>Fl. Australia</i> 16: 479</ref><date>1995</date></protologue></p>
				<in_author>		<p><in_author> is used when the <author> has published <i>in</i> a publication attributed to another person</p> <p>e.g. <author>Meisn.</author><protologue><in_author>A.L.P.P. de Candolle</in_author><ref><i>Prodr.</i> 14: 336</ref><date>1856</date></protologue> will deliver online as Meisn., <i>in</i> A.L.P.P. de Candolle, <i>Prodr.</i> 14: 336 (1856)</p>
				<ref>		<ref> is the publication, the volume and the pagination relating to publication of the <name>. This could be split into more fields depending on your requirements
				<date>		<date> is the date of publication of the <name>
				<protologue_note>		<p><protologue_note> is any note relating to the place of publication</p> <p>e.g. <protologue_note><i>nom. cons</i>.</protologue_note> <protologue_note><i>nom. inval.</i></protologue_note> <protologue_note><i>non</i> <i>Banksia oleaeifolia</i> Salisb. 1796 (= <i>H. dactyloides</i>)</protologue_note> <protologue_note><i>non</i> F.M.Bailey 1886.</protologue_note></p>
				<as_name>		<p><as_name> indicates the taxon was published <i>as</i> the name indicated. Normally this element will be nested under <protologue>. However in the cases where there is no <protologue> then it is placed under <name_info></p> <p>e.g. <name_info><rank>sp.</rank><parent>Isopogon</parent><genus>Isopogon</genus><name>dawsonii</name><author>R.T.Baker</author><protologue><ref><i>Proc. Linn. Soc. New South Wales</i> ser. 2, 9: 658, t. 45</ref><date>1895</date><as_name><i>dawsonii</i></as_name></protologue></name_info> will deliver online as Isopogon dawsonii R.T.Baker, <i>Proc. Linn. Soc. New South Wales</i> ser. 2, 9: 658, t. 45 (1895), as <i>dawsonii</i></p>
				</protologue>		

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			</name_info>			
			<etymology>			<etymology> is the explanation of the derivation of the <name>. In most cases it is only used for rank of genus in the <i>Flora of Australia</i>
			<typification>			<typification> is only used where there are no synonyms. Where there are synonyms the <type> tag is used instead. It includes all information relating to the typification of the name element. It is not further divided into publication etc details. e.g. for a genus: <typification>Type: <i>Placospermum coriaceum</i> C.T.White & W.D.Francis</typification> e.g. for a species <typification>T: Stringy Bark Ranges, Vic., <i>F.Mueller</i>; syn: K; Mitta Mitta R., Vic., <i>F.Mueller</i>; syn: K, MEL; Genoa R., Vic., <i>F.Mueller</i>; syn: MEL, NY.</typification>
			<synonymy>			<synonymy> includes all synonyms of a <name>. This tag does not include any free text, only elements
				<synonym>		<synonym> includes all synonyms and related information of a <name> that are based on one type. Within <synonym> there are three different <i>kinds</i> in the <i>Flora of Australia</i> as shown below. This tag does not include any free text, only elements
<p>1. <synonymy><synonym kind="nom"><synonym_info><i>Proteaceae</i> subtrib <i>Placosperminae</i> L.A.S.Johnson & B.G.Briggs, <i>Bot. J. Linn. Soc.</i> 70: 170 (1975).</synonym_info><type>T: <i>Placospermum</i> C.T.White & W.D.Francis</type></synonym></synonymy></p> <p>2. <synonymy><synonym kind="tax" seq="1"><synonym_info><i>Linkia</i> Cav., <i>Icon.</i> 4: 61 (1797), <i>nom. rej.</i> vs. <i>Persoonia</i> Sm.</synonym_info><type>T: <i>Linkia levis</i> Cav.</type></synonym> e.g. <synonym kind="tax" seq="1"><synonym_info><i>Grevillea chrysodendron</i> R.Br., etc ... <synonym kind="tax" seq="2"><synonym_info><i>Grevillea mitchellii</i> Hook., etc...</p> <p>3. <synonymy><synonym kind="misapp"><synonym_info>[<i>Elaeagnus latifolia auct. non</i> L.: G.Bentham, <i>Fl. Austral.</i> 6: 39 (1873)]</synonym_info></synonymy></p>						<p>1. Nomenclatural synonyms</p> <p>2. Taxonomic synonyms Sequences are used where there are synonyms with different types</p> <p>3. Misapplied names</p>
					<synonym_info>	<synonym_info> includes all information about the name, author and publication of the synonym/s. This field could be further broken up for databasing, but we intend to link the <i>Flora of Australia Online</i> to the nomenclature of the <i>Australian Plant Census</i> so the additional work in splitting the data was not justified e.g. <synonymy><synonym kind="tax" seq="1"><synonym_info><i>Grevillea chrysodendron</i> R.Br., <i>Trans. Linn. Soc. London</i> 10: 176 (1810), as <i>Grevillea Chrysodendrum</i>; <i>Grevillea pteridifolia</i> var. <i>typica</i> Domin, <i>Biblioth. Bot.</i> 89: 33 (1921), <i>nom.

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

						<i>illeg.</i> <i></synonym_info><type>...
					<type>	<type> is used where there are synonyms and includes all information about the type location, collector and herbaria where the type is lodged. If there are no synonyms, then this type information is coded in the <typification> tag (see earlier) e.g. ...</synonym_info><type>T: 'In Novae Hollandiae ora septentrionali; Carpentaria; prope littora' [protologue]; lecto: Carpentaria. Islands g. g2. h. Arnhem. South Bay [N.T., c. 18 Dec. 1802], <i>R.Brown</i>; lecto: BM, <i>fide</i> D.J.McGillivray & R.O.Makinson, <i>Grevillea</i> 436 (1993).</type></synonym>...
				</synonym>		
			</synonymy>			
			<illustrations>			<illustrations> is a block of information citing relevant illustrations of the plant being described e.g. <illustrations>Illustrations: J.Brock, <i>Top End Native Pl.</i> 206 (1988); J.W.Wrigley & M.Fagg, <i>Banksias, Waratahs & Grevilleas</i> 280 (1989); P.M.Olde & N.R.Marriott, <i>Grevillea Book</i> 1: 21, fig. 12 (1994); 2: 114 (bottom right), 115 (88A, B), 116 (88C–E) (1995).</illustrations>
			<prenote>			<prenote> is a note about the plant, however it is delivered online before the specimen citations. There is another note field (<note>) but it is delivered online after the specimen citations, so the two were split in the coding
			<description>			<description> is the morphological plant description
			<chromosome>			<chromosome> is any information on chromosome numbers
			<common_name>			<common name> is the common name of the plant
			<image>			<image> is the tag that includes information and url address for images. There are three kinds within the <image> tag (see below). This tag does not include any free text, only elements
<p>1. A reference to line-art/figures drawn in the <i>Flora of Australia</i> and reproduced online with permission of the artist</p> <p>2. A reference to the distribution map published in the <i>Flora</i> e.g. <image> <image kind="map"><image_text>1</image_text><image_url>v16_m1.jpg</image_url></image></p> <p>3. A reference to a photograph. At present there are none of these online, and plans are to link to the Australian Plant Photographic Index through the Australian Plant Census when it is completed</p>						<p>1. fig.</p> <p>2. map</p> <p>3. photo</p>
				<image_text>		<image_text> is the text from the <i>Flora of Australia</i> that identifies that particular image if a figure or a map (e.g. Figure 33A–H, Map 4 etc) e.g. <image kind="fig"><image_text>33A–

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

						H</image_text><image_url>v16_f33.jpg</image_url></image>
				<image_url>		<image_url> is the location on our computer server for the electronic image file
			</image>			
			<distribution>			<distribution> describes the distribution of the plant
			<habitat>			<habitat> describes the habitat of the plant
			<phenology>			<phenology> is the flowering and fruiting time of the plant
			<specimens>			<specimens> is a block of text showing details of a number of herbarium specimens cited by the author in the <i>Flora of Australia</i> giving locality, collector, herbarium information. The specimen citation is meant to give at least one specimen from each State in which the plant occurs
			<conservation_status>			<conservation_status> where given describes the known status of the plant at the time the <i>Flora of Australia</i> was published e.g. threatened, rare etc
			<note>			<note> is a note about the plant and can include a wide range of information. It is delivered online after the specimen citations, unlike <prenote> which is before the specimen citations
			<bibliography>			<bibliography> is used mainly at ranks of family and genus in the <i>Flora of Australia</i> . It is a block of text that could be broken down further into elements (date, author etc). It provides information on major publications that have referred to the plant/group
			<identification>			<identification> is the tag that surrounds all information relating to the identification keys, including the keys themselves, plus notes, contributors and title (if any) for the keys. This tag does not include any free text, only elements
				<key_title>		<key_title> where used is a title that precedes the key
				<key_contributors>		<key_contributors> contains all information about all contributors for the key, where their names were cited with the key in the <i>Flora of Australia</i> . This tag does not include any free text, only elements
					<key_contributor_info>	
					<key_contributor>	<key_contributor> is the name of an individual contributor to the key
					<key_contributor_address>	<key_contributor_address> is the address of an individual contributor. This field is not delivered online.
					</key_contributor_info>	
				</key_contributors>		
				<key_note_front>		<key_note_front> is any note relating to the key, and that needs to be placed before the dichotomous key

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

							e.g. <key_note_front><i>Flowering material is essential for the accurate identification of <i>Adenanthos</i> spp., and this key combines vegetative and floral characters. Flower length is the total length of the perianth tube immediately prior to anthesis.</i></key_note_front>
				<key>			<key> includes all information relating to the actual identification key. This tag does not include any free text, only elements
					<kr>		<kr> includes all information for one row of the dichotomous key. This tag does not include any free text, only elements
						<kn>	<kn> is the number (with or without colon) of the couplet in the key e.g. <kn>1</kn> or <kn>1:</kn>. This tag is not used in couplets with only two taxa where no numbering is used in the <i>Flora of Australia</i> keys
						<kd>	<kd> is the information to key out the plant e.g. <kd>Shrub erect.</kd>
						<key_seq>	<key_seq> is the number of the plant (species/genus etc) in the <i>Flora of Australia</i> key, and in the main description. This tag is not necessary for importing the xml coding into the database, nor is it necessary for linkages between the key and the text when online
						<key_rank>	<key_rank> is the rank of the name in the key (i.e. the <kt> field is the name in the key). This rank is required to enable the linkage between the key and the main text when online.
						<kt_symbol>	<kt_symbol> is used when a symbol needs to precede the taxon name in the key e.g. <key_seq>0</key_seq><key_rank>gen.</key_rank><kt_symbol>†</kt_symbol><kt></kt><kt_extra>SECALE</kt_extra></kr> will appear in the key online as †SECALE In this case the plant was not described, but was keyed out. This symbol begins a note explaining that Secale does not appear in the text. The note is found at the end of the key (as <key_note_end>)
						<kt>	<kt> is the name element of the plant being identified. It is a single name (i.e. the lowest level being identified, so if it is a key to species only the species name is within the <kt> field, not the genus name as well. The <kt> field must match exactly the text in the <name> field for the same rank. There are two different <i>kinds</i> within this field
1. <kt kind="named_hybrid">grayana</kt> 2. °<kt kind="hybrid_formula"><key_hybrid_parent_1>HID9991</key_hybrid_parent_1><key_hybrid_parent_2>HID9992</key_hybrid_parent_2></kt></kr></key></identification>							These examples deliver online in the key as: 1. × grayana 2. glandulosa × velutina

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema

<p>where <i>Prosopis glandulosa</i> has been defined by the hybrid identifier tag (HID) 9991 in the following xml coding: <HID>HID9991</HID><name_symbol>*</name_symbol><name_info><rank>sp.</rank><parent>Prosopis</parent><name>glandulosa</name> and where <i>Prosopis velutina</i> has been defined by the hybrid identifier tag (HID) 9992 in the following xml coding: <HID>HID9992</HID><name_symbol>*</name_symbol><name_info><rank>sp.</rank><parent>Prosopis</parent><name>velutina</name></p>						
					key_hybrid_parent_1	this field is used to format the name of hybrids: see example under <kt> above
					key_hybrid_parent_2	this field is used to format the name of hybrids: see example under <kt> above
					<HID>	used to give parent elements of hybrid an ID. See examples of use under <name> and <kt> above
					<kt_extra>	<kt_extra>is used for any additional information relating to the key e.g. <kt_extra>p.p.</kt_extra>
					<key_to>	<key_to> is used for unresolved couplets to indicate (and provide a hyperling to) the sequence number the key links to next.
					<key_from>	not used in <i>Flora of Australia</i> but to enable reverse of <key_to>
					</kr>	
				</key>		
				<key_note_end>		<key_note_end> is any note relating to the key, and that needs to be placed following the dichotomous key e.g. <key_note_end>† <i>Secale</i> and <i>Triticum</i> are not established in the wild and are not treated further in the text.</key_note_end></identification></taxon_description> will deliver online as
				</identification>		
				<declaration>		This field has not been used in the <i>Flora of Australia</i>
				<diagnosis>		This field has not been used in the <i>Flora of Australia</i> , but was setup for use with the <i>Appendix</i> entries of the <i>Flora of Australia</i>
		</taxon_description>				
	</taxon>					
	<source>					<source> specifies which volume of the <i>Flora of Australia</i> the information comes from e.g. <source>Data derived from <i>Flora of Australia</i> Volumes 16 (1995), 17A (2000) and 17B (1999), products of ABRS, ©Commonwealth of Australia</source>
</volume						

*The <i> (italics) and (bold) attributes are allowed in some of the xml tags, but not within all (as indicated in the schema fl-australia.xsd).

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Explanation included for tag names, elements etc used in the xml schema for line-art captions

<volume_figure>						<p><volume_figure> is the volume number of the <i>Flora of Australia</i>. It is qualified by a <i>name</i> element</p> <p>e.g. <volume_figure name="16"> indicates the line-art is from <i>Flora of Australia</i> volume 16</p> <p>This tag does not include any free text, only elements</p>
	<figure_caption>					<p><figure_caption> is the figure number from the <i>Flora of Australia</i> volume. It is qualified by a <i>seq</i> element</p> <p>e.g. <figure_caption seq="33"> indicates it is figure 33 from the specified volume</p> <p>This tag does not include any free text, only elements</p>
		<image_figure>				<p><image_figure> gives the name of the image file</p> <p>e.g. <image_figure>v16_f33.jpg </image_figure></p>
		<figure_title>				<p><figure_title> appears above the figure as a title when delivered online.</p> <p>e.g. <figure_title> <i>Flora of Australia</i> Volume 16 (1995)</figure_title></p>
		<figure_number>				<p><figure_number> is the number of the figure, and is usually the same as the figure caption <i>sequence</i></p> <p>e.g. <figure_number>33 </figure_number></p>
		<figure_caption_text>				<p><figure_caption_text> is the majority of the information from the figure caption in the <i>Flora of Australia</i>. It does not include the scale or the illustrator</p>
		<scale>				<p><scale> indicates the scale of the image</p> <p>e.g. <scale>Scale bars: A = 4 cm ...</p>
		<illustrator>				<p><illustrator> is the name of the artist</p> <p>e.g. <illustrator>Drawn by W.Smith. </illustrator></p>

Explanation included for tag names, elements etc used in the Flora of Australia Online xml schema for line-art

							<p>or e.g. <illustrator>A-F, J drawn by J.Rainbird. G-I, K, L-N, drawn by M.Pieroni.</illustrator></p>
		<permission>					<p><permission> indicates whether we have permission to use the artwork in the <i>Flora of Australia Online</i>.</p> <p>The options are: <permission kind="silent">yes</permission></p> <p>or <permission kind="silent">no</permission>.</p> <p>This field does not display.</p> <p>The images with <i>no</i> permission are not loaded to the database. However, if <i>no</i> permission is shown in this field and the images were in the database, then the image and the captions would still not display until the permission was given and changed to <i>yes</i></p>
	</figure_ caption>						
</volume_ figure>							

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- xml tags

- alphabetical order

as name
author
author autonym
bibliography
chromosome
common name
conservation status
contributor
contributors
contributor info
contributor address
contributor note
date
declaration
description
diagnosis
distribution
etymology
family
figure caption ¹
figure caption text ¹
figure number ¹
figure title ¹
genus
habitat
HID
hybrid parent 1
hybrid parent 2
identification
illustrations
illustrator ¹
image
image figure ¹

image text
image url
in author
kd
key
key contributor
key contributors
key contributor address
key contributor info
key from
key hybrid parent 1
key hybrid parent 2
key rank
key note end
key note front
key seq
key title
key to
kn
kr
kt
kt extra
kt symbol
name
name info
name note
name symbol
note
parent
permission ¹
phenology
prenote
protologue

protologue note
rank
rank qualified
ref
scale ¹
seq
source
species
specimens
status
subsp
synonymy
synonym
synonym info
taxon
taxon description
title
type
typification
var
volume
volume figure ¹

¹ Used in the figure captions xml schema

Flora of Australia Online

Coded examples

Tag	Tag	Tag	Tag	Tag	Example of coded tag	Example of tag with surrounding text
<volume>						
<taxon>						
</taxon_description>						
	<seq/>				<seq>4</seq>	<taxon><taxon_description><seq>4</seq><name_info><rank>sp.</rank><genus>Persoonia</genus><parent>Laurina</parent><genus>Persoonia</genus><name>laurina</name><author>Pers.</author><protologue><ref><i>Syn. Pl.</i> 1: 118</ref><date>1805</date></protologue></name_info>
	<name_symbol/>				<name_symbol>*</name_symbol>	<taxon><taxon_description><seq>2</seq><name_symbol>*</name_symbol><name_info><rank>sp.</rank><parent>Adenantha</parent><name>pavonina</name><author>L.</author><protologue><ref><i>Sp. °Pl.</i> 1: °384</ref><date>1753</date></protologue></name_info>
	<title/>				<title>Trib. 1. PLACOSPERMEAE</title>	<taxon><taxon_description><seq>1</seq><title>PROTEACEAE trib. PLACOSPERMEAE</title><name_info><family>Proteaceae</family><rank>trib.</rank><parent>PERSOONIOIDEAE</parent><name>Placospermeae</name>...
	<contributors>					
		<contributor_info>				
			<contributor/>		<contributor>A.N.Contributor</contributor>	<contributors><contributor_info°seq="1"><contributor>A.N.Contributor</contributor><contributor_note>Deceased.</contributor_note><contributor_address>Formerly °of °3 °Astreet, °Perth, °Western °Australia, °6100.</contributor_address></contributor_info> <contributor_info°seq="2"><contributor>B.N.Contributor</contributor><contributor_note><i>Prosopis</i></contributor_note><contributor_address>2 Anavenue, Perth, Western Australia, 6050.</contributor_address></contributor_info></contributors>
			<contributor_address/>		<contributor_address>Formerly of 3 Astreet, Perth, Western Australia, 6100.</contributor_address>	<contributors><contributor_info°seq="1"><contributor>A.N.Contributor</contributor><contributor_note>Deceased.</contributor_note><contributor_address>Formerly °of °3 °Astreet, °Perth, °Western °Australia, °6100.</contributor_address></contributor_info> <contributor_info°seq="2"><contributor>B.N.Contributor</contributor><contributor_note><i>Prosopis</i></contributor_note><contributor_address>2 Anavenue, °Perth, °Western °Australia, °6050.</contributor_address></contributor_info></contributors>
			<contributor_note/>		<contributor_note><i>Prosopis</i></contributor_note>	<contributors><contributor_info°seq="1"><contributor>A.N.Contributor</contributor><contributor_note>Deceased.</contributor_note><contributor_address>Formerly °of °3 °Astreet, °Perth, °Western °Australia, °6100.</contributor_address></contributor_info> <contributor_info°seq="2"><contributor>B.N.Contributor</contributor><contributor_note><i>Prosopis</i></contributor_note><contributor_address>2 Anavenue, Perth, Western Australia, 6050.</contributor_address></contributor_info></contributors>

Tag	Tag	Tag	Tag	Tag	Example of coded tag	Example of tag with surrounding text
		</contributor_info>				
	</contributors>					
	<name_info>					
		<name/>			<name>intermedia</name>	<taxon><taxon_description><seq>4b</seq><name_info><rank>subsp.</rank><parent>Persoonia^olaurina</parent><genus>Persoonia</genus><species>laurina</species><name>intermedia</name><author>L.A.S.Johnson^o&^oP.H.Weston</author><protologue><ref><i>Telopea</i>^o4:^o294</ref><date>1991</date></protologue></name_info>
		<qualifier/>			<qualifier>aff.</qualifier>	<taxon><taxon_description><seq>1</seq><name_info><rank>sp.</rank><parent>Solanum</parent><genus>Solanum</genus><name>ferox</name><qualifier>aff.</qualifier><rank_qualified>sp.</rank_qualified><author>L.</author><protologue><ref><i>Sp. Pl.</i> 2nd edn, 1: 267</ref><date>1762</date></protologue></name_info>
		<rank_qualified/>			<rank_qualified>sp.</rank_qualified>	<taxon><taxon_description><seq>1</seq><name_info><rank>sp.</rank><parent>Solanum</parent><genus>Solanum</genus><name>ferox</name><qualifier><rank_qualified>sp.</rank_qualified><author>L.</author><protologue><ref><i>Sp. Pl.</i> 2nd edn, 1: 267</ref><date>1762</date></protologue></name_info>
		<as_name/>			<as_name><i>dawsoni</i></as_name>	<taxon><taxon_description><seq>3</seq><name_info><rank>sp.</rank><parent>Isopogon</parent><genus>Isopogon</genus><name>dawsonii</name><author>R.T.Baker</author><protologue><ref><i>Proc. ^oLinn. ^oSoc. ^oNew ^oSouth ^oWales</i>^o ser. ^o2, ^o9: ^o658, ^ot. ^o45</ref><date>1895</date><as_name><i>dawsoni</i></as_name></protologue></name_info>
		<name_note/>			<name_note><i>nom. illeg.</i> = <i>S. appendiculata</i> (Vogel) Wiersema</name_note>	<taxon_description><name_info><rank>sp.</rank><status>doubtful</status><genus>Senna</genus><parent><i>Senna</i></parent><genus>Senna</genus><name>austoralis</name><author>(Vell.)^oH.S.Irwin^o&^oBarneby</author><name_note><i>nom. ^oilleg.</i> = <i>S. ^oappendiculata</i> (Vogel)^o Wiersema</name_note><protologue><ref><i>Taxon</i>^o38:^o652</ref><date>1989</date></protologue></name_info></taxon_description>
		<parent/>			<parent>Elaeagnus</parent>	<taxon><taxon_description><seq>1</seq><name_info><rank>sp.</rank><genus>Elaeagnus</genus><parent>Elaeagnus</parent><name>triflora</name><author>Roxb.</author><protologue><ref><i>Fl. ^oInd.</i>^o459</ref><date>1820</date></protologue></name_info>...
		<family/>			<family>Proteaceae</family>	<name_info><family>Proteaceae</family><rank>trib.</rank><parent>PERSOONIOIDEAE</parent><name>Placospermeae</name><author>C.T.White & W.D.Francis</author><protologue><ref><i>Proc. Roy. Soc. Queensland</i> 35: 79</ref><date>1924</date></protologue></name_info>
		<genus/>			<genus>Streblus</genus>	<name_info><genus>Streblus</genus><name><i>Paratrophis</i></name><author>(Blume) Corner</author><protologue><ref><i>Gard. Bull. Singapore</i> 19: 216</ref><date>(1962)</date></protologue></name_info>
		<species/>			<species>laurina</species>	<taxon><taxon_description><seq>4b</seq><name_info><rank>subsp.</rank><parent>Persoonia^olaurina</parent><genus>Persoonia</genus><species>laurina</species><name>intermedia</name><author>L.A.S.Johnson^o&^oP.H.Weston</author><protologue><ref><i>Telopea</i>^o4:^o294</ref><date>1991</date></protologue></name_info>
		<subsp/>			<subsp>sinuata</subsp>	<taxon><taxon_description><seq>1aa</seq><name_info><rank>var.</rank><parent>Urena lobata subsp. sinuata</parent><genus>Urena</genus><species>lobata</species><subsp>sinuata</subsp><name>sinuata</name><author>(L.) Borss. Waalk.</author><protologue><ref><i>Blumea</i> 14:

Tag	Tag	Tag	Tag	Tag	Example of coded tag	Example of tag with surrounding text
						143</ref><date>1966</date></protologue></name_info>
		<var/>			<var>sinuata</var>	<taxon><taxon_description><seq>2aa</seq><name_info><rank>f.</rank><parent>Urena lobata var. sinuata</parent><genus>Urena</genus><species>lobata</species><var>sinuata</var><name>sinuata</name><author>(L.) Borss. Waalk.</author><protologue><ref><i>Blumea</i> 14: 143</ref><date>1966</date></protologue></name_info>
		<rank/>			<rank>gen.</rank>	<taxon><taxon_description><seq>1</seq><title>ELAEAGNUS</title><name_info><rank>gen.</rank><family>ELAEAGNACEAE</family><parent>ELAEAGNACEAE</parent><name>Elaeagnus</name><author>L.</author><protologue><ref><i>Sp. Pl.</i> 1: 121</ref><date>1753</date></protologue></name_info>
		<status/>			<status>doubtful</status>	<taxon><taxon_description><name_info><status>doubtful</status></name_info><seq>1</seq><title>Doubtful and excluded names</title></taxon_description> and <taxon><taxon_description><name_info><rank>sp.</rank><status>doubtful</status><parent>Ficus</parent><genus>Ficus</genus><name>subulata</name><author>Blume</author><protologue><ref><i>Bijdr.</i> 461</ref><date>1825</date></protologue></name_info>
		<author/>			<author>E. t Hart</author>	<taxon><taxon_description><seq>1b</seq><name_info><rank>var.</rank><parent>Elaeagnus^{triflora}</parent><genus>Elaeagnus</genus><species>triflora</species><name>brevilimbata</name><author>E. t Hart</author><protologue><ref><i>Blumea</i> 26: 400</ref><date>1980</date></protologue></name_info>
		<author_autonym/>				<taxon><taxon_description><seq>4a</seq><name_info><author_autonym>Pers.</author_autonym><rank>subsp.</rank><species>laurina</species><parent>Persoonia^{laurina}</parent><genus>Persoonia</genus><name>laurina</name></name_info>
		<HID/>			<HID>HID9991</HID>	<taxon><taxon_description><seq>3</seq><HID>HID9991</HID><name_symbol>*</name_symbol><name_info><rank>sp.</rank><parent>Prosopis</parent><name>glandulosa</name>
		<protologue>			<protologue seq="1"><ref><i>Sp. Pl.</i> 1: 376</ref><date>1753</date><protologue_note><i>Gen. Pl.</i> 5: 178 (1754)</protologue_note></protologue> <protologue><ref><i>Muelleria</i> 6: 40</ref><date>1985</date></protologue> NB where more than one protologue reference is given the <protologue_note> field had to be used for the 2nd reference as the <protologue seq=""2"> tag that should have been used is not yet able to be	<name_info><rank>gen.</rank><family>Caesalpiniaceae</family><parent>Cassieae</parent><name>Cassia</name><author>L.</author><protologue seq="1"><ref><i>Sp. Pl.</i> 1: 376</ref><date>1753</date><protologue_note><i>Gen. Pl.</i> 5: 178 (1754)</protologue_note></protologue></name_info><etymology>named for the medicinal herb of that name</etymology>

Tag	Tag	Tag	Tag	Tag	Example of coded tag	Example of tag with surrounding text
					accommodated by the database	
			<in_author/>		<in_author>J.G.C.Lehmann</in_auth or>	<taxon><taxon_description><seq>26</seq><name_info><rank>sp.</rank><parent>Adenanthos</parent><genus>Adenanthos</genus><name°kind="named_hybrid">cunninghamii</name><author>Meisn.</author><protologue><in_author>J.G.C.L ehmann</in_author><ref><i>Pl.°Preiss.</i>°1:°513</ref><date>1845</date><as_name><i>A. cunninghamii</i></as_name></protologue></name_info>
			<ref/>		<ref><i>Fl. Ind.</i> 459</ref>	<taxon><rank>sp.</rank><parent>Elaeagnus</parent><seq>1</seq><name_info><name>triflora</name><author>Roxb.</author><protologue><ref><i>Fl. Ind.</i> 459</ref><date>(1820)</date></protologue></name_info>
			<date/>		date>(1820)</date>	<taxon><rank>sp.</rank><parent>Elaeagnus</parent><seq>1</seq><name_info><name>triflora</name><author>Roxb.</author><protologue><ref><i>Fl. Ind.</i> 459</ref><date>(1820)</date></protologue></name_info>
			<protologue_note/>			<name_info><rank>gen.</rank><family>Mimosaceae</family><parent>Mimosa ceae</parent><name>Entada</name><author>Adans.</author><protologue><ref><i>Fam. Pl.</i> 2: 318</ref><date>1763</date><protologue_note><i>nom. cons.</i></protologue_note></protologue></name_info><etymology>derived from the name used by H.A.Rheede in <i>Hort. Malab.</i> 9: 151, pl. 77 (1689), probably a vernacular name for the type species</etymology>
			<as_name/>		<as_name><i>dawsoni</i></as_name >	<taxon><taxon_description><seq>3</seq><name_info><rank>sp.</rank><parent>Isopogon</parent><genus>Isopogon</genus><name>dawsonii</name><author>R. T.Baker</author><protologue><ref><i>Proc.°Linn.°Soc.°New°South°Wales</i>° ser.°2,°9:°658,°t.°45</ref><date>1895</date><as_name><i>dawsoni</i></as_na me></protologue></name_info>
			</protologue>			
			</name_info>			
			<etymology/>		<etymology>from the Greek <i>elaia</i> (olive tree) and <i>agnos</i> (chaste tree) or <i>heleagnos</i> (a willow).</etymology>	<name_info><rank>gen.</rank><family>ELAEAGNACEAE</family><parent> ELAEAGNACEAE</parent><name>Elaeagnus</name><author>L.</author><prot ologue><ref><i>Sp.°Pl.</i>°1:121</ref><date>1753</date></protologue></nam e_info><etymology>from the Greek <i>elaia</i> (olive tree) and <i>agnos</i> (chaste tree) or <i>heleagnos</i> (a willow)</etymology>
			<typification/>		<typification>T: Calcutta Botanic Gardens [India], <i>W.Roxburgh s.n.</i>; holo: BM (photo BRI).</typification>	<typification>T: Calcutta Botanic Gardens [India], <i>W.Roxburgh s.n.</i>; holo: BM (photo BRI).</typification>
			<synonymy>			
			<synonym/>		<synonym kind="nom"><synonym_info><i>Linkia angustiflora</i> (Benth.) Kuntze, <i>Revis. Gen. Pl.</i> 2: 579 (1891).</synonym_info><type>T: Swan R., W.A., <i>J.Drummond 1: 597</i>; lecto: K; isolecto: BM, FI, K, MEL, <i>fide</i> P.H.Weston, <i>Telopea</i> 6: 122 (1994); Swan R., W.A., <i>J.A.Preiss 729</i>; syn: FI, MEL, NY.</type></synonym>	<synonymy><synonym kind="nom"><synonym_info><i>Linkia angustiflora</i> (Benth.) Kuntze, <i>Revis. Gen. Pl.</i> 2: 579 (1891).</synonym_info><type>T: Swan R., W.A., <i>J.Drummond 1: 597</i>; lecto: K; isolecto: BM, FI, K, MEL, <i>fide</i> P.H.Weston, <i>Telopea</i> 6: 122 (1994); Swan R., W.A., <i>J.A.Preiss 729</i>; syn: FI, MEL, NY.</type></synonym>
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	<prenote/>				<prenote>Regenerates from seed.</prenote>	<habitat>Grows in eucalypt woodland, usually on slopes or ridges in open rocky situations, in skeletal sandy or loam soils on sandstone or shale.</habitat> <prenote>Regenerates from seed.</prenote> <phenology>Flowers mainly July–Nov.</phenology>
	<description/>				<description>Large, spreading tree to 40 m tall; suckers numerous, forming thickets. Leaves broadly ovate, oblique at base, acuminate, double-serrate, lamina 6–14 cm long, scabrous above, glabrescent; petiole 0.5–1.5 cm long; stipules linear or lanceolate, 0.5–1 cm long. Flowers not seen. Samara flat, orbicular, 1–2 cm wide, broadly winged.</description>	
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	<note/>				<note>The first true leaves produced by seedlings are linear, resembling those of <i>A. linearis</i>. There are 2 subspecies.</note>	
	<bibliography/>				<bibliography>S.A.Graham, The Elaeagnaceae in the southeastern United States, <i>J. Arnold Arbor.</i> 45: 274–287 (1964); V.S.Rao, The nature of the perianth in <i>Elaeagnus</i> on the basis of floral anatomy with some comments on the systematic position of Elaeagnaceae, <i>J. Indian Bot. Soc.</i> 58: 156–161 (1974); J.F.Veldkamp, Elaeagnaceae, <i>Fl. Males.</i> ser. I, 10(2): 151–156 (1986).</bibliography>	
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