

Chapter 5

INTRODUCTION TO THE SPECIES' DIGESTS

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The first version of this book (Turnbull 1986) introduced 100 lesser-known Australian tree and shrub species with potential value for planting in countries with environmental conditions similar to those of Australia. The species described were those judged by a group of experienced botanists and foresters as having the potential to provide fuelwood, fodder, posts, poles, shade and shelter, ground cover, or other desirable products and influences. There was then, as today, a great need to identify multipurpose woody perennials suitable for reforestation or integration into farming systems in tropical arid and semi-arid areas where soil fertility levels are low and salinity problems not uncommon. For this reason drought-tolerant, nitrogen-fixing trees and shrubs, especially *Acacia* species, comprised the majority of the species described. Other species selected included those suitable for tropical areas where rainfall is abundant, but often highly seasonal, and where infertile soils, waterlogging or other environmental constraints limit species choice. The choice of species was primarily restricted to those that had rarely been tried as exotics and for which information was not readily available. Well-known and widely-planted Australian trees, especially eucalypts, were deliberately excluded.

The same criteria have been used in selecting the species for inclusion in this edition with the addition of some species selected specifically for their human food value (e.g. *Macadamia* and *Davidsonia*). Several experts of appropriate experience were consulted in developing a list of candidate species. Of course it was not possible to include all nominated species and a consensus approach was adopted in refining the list. For continuity, this edition includes information on all 100 species from Turnbull (1986) as well as information on an additional 64 species thought to have considerable potential to provide the required goods and services. Eleven better-known species from five genera (i.e. *Acacia*, *Casuarina*, *Eucalyptus*, *Grevillea* and *Melaleuca*) have been given a longer treatment so that the information available on

them could be presented more fully and used as a guide for handling lesser-known species. Ninety-nine two-page treatments cover 101 species. Use was made of the extensive literature now available on performance and utilisation of many of the species from the first edition to rate their potential. If the early performance of a particular species in trials was below expectations, it still appears in the book but joins a small new group of other promising species in the quarter-page treatments. Fifty-two species are given quarter-page treatment, including 38 species from the first edition. The promising new species in the quarter-pages are there mainly because they are little-known and there was insufficient detail available to warrant a two-page treatment. Information on the performance of species from the first edition has been provided mainly by papers and reports from several ACIAR-supported projects undertaken since 1986 and concerned with the domestication of Australian trees (e.g. see papers in Boland 1989; Turnbull 1991 and Brown 1994).

A book of this type cannot describe adequately all aspects of such a large number of species, so literature references are given to enable the reader to seek more detailed information. Where references are not cited the information is based on personal observation, informal advice and field notes accompanying the botanical specimens consulted in herbaria.

NOMENCLATURE

In preparing these digests the latest accepted botanical nomenclature has been used. Synonyms are given where species names have been changed recently or earlier names are still in common use. Some species have many common names applied to them; other lesser-known species have no local name. No attempt has been made in these digests to select the most appropriate common name or to invent a suitable name. When the species is included in the Australian Standard

02-70, Nomenclature of Australian Timbers (Standards Association of Australia 1970), which provides 753 standard trade common names and lists over 1000 species of trees and large shrubs, the standard common name is indicated in the digests.

In view of the confusion that can arise from using common names alone, particularly when the same name is applied to more than one species, botanical names are recommended as the primary means of reference.

ILLUSTRATIONS

Most of the photographs of species described in this publication have been taken by staff of the CSIRO Forestry and Forest Products but many other organisations and individuals have cooperated. Every effort has been made to ensure the illustrations are true to name and where possible they are plants from which botanical material was collected and identified.

SPECIES DISTRIBUTION MAPS

Records of authenticated specimens held in Australian herbaria are the primary source of information used to plot the natural distribution of each species. In a few instances this information was supplemented by personal observations and published records. Doubtful records were referred to specialist botanists. The scale of the maps precludes individual records from being plotted. Only the boundaries of the natural occurrence in Australia are shown unless the occurrences outside of Australia could be plotted with confidence.

SPECIES DIGESTS

The digests on the 164 species include reference to the following points.

Botanical features

The correct identification of trees and shrubs is of great importance but often presents problems for the non-specialist farmer or forester. Many Australian species of *Acacia*, *Eucalyptus* and *Melaleuca* can be accurately identified only by competent botanists. The

botanical features are an outline only and should not be regarded as a full description of a species. They are intended only as a guide to assist field workers to check on the identity of trees and shrubs in their trials.

Natural occurrence

Not all species described are confined to Australia — several extend from northern Australia into Papua New Guinea and Indonesia, and a few, such as *Dodonaea viscosa*, have a much more extensive distribution. *Eucalyptus urophylla* occurs solely in Indonesia.

Ecological conditions

The ecological conditions of the natural habitat are described under 'Climate', 'Physiography and Soils' and 'Vegetation Type'.

The climatic classification of Thornthwaite (1948) is used to define climatic zones. Rainfall is cited in terms of percentile values. The 10 percentile value means that on average one year in 10 will be less than the amount shown. The 50 percentile is the median value and indicates that in 5 out of 10 years the rainfall will be higher than the stated amount and in the remaining 5 years it will be lower. The number of frost days is based on 0°C in the screen; ground temperatures are usually several degrees lower.

Physiographic regions are based on the Jennings and Mabbutt (1977) classification (see Chapter 1) and soil nomenclature mainly follows Stace et al. (1968). For describing the structural vegetation forms the classification of Specht (1970) is used and is supplemented by that of Webb (1959) for types of closed-forest (rainforest).

Utilisation

The main purposes for which the species has been used in Australia or elsewhere is reported under the headings 'Fodder', 'Fuelwood', 'Wood' and 'Other Uses'. The potential of species for these purposes is also noted where appropriate.

Silvicultural features

Many of the species described have been planted only rarely and little information is available on nursery and plantation methods. Data and observations on seed characteristics, coppicing ability, growth rate, and yield are included when available.

Pests and diseases

Known pests and diseases of the species are listed but much of the information is from Australian observations and may not be relevant when the species is introduced into a new environment.

Limitations

Attention is drawn to features of the species that may make it undesirable in certain circumstances. Many of the trees and shrubs selected are aggressive and fast-growing. Such trees are appropriate for cultivation in areas of extreme fuelwood deficit, particularly where soil and climatic conditions are unfavourable. However, in more equable or fire-prone environments such potentially invasive plants should be introduced and monitored with great care. A valuable tree or shrub in one environment may prove to be an invasive weed in another.

Related species

Close relatives of the species described are listed as this information can provide insights into the potential of the species for hybridisation or suggest other species that might be included in trials.

EXPLANATION OF TABLE 5.1

This table (pp 93–99) lists described species and their more important characteristics and uses. In such a table it is not possible to qualify each classification and, hence, amplification should be sought from the digests on individual species.

Climatic zone (column 2) based on C.W. Thornthwaite's universal system indicates the range of climatic zones where the species occurs naturally. The zone in which the species most commonly occurs is listed first. The zones used are arid, semi-arid, sub-humid and humid.

Rainfall (columns 3–4) gives the range of median annual rainfall in the area of natural occurrence of the species. Abbreviations for the season of greatest rainfall are W=winter, U=uniform, S=summer. The values given are general indications of rainfall requirements and allowance must be made for temperature, soil type and depth, and topography. Some species, especially in the arid and semi-arid zones, grow only in situations where they receive additional moisture as run-on from

slopes or in drainage channels. Under these circumstances the median rainfall value may underestimate the water requirement of the species.

Frosts (column 5) are based on screen temperatures (0°C).

Soil texture (column 6) of the sites where the species most commonly occurs is indicated by the abbreviations Sa=sand, L=loam, and C=clay. The abbreviation Sa–C indicates the species occurs over a wide range of soil textures, from sand to clay.

The occurrence of the species on *saline or alkaline* (pH 7–10) *soils* (column 7) is indicated by the abbreviations Sl=saline and A=alkaline. Occurrence on seasonally or permanently waterlogged sites (column 8) is indicated by the symbol X. These species tolerate waterlogged sites.

Tree habit (columns 9 and 10) is denoted by the range of tree height attained by the species under natural conditions. The form of the tree is indicated by Sh=shrub, St=small tree, T=tree. Shrubs are distinguished from small trees in being multistemmed from or near the ground. Some species are found both as shrubs and as small trees and this is indicated by Sh-St. Trees are single-stemmed forms of the species reaching a height of over 10 m.

The ability to fix *atmospheric nitrogen* (column 11) is assumed for all species of *Acacia*, *Albizia*, *Allocasuarina*, and *Casuarina* even though confirmation that they individually nodulate and fix nitrogen may be lacking. The symbol X indicates the ability to fix atmospheric nitrogen.

Symbol X is also used in columns 12–21 to indicate that the species is used, or has the potential to be used, for the purpose shown. When given in lowercase (x) this indicates that the species has limited value for that particular attribute.

Shelter and windbreaks (column 12) includes the taller trees suitable for single or multi-rowed belts and shrubs or small trees with a bushy habit from ground level that provide satisfactory low shelter without recourse to pruning. The shrubs may be used in the lower storey of windbreaks formed by trees that do not retain branches near ground level.

Soil protection (column 13). This category includes trees and shrubs that serve to prevent soil erosion by forming a dense canopy or having an extensive shallow root system that binds the soil.

Any tree can provide some *shade* (column 14) but species particularly suitable for this use must develop a moderately broad and relatively dense crown.

Ornamental species (column 15) includes trees and shrubs that are suitable for public and private amenity planting. Species with attractive foliage, showy flowers or unusual bark characteristics are noted in this category.

Animal fodder (column 16) is a general category that indicates that the foliage or other parts of the plant may be eaten by stock. Some plants are grazed regularly and constitute an appreciable part of the food intake at all times, whereas others are eaten only under stress when alternative forage is scarce or lacking during severe droughts.

The categories included under *Timber* (columns 17–21) are intended only as general indications of suitability for the various uses shown. To be classified under *sawlogs* (column 17) the trunks should normally attain at least 25 cm diameter and lengths of over 3 m, whilst the wood should be suitable for use as boards or framing timber. In the case of *poles* (column 18) stem form and natural durability of the heartwood are requisites. Smaller-sized material possessing natural durability is also necessary for the *post* classification (column 19). Species listed as suitable for *turnery* (column 20) possess special wood qualities, such as figured grain. Nearly all the species in the table make good or satisfactory *firewood*, including charcoal, but the few that have unsatisfactory characteristics have been excluded from column 21.

Under '*Other uses*' (column 22) are listed species that can be used for tannin (Ta), food (F), nectar (N) and pollen (P) sources for bees, or possess medicinal properties (M) or provide other non-wood products.

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6 **Table 5.1** continued

<i>I</i>	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<i>A. crassa</i>	Sub-humid	560–705	S	2–20	Sa			3–10	Sh–St	X				X						X	
<i>A. crassicarpa</i>	Humid – sub-humid	1000–3500	S	0	Sa–C	A		5–30	T	X	X	X	X	X	X	X				X	
<i>A. cretata</i>	Sub-humid – humid	750–845	S	2	Sa			2–8	Sh–St	X	X				X	X				X	
<i>A. dealbata</i>	Sub-humid – humid	600–1000	S–W	2–80	L–C			2–30	Sh–T	X	X	X	X	X	x	X	X	X	X	X	P
<i>A. deanei</i>	Semi-arid – sub-humid	480–680	S	2–22	Sa–Ca			2–9	Sh–St	X	X	X		X			X	X	X	X	P
<i>A. diffialis</i>	Sub-humid – semi-arid	650–1100	S	0	Sa–L			5–10	Sh–St	X	X	X		X			X			X	P
<i>A. distans</i>	Arid	200–260	S–W	0–2	L–C	A		5–8	St	X	X	X	X							X	
<i>A. doratoxylon</i>	Sub-humid – semi-arid	400–600	S–U	9–52	Sa–L			3–10	Sh–St	X	X			X	X	X	X	X	X	X	P
<i>A. elata</i>	Sub-humid – humid	1000–1250	S	5–40	Sa–L			15–28	T	X	X	X		X	X	X	X	X	X	X	Ta
<i>A. eriopoda</i>	Semi-arid – arid	325–535	S	0–3	Sa–L			4–8	Sh–St	X	X	X				X				X	
<i>A. falsiformis</i>	Sub-humid – humid	600–900	S–W	5–50	Sa–C			5–24	Sh–T	X	X	X			X	X	X	X	X	X	Ta
<i>A. fasciculifera</i>	Sub-humid – humid	675–850	S	0–5	L–C			8–20	St–T	X		X	X	X	X	X	X	X	X	X	
<i>A. filicifolia</i>	Humid – sub-humid	750–1000	S	0–65	Sa–C			2–14	Sh–St	X	X			X	X	X	X	X	X	X	
<i>A. flavescens</i>	Sub-humid – humid	1000–2150	S	0–2	Sa–L			4–10	Sh–St	X	X	X			x		X	X	X	X	Ta
<i>A. glaucocarpa</i>	Sub-humid	650–850	S	0–5	L–Sa			6–10	St	X	X	X	X	X	x	X	X	X	X	X	Ta
<i>A. harpophylla</i>	Sub-humid – semi-arid	500–750	S	2–18	C–L	A–Sl		12–24	St–T	X	X	X	X	X	X	X	X	X	X	X	
<i>A. holosericea</i>	Sub-humid – semi-arid	300–1100	S	0–10	Sa–L	A		4–9	Sh–St	X	X	X		X						X	f
<i>A. bylonoma</i>	Sub-humid	2150	S	0	L–C			15–25	T	X				X	x	X	X	X	X	X	
<i>A. irrorata</i>	Humid – sub-humid	750–1100	S	0–40	L–C			5–20	Sh–T	X	X	X	X	X	X	X	X	X	X	X	Ta
<i>A. julifera</i>	Humid – semi-arid	800–1100	S	0–20	Sa			2–10	Sh–St	X	X			X		X	X	X	X	X	
<i>A. latzii</i>	Arid	160–250	S	5–10	L–C	A–Sl		2–6	Sh–St	X	X			X		X	X	X	X	X	
<i>A. leptocarpa</i>	Humid – sub-humid	750–1750	S	0	Sa–C			3–12	Sh–St	X	X	X		X	X	X	X	X	X	X	
<i>A. leucoclada</i>	Humid – sub-humid	575–990	S–U	0–61	Sa–C			4–20	Sh–T	X	X	X	X	X	X	X	X	X	X	X	
<i>A. ligulata</i>	Arid – semi-arid	100–700	S–W	0–12	Sa–L	A–Sl		1–5	Sh	X	X	X		X							
<i>A. longispicata</i>	Semi-arid – sub-humid	475–800	S	0–23	Sa–C			3–10	Sh–St	X	X	X	X	X		X	X	X	X	X	
<i>A. macdonnellensis</i>	Arid	200–300	S	8–12	Sa			2–5	Sh–St	X	X						X	X	X	X	f
<i>A. maconochiana</i>	Arid	225–350	S	1–2	L–C	A–Sl		3–12	St	X	X	X	X	X	X	X	X	X	X	X	f
<i>A. maidenii</i>	Humid – sub-humid	900–1300	S–U	0–10	Sa–L			4–16	Sh–T	X	X	X	X	X	X	X	X	X	X	X	Ta

continued over

Table 5.1 continued

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<i>A. mangium</i>	Humid	1500–3000	S	0	Sa-L			7–30	St-T	X	X	X	X	X	X	X	X	X	X	X	P
<i>A. mearnsii</i>	Sub-humid – humid	440–1600	W-U	0–80	L-C			6–20	St-T	X	X	X	X	X	x	X	X	X	X	X	Ta
<i>A. melanoxylon</i>	Humid – sub-humid	750–1500	W-S	1–40	Sa-L			10–40	Sh-T	X	X	X	X	X	x	X			X	x	
<i>A. monticola</i>	Semi-arid – arid	150–800	S	0–12	Sa-C	Sl		2–8	Sh-St	X	X			X	X	X			X	X	
<i>A. murryana</i>	Arid – semi-arid	200–300	S-U	1–8	Sa-C	A		2–8	Sh-St	X	X	X		X	X			X	X	X	P, F
<i>A. nerifolia</i>	Sub-humid	600–800	S	13–60	Sa-C			2–15	Sh-St	X	X			X	x		X	X	X	X	Ta
<i>A. oraria</i>	Humid – sub-humid	1750–2150	S	0	Sa	Sl-A		3–15	Sh-St	X	X	X		X	X		X	X	X	X	
<i>A. orites</i>	Humid	1500–2500	S-U	0–5	L-C			8–30	St-T	X	X			X	X		X	X	X	X	
<i>A. pachycarpa</i>	Arid	225–350	S	0–5	C-Sa	Sl		3–6	Sh-St	X	X			X	X				X	X	F
<i>A. pendula</i>	Arid – sub-humid	400–650	W-S	1–20	C-Sa	A-Sl		8–12	St	X	X	X	X	X	X			X	X	X	
<i>A. platycarpa</i>	Humid – semi-arid	450–950	S	0–3	Sa-L			6–10	Sh-St	X	X	X	X	X					X	X	
<i>A. plectocarpa</i>	Sub-humid – semi-arid	600–1600	S	0	Sa	Sl		3–10	Sh-St	X	X	X		X	X		X	X	X	X	
<i>A. podalyriifolia</i>	Sub-humid – humid	700–1150	S	1–5	Sa-C			2–6	Sh-St	X	X			X	X		X	X	X	X	P, Ta
<i>A. polystachya</i>	Humid – sub-humid	1150–2150	S	0	Sa-L	A-Sl		3–25	Sh-T	X	X	X	X			X	X	X	X	X	
<i>A. pruinocarpa</i>	Arid	200–275	W	1–12	Sa-L	A		5–12	St	X		X	X	X	x		X	X	X	X	
<i>A. rotii</i>	Humid – sub-humid	1400–1700	S	0	Sa-L			6–12	Sh-St	X	X	X							X	X	
<i>A. salicina</i>	Sub-humid – semi-arid	375–550	S-W	1–12	Sa-C	A-Sl		7–20	Sh-T	X	X	X	X	X	X	X		X	X	X	
<i>A. saligna</i>	Sub-humid – humid	300–1000	W-S	0–6	Sa-C	A-Sl	X	2–9	Sh-St	X	X	X	X	X	X		X	X	X	X	Ta
<i>A. sclerosperma</i>	Arid – semi-arid	175–325	W-S	0–6	Sa-C	A-Sl		2–6	Sh-St	X	X	X		X					X	X	
<i>A. shinleyi</i>	Semi-arid – sub-humid	500–750	S	0–2	Sa-L			7–18	St-T	X	X	X	X	X	X		X	X	X	X	
<i>A. silvestris</i>	Sub-humid	800–1100	U	5–60	Sa-L			8–30	St-T	X	X	X	X		X		X	X	X	X	Ta, P
<i>A. sinnsii</i>	Humid – semi-arid	1000–1800	S	0–2	Sa-C			2–7	Sh	X	X	X		X					X	X	
<i>A. stenophylla</i>	Arid – semi-arid	125–600	S	1–20	C	A-Sl	X	4–10	St	X	X	X	X	X	X		X	X	X	X	F
<i>A. stipuligera</i>	Arid – semi-arid	300–700	S	0–1	Sa-L			2–5	Sh-St	X	X	X		X					X	X	F
<i>A. tehrina</i>	Semi-arid – sub-humid	400–550	S	1–15	C	A-Sl		4–20	St-T	X	X	X	X	X	X		X	X	X	X	
<i>A. torulosa</i>	Sub-humid – semi-arid	700–1150	S	0–2	Sa-L	A-Sl		5–12	Sh-St	X	X	X	X	X	X		X	X	X	X	f
<i>A. trachycarpa</i>	Arid – semi-arid	230–400	S	0–5	Sa-C	A		1–8	Sh-St	X	X	X		X		X			X	X	
<i>A. trachyphloia</i>	Humid – sub-humid	700–950	S	0–66	L-C			3–18	Sh-T	X	X	X		X		X	X	X	X	X	

continued over

∞ **Table 5.1** continued

<i>I</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>22</i>
<i>A. tumida</i>	Semi-arid – sub-humid	450–1000	S	0–2	Sa	A		3–12	Sh–St	X	X	X	X	X	X				X	F	
<i>A. victoriae</i>	Arid – semi-arid	100–1000	S–W	0–11	Sa–C	A–Sl		1–8	Sh–St	X	x	X	X	X	X				X	P, F	
<i>A. xiphiophylla</i>	Arid	200–350	S–W	1–5	C	A–Sl		2–5	Sh	X	X	X	X	X	X				X		
<i>Albizia lebbeck</i>	Humid	1030–1755	S	0	Sa–L	Sl–A	X	15–30	T	X	X	X	X	X	X	X	X	X	X	N, Ta	
<i>A. procera</i>	Humid – sub-humid	1000–1750	S	0	Sa–L			7–30	St–T	X	X	X	X	x	X	X	X	X	X	Ta	
<i>Allocasuarina campestris</i>	Semi-arid	220–400	W	0–12	Sa–C			1–5	Sh	X	X	X							X		
<i>A. decussata</i>	Arid	200–250	S	1–12	Sa			9–12	T	X	X	X	X	X	X	X	X	X	X		
<i>A. littoralis</i>	Sub-humid – humid	650–1250	S–W	0–70	Sa–C			3–12	Sh–St	X	X	X	X	X	X	X	X	X	X		
<i>A. luebrmannii</i>	Sub-humid – semi-arid	425–650	S–W	0–50	Sa–L	Sl	X	6–15	St	X	X	X	X	X	X	X	X	X	X		
<i>Alphitonia excelsa</i>	Humid – semi-arid	650–1250	S	0–18	Sa–C			8–35	Sh–T	X	X	X	X	X	X	X	X	X	X	M	
<i>A. petrici</i>	Humid – sub-humid	1100–1650	S	0–4	L			10–40	St–T	X	X	X	X	X	X	X	X	x	X	M	
<i>Alstonia scholaris</i>	Humid	1200–2400	S	0	L–Sa			20–40	T	X	X	X	X	X	X	X	X	X	X	M	
<i>Asteromyrtus brassii</i>	Humid	1400–1950	S	0	Sa–C			3–25	Sh–T	X	X	X	X	X	X	X	X	X	X	m	
<i>A. symphyocarpa</i>	Sub-humid – humid	850–1300	S	0–1	Sa–C		X	2–12	Sh–St	X	X	X	X	X	X	X	X	X	X	M	
<i>Atalaya benniglausa</i>	Arid – sub-humid	250–650	S	0–18	Sa–C			3–9	Sh–St	X	X	X	X	X	X	X	X	X	X		
<i>Banksia integrifolia</i>	Humid – sub-humid	850–1200	S	0–65	Sa–L			2–25	Sh–T	X	X	X	X	X	X	X	X	X	X	N	
<i>Brachybiton diversifolius</i>	Humid – sub-humid	440–1500	S	0	Sa–L			5–18	St	X	X	X	X	X	X	X	X	X	X	F, M	
<i>Buckinghamia celsissima</i>	Humid	1300–1800	S	0–2	Sa–L			10–30	St–T	X	X	X	X	X	X	X	X	X	X		
<i>Callitris endlicheri</i>	Semi-arid – humid	550–900	S–W	1–80	Sa–L			6–12	Sh–St	X	X	X	X	X	X	X	X	X	X	Ta	
<i>Capparis mitchellii</i>	Sub-humid – arid	120–630	S–W	1–23	Sa–C	A		4–10	Sh–St	X	X	X	X	X	X	X	X	X	X	F	
<i>Cassia brewsteri</i>	Humid – semi-arid	1100–1350	S	0–4	Sa–C	A–Sl		4–30	Sh–T	X	X	X	X	X	X	X	X	X	X		
<i>Casuarina erickata</i>	Semi-arid – sub-humid	310–1180	S–U	2–50	Sa–C	A–Sl	X	10–20	St–T	X	X	X	X	X	x	X	X	X	X		
<i>C. cunninghamiana</i>	Humid – semi-arid	600–1100	U–S	0–50	Sa–L	Sl	X	12–35	T	X	X	X	X	X	x	X	X	X	X	P	
<i>C. equisetifolia</i>	Humid – sub-humid	1000–2150	S	0–3	Sa	A–Sl		6–35	Sh–T	X	X	X	X	X	X	X	X	X	X	Ta, M	
<i>C. glauca</i>	Humid – sub-humid	900–1700	S	0–5	Sa–C	Sl	X	2–20	Sh–T	X	X	X	X	X	x	X	X	X	X		
<i>C. obesa</i>	Sub-humid – arid	250–500	W	0–12	Sa–C	Sl		2–14	Sh–St	X	X	X	X	X	X	X	X	X	X		

continued over

Table 5.1 continued

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<i>Davidsonia pruriens</i>	Humid – sub-humid	1265–2035	S	0–2	L–C			2–10	Sh–St				X	X	X	X	X	X	X	X	F
<i>Dendrolobium umbellatum</i>	Sub-humid	850–1750	S	0–1	Sa–L	A		1–7	Sh–St	X	X			X							X
<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>	Arid – humid	120–1580	S–W	0–93	Sa–L	A–Sl		1–5	Sh–St		X	X	X	X	X				X	X	
<i>Elaeocarpus angustifolius</i>	Humid	1200–2400	S	0–5	Sa–L			35–40	T			X				X				x	F
<i>E. bancroftii</i>	Humid	2000–3600	S	0–1	L			15–30	T			X									F
<i>Eremophila bignoniiflora</i>	Arid – semi-arid	120–940	S–W	0–12	C	A–Sl		1–8	Sh–St	X				X					X		N ₁ M
<i>Eucalyptus argophloia</i>	Sub-humid	660	S	10–15	C–L			20–40	T	X	X	X	X	X	X	X	X	X	X	X	
<i>E. brevifolia</i>	Semi-arid – sub-humid	450–700	S	0	Sa–L	A		6–12	St	X	X			X							X
<i>E. camaldulensis</i>	Sub-humid – semi-arid	250–1250	S–W	0–20	Sa–C	A–Sl	X	20–45	T	X	X	X	X	X	X	X	X	X	X	X	N
<i>E. gonylocarpa</i>	Arid	150–250	S	0–5	Sa–L			8–20	St	X				X						X	X
<i>E. jensenii</i>	Semi-arid – sub-humid	550–1550	S	0	Sa–L			6–18	St–T		X					X	X	X	X	X	
<i>E. ocbrophloia</i>	Arid – semi-arid	250–450	S–U	1–10	C	A		6–20	St–T	X			X	X					X	X	N
<i>E. odontocarpa</i>	Arid – semi-arid	250–570	S	0–10	Sa–L			1–4	Sh	X	X									X	
<i>E. oxymitra</i>	Arid	150–250	S	1–12	Sa–L	A		1–6	Sh–T	X	X			X						X	
<i>E. pellita</i>	Humid	1000–4000	S	0	Sa–L–C			15–40	T	X	X					X	X	X	X	X	P
<i>E. socialis</i>	Arid – semi-arid	150–500	S–W	0–20	Sa–L	A		2–9	Sh–St	X	X					X	X	X	X	X	N
<i>E. thozetiana</i>	Arid – sub-humid	256–650	S	1–15	L–C	A		8–25	St–T		X					X	X	X	X	X	
<i>E. trivialis</i>	Arid	150–300	S–W	1–15	Sa–L	A		3–10	Sh	X	X									X	
<i>E. urophylla</i>	Humid – sub-humid	800–2200	S	0	L			15–45	T	X			X			X	X	X	X	X	
<i>Flindersia maculosa</i>	Semi-arid – sub-humid	275–474	S	0–12	C–Sa	A		6–13	Sh–St		X	X	X	X	X	X	X	X	X	X	N ₁ M
<i>Geijera parviflora</i>	Semi-arid – sub-humid	175–715	S–W	1–52	Sa–C–L	A		5–10	Sh–St	X			X	X	X				X	X	P, N
<i>Grevillea baileyana</i> (syn. <i>G. pinnatifida</i>)	Humid	1500–2150	S	0	L			6–30	St–T				X							X	
<i>G. glauca</i>	Humid – semi-arid	490–2090	S	0–2	Sa–L			2–15	Sh–St				X			X	X	X	X	X	

continued over

Table 5.1 continued

<i>I</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>22</i>
<i>G. parallela</i>	Semi-arid – humid	600–1150	S	0–1	Sa-C			5–15	Sh-St					X	X			X	X	X	N
<i>G. pteridifolia</i>	Humid – sub-humid	800–1600	S	0–5	Sa-C		X	2–18	Sh-St		X	X		X	x					X	N
<i>G. robusta</i>	Humid – sub-humid	700–1700	S	1–5	L			20–37	T		X	X	X	X	x	X	X	X		X	N
<i>G. striata</i>	Arid – sub-humid	200–500	S-U	0–12	Sa-C-L	A		3–15	Sh-St					X	X	X		X	X		N, M
<i>Hicksbeachia pinnatifolia</i>	Humid – sub-humid	1200–1700	S	0	L			8–12	St					X							F
<i>Lophostemon suaveolens</i>	Humid – sub-humid	650–2100	S	0–10	Sa-C		X	5–15	Sh-St						X	X					N
<i>Lysiphyllum carronii</i> and <i>L. cunninghamii</i>	Semi-arid – sub-humid	340–965	S	0–4	Sa-C	A		2–12	Sh-St		X	X	X	X	X	X	X	X	X	X	N
<i>Macadamia integrifolia</i> and <i>M. tetraphylla</i>	Sub-humid – humid	1130–1670	S	1–4	L			10–20	St-T		X			X				X			F
<i>Melaleuca arcana</i>	Humid	1700–1900	S	0	Sa-L		X	1–12	Sh-St			X				X	X	X	X	X	N
<i>M. argentea</i>	Humid – semi-arid	300–1500	S	0–10	SL-C			5–20	Sh-St		X			X		X	X	X	X	X	N
<i>M. bracteata</i>	Arid – humid	250–1150	S	1–12	C-L	Sl-A		5–20	Sh-St		X	X		X		X	X	X			P, E
<i>M. cajuputi</i>	Humid – sub-humid	1300–1750	S	0	C		X	15–40	T		X		X	X		X	X	X	X	X	M, N
<i>M. dealbata</i>	Humid – sub-humid	1135–1750	S	0	Sa-C	Sl		5–25	St-T		X	X		X		X	X	X	X	X	N
<i>M. leucadenhra</i>	Sub-humid – humid	650–1500	S	0–2	L-C	Sl	X	15–40	T		X	X	X	X	X	X	X	X	X	X	N, E
<i>M. nervosa</i>	Sub-humid – semi-arid	700–1150	S	0–3	Sa-C	Sl	X	1–10	Sh-St			X		X		X	X	X	X	X	
<i>M. quinquerivra</i>	Sub-humid – humid	900–1250	S	0–5	L-C	Sl	X	4–25	St-T		X	X		X		X	X	X	X	X	M, N
<i>M. stenostachya</i>	Humid – sub-humid	750–1750	S	0–3	Sa-L		X	4–25	St-T		X					X	X	X	X	X	
<i>M. viridiflora</i>	Humid – semi-arid	325–1750	S	0–2	Sa-L	A	X	5–25	St-T					X		X	X	X	X	X	P, E
<i>Melia azedarach</i> var. <i>australasia</i>	Sub-humid – humid	800–2100	S	0–15	Sa-C	Sl		10–45	T		X	X	X	X	X	X		X	X	X	N
<i>Neofabricia myrtifolia</i>	Humid – sub-humid	1600–1750	S	0	Sa-L			3–13	Sh-St					X					X		N
<i>Paraserianthes lophantha</i>	Humid – sub-humid	670–1120	W	0–4	Sa-L	A-Sl	X	4–15	Sh-St	X	X	X		X							
<i>P. toona</i>	Humid – sub-humid	1000–1750	S	0–2	Sa-L			5–30	Sh-T		X			X		X	X	X	X	X	
<i>Parinari nonda</i>	Humid – sub-humid	1150–1725	S	0	Sa-L	A		6–34	St-T		X				X		X	X	X	X	F
<i>Personia falcata</i>	Sub-humid – humid	600–1300	S	0–4	Sa-L			2–9	Sh-St			X		X			X	X	X	X	M
<i>Petalostigma pubescens</i>	Semi-arid – humid	600–1200	S	0–5	Sa-L			5–12	St			X		X			X	X	X	X	M
<i>Platygynium timorense</i>	Humid – sub-humid	800–2090	S	0	L			15–20	St-T			X									F

continued over

Table 5.1 continued

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<i>Santalum album</i>	Humid	1000–1500	S	0	Sa-C-L			4–20	Sh-St	X	X	X	X	X	X				X	X	E
<i>Sesbania formosa</i>	Arid–humid	230–1570	S	0	Sa-C	A-SI	X	8–20	St-T	X	X	X	X	X	X	X				X	F
<i>Syncarpia billii</i>	Humid	1100–1700	S	0	Sa		X	20–40	T	X	X	X	X	X	X	X	X				M
<i>Syzygium paniculatum</i>	Humid	760–1160	S	0	Sa			10–20	St		X	X	X	X	X						F
<i>S. suborbiculare</i>	Humid – sub-humid	880–1760	S	0	Sa			9–12	St		X	X	X	X	X					X	F
<i>S. tiernyanum</i>	Humid	1715–3560	S	0	Sa-L			10–25	T	X	X	X	X	X	X						F
<i>Terminalia arostrata</i>	Semi-arid	400–650	S	0	C	A		6–12	St		X	X	X	X	X	X	X			X	F
<i>T. oblongata</i>	Semi-arid	650–850	S	0	C			2–8	Sh-St					X	X	X	X				X
subsp. <i>volucris</i>	– sub-humid																				
<i>T. sericeocarpa</i>	Humid	850–2100	S	0	Sa-L			10–30	T	X	X	X	X	X	X					X	F
<i>Ventilago viminialis</i>	Semi-arid	400–700	S	1–12	C-Sa			4–10	Sh-St	X	X	X	X	X	X			X			M

A = alkaline; C = clay; E = fragrant essential oil; F = food; L = Loam; M = medicinal properties; N = nectar; P = pollen; S = summer season; SL = sandy loam; Sa = sand; Sh = shrub; SI = salinity; St = Small tree; T = tree; Ta = tannin; U = uniform season; W = winter season; lower case letter represents limited value for that particular characteristic.