














10. Stem and bark

The stem or trunk of a plant can be in various forms such as square, round or hollow. The mint family and related puriri family also have square or 4-angled stems. In some species only the young shoots are square, e.g., *Neomyrtus pedunculata*. Below are some stem shapes:

<p>Square</p>  <p>e.g., <i>Teucrium parvifolium</i>.</p>	<p>Ribbed</p>  <p>e.g., old man's beard (<i>Clematis vitalba</i>).</p>	<p>Flattened</p>  <p>e.g., mistletoe (<i>Ileostylus micranthus</i>).</p>
<p>Circular</p>  <p>e.g., arrow bamboo (<i>Pseudosasa japonica</i>).</p>	<p>Hollow</p>  <p>e.g., Himalayan honeysuckle (<i>Leycesteria formosa</i>).</p>	

The surfaces of stems or trunks, including the bark of woody plants, also have many forms including fibrous, hammer marked, hairy or stringy. Stem and bark surfaces are shown below:

<p>Smooth (glabrous) Smooth exposed epidermis.</p>  <p>e.g., fennel (<i>Foeniculum vulgare</i>).</p>	<p>Succulent Soft, mucilaginous.</p>  <p>e.g., <i>Crassula sieberiana</i>.</p>	<p>Rough Coarse and scratchy to touch.</p>  <p>e.g., black maire (<i>Nestegis cunninghamii</i>).</p>	<p>Papery Thin, dry and flaking.</p>  <p>e.g., kōtukutuku (<i>Fuchsia excorticata</i>).</p>
<p>Prickly/thorny</p>  <p>e.g., matagouri (<i>Discaria toumatou</i>).</p>	<p>Hairy (hirsute) Fine or soft hairs.</p>  <p>e.g., fireweed (<i>Senecio scaberulus</i>).</p>	<p>Grooved Generally vertical or spiralled striations.</p>  <p>e.g., lancewood (<i>Pseudopanax crassifolius</i>).</p>	<p>Stringy Long, stringy serrations on the bark or stem.</p>  <p>e.g., old man's beard (<i>Clematis vitalba</i>).</p>

It is interesting to compare the trunk and bark features of the “big five” podocarps: rimu, kahikatea, tōtara, mataī, miro (see the pictures below).



Bark of the five podocarps, from left: rimu, kahikatea, tōtara, mataī, miro.