

## Medicinal Plant Images

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**Figure 1:** *Onopordum acanthium* L. (family Asteraceae; commonly known as Scotch (or Scottish) thistle) is native to the British Isles, although it has been widely naturalised globally. It is used in traditional medicine as an anti-inflammatory, anticancer and cardiotoxic agent.<sup>1</sup> The aerial parts is rich in flavonoids, phenylpropanoids, lignans, triterpenoids, sesquiterpenoid actones and sterols.<sup>1</sup> This photograph was taken in Brisbane, Australia in 2019 by Dr Ian Cock.



**Figure 2:** *Terminalia ferdinandiana* Exell. (family Combretaceae), commonly known as Kakadu plum, gubinge, billy goat plum and salty plum, is an endemic Australian tree which occurs in tropical grassland regions of northern Australia. The fruit has traditional uses for indigenous Australians as nutritious food and as a medicinal plant.<sup>2-3</sup> Recent studies have reported Kakadu plum to be extremely high in antioxidants and to be the richest naturally occurring source of Vitamin C.<sup>4-5</sup> As high antioxidant levels have previously been demonstrated to act as preventative effects against the development of degenerative chronic diseases such as cancer, cardiovascular diseases, neural degeneration, diabetes and obesity, it has been postulated that Kakadu plum fruit may also be an effective preventative against these diseases.<sup>3</sup> Recent studies have shown Kakadu plum fruit extracts to be effective at inhibiting the growth of a panel of bacterial pathogens, including *P. mirabilis*, *K. pneumoniae*, *A. baylyi*, *P. aeruginosa*,<sup>6-8</sup> *Clostridium perfringens*,<sup>9</sup> and *Yersinia enterocolitica*,<sup>10</sup> as well as food spoilage<sup>11</sup> and body odour forming bacteria.<sup>12</sup> Notably, recent studies have demonstrated that *T. ferdinandiana* extracts are also effective against MRSA and some ESBL bacterial strains.<sup>13</sup> Fruit and leaf extracts of this species are also effective against dermal fungal pathogens.<sup>14</sup> Additionally, extracts prepared from *T. ferdinandiana* fruit also inhibit *Giardia duodenalis* growth and may therefore be useful in the treatment of giardiasis.<sup>15-16</sup> *Terminalia ferdinandiana* extracts also inhibit the proliferation of multiple cancer cell lines via the induction of apoptosis.<sup>4</sup> The photograph depicts immature fruit and was taken in Darwin, Australia by Dr Ian Cock in January 2018.

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