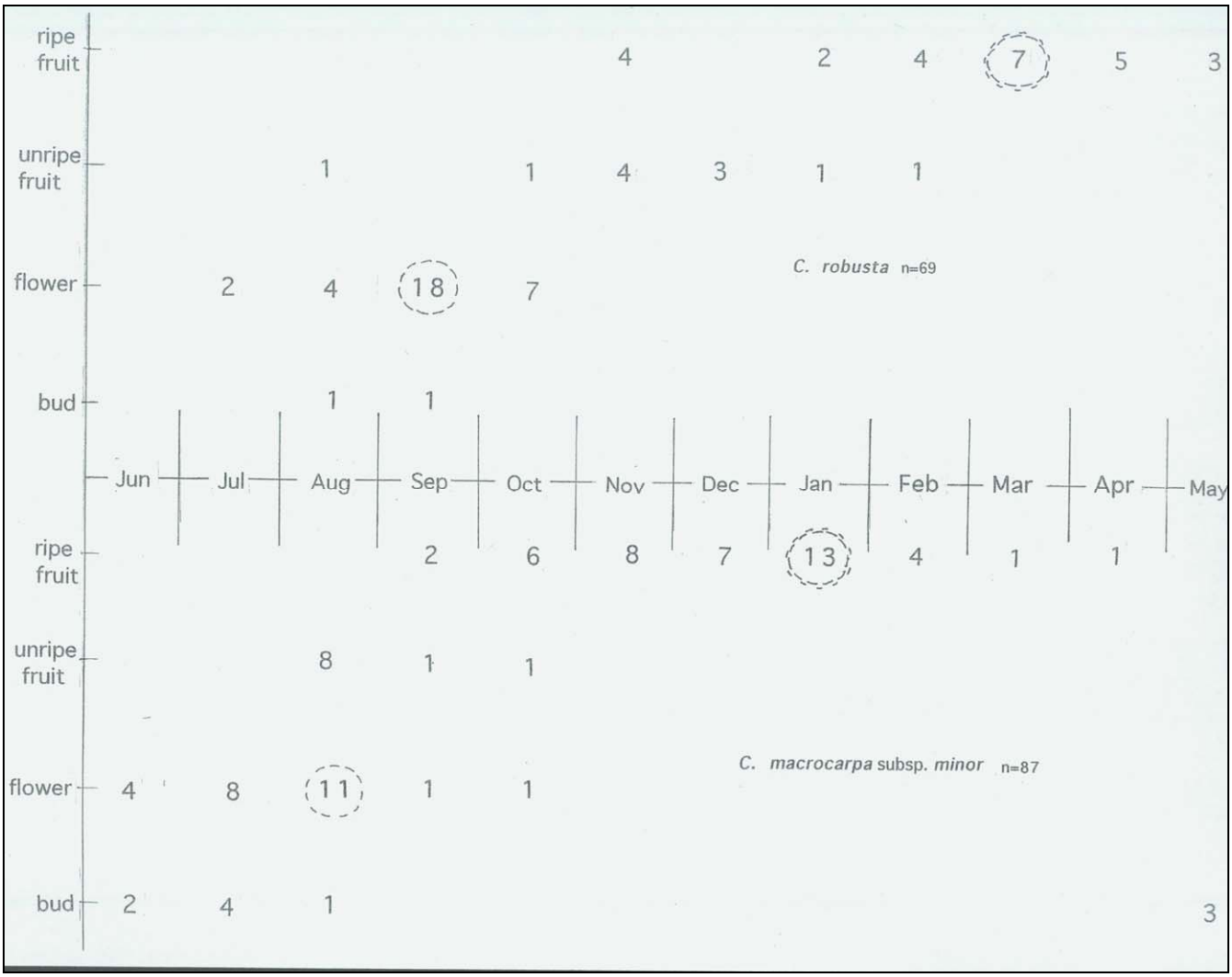

Figure 1: Table showing flowering and fruiting times in *C. macrocarpa* subsp. *minor* and *C. robusta*. From herbarium specimens, numbers indicated. Peak flowering and fruiting times circled.

Reference

Gardner, R.0. and Heads, M. 2003. *Coprosma macrocarpa* subsp. *minor* (Rubiaceae), a new subspecies from northern New Zealand. *New Zealand natural sciences 28*: 67-80.

An extension to the key and table of *Coprosma ciliata- parviflora* complex differences

Graeme Jane

Several people have asked me why I did not include *C. decurva* in the keys or tables in my recent paper on *C. ciliata – C. parviflora* complex (Jane 2005), and others why *C. pedicellata* was omitted. The first answer was of course brevity, and a second, that these two species were adequately described (Heads 1997, Molloy et al. 1999). But those were really just excuses and perhaps I should fill the gap.

The perceived need to include *C. decurva* is based on Cheeseman's broad circumscription of *C. parviflora* var. *dumosa* (and my reference to it); *C. pedicellata* was apparently unknown to him but is clearly closely related. Of the two species *C. decurva* shows marked differences from the other species of the group. In some respects it is more easily confused with *C. obconica* than any other species whereas *C. pedicellata* is much more similar to the five species I treated.

C. decurva is usually immediately recognisable by the white, strongly decurved branches and very small more or less oblong leaves. The small red fruit are also a distinct feature but perhaps the simplest character to distinguish it from most other coprosmas is the dense, coarse, white, appressed stem hairs, especially on the young branches. Chemically, the flavonoids are quite different from all other coprosmas tested by Wilson (1984).

C. pedicellata closely resembles *C. parviflora* and shade forms of *C. tayloriae.* Its long-pedicellate violet

fruit readily distinguish it from both but the vegetative characters are more difficult to separate. All three have an orange inner bark but that of *C. pedicellata* is a distinct deeper, almost reddish-orange. The leaves lack the undersurface hairs of *C. parviflora*, but although obovate as in *C. tayloriae*, are thinner in texture and hence have the prominent, often dark coloured venation of *C. parviflora*. Its flavonoids are very similar to those of *C. parviflora*.

One way to express these differences is through a key, the other in a table:

	C. pedicellata	*C. parviflora*	*C. tayloriae*	*C. dumosa*	*C. pseudociliata*	*C. ciliata*	*C. decurva*
Chromosome number (2n=)	44	132	132	132	88	88	44
Branches	irregular	planar	weakly planar to rarely planar	rigid, irregular,	decurved	irregular	decurved
Stem hairs	erect, yellow	erect, yellow	erect, yellow	fine erect white	erect, yellow	erect	mixed long and short coarse, white appressed
Stipules	apically denticulate	apically denticulate	apically ciliate and ciliate	marginally denticulate, and ciliate	laterally denticulate, apically ciliate	laterally denticulate, apically ciliate	laterally denticulate
Leaf texture	thin to coriaceous	coriaceous	coriaceous	coriaceous	thin	thin	coriaceous
Leaf surface	glabrous	densely ciliate beneath	glabrous	glabrous	often densely ciliate above	ciliate on margins and veins	glabrous
Marginal cilia	absent	curved, yellowish when present	curved, yellowish when present	straight, violet when present	straight, violet	straight, violet	absent
Midrib cilia	short, appressed above	short, appressed above	short, appressed above	usually absent or short, appressed above	usually absent	long ciliate above and coarse below	absent
Leaf venation	midrib evident above and below secondary veinsevident	midrib evident above and below secondary veins evident	midrib evident above and below, short secondary veins obscure	midrib evident below only secondary veins usually absent	midrib evident above and below, raised secondary veins evident, raised	midrib evident above and below, raised secondary veins evident, raised	midrib evident below only secondary veins absent
Leaf veins	glabrous dark coloured	glabrous dark coloured	glabrous	glabrous below	rarely ciliate coarse ciliate beneath	long ciliate above	glabrous
Apical cilia	minute incurved	short, stout	short, stout	short, stout	like marginal cilia	like marginal cilia	short stout
Female corolla	cleft *c.* halfway	deeply cleft	shallowly cleft	deeply cleft	deeply cleft	deeply cleft	deeply cleft
Male corolla	cleft *c.* halfway	deeply cleft	deeply cleft	deeply cleft	shallowly cleft	deeply cleft	cleft *c.* halfway
Fruit	deep violet	white, maturing dark violet	translucent-white	orange or red, sometimes opaque-white	opaque-white to orange or red	opaque-white to orange or red	small, red

Revised key to species of the *C. ciliata-C. parviflora* complex

1	Hairs on young stems coarse, white, appressed	*C. decurva*
	Hairs on young stems fine, white or long and yellowish, not appressed	*2*
2	Leaf with evident darker veins, stipule triangular with a dark central denticle; drupe violet	*3*
	Leaf with obscure or transparent veins, stipule broadly triangular with lateral denticles; drupe white, orange or red	*4*
3	Lamina of young leaves densely short-ciliate beneath only; drupe sessile or shortly pedicellate	*C. parviflora*
	Lamina of young leaves glabrous; drupe distinctly pedicellate	*C. pedicellata*
4	Midrib and veins prominently raised beneath	*5*
	Midrib and veins level with leaf surface or depressed beneath	*6*
5	Midrib weakly visible to absent above, evident beneath, usually glabrous; veins glabrous	*C. pseudociliata*
	Midrib evident on both surfaces, long ciliate above; veins ciliate beneath	*C. ciliata*
6	Midrib clearly visible on both surfaces, stout, rapid tapering, becoming irregular and not reaching the leaf tip beneath; drupe translucent, white	*C. tayloriae*
	Midrib absent or very short above, fine, extending straight to leaf tip beneath; drupe red or orange, occasionally opaque-white	*C. dumosa*

References

Heads, M. 1998: *Coprosma decurva* (Rubiaceae), a new species from New Zealand. *New Zealand Journal of Botany 36*: 65-69.

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In a Tangle – the *Ruppia* species of Auckland

Bec Stanley

In 2004 I received a call from a Manukau City Council Parks Ranger about the submerged aquatic plant *Ruppia polycarpa* at Manurewa Farm Ponds at Mahia Park (on Wattle Farm Road). Because of the rarity of this species in the region I visited the site soon after with Phil Brown (DOC Biodiversity Ranger).

At Mahia Park there are two constructed freshwater ponds, one at least of which is intermittently flushed with seawater from the Waimahia Creek of the Manukau Harbour. They are mainly used for regattas run by model powerboat clubs. A range of birds also use the ponds as permanent habitat and as a seasonal feeding ground.

Ruppia polycarpa was identified in the reserve management plan which advocated control as the *Ruppia* is regarded as a weed which impedes the movement of the model boats by tangling around their keels (Champion 1990; Anon 1992). Parks staff believe *Ruppia polycarpa* was introduced to the ponds in the 1980s by a film production crew (Joseph Ormsby *pers. comm*.) further enhancing the belief it is "weedy". Despite control by herbicide and pond drainage it remains abundant. Interestingly in Australia *R. polycarpa* forms turions, or vegetative propagules (either a swelling at the leaf base or a swelling at the rhizome tip), in ephemeral habitats that survive drying (Jacobs & Brock 1982). No turions are recorded in permanent habitats in Australia. It would be interesting to determine whether *R. polycarpa* is regenerating at these ponds by turions because the ponds are sometimes drained possibly classifying this habitat as (artificially) ephemeral. To my knowledge turions have not been reported in NZ (Mason 1967), indeed, have not been recorded for species of *Ruppia* outside Australia (Brock 1982). Seed of *R. polycarpa* is also reported as remaining viable in dry sediment for some years in Australia (Brock 1982).

There are two *Ruppia* species (Ruppiaceae) or "horses manes" in New Zealand, both also found in Australia and both regarded as native to Auckland: *Ruppia polycarpa* and *R. megacarpa*. Both are listed as "Data deficient" in the Auckland regional threatened plants list (Stanley *et al.* 2005) as they are suspected to be regionally rare but there is not enough data to formally assess their rarity. Although possibly a naturally uncommon plant in Auckland, both *Ruppia* species may have decreased in range and abundance at natural sites though the decline in wetlands in the