

THE *ACAENA OVINA* (ROSACEAE) COMPLEX IN NEW ZEALAND

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Abstract. Representatives of the *Acaena ovina* complex in New Zealand are described and illustrated. Only 2 species (*A. agnipila* and *A. echinata*) and 4 varieties of the Australian complex have so far been collected in New Zealand; *A. ovina* s. str. has not yet been recorded. The status of the hybrid species *A. × anserovina* in Australia and New Zealand is discussed.

The Southern Hemisphere genus *Acaena* consists of about 150 species, the majority confined to South America, with others extending to most of the sub-Antarctic islands, Australia, New Zealand and South Africa. The most recent monograph of the genus as a whole is that of Bitter (1911), in which two subgenera ('Reihen'), *Axillares* and *Terminales*, were recognised, defined by the position of the inflorescence.

All of the New Zealand species, and all of the Australian species except the Tasmanian *A. montana* ('*A. tasmanica*') were included by Bitter in his subgenus *Terminales* which was further divided into four sections. The *A. ovina* group fell into section *Euacaena*, while the other Australian and New Zealand species were distributed amongst the sections *Ancistrum*, *Pteracaena* and *Microphyllae* (see Allan (1961) for summary). A total of three species was recognised for Australia, and eight for New Zealand. Allan (1961) adopted a narrower concept for the New Zealand species and raised their number to fourteen, although the circumscriptions of the taxa were basically unchanged from Bitter's views. There has been no corresponding re-examination of the Australian species *in toto*.

However, the *A. ovina* group, native to southern and eastern Australia, was more recently revised by Orchard (1969) and shown to consist of two species, one eastern and one western, which hybridized at their region of overlap in southern New South Wales. The resultant hybrid swarm formed the basis of Allan Cunningham's description of *A. ovina* (Cunningham, 1825). It was also shown that members of the group formed sterile hybrids with *A. anserinifolia* at the many points of overlap with that species. Members of the *A. ovina* complex were accidentally introduced into New Zealand in the second half of the 19th century, and soon spread along roadsides and through pastures in many places. It is the purpose of this paper to correlate these adventives with their Australian progenitors.

The first reference to *A. ovina* in New Zealand is apparently that of Buchanan (1871). In a paper read to the New Zealand Institute on 25th June 1870, he reported the occurrence of apparent hybrids between this species and "*A. sanguisorbae*" on Mount Victoria, Wellington. From his comments it appears that *A. ovina* s. 1, was at that time already well established near Wellington. Guthrie-Smith (1953) stated that *A. ovina* was brought to Tutira station (Hawkes Bay) sometime in the 1870's in the wool of merino sheep, and by the 1880's it was well established near wool sheds and

in open pastures. G. M. Thomson collected specimens of *A. agnipila* from Allan's Ranges, Otago in 1874. By 1897 the Department of Agriculture could report that the plants were "rapidly becoming a source of great annoyance to wool-raisers".

Although three species (12 varieties) are involved in the complex in Australia, only two species (four varieties) have been introduced into New Zealand, and one of the species (*A. echinata*) is known from only a single collection, made in Dashwood Pass, Marlborough in 1942. All other New Zealand collections are *A. agnipila*, of which three varieties occur here. The most common is *A. agnipila* var. *aequispina*, which extends from near Dunedin to Auckland. *A. agnipila* var. *protenta* has a range almost as extensive, but is less common. *A. agnipila* var. *tenuispica* is common on the Canterbury Plain, but otherwise is known only from two collections from near Wellington. *A. ovina* s. str. has not as yet been found in New Zealand.

Plants of the *A. ovina* group are easily distinguished from the native New Zealand species by the shape of their inflorescences. The introduced species have the flowers more or less evenly distributed along the upper $\frac{1}{3}$ to $\frac{1}{2}$ of the rachis, while in the native species the flowers are grouped in a globular head at the tip of the rachis. *A. × anserovina* (see later) has an inflorescence intermediate between these two groups.

In the descriptions that follow, only the major references are cited. For a more extensive bibliography see Orchard (1969).

KEY TO THE *A. ovina* COMPLEX IN NEW ZEALAND

1. Spines of fruit very unequal, the larger ones with thickened conical bases; plant $\pm$ glabrous, with a few appressed hairs ***A. echinata* var. *echinata***
1. Spines of fruit $\pm$ equal, all lacking thickened conical bases; plants pilose, with $\pm$ dense spreading hairs 2
2. Fruit densely pilose ***A. agnipila* var. *tenuispica***
2. Fruit glabrous 3
3. Stamens 3 - 4 (—5), length 1.5 - 2.0mm; stipules 2.0 - 3.5mm long; inflorescence never branched ***A. agnipila* var. *aequispina***
3. Stamens (5—) 6 (—7), length 4.0mm; stipules 4.0 - 5.0mm long; inflorescence branched, or at least with fascicles of flowers in axils of upper leaves ***A. agnipila* var. *protenta***

Acaena echinata Nees in Lehm., Pl. Preiss. 1(1844)95.

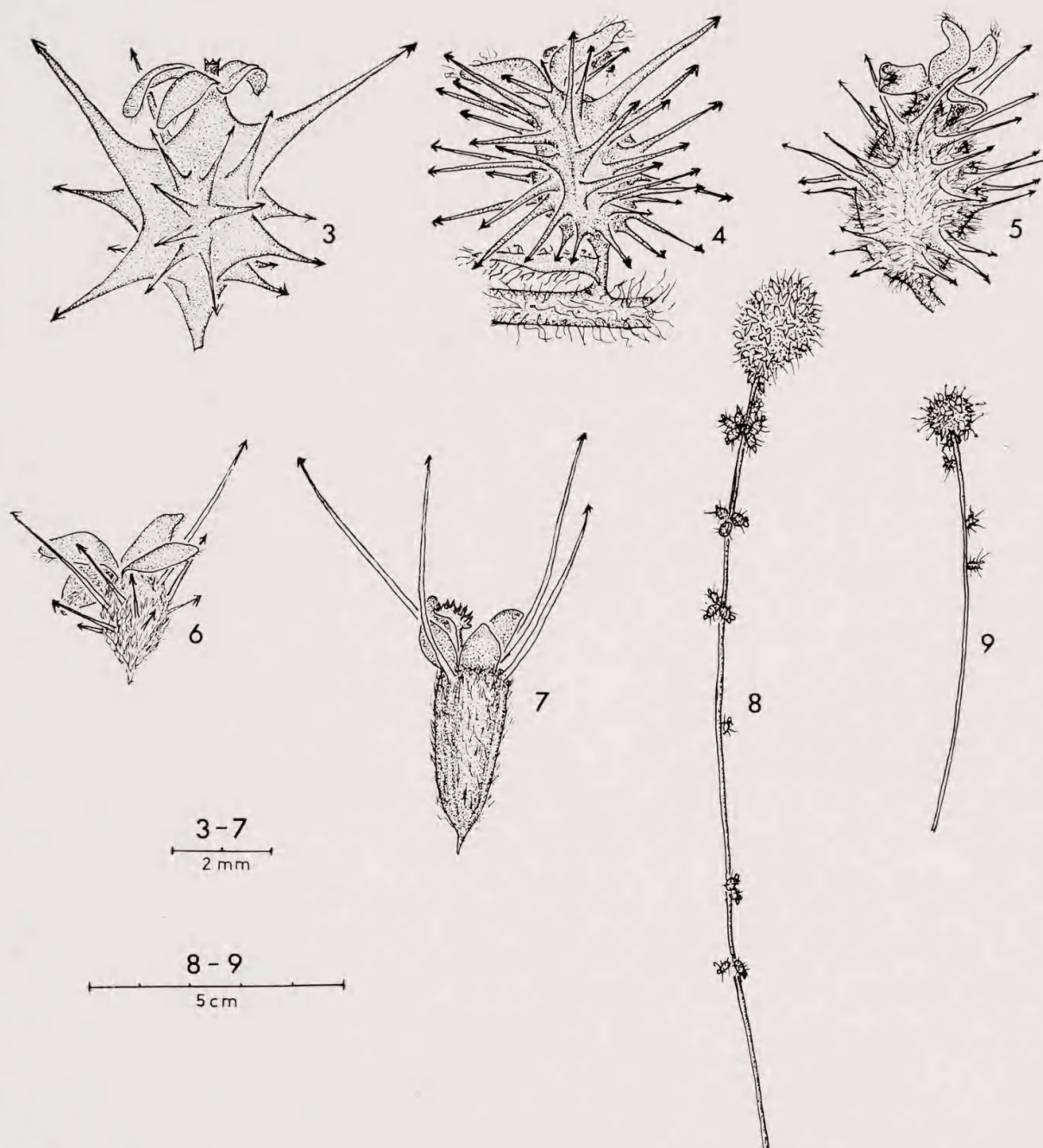
var. ***echinata***

(Fig. 3)

Herbaceous perennial (7-)25-35(-50)cm tall, stems erect or ascending, glabrous of sparsely appressed pilose. Leaves narrowly obovate to oblanceolate (4-)7-12(-20) cm long, imparipinnate, petiolate, stipulate; petiole and rachis appressed pilose with hairs as for stems; stipules deltoid or linear, 1.5-2.5(-5.0)mm long, 1.0-1.5(-2.0)mm wide, glabrous adaxially, appressed pilose abaxially; leaflets (9-)13-15(-19) per leaf, ovate to oblong, (5-)7-10(15)mm long, (4-)5-8(-10)mm wide, serrate with 8-13 blunt teeth $\frac{1}{2}$ - $\frac{3}{4}$ of lamina width (rarely cut almost to midrib), glabrous or very sparsely pilose on upper surface, hairs on lower surface confined to veins and/or midrib.



Figs. 1,2. 1. Habit of *Acaena agnipila* var. *aequispina* (H. H. Allan s.n., CHR 178).
2. Habit of *Acaena agnipila* var. *protenta* (H. H. Allan s.n., CHR 18354A).



Figs. 3-9. 3. Reconstruction of the fruit of *Acaena echinata* var. *echinata* (A. J. Healy s.n., CHR 227584). 4. Fruit of *A. agnipila* var. *protenta* (P. Hynes s.n., AK 51589). 5. Fruit of *A. agnipila* var. *tenuispica* (E. M. Chapman s.n., CHR 219737). 6. Fruit of *A. × anserovina* (H. H. Allan s.n., CHR 261). 7. Fruit of *A. anserinifolia* (H. H. Allan s.n., CHR 269a). 8, 9. Inflorescences of *A. × anserovina* (8. P. Hynes s.n., AK 104874, 9. H. H. Allan s.n., CHR 178.).

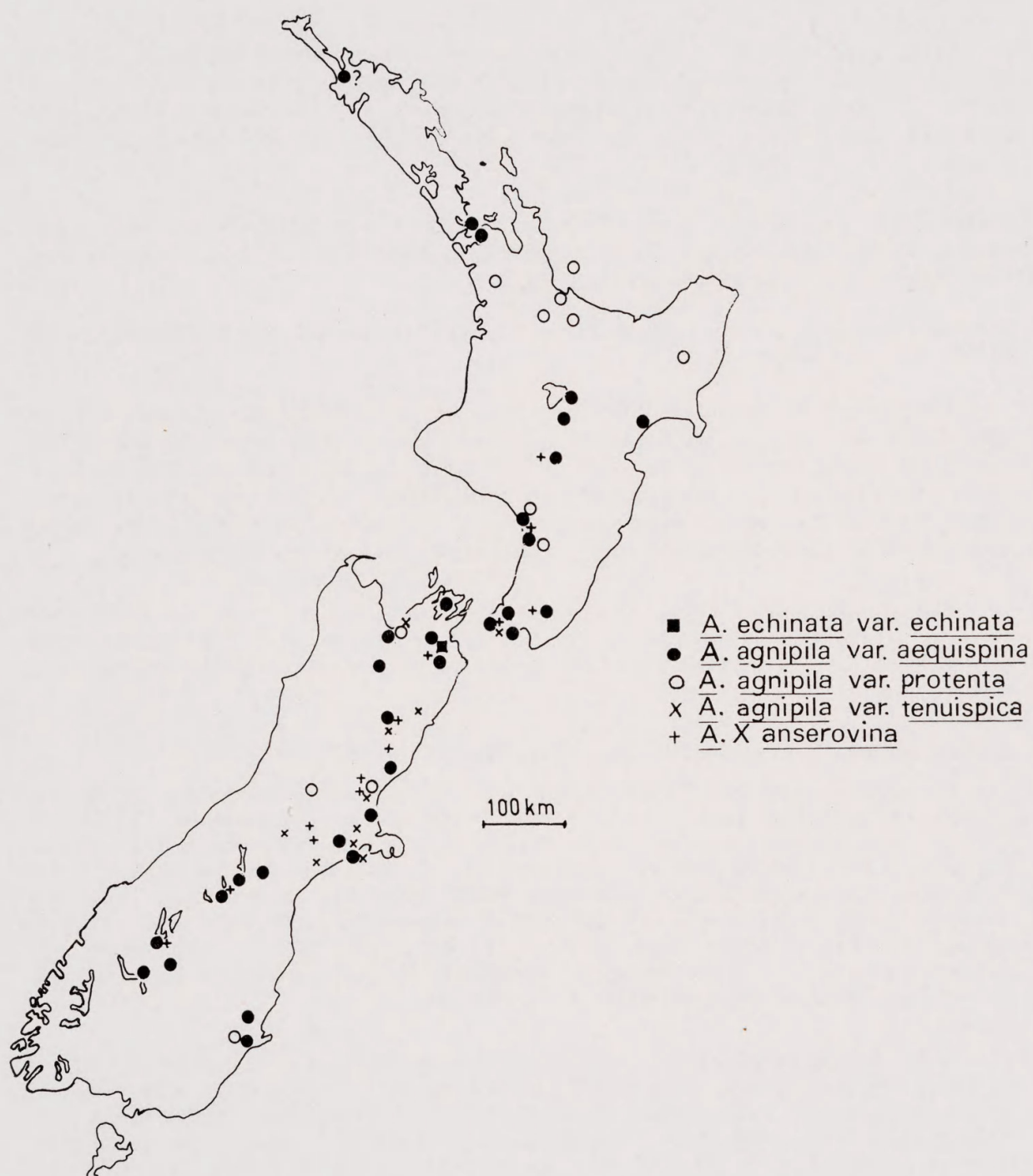


Fig. 10. Distribution of *Acaena agnipila*, *A. echinata*, and *A. X anserovina* in New Zealand.

Inflorescence a cylindrical, unbranched spike, becoming interrupted in fruit. Sepals 5, green, ovate, 1.0 - 1.5(-2.5)mm long, 0.7 - 1.0mm wide, $\pm$ glabrous or sparsely pilose on outer surface. Stamens (2 -)4 - 5, deep red-purple, 1.0 - 2.0(-3.0)mm long. Style solitary, 1.0 - 1.5mm long.

Fruit ovoid, with 2 - 3 prominent longitudinal ridges formed by fusion of bases of larger spines, 2.5mm long, 1.5mm wide (excluding spines), glabrous; spines unequal, barbed at tip, glabrous, 3 - 6(-8) longer than others, 2.0 - 2.5(-4.0)mm long, with thickened conical bases, (8 -)20 - 30 shorter ones, usually slender, 1.0 - 2.0mm long; 1 seed.

DISTRIBUTION. In Australia, known from south-eastern New South Wales, central and eastern Victoria and southern South Australia. In New Zealand, so far only reported from one locality in Marlborough (Fig. 10).

Specimens examined. South Island: Healy s.n., 11.v.1942, Dashwood Pass Marlborough, CHR 227584 p.p. (fl., fr.).

This species is readily distinguished from *A. agnipila* by its relatively hairless appearance, the few hairs on the stems and leaves being closely appressed, and by the prominent angles formed on the fruit by fusion of the thickened bases of the 6 - 8 larger spines. *A. echinata* also tends to have fewer leaflets per leaf and fewer serrations per leaflet than does *A. agnipila*, but because of a considerable overlap in the ranges of variation of these characters, they are unreliable for isolated determinations.

The specimen cited above is a single plant occurring in a collection otherwise consisting of abnormal forms of *A. agnipila* var. *aequispina*. It is possible that some introgression may have taken place, although none of the plants can be referred with certainty to *A. ovina* s. str.

Acaena agnipila Gandoger, Bull. Soc. Bot. France 59(1912)706.

Herbaceous perennial 20 - 50(-66)cm tall, stems erect or ascending, $\pm$ densely pilose with spreading hairs. Leaves narrowly obovate to oblanceolate, (3.5 -)8 - 15(-22)cm long, petiolate, stipulate, imparipinnate, petiole and rachis pilose, with spreading hairs as for stems; stipules deltoid to linear, (1.0 -)2.0 - 5.0(-8.0)mm long, 1.0 - 3.0mm wide, glabrous or sparsely appressed pilose adaxially, more densely pubescent abaxially. Leaflets (9 -)17 - 23(-27) per leaf, $\pm$ sessile (except terminal one), ovate to oblong, (5 -)8 - 15(-26)mm long, (3 -)6 - 9(-13)mm wide, serrate with (9 -)12 - 15(-18) blunt teeth $\frac{1}{2}$ - $\frac{3}{4}$ of lamina width, moderately appressed pilose on upper surface, densely appressed pilose over entire lower surface.

Inflorescence a cylindrical, branched or unbranched spike, becoming interrupted in fruit. Sepals 5, green, ovate, 1.5 - 2.5mm long, (0.5 -)1.0 - 2.0mm wide, sparsely to densely pilose on outer surface. Stamens 3 - 7, 1.0 - 4.0mm long. Styles 1(-2), 1.0 - 2.0mm long. Fruit ovoid, 2.0 - 2.3mm long, 1.2 - 1.5mm wide (excluding spines), glabrous or pubescent, with (15 -)30 - 40(-55) spines, all $\pm$ equal, slender, 1.0 - 2.0(-3.0)mm long, glabrous, barbed at tip. Seeds 1(-2) per fruit.

var. ***aequispina*** Orchard, Trans. R. Soc. S. Aust. 93(1969)96 - 97 (Fig. 1)

Acaena ovina subsp. *nanella* Bitter, Bibl. Bot. 74(1911)71. [Typus: "Novae Zelandiae insula meridionalis: Canterbury Plains, old river-bed of Waimakariri, 'Not native of New Zealand?' leg. L. Cockayne, herb. Berol." Holotypus: probably destroyed. Isotypus: L. Cockayne s.n., -ix.1890, Old river bed of Waimakariri, Canterbury Plain, near Styx, CHR 45341 (fl.)!]

Perennial herb (15 -)20 - 35(- 60)cm tall, leaves (5 -)8 - 12(- 22)cm long, stipules linear to deltoid, rarely slightly bifid at tip, (1.0 -)2.0 - 3.5(-5.0)mm long, (0.5 -)1.0 - 2.0mm wide, glabrous or sparsely pilose adaxially, more densely appressed pilose abaxially. Leaflets (9 -)17 - 21(- 25) per leaf, ovate to oblong, (5 -)8 - 14(- 26)mm long, (3 -)6 - 8(- 13)mm wide, with (9 -)12 - 14(- 16) serrations $\frac{1}{2}$ - $\frac{3}{4}$ of lamina width. Inflorescence an elongate, interrupted, unbranched spike. Sepals 5, 1.0 - 2.0mm long, 0.6 - 1.0(- 1.5)mm wide, sparsely pilose; stamens 4 - 5, (1.0 -)1.5 - 2.0(- 3.0)mm long; style 1, 1.0 - 1.5mm long. Fruit ovoid, glabrous, with (12 -)30 - 40(- 55) equal, slender, glabrous spines, 1.0 - 2.0mm long.

DISTRIBUTION. In Australia, occurring in south-eastern Queensland, eastern New South Wales, Victoria, Tasmania and south-eastern South Australia. In New Zealand this variety is found from Dunedin to Auckland, and one collection (Matthews s.n., AK 75064) is doubtfully recorded from near Awanui (Fig. 10).

Specimens examined. North Island: Allan s.n., Parewanui, Waitatapia, near Bulls, CHR 3104 p.p. (fl.); Allan s.n., 16.xi.1928, Tauherenikau River, CHR 178 p.p. (fr.); Carse s.n., 15.x.1928, Penrose, Auckland Isthmus, CHR 5435 (fl.); Connor s.n., 8.xi.1944, Wharepaina, near Taupo, CHR 51577 (fl.); Cook s.n., 16.xi.1952, near Cape Turakirae, CHR 80601 (fr.); Cooper s.n., -xii.1956, Desert Rd, AK 50452 (fr.); Cranwell s.n., 1931, Taupo, AK 75063 (fr.); Davey s.n., 12.x.1938, Seatoun, CHR 20077 (fl.); Healy s.n., 25.xi.1941, Seatoun, CHR 226295, 226296 (fl.,fr.); Hodgkins s.n., Mt. Wellington, CHR 2043 (fl.,fr.); Kirk s.n., Wellington, AK 75059, CHR 226299, OTA 016469 p.p. (fl.,fr.); Macmillan 70/232, 14.xi.1970, Gladstone, CHR (fl.,fr.); Matthews s.n.,? Oinu, AK 75064 (fl.); Mason s.n., 23.x.1939, Lower Hutt, 22958 (fl.); Molesworth s.n., 4.i.1940, Gorge near Mohaka, AK 33771 (fr.); Parris & Croxall s.n., 21.x.1970, near Taupo, AK 127702 (fr.); Woodhead s.n., 29.xi.1934, Bainesse, Foxton Line, CHR 45342 (fl.,fr.). South Island: Anon. s.n., East Taieri, WELTU 10324 (fl.); Allan s.n., 22.x.1941, Hurunui, CHR 48519, 58659 (fl.); Ashwin s.n., 11.xi.1957, Crail Bay, Pelorus Sounds, CHR 152446 (fr.); Brownlie 986, 25.i.1970, Lindis Pass, CANU (fr.); Calder s.n., 1932, Lake Wakatipu, LINCOLN (fr.); Cockayne s.n., -ix.1890, old river bed of Waimakariri, CHR 45341 (fl.); Collett s.n., 29.xii.1968, Balmoral State Forest, CHR 186598 (fr.); Dobson s.n., 14.v.1971, Ellesmere Spit, CANU 15085 (fr.); Healy s.n., 11.v.1942, Dashwood Pass, CHR 227584 p.p. (fr.); Healy 70/131, 12.xi.1970, Lowburn, Clutha River, CHR (fl.,fr.); Healy 70/134, 12.xi.1970, Glendhu Bay, L. Wanaka, CHR (fl.); Healy 70/147, 24.xi.1970, Meadowbank Station, Taylor R., Blenheim, CHR (fr.); Healy 70/167, 26.xi.1970, Hitchen Hills Station, Hurunui R., CHR (fr.); Kirk s.n., Te Aro, LINCOLN, MEL (fl.); Macmillan s.n., 27.iii.1955, Waimakariri River, CHR 149459 (fr.); Macmillan s.n., 30.iii.1963, Old Man Ra., Balmoral Station, CHR 155486 (fr.); Macmillan s.n., 14.xi.1967, Glynnwye Stream, Hope Valley, CHR 190434 (fl.); Macmillan 68/326, 29.xii.1968, S. side of Rakaia Valley opp. Peak Hill, CHR (fl.,fr.); Mark s.n., 12.i.1965, Mt. Iron, Lake Wanaka, OTA 012964 (fr.); Melville & Melville 5713, 23.xii.1961, Kaitorete spit, CHR (fl.,fr.); Mitchell s.n., 6.iii.1970, Pukaki township, CHR 211519 (fr.); Molloy s.n., 3.ii.1970, Bankside Reserve, CHR 212254 (fl.,fr.); Moore s.n., 5.iii.1953, Lower Acheron, CHR 180175 (fr.); Thomson s.n., -i.1874, Allan's Ranges, Otago, CHR 183860 (fl.).

The type of *A. ovina* var. *nanella* was not examined for the treatment of the Australian species (Orchard 1969), but the taxon was considered, on the basis of Bitter's description, to be taxonomically synonymous with *A. agnipila*. A duplicate of Cockayne's collection, housed in CHR, has now been examined and found to be *A. agnipila* var. *aequispina*.

A. agnipila var. *aequispina* is distinguished from var. *protenta* by its unbranched inflorescence, fewer stamens and generally less robust appearance, and from var. *tenuispica* by its glabrous fruits. The fruits of var. *aequispina* and var. *protenta* are very similar.

var. **protenta** Orchard, Trans. R. Soc. S. Aust. 93(1969)97

(Figs. 2, 4)

Perennial herb 20 - 40cm tall, leaves (7 -)10 - 20 cm long, stipules linear to deltoid, 4.0 - 5.0mm long, 2.0 - 3.0mm wide, glabrous adaxially, appressed pilose abax-

ially. Leaflets 18 - 23 per leaf, 10 - 17mm long, 7 - 10mm wide, with 10 - 13 serrations $\frac{1}{2}$ - $\frac{3}{4}$ of lamina width, sparsely pilose on upper surface, moderately densely pilose on lower surface. Inflorescence an elongate, interrupted spike, either branched near the base or bearing large fascicles of flowers in axils of upper leaves. Sepals 5, 1.5 - 2.0mm long, 0.7 - 1.0mm wide, sparsely pilose; stamens (5 -)6(- 7), 4mm long; style 1 (rarely 2), 0.9 - 1.5mm long. Fruit ovoid, glabrous, with 25 - 35 equal, slender spines, 1.0 - 2.0mm long.

DISTRIBUTION. In Australia, known from scattered localities in Queensland, New South Wales, Victoria and South Australia. In New Zealand, *A. agnipila* var. *protenta* is found almost throughout the range of the species, from Dunedin to Hamilton, but is most common in the North Island. (Fig. 10).

Specimens examined. North Island : Allan s.n., 21.xi.1928, Rotorua, CHR 431 (fl.); Allan s.n., 1.i.1937, Parewanui, Rangitikei River, CHR 18354A (fl., fr.); Clark s.n., Waipara Stn., Whatatutu, CHR 5426 (fr.); Healy 119, 17.x.1933, Railway bridge, Aorangi, CHR (fl.); Hodgkins s.n., -iii.1941, Tauranga, CHR 226294, 226298, 227597 (fr.); Hynes s.n., 21.xi.1959, Panui Flats, Mayor Island, AK 51589 (fr.); Mackintosh s.n., -i.1949, Horotiu, Waikato River, CHR 64648 (fr.); Mason s.n., -ii.1934, Putaruru CHR 226297 (fr.). South Island: Cheeseman s.n., Awatere, AK 75060 (fr.); Haughton s.n., 20.xii.1965, Teviot River Downs Station, Roxburgh, CHR 172741 (fr.); Healy s.n., 10.xii.1941, Waipara River, CHR 227583 (fr.); Macmillan 72/189, 23.i.1972, Waipara River, CHR 225653 (fr.); Macmillan 72/190, 23.i.1972, Bobby Stream, N. of Mt. Grey, CHR (fr.); H.P. s.n., -i.193-, Nelson, LINCOLN (fr.).

This variety is known from only about six widely scattered collections in Australia, but is relatively common in New Zealand. The reason for this discrepancy is not obvious.

A. agnipila var. *protenta* is distinguished from the other vars. in New Zealand by its more robust habit, (usually) branched inflorescence, and more numerous stamens.

var. **tenuispica** (Bitter) Orchard, Trans. R. Soc. S. Aust. 93(1969)95-96 (Fig. 5)

Herbaceous perennial (15 -)30 - 50(- 66)cm tall, leaves (3.5 -)8 - 15(-20)cm long, stipules linear to deltoid, rarely slightly bifid at tip, 1.0 - 3.0(- 7.0)mm long, 1.0 - 1.5 mm wide, sparsely appressed pilose adaxially, moderately appressed pilose abaxially. Leaflets (11 -)17 - 23(- 27) per leaf, (7 -)10 - 15(- 19)mm long, (3.5 -)6 - 9(- 12)mm wide, with (9 -)12 - 15(- 17) serrations $\frac{1}{2}$ - $\frac{3}{4}$ (- $\frac{5}{8}$) of lamina width. Inflorescence an elongate, interrupted unbranched spike. Sepals 5, 1.0 - 2.0mm long, (0.5 -)0.8 - 1.3mm wide, sparsely pilose; stamens (3 -)4 - 5, (1.0 -)1.5 - 2.0(-.3.0)mm long; style 1 (rarely 2), 1.0 - 1.5(- 1.9)mm long. Fruit ovoid, densely spreading pilose, with (15 -)30 - 40(-50) slender, equal, glabrous spines, 1.0 - 2.0(- 3.0)mm long.

DISTRIBUTION. In Australia, known from south-eastern Queensland, eastern New South Wales, Victoria and south-eastern South Australia. In New Zealand this variety is known to occur only in the Canterbury - Marlborough area of South Island, with the exception of two collections from near Wellington (Fig. 10).

Specimens examined. North Island : Ashwin 412, Orongorongo, CHR (fl., fr.); T. K[irk] s.n., near Wellington, OTA 016469 p.p. (fl.). South Island : Allan s.n., 28.i.1941, Waipara River bed at Waipara, CHR 227582 (fr.); Brownlie 714, 12.i.1968, near Hanmer R., CANU (fr.); Chapman s.n., 2.i.1972, Blondin Stream, Inverary, Mt Somers, CHR 219737 (fr.); Fryer s.n., 5.xii.1963, Springston, CHR 194824 (fr.); Healy 70/193, 27.xii.1970, Harewood Airport, Christchurch, CHR (fr.); Macmillan s.n., 18.xii.1962, near Hinds, CHR 140922 (fr.); Melville & Melville 5713, 23.xii.1961, Kaitorete Spit, CHR (fr.); Ritchie s.n., 13.i.1967, Upper Kowhai River, Seaward Kaikoura Mtns., CHR 176061 (fl., fr.); H.P. s.n., -i.193-, Nelson, LINCOLN p.p. (fr.).

This variety is easily distinguished from all others of the complex in New Zealand by the spreading indumentum on the body of the fruit. It is otherwise very similar to var. *aequispina*, but differs from var. *protenta* in its less robust habit and unbranched spike.

The Status of A. × anserovina Orchard

Hybrids between plants of *A. ovina* complex and the *A. anserinifolia* complex have been known to occur since at least 1870 (Buchanan 1871). The products of this cross are plants intermediate in habit between the rosette-forming *A. ovina* group and creeping *A. anserinifolia* group. They are also intermediate in the shape of their inflorescence, having a $\pm$ globular terminal head (as in *A. anserinifolia* s.l.), but in addition, a number of flowers lower on the stalk as in *A. ovina* s.l. The fruits are usually smaller than in either of the parents, and sterile (Figs. 6-9). The distribution of spines is also intermediate. The hybrid group has been named, successively, *A. ovina* var. *ambigua* Kirk (1899), *A. sanguisorbae* subsp. *oleosentens* Bitter (1911), *A. sanguisorbae* subsp. *novaezelandiae* var. *viridissima* Bitter (1911), and *A. × anserovina* Orchard (1969).

In the case of *A. × anserovina* the parents were described as *A. anserinifolia* and *A. ovina* s.l., although it was noted that field evidence in Australia suggested that the element of the *A. ovina* complex involved was usually *A. echinata* var. *retrorsumpilosa*. In New Zealand this variety is absent, and field observations show that its place is taken by *A. agnipila* var. *aequispina* in most, if not all, cases. The situation is further complicated by the fact that Allan (1961) adopted a much narrower concept of *A. anserinifolia* in New Zealand than is usual in Australia, with the result that the *A. ovina* group is recorded as hybridising with three different New Zealand species, (*A. anserinifolia*, *A. novaezelandiae*, and *A. microphylla*). At least the first two of these

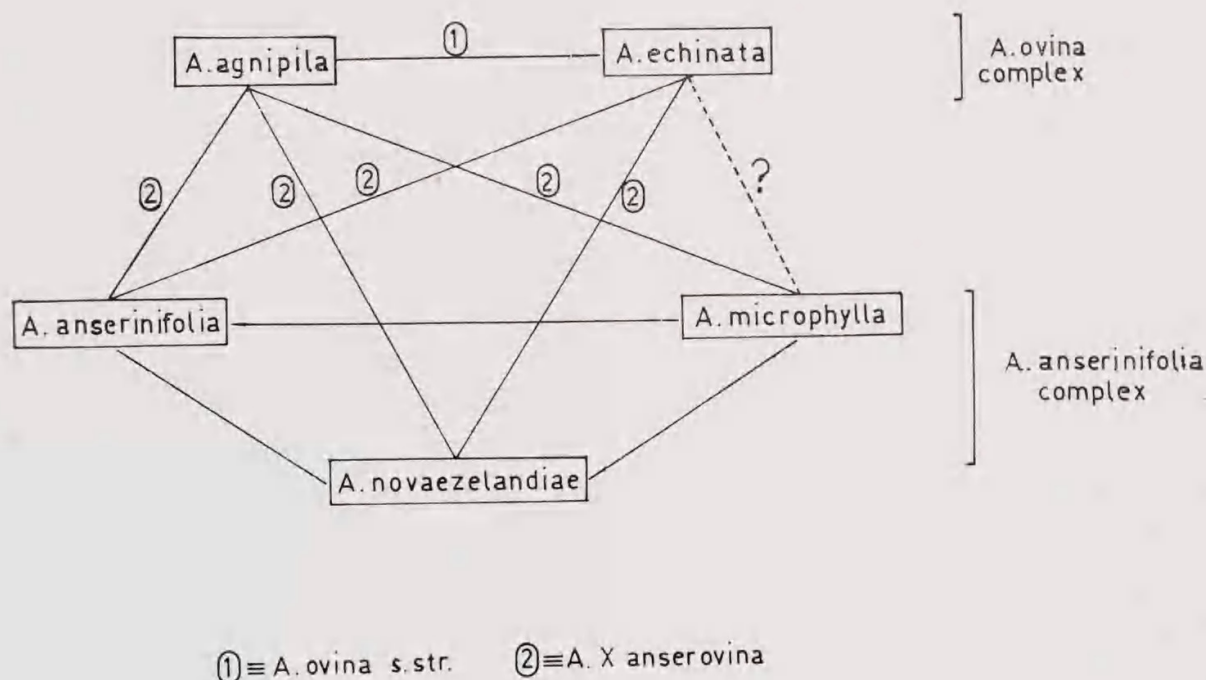


Fig. 11. Reported hybrids between species of the *A. ovina* and *A. anserinifolia* complexes in Australia and New Zealand.

can be matched with Australian collections. Buchanan (1871) recorded naturally occurring hybrids between all of these three New Zealand species, and Bitter (1911) named various garden forms of these hybrids *A. × rubescentiglauca*, *A. × eglochidiata*, *A. × gracillima*, *A. × cunctatrix*, *A. × lividella*, *A. × vinosa*, *A. × pallens*, *A. × brunnescens* and *A. × obscureolivacea*. Hybrids between *A. echinata* and *A. agnipila* were suggested by Orchard (1969) to be the origin of *A. ovina* s.str. in Australia. Thus in summary, the reported hybrids in these two groups (based on field evidence only) are as in Fig.11.

Because the species within the *A. ovina* group and within the *A. anserinifolia* group are separated on such small differences, all hybrids between the groups are indistinguishable on morphological criteria, especially when the normal hybrid variability is taken into account, and the only way to deduce hybrid parentage in the field is by searching for associated species. Yet, because of the frequency with which the hybrids occur, it seems useful to have a single binary name available for them. To have a separate name for each of the 5 or 6 inter-group hybrids (Fig. 11 - "2") would be futile, as the parentage of past collections has usually not been established, and in future collections will not always be obvious.

It is therefore proposed that the name *A. × anserovina* be applied to all those products of crosses between the *A. ovina* complex and the *A. anserinifolia* complex. Although not entirely satisfactory from a nomenclatural point of view, this solution seems the only practical one. Even if the name *A. × anserovina* is reserved for the cross *A. echinata* × *A. anserinifolia* s.str., the problem of applying a (formula) name to the other crosses is not solved when the exact parentage is in doubt.

A brief description of *A. × anserovina* follows, to facilitate comparison with the species described earlier.

Acaena × anserovina Orchard, Trans. R. Soc. S. Aust. 93(1969) 104. (Figs 6, 8, 9)

Erect or ascending perennial herb, stems sometimes sub-repent, 20 - 40cm tall, glabrous or sparsely appressed pilose. Leaves imparipinnate, stipulate, obovate, 6 - 13cm long, petiole and rachis sparsely pilose with appressed hairs. Stipules 1 - 3 - fid, (2.0 -)3.0 - 6.0mm long, 1.0 - 2.0mm wide, glabrous adaxially, appressed pilose abaxially. Leaflets 11 - 17 per leaf, ± obovate, (8 -)12 - 14(- 19)mm long, 5 - 10mm wide, oblique at base, usually bright green on upper surface, silver glaucous below, serrate with (9 -)14 - 16 shallow teeth, upper surface glabrous, lower surface pilose, the hairs confined to the veins or spreading to the mesophyll. Inflorescence a globular terminal head, with a few flowers scattered irregularly along the axis below, and in the axils of the upper leaves. Sepals 4 - 5, 1.5 - 2.0mm long, 0.6 - 1.0mm wide, glabrous or pilose on the outer face. Stamens 2 - 5, cream, red or purple, 1.0 - 2.0mm long. Styles 1(-2). Fruit globular, obovoid or obconical, 1.5 - 3.0mm long, 1.5 - 2.0mm wide, densely spreading pilose; spines unequal, slender, 3 - 6 longer ones in upper part of fruit 2.0 - 5.0mm long, glabrous, or pilose only at base, 10 - 20 shorter spines 0.5 - 2.0mm long, irregularly distributed over lower part of fruit, glabrous. Seed 1, aborting at an early stage.

DISTRIBUTION. Present collections of *A. × anserovina* in New Zealand extend from about Christchurch to Taupo, but further collections will undoubtedly extend this range over the entire area occupied by the *A. ovina* complex. (Fig. 10).

Specimens examined. North Island : Allan s.n., Tangiwai Railway Station, CHR 172 (fl.,fr.); Allan s.n., 10.xi.1928, Tauherenikau River, CHR 261 (fr.); Allan s.n., 16.xi.1928, Tauherenikau River, CHR 174, 178 p.p., 269 (fl.,fr.); Allan s.n., 1.i.1937, Parewanui, Waitatapia, near Bulls, CHR 18354C, 3103, 3104 p.p., 3105, 3106 (fl.,fr.); Allan s.n., 1.i.1937, Parewanui, Rangitikei River, CHR 18354B (fr.); Allan s.n., 9.xi.1943, Mangahao, CHR 35415 (fl.,fr.); Healy s.n., 25.xi.1941, Seatoun, CHR 227590 (fl.); Herb. Kirk s.n., Wellington, CHR 226300 (fr.). South Island: Allan s.n., 28.i.1941, Waipara, CHR 227587 (fr.); Allan s.n., 4.xii.1948, near Wanaka township, CHR 227589 (fl.); Burrows s.n., Waiau R., CANU 6913 (fl.,fr.); Chapman s.n., 4.vi.1970, Awatere Valley, Molesworth Dashwood road, near Woodman's Bend, CHR 203256 p.p. (fl.,fr.); Collett s.n., 29.xii.1968, Balmoral State Forest, CHR 186599 (fr.); Gordon s.n., 1.i.1968, inland Waiau-Kaikoura road, a little south of Conway Rivers, WELTU 7260 (fl.,fr.); Healy s.n., 16.xii.1941, Weka Pass, Waipara, CHR 227586 (fl.,fr.); Healy s.n., -i.1947, near Waikari, CHR 59062 (fr.); Healy s.n., 24.xi.1970, Meadowbank Station, Taylor R. near Blenheim, CHR 190183 (fl.,fr.); Healy H.81, 20.xi.1946, Omaka River, CHR (fl.,fr.); Healy 62/413, 20.xii.1962, Upper Rakaia River, CHR (fr.); Hynes s.n., 19.iv.1965, Rainbow Station, Wairau Valley, AK 104874 (fl.,fr.); Macmillan 68/331, 30.xii.1968, S. side of Rakaia Valley, CHR (fl.,fr.); Moore s.n., 5.iii.1953, Lower Acheron, CHR 180173 (fl.,fr.); Simpson s.n., -xii.1946, between Luggate Bridge and Wanaka, CHR 227585 (fr.).

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