

## Weeds of New South Wales.

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### The Petty Spurge (*Euphorbia pepus* L.).

(*Euphorbiaceae*: Spurge Family.)

*Popular Description.*—A bright green, erect plant, a few inches high, with inconspicuous greenish flowers, the whole plant exuding a milky juice, hence it is known, in common with its close relations, as "Milk-weed" in Australia, but asclepiads, also with Milky Juice, share this name also. Common in gardens and on rubbish heaps.

*Botanical Description.*—An erect glabrous annual with milky juice. Leaves orbicular-obovate, entire. Umbel of two or three repeatedly forked rays. Involucral glands crescent-shaped, with long points.

*Meaning of Name.*—The derivation of the word Spurge is *vid* the French from the same word as "purge," indicating its medicinal effects. The word is applied to all species of the genus *Euphorbia*, and I would add that it is far too drastic and uncertain in its effects to be safely used as a purgative medicine.

The word "petty" is from the French *petit*, small, and indicates that it is a small plant in comparison with some others.

*Economic Value.*—In common with the rest of the *Euphorbias* it has from time immemorial been used in Britain and Northern Europe as a wart-cure, and hence the name "Wart-weed," applied to it and some other allied plants. In country districts when local irritation is caused by its application, a very old remedy is to apply oil freely.

For some years past the juice of this little plant has been recommended (to my knowledge) by Sydney physicians of the highest standing for the treatment of rodent ulcer, and I have seen cures effected by its means. But I certainly would not recommend its use (except for warts) unless under the care of a physician, for the juices of such plants are too dangerous to be employed except under proper safeguards.

From the note which follows, it will be observed that the milky juice (latex) affects the photographic plate, and it may be that it contains some radio-active principle which explains the cure to which I have alluded:—

#### ACTION OF THE LATEX OF *Euphorbia pepus* ON THE PHOTOGRAPHIC PLATE.\*

The milky juice or latex of this plant has been employed by surgeons for the treatment of rodent ulcer. It has occurred to us to test whether the dried latex has any action on a photographic plate. A thin layer of the juice is spread on glass and is dried. A photographic plate is placed a little distance above the dried film. When the plate is developed after three to seven days an image of the film appears on the plate. If a word be written with the juice a well defined photograph of the word appears on the plate. Such an image appears when the distance between the film and the plate is not more than one centimetre. The thicker the film of dried juice the more dense is the image on the

\* H. G. Chapman, M.D., B.S., and J. M. Petrie, D.Sc., F.I.C.—Report of the Australasian Association for the Advancement of Science, Vol. XIII, 1912.

photographic plate. If tissue paper, thick paper, thin aluminium foil, or gold leaf be placed between the photographic plate and the film the image is produced in the same way and is sharply defined. If glass or mica be interposed the photographic plate is protected and no image appears. We have been unable to obtain glass or mica less than 1-100th mm. in thickness.

The film of latex may be heated to 200 C. without any diminution of its action on the photographic plate. At this temperature it commences to char, and the action on the photographic plate remains powerful despite the destruction of the organic matter. When the ash becomes white the action on the photographic plate is much lessened. The photographic effect is also obtained during the passage of a dry air or of carbon dioxide, also under greatly reduced pressure.

*Habitat.*—We do not know the original home of this plant, but we know that from immemorial antiquity it has been known in Europe, Western Asia, and North Africa. It has spread over most parts of the world, and it is common in the coastal districts of most of the Australian States. It is a weed of arable land and occurs on rubbish heaps everywhere. It would appear to be difficult to break up land without the minute seeds of this Spurge finding a lodgment and covering the ground with its bright verdure.

*Structure of Flower.*—At figures 1 and 2 we have a peculiar inflorescence which bears the technical name of *Cyathium*, and which looks like a simple flower, but it consists of one pistillate and several staminate flowers. The *Cyathium* has a small cup-like involucre (see in section in figure 2) which is formed by the union of five bracts, which collectively surround a number of flowers. At the points of junction of four of these bracts are four crescent- or horn-shaped nectaries, often described as glands. Within the involucre are a number of stamens, and scales (note their feathery tops) are also seen. A staminate flower consists of a flower-stalk terminated by two stamens, and subtended by one of the scales just referred to. The pistillate or carpellary flower (female flower) can best be seen at figure 1, where it seems to be falling out of the *Cyathium*.

The flower of a *Euphorbia* is said to be naked (achlamydeous), that is to say, without either a calyx or a corolla.

Note the fruit (figure 3) when ripe beginning to separate into its three constituents carpels, which contain the seeds.

#### EXPLANATION OF PLATE.

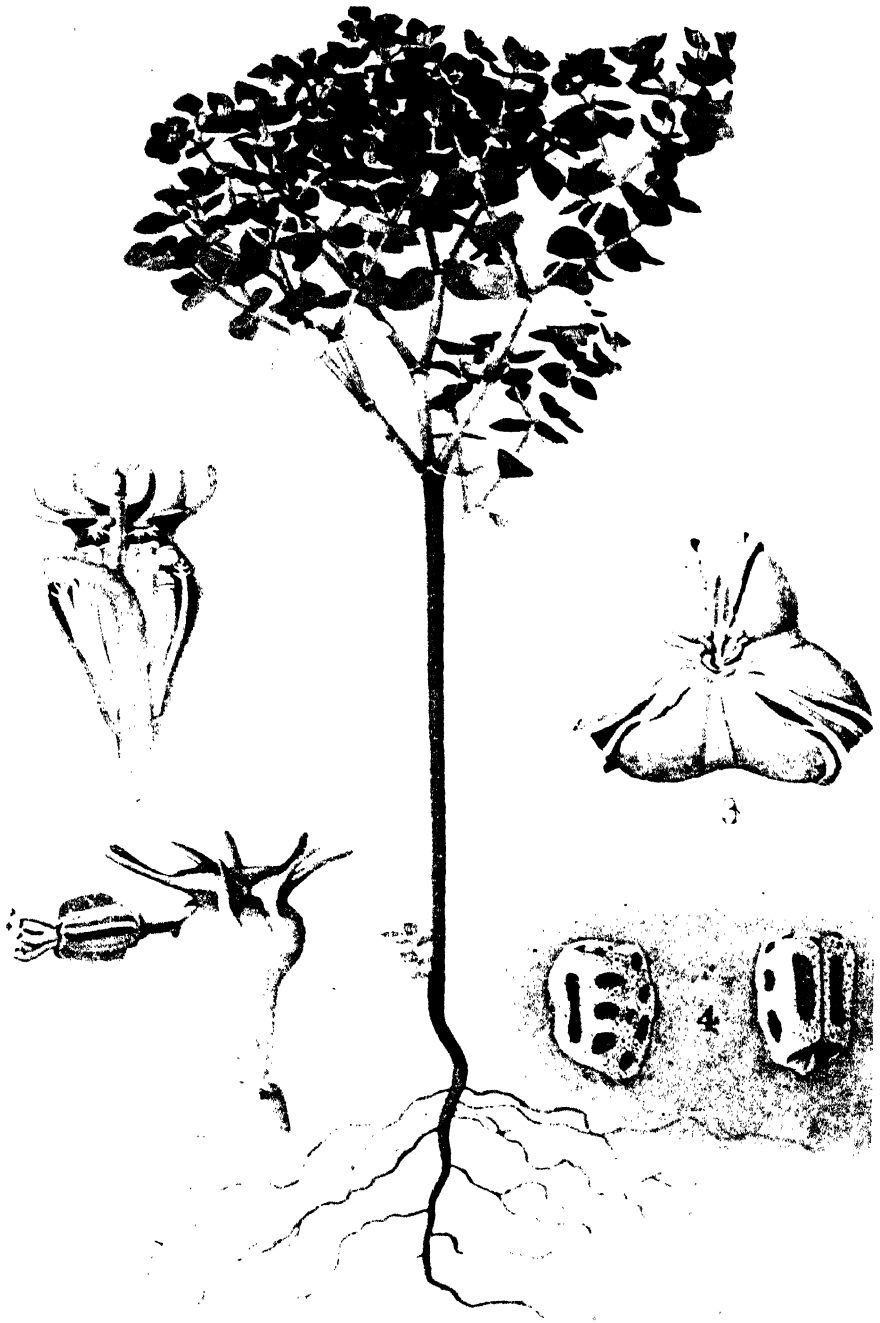
1. Flower, showing the cup-shaped involucre (*Cyathium*), terminated by the four horn-shaped glands, and a maturing pistillate flower to the left.
2. Flower with front of the involucre removed, exhibiting stamens, scales, &c.
3. Fruit, dividing into three carpels.
4. Seeds, showing depressed dots.

### Bushy Starwort (*Aster subulatus* Michx.).

(Family COMPOSITÆ: Daisy Family.)

*Popular Description.*—A rather wiry branched plant, bearing a profusion of not showy small white, daisy-like flowers, and small, narrow leaves. Its usual height is about 2 feet.

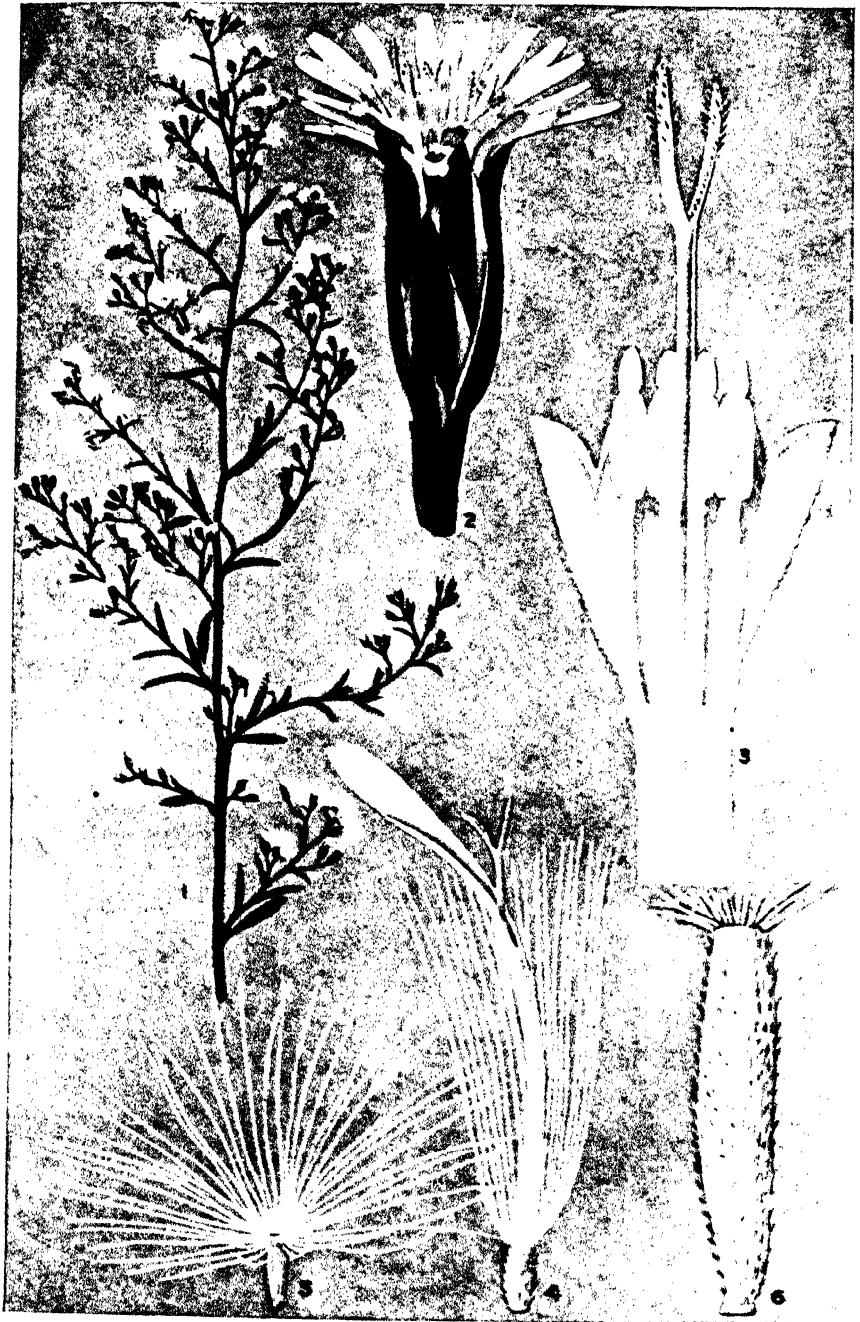
*Botanical Description.*—An erect herbaceous biennial with a paniculately branched inflorescence. Involucre narrow turbinate; outer florets ligulate; achenes shortly pubescent, pappus bristles simple.



WELDS OF NEW SOUTH WALES.

**"PETTY SPURGE."**

*Euphorbia peplus L.*



WEEDS OF NEW SOUTH WALES.

**"BUSHY STARWORT."**

*Aster subulatus* Michx.

*Vernacular Names.*—"Bushy Starwort" is one of those manufactured names that I very much dislike, but it is either that or *Aster subulatus*, which is probably no more difficult to remember, and much preferable. The word "Starwort" is sometimes given to Asters. It is sometimes known as "Cobblers' Peg," but this name is better deserved for *Erigeron*.

In Britton and Brown's "Illustrated Flora of the United States" it goes under the name of "Annual Salt-Marsh Aster" from its favourite habitat.

*Habitat*—It is a native of the eastern United States, in salt-marshes, from the coast of New Hampshire to Florida.

It is common in New South Wales, it having been recorded as *Aster dumosus* L. for many years. This is a closely allied species, but as our New South Wales plant has been determined as *A. subulatus* by a well known American botanist, his determination has been accepted, and those who wish to look up the references may turn to the Proceedings of the Linnean Society of New South Wales, xxxiv, 363, for the year 1909.

*Properties.*—This Aster is an aggressive coloniser which has taken possession of large areas in New South Wales, usually in damp situations, in districts so far apart as the coast and Brewarrina. Except that it is not ornamental and is of very little fodder value, I have no specific charge to make against it, for it does not appear to possess any injurious property whatever. It is simply a cumberer of the ground—one of many plants that, under ordinary circumstances, possesses no positive virtues, and no special vices.

#### EXPLANATION OF PLATE.

1. Flowering branch.
2. Flower.
3. Floret opened to show stigma and anthers.
4. Ligulate floret.
5. Achene showing arrangement of pappus.
6. Achene (seed) much enlarged.

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The section includes a large number of valuable works on agricultural and allied subjects, such as bee culture, fruit growing, poultry farming, dairy farming, horse breeding, sheep raising, veterinary science, &c., and readers of the *Gazette* who desire to supplement their knowledge in this direction are invited to get into communication with the Public Library and obtain further details of the scheme.