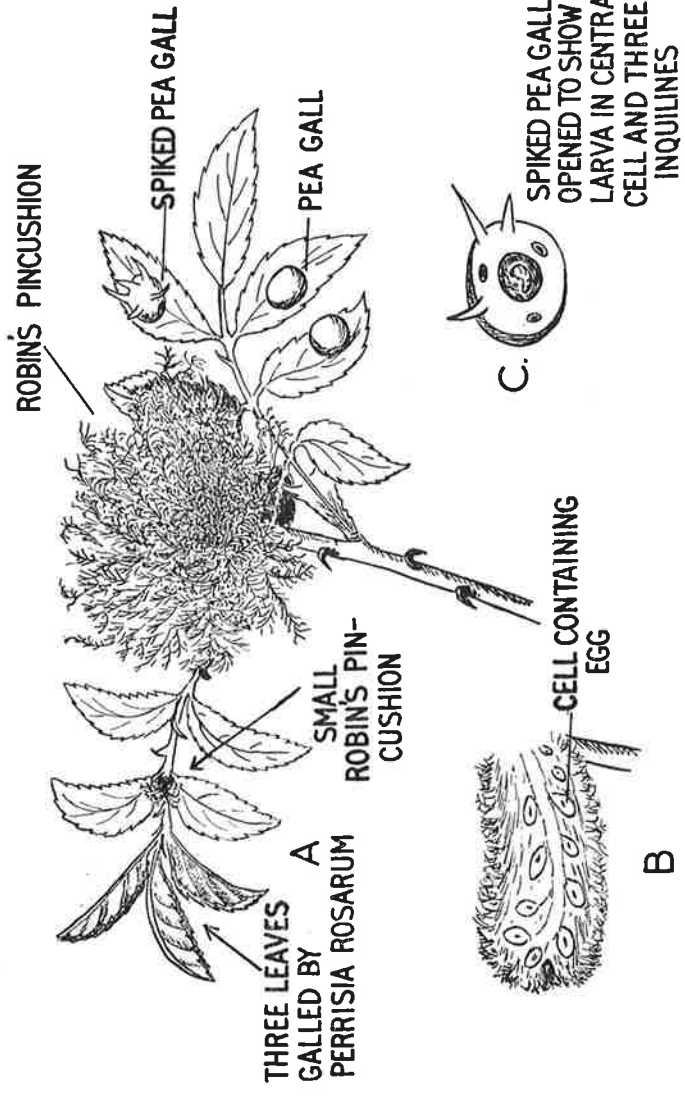


**SOME LOCAL GALLS CAUSED BY INSECTS**

**Margaret M. Hutchinson**



SPIKED PEA GALL  
 OPENED TO SHOW  
 LARVA IN CENTRAL  
 CELL AND THREE  
 INQUILINES

## SOME LOCAL GALLS CAUSED BY INSECTS

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E. W. Swanton, the first curator of our museum, was a pioneer student of galls, and his book "British Plant Galls," now out of print, is still one of the most reliable. The originals of the water-colour illustrations (plus many more) by Miss M. K. Spittal are in the museum and are very useful for identification. Much of Swanton's work was done at Haslemere, and often at Inval with my grandfather, Jonathan Hutchinson, of whom it was jokingly said that he preferred a diseased tree to a healthy one!

It is a curious coincidence, therefore, that I should have taken up the study of galls in the very same place some 60 years later.

After a long interval when little or no popular literature was written on galls there has appeared in 1968 a useful little book by Darlington, "Plant Galls in Colour," published by Blandford.

Because Connold, another cecidologist of the time of Swanton, lived at Hastings, there arose a popular belief that Hastings was "good for galls." Those reading Swanton might well consider Haslemere particularly good too. In actual fact almost anywhere is "a good place," for galls are plentiful on quite common plants, each species producing its own peculiar kind or kinds.

A gall is plant tissue malformed because of the presence of a foreign body. It may be an insect, a mite, an eelworm (as in Club-root on Brassicas), or a fungal or bacterial growth. Those caused by insects follow one of two divergent patterns.

The egg is deposited by the insect in the tissue of the plant. As the larva hatches and grows the affected tissue grows around it, thus giving it food and shelter. When the larva is full-grown it either leaves the gall and pupates in the soil from which it emerges when it reaches the adult stage (sawflies and some gall midges do this), or pupates in the gall and emerges when it reaches adulthood. Gall wasps, gall flies and some gall midges do this.

Gall producing aphids do not pass through this complicated metamorphosis, but hatch from egg to adult. As any gardener knows aphids reproduce their kind very rapidly.

I have referred to gall wasps, gall flies, etc., because only those specialised to be so are gall causers. When studying galls therefore, one is dealing with insects of many different natural orders. A general knowledge of both entomology and botany is essential to the cecidologist.

Each kind of insect lays its eggs always in the same part of the plant. Thus the gall midge *Perrisia veronicae* always lays its eggs in the terminal bud of Germander Speedwell (*Veronica chamaedrys*) causing it to swell into the familiar big bud covered

ENGLISH NAME	LATIN NAME	AGAMIC ♀	GALLS PRODUCED	MALE/FEMALE ♂ ♀
Oak Marble	<i>Andricus kollari</i>	Marble on Common Oak		"Ant-pupa" gall on Turkey Oak in May
Oak Apple	<i>Biorrhiza pallida</i>	Brown galls on roots in winter		Oak apple in spring
Artichoke Gall	<i>Andricus fecundator</i>	Scaly swollen bud like small artichoke in late summer		Small hairy gall amongst catkins in spring
Silk Button and Blister Galls	<i>Neuroterus numismalis</i>	Silk buttons on back of leaf in late summer		Swollen blisters on leaves in spring
Spangle and Currant Galls	<i>Neuroterus quercus-baccarum</i>	Like tiny Chinese hats covered with red hairs on back of leaf in late summer		Like red currants amongst catkins or on leaves in May
Oyster Gall	<i>Andricus ostreus</i>	Small oval gall splitting the vein on back of leaf in late summer. Often spotted red or black		Gall within the bud in early spring
Cherry Gall	<i>Diplolepis quercus-folii</i>	Like a cherry on back of leaf in late summer		"Violet Egg" gall in bud in spring
Red Pea Gall	<i>Cynips divisa</i>	Like red pea on back of leaf in late summer		In buds in spring
Red Barnacle or Bark Gall	<i>Andricus testaceipes</i>	Clusters of "barnacles" at base of young oak stem where it leaves the ground. Late winter or spring		Swollen leaf stem and mid-rib in summer

in white silky hairs. The larvae (there are several in one gall) are orange coloured, and in my experience some pupate within the gall and others leave it. There seems to be some variation in the season at which the perfect insects appear for I have had them emerge in early October, and also found pupae still in the galls in December. The gall midge has an orange body, transparent wings and very long legs.

The gall fly *Urophora cardui* selects the stem of Creeping Thistle (*Cirsium arvense*) just below the flower head. This causes a swelling that often looks like a gooseberry; thus its common but misleading name of Gooseberry Gall. Not all are round however, for I have found some that are long and tortuous. Inside are several cells, each containing a single larva. If these galls are taken indoors at the end of summer and kept in a glass container very pretty flies will emerge the following spring. (Swanton says June, but I have had a number out in April.) They have transparent wings each with a broad, black zig-zag line along it. When the wings are at rest along the abdomen these lines join to make a striking pattern, the outline of the wings being invisible—a very curious effect indeed.

On the base of Nettle leaves, and sometimes on the stems nearby, little purses appear in late summer in which live the larvae of another gall midge, *Perrisia urticae*, while the thick cluster of deformed leaves at the end of some Yew twigs hide the gall midge *Cecidomyia taxi*. This pupates within the gall and as the perfect insect emerges it drags the tiny white chrysalis up so that it protrudes above the gall. This needs to be seen with a hand lens. The perfect insect is very beautiful with a reddish brown abdomen.

Aphids that attack Spruce, generally young trees, do some damage in plantations as the galls distort the terminal bud and sometimes the lateral buds also. *Gilletteella cooleyi* causes distortion of the leading shoot. The gall develops along one side of the stem only, causing it to bend over and even to corkscrew.

In Spring some Alder leaves are covered with warts of three kinds, caused by different species of mites. Mites are not insects but belong to the same group as spiders.

In midsummer the upper surface of some leaves on Lime trees are covered with little horns known as Nail Galls. On the underside are the exit holes, protected by hairs. A number of mites known as *Eriophyes tilae* inhabit each gall.

The Nail Gall on Beech is caused by a gall midge. The most up-to-date name for this is *Hartigiola annulipes*, but it is also known as *Cecidomyia piligera*. When ripe this gall falls to the ground leaving a circular hole in the leaf. Various galls do this and it is worth reflecting when one finds roundish holes in leaves whether a gall has fallen from it. The gall *Cecidomyia bursaria* on

Ground Ivy (*Glechoma hederacea*) is popularly known as "Shot-gun Gall" for this reason.

Several species of sawfly, of the genus *Pontania*, gall Willow leaves. Some make pouches, others spherical galls.

Wild Rose is the host of four galls illustrated here. Robin's Pincushion and the Pea Galls are caused by Hymenopterous insects. A great many Hymenoptera are gall causers and some have a double life cycle, making their study difficult but none the less fascinating.

The Oak is the host of at least a dozen common galls and all these have an alteration of generations. One is agamic (the female laying fertile eggs without the need of a male), and the other producing males and females. Each generation has its own particular gall. In Swanton's time each was given a different name, but now the same name is used with the appropriate symbol after it (i.e. ♀ for agamic, and ♂ ♀ for male/female).

It is impossible here to deal with the many Oak galls beyond tabulating a few of the more interesting ones.