Proc Isle of Wight nat. Hist. Archaeol. Soc 21 (pub 2006) :

Additional Records of Plant Galls From The Isle of Wight

Dr. D.T. Biggs

Since the publication of the last list of newly-found gall- inducing organisms (Biggs 2004) ten new species have been recorded from the Island.

Fungi

Taphrina amentorum (Sadeb.) Rostrup on Alder, *Alnus glutinosa*

This Ascomycete fungus related to those which cause peach leaf curl, and 'pocket plums' has recently expanded its range in Britain. The galls protrude like tongues from the female catkins, originating from ovarian tissue and the underlying bracts. Appearing first in early July they are initially green and rapidly turn yellow then red or maroon when they contrast sharply with the still green catkins. The projecting galls vary from a few millimetres in length up to 55mm. Many are longitudinally ridged, twisted, or curled at the free end. Young galls are soft and pliable but by winter when they have become a dark brownish-black they are hard and brittle. Having been looking for these galls since their recent expansion in range began in 1999, Bill Shepard and I were delighted to find one only of several alders at Stockbridge, Whitwell SZ516779 bearing dozens of the galls 28.10.04.

Acari

Aceria laticinctus (Nalepa) on Yellow Loosestrife, *Lysimachia vulgaris.*

The mite which induces this gall was included in Bagnall and Harrison's list of 1928 and John Robbins of the British Plant Gall Society informs me that there appear to have been no subsequent finds. Colin Pope found an affected plant at Longbridge Marsh, Newchurch SZ562861 on 25.7.04. The mites gall the leaves and flowers. The leaves towards the shoot tip are thickened, twisted, purplish in colour and have their edges rolled upwards. They are also covered with white hairs. Whereas some of the flowers were quite unaffected, others exhibited phyllanthy or virescence, where the internal parts of the flower are converted into small green leaves. The galled flowers were also a purplish colour and covered with hairs. Microscopical examination of these hairs showed that they were variable in width giving a strange beaded appearance to each hair. Most were white but some were a cinnamon brown.

Phyllocoptes mali (Nalepa) on Apple, *Malus domestica.*

In the early literature this mite on Apple was not differentiated from *Eriophyes pyri* which causes very similar galls on Pear, *Pyrus communis*. The Apple gall seems to have begun to spread widely in Europe in the last fifty years. Maureen Whittaker found the first Island examples of this gall on a tree in a garden in Seaview SZ6291 on 11.6.04. The galls are very obvious pustules on the leaf. They are round or oval, up to 5mm. x 3mm., in the substance of the leaf and projecting equally both above and below the leaf blade. They are particularly associated with the edge of the leaf and the secondary veins. The opening is elliptical, usually on the lower surface and surrounded by a very dense growth of long carmine hairs. The pustules themselves are at first light green, then red at maturity and turn brown later. On the leaves Maureen Whittaker sent me the galls were very numerous. It is surprising that this gall has not been recorded before.

Unnamed Gall Mite Buhr No. 56 on Sycamore, *Acer pseudoplatanus*.

One characteristic form of mite gall is an erineum which is a felt-like patch of abnormal hairs. The common and widespread erineum on Sycamore leaves is that caused by *Aceria pseudoplatani*. Herbert Buhr in his classic text of 1964 described all then known European galls giving them each an individual

number even if identification to species of the causer was not possible. Unnamed mite gall No. 56 is another form of erineum which differs significantly from that of A. pseudoplatani in various ways and so far the only known site for this gall on the Island is Toll Bar Plantation, Hulverstone SZ399837 where several galled leaves were found by Jim Cheverton, Bill Shepard and myself 18.8.04. In this gall, the erinea are on the underside, as are those of *A. pseudoplatani* but are much smaller in area, more or less confined to the basal edges of the main veins and the angles between the main veins and the secondary veins. Microscopy also reveals differences in the structure of the hairs. Whereas those of *A. pseudoplatani* are long, thin and cylindrical, those of Buhr No. 56 are extremely short, broad, flattened and expanded at the tips. The erinea themselves were a deep chestnut brown when found. The erinea of *A.pseudoplatani* are indicated by pale yellowish convexities on the overlying upper surface while the presence of Buhr No. 56 is not suggested by any upper surface indication

Diptera

Cecidomyiidae

Asphondylia ulicis Trail, 1873 on Gorse, *Ulex europaeus*.

Brian Gale, a Mainland cecidologist pointed out this gall to me at the annual autumn gall meeting held in Parkhurst Forest on 9.10.04. At SZ480902 he found several flower buds which were slightly enlarged and hairy. Sectioning a bud at home later revealed a large cavity lined with a fungal mycelium and containing a pale orange-yellow larva. This is an example of an 'Ambrosia gall' in which the fungus and the larva live symbiotically. The larva feeds on the mycelium and the gall protects the fungus. The adult gall midges also ensure the propagation of the fungus because the fungal spores are introduced into the host plant together with the egg at oviposition. This fly is reported to be more common in the north of Britain. *Blastomyia origani* (Tavares, 1902) on Marjoram, *Origanum vulgare* The mite gall on Marjoram caused by Aceria origami is not uncommon on our chalk hills so when Anne Marston brought me a plant which she had found on Idlecombe Down SZ458864 on 17.7.04 and which bore five galls I was expecting to find mites inside. Both the mite and this gall-midge cause very similar galls - thickened tufts of leaves bunched together at the apex of the shoots into firm, oval masses 15 x 10mm. and covered with long white hairs. On sectioning the galls I was surprised to find in the central cavity red gall-midge larvae instead of mites. It may well be that this gall has been overlooked in the past because of its similarity to the mite gall. The fly is confined in the U.K. to Southern England.

Macrolabis lonicerae Rubsaamen, 1912 on Honeysuckle, *Lonicera periclymenum*.

The spring gall meeting in 2004 was held on Brading Down on May 16th. Anne Marston found this new gall at SZ6086. Four young terminal leaves showed yellowish and slightly thickened upwardly rolled edges enclosing cream-coloured larvae. This gall has been rarely recorded in Britain, probably because it is usually overlooked. The leaf-edge rolls remain soft and are easily unrolled, extend about 10mm. along the leaf edge and are about 3mm. wide. The roll does not contain abnormal hairs. There are two generations of this midge each year and it is found in central Europe as well as in Great Britain

Massalongia betulifolia Harris, 1974 on Silver Birch, *Betula pendula*.

I found six vacated galls of this species on one leaf of a sapling at Osborne SZ5295 on 29.5.04. Each gall is a shallow blister within the substance of the leaf blade or on a side vein, protruding slightly from the under surface of the leaf and yellowish in colour with a similar yellow discolouration visible from above. Each blister is circular or oval and up to 3mm. x 5mm. in size. The exit holes were on the underside. It is reported to be widespread in the U.K. and may be confined to Great Britain. Inhabited galls reputedly are difficult to find but the single larva is described as being whitish to bright yellow in colour.

Rabdophaga nervorum (Kieffer 1895) on Goat Willow, *Salix caprea*
The gall meeting in Parkhurst Forest 9.10.04 resulted in another new find, Anne Marston discovering one example of this gall at SZ480902. The gall is a spindle-shaped swelling on a main side-vein on the underside of the leaf, 3.5mm. long and 1.5mm. wide. Inside was a single larval chamber containing one pale yellowish larva. The wall of the gall was smooth and hard. The literature describes the gall as also being found on the midrib, and present from June to late autumn. I cannot discover its range in the U.K

Diptera
Chloropidae
Lipara rufitarsis Loew, 1858 on Common Reed, *Phragmites australis.*
This fly induces formation of a cigar-shaped gall in the stem, much less obvious than the common gall of *Lipara lucens* In that gall the stem is thickened up to 2.5 times the diameter of the normal shoot. In *L. rufitarsis* the gall is only thickened 1.5 - 1.8 times the diameter. There is a central chamber which has a papery wall compared to the lignified wall of *L. lucens* I found several galls in a reed bed at Alverstone SZ547859 on 25.5.04. I dissected two of the galls, which had been formed in the previous season. One had been vacated and the other still contained a puparium, from which later hatched only hymenoptenan parasites. This is a fly of the South of England and S. Wales.

References
Bagnall, R.S. and Harrison, J.W.H. (1928) A catalogue of the British Eriophyidae Ann. Mag. Nat. Hist. (Ser.10)
Biggs, D.T. (2004) Additional Records of Plant Galls from the Isle of Wight.Proc. Isle of Wight Nat. Hist. Archaeol. Soc
Buhr, H. (1964 and 1965) Bestimmungstabellen der Gallen (Z-und Phytocecidien) an Pflanzen Mittel- und Nordeuropas. Jena, Fischer Verlag.
Darlington, A. (1968) The Pocket Encyclopaedia of Plant Galls.Blandford Press.
Dauphin, P. and Aniotsbehere, J.-C. (1993) Les Galles de France. Societe Linnenne de Bordeaux.
Ellis, H.E. (2000) Fungus-Induced Galls on Alder Catkins. Mycology, 1 (3) 78-80,
Houard C. (1908) Les ZoocŒcidies des Plantes D'Europe et du Bassin de la Mediterrane. Paris, Hermann.
Meyer, J. (1987) Plant Galls and Gall inducers Gebruder Borntraeger, Berlin.
Redfern, M., Shirley P. and Bloxham, M (2002) British Plant Galls. Identification of galls on Plants and Fungi. Field Studies Council
Shorthouse, J.D. and Rohfritsch O. (1992) Biology of Insect- Induced Galls. Oxford University Press

Author: Dr. D.T. Biggs, Plum Tree Cottage, 76 Albert Road ,Gurnard, Cowes, Isle of Wight PO31 8JU