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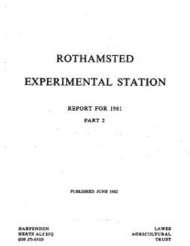

Synoptic Monitoring for Migrant Insect Pests in Great Britain and Western Europe III. The Seasonal Distribution of Pest Aphids and the Annual Aphid Aerofauna over Great Britain 1975-80

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Synoptic Monitoring for Migrant Insect Pests in Great Britain and Western Europe
III. The Seasonal Distribution of Pest Aphids and the Annual Aphid Aerofauna over Great Britain 1975–80

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Abstract

To facilitate the recognition of alate aphid pest species and potential virus vectors in random samples of airborne migrants, the total aerial samples for all species between 1975 and 1980 are tabulated at 18 continuously operated sampling stations. Annual means for the geographical distributions of up to three seasonal cycles of migration of 27 species of alate aphids, including agricultural and forest pests, are mapped to verify annual life cycles and provide a basis for forecasting distribution.

Introduction

Since 1964, flying aphids have been monitored systematically at an increasing number of sites throughout Great Britain as part of an investigation into aerial populations of insects with special reference to agricultural and other pest species. An ultimate objective is to develop a forecasting system and a preliminary requisite is to establish the general level of the aerofauna in order to detect changes in populations prior to epidemics.

The sampling network has subsequently extended into Holland, Denmark, Northern Ireland, France and Belgium. This has made possible the comparison of the pest species and the total species present in the aphid aerofauna separated by ecological barriers of differing extent, such as the mountains of Wales and Scotland, the Northern Channel of the Irish Sea, the English Channel and especially the North Sea.

All the aphid species found in aerial samples from the 31 trap sites that have operated in Great Britain over a period of 16 years have been identified, the records collated, and the list of 317 species published in Part I of this paper (Taylor, French, Woiwod, Dupuch & Nicklen, 1981). For comparison, the species sampled near Copenhagen, in Denmark, between 1971 and 1976 have also been compiled and published in Part II of this paper (Heie, Philipsen & Taylor, 1981).

Not all pest aphids are well known and under constant observation. For example, increased damage to cereals over the last few decades has directed attention to some grass aphids previously ignored. It is not yet clear how much damage is done directly or by virus disease, nor which aphids are responsible in different regions and countries. Some potential vector species are rarely found on crops because they do not remain there long enough to build up populations and the chance of finding a visiting migrant during the brief moments of routine crop inspection is remote (Taylor, 1974). Nevertheless such aphids may feed long enough to transmit virus. Only by sampling and identifying all aphids in flight between crops can potential vectors be recognised because species not commonly associated with the crop concerned, or even with agricultural crops in general, may be unsuspected vectors.

Furthermore, a knowledge of the population dynamics of each pest is necessary to assess the risk of crop damage by infesting populations before they are controlled naturally by physical and biological means. Population dynamics theory is also needed to

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estimate the likely effects of treatment at a given place and time, and to assess its economic and environmental costs, such as the potential for developing insecticide resistance. Traditional approaches to population dynamics that focus on the stabilising properties balancing births and deaths in isolated elements of populations are not applicable to aphids, except possibly to a few monophagous tree-feeding species with atypical life cycles. For most aphid species, and for all those pests of annual crops, there are no persistent populations to stabilise, and hence no continuity that would make key factor or life-table analysis relevant (Gilbert, 1982). Populations of most pest aphid species become extinct on a given host two or three times each year, when they die or migrate to another host plant, often of different family, form and distribution. There, the aphid morphs, and their behaviour and dynamics, also differ. In addition, the rapid clonal multiplication of aphids leads to the successive domination of differing eco-types within the species, especially in pest species which respond to the selection pressure of changing cultivars and cropping rotations, by changes in host preference, reproductive rates and migration times (Daniels, 1981).

The geographical pattern of productivity of migrants arises from the success of the preceding cycle of apterous population growth. These distinct distributions which differ numerically, geographically and morphologically, must be known in order to predict the next population cycle.

Whatever sampling method is employed, pest-assessment requires a continuous and automatically updated concept of synoptic distribution, modified by changes in host-plant distribution throughout the seasonal cycle, by climate and biological controlling agents. This cannot be done on a local scale because aphids frequently infest crops hundreds of kilometres from their overwintering sites, and many of their parasitic organisms and predators are equally mobile. The system needs to be able to detect deficiencies in prognosis and to suggest solutions when mistakes are discovered. The historical component of changes, and the many ecological factors involved, usually require decades of continuous recording before such defects are discovered.

With such a synoptic view of populations, local deviations and field-scale factors begin to be measurable. Changes in the rate of population growth in different parts of the geographical range of each species, and on different crop hosts, can be more easily detected and analysed by comparison with changes in other areas.

Virus infection is difficult to forecast from crop samples because the range of vector aphids may be wide and unknown. Aerial samples detect the range of species necessary to recognise which vectors were responsible for infection after it has been observed. Forecasting may then depend on adequate subsampling for vector individuals (Plumb, 1981) of a wide range of species even for one virus (van Harten, 1981). Aerial sampling yields comparable population estimates for different places, crops and pest species. Results show the great variability in times and distribution of migration between different years and different places. They also show how the pattern of migration progresses over large areas, where major concentrations occur, and where the current risk is greatest (Bardner, French and Dupuch, 1981).

The numbers and distribution of aphids

This paper presents a list of all species that occurred in any of 18 major sample sites in Great Britain, Nos. 916, 907, 912, 923, 906, 905, 922, 919, 911, 904, 917, 901, 924, 914, 908, 903, 913, 910 (sites are listed and mapped in Fig. 1,* that operated between 1975 and 1980. Those 72 species that occurred five or less times are listed (Table 1, *see* pp. 36–38)

* Figs. 1–16 are in Pt I (Taylor *et al.*, *Rothamsted Experimental Station. Report for 1980*, Part 2,41–104). Figs. 17–35 are in Pt III (this paper), pp. 102–121.

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with the site, year and sample number. Those 186 species that occurred more frequently are fully tabulated (Table 2, *see* pp. 39–101) to show their changing migrant population with time and regional distribution. Some species are explosive in their annual productivity. *Aploneura lentisci* (530), for example, occurred in modest numbers, mainly in the south, in 1975. Samples increased to thousands in 1976 and the population expanded to cover the island of Great Britain. In 1977 the species had almost disappeared, diminishing further during 1978 and 1979, and disappearing altogether in 1980. In contrast *Schizolachnus pineti* (4) occurred in small numbers almost everywhere in 1975 and 1976, disappeared in 1977, reappeared in the midlands in 1978 and 1979 and reached its maximum numbers in 1980. The pest species are discussed in more detail below.

The 6-year mean geographical distributions (1975–80) for each of the migratory cycles of 27 species of special concern are mapped in Figs. 17–35 based on 18 sample sites. The number of maps presented for each species is based on the known life-history, the size of the samples and the seasonal cycle of migration in Figs. 3–9.

The basic life-histories and interpretation of the species are listed below in the same sequence as the maps. This sequence is determined partly by convenience in figure arrangement and partly to illustrate relevant features of distribution pattern.

The number of maps for a given species is based on what was already known about its ecology, or what has been found from the aerial samples. In the classical cycle of arable crop pests in temperate maritime climates, there are three seasonal cycles of migration; spring emigration of migrants from the overwintering woody hosts, if the species is holocyclic, to the developing crop; summer migration of alienicolae from the ripening crop to other herbaceous secondary hosts; autumn return migration of sexuparae from the secondary hosts to the primary overwintering hosts. This pattern is typified by *Aphis fabae* and is clearly recognisable in many species by the phenology of migration which shows three cycles, and in the maps which reflect the different distribution of the three hosts. This pattern is also recognisable in anholocyclic populations when the crop host generates a disproportionately large and geographically concentrated summer emigration. The autumn return migration is often diffuse, reflecting the widely distributed and wide host-species range of polyphagous alienicolae. The spring migration then shows how the species distribution has become concentrated by the restricted primary host range of holocyclic species and the success in overwintering survival of anholocyclic species.

When the holocyclic species remain longer, into the late spring, on the primary host and develop larger populations, the secondary host population may also grow slowly and the summer migration may then be late enough to form the sexuparous return migration. When, as in *Phorodon humuli*, the secondary host range is also botanically and geographically restricted, the resulting two migrations are clearly recognisable.

Monophagous tree aphids, like *Elatobium abietinum*, may have only one clear-cut migratory cycle.

All three classes of migration include species with less precise migratory mechanisms so that there are species with indeterminate systems not yet understood. This is evident from the maps, taken in conjunction with the phenologies shown in Figs. 3–9. In interpreting these figures, it is relevant that there are no samples from the north-west of Scotland, so the maps there are distorted. Also, the maps are based on sample means over several years, so that annual variation in timing or population distribution tends to smooth the pattern. Individual years often show greater differences between seasonal migration distributions than appears from these means.

132, *Aphis fabae* Scopoli, 1763 (Black Bean Aphid) (Figs. 8a and 17) is holocyclic in Britain, overwintering in the egg stage mainly on spindle, *Euonymus europaeus*, in the

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southern half of Britain; small numbers occur on the guelder rose, *Viburnum opulus* and possibly *Philadelphus*. Eggs hatch between late February and early April and alatae are produced in May; these migrate in late May and early June to field beans and sugar beet, on which large colonies may develop causing direct feeding damage, and also to wild plants such as dock, poppies, goosefoot and fat-hen. Alatae are produced on these secondary hosts in response to crowding which reinfest the same crop or migrate to other crops and wild plants. This summer migration is particularly noticeable in East Anglia and represents the migration from field beans and sugar beet. In the autumn *A. fabae* migrates back to *E. europaeus* where eggs are laid.

A reliable forecast of the likelihood of infestations of *A. fabae* causing damage to field beans is based on large-scale sampling of winter host plants. Suction-trap samples can also forecast infestation of bean crops (Way, Cammell, Taylor & Woiwod, 1981). It should be possible to expand this forecast to indicate the initial infestation of sugar beet and forecast direct damage. *A. fabae* is also an important pest of sugar beet because it spreads beet yellows virus and beet mosaic virus after its introduction to the crop. It is a known vector of more than 30 viruses.

The *Aphis* spp. are difficult to separate quickly, especially the males, and *fabae* grp. (132) includes several other possible species that are known to be so rare as not seriously to affect the samples. The taxonomy of this group of species is still uncertain.

The three classical migration cycles show clearly in the maps. The summer migration, mainly from agricultural crops is dominant in East Anglia and eastern Scotland. The subsequent autumn migration from wild herbaceous annuals is more diffuse, whilst the following spring migration, mainly from *Euonymus*, is concentrated near to the southern chalk downs.

389, *Acyrthosiphon pisum* (Harris, 1776) (Pea Aphid) (Figs. 7c and 18) is holocyclic or anholocyclic in Britain and is autoecious on legumes, overwintering as an egg low on the haulm of sainfoin, trefoil and lucerne or, in mild winters, active stages may survive. Eggs hatch in February and March, and alatae, produced in May, migrate to the growing points of peas, on which this aphid is a pest, and other legumes. Numbers reach a peak on peas in late June and early July shortly before peak numbers are found in the trap samples in the pea growing areas of the south-east and East Anglia. The trap samples also indicate a small autumn migration, probably of sexuparae; sexuales have been found on *Ononis*, *Lathyrus*, *Trifolium* and *Medicago*. *A. pisum* is a vector of more than 30 plant viruses, both persistent and non-persistent, including pea enation mosaic, pea leaf roll and bean leaf roll.

Whether or not damaging infestations of *A. pisum* occur on peas is partly dependent on the initial infestation of the crop. This is likely to be associated with the numbers migrating in the spring and early summer, whereas the species' success on peas can be measured by the numbers migrating from the crop in the summer. There is no known economic threshold for *A. pisum* on peas.

There are many different recognised races or biotypes, some differentiated by colour, and known to have different host preferences, reproductive rates and behaviour.

Although pea aphid has no systematic host-alternating migrations, the maps clearly show overwintering survival confined to the south and East Anglia; dominant summer populations in arable areas and totally diffuse, fairly small, autumn migration, not unlike bean aphid.

322, *Myzus* (*S. Nectarosiphon*) *persicae* (Sulzer, 1776) (Peach/Potato Aphid) (Figs. 7a and 19) is the most important pest and vector aphid in Britain due to its wide host range and its proficiency in transmitting more than 120 plant viruses. It is anholocyclic on many

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herbaceous plants and brassicas, but is also holocyclic on peach, *Prunus persica*, hence confined to small numbers in gardens in southern Britain. The survival of the anholocyclic population during the winter is particularly important in determining the timing and level of infestation of crops in the spring, and the subsequent spread of virus diseases. Alatae develop in spring and migrate to potatoes and sugar beet, as well as to other herbaceous plants. *M. persicae* does not usually form dense colonies, but tends to migrate by walking to infest other parts of the same and neighbouring plants. The anholocyclic life-cycle and the tendency to move between plants contribute greatly to the importance of this species as a vector of potato leaf-roll virus and potato virus Y, on seed potato crops, of beet yellows virus and beet mild yellowing virus on sugar beet, and a number of viruses on other crops. Numbers may sometimes increase rapidly to reach tens of thousands per plant on potato. Alatae develop during the second half of July and migrate to other crops or to wild herbaceous plants. This migration predominates in the eastern arable areas where there is the largest acreage of sugar beet and potatoes. There is a further redistribution of *M. persicae* in the autumn between herbaceous plants and brassicas, and it is on these plants that the aphids overwinter.

The spring weather at Rothamsted Experimental Station can be used to predict accurately the incidence of virus yellows in sugar beet throughout the country during the coming summer (Watson, Heathcote, Lauckner & Sowray, 1975). Analysis of the change in the distributions of the autumn and spring migrations suggest that *M. persicae* overwinters most successfully in the south-east and the London basin and this may explain these Watson–Hurst virus-incidence equations (Taylor, 1977a).

Few *M. persicae* are found in the trap samples, but those that fly early in the year give an indication of potential virus infection of crops and should therefore be included in any virus index on potatoes (van Harten, 1981) or sugar beet. This aphid damages peach directly in the Mediterranean region and can also kill potatoes when uncontrolled or insecticide-resistant.

The timing of seasonal migration cycles of peach/potato aphid differ in the north and south, but the maps reflect a similar general pattern to bean aphid. Major summer emigrations are from arable crop areas. The autumn migration tends to be rather more westerly, but by the spring, the overwintering population has been greatly reduced in the north and west, with maximum survival in the south-east.

358, *Hyperomyzus lactucae* (Linnaeus, 1758) (Current/Sowthistle Aphid) (Figs. 6c and 20) is heteroecious and holocyclic, spending the winter as an egg on black currants and occasionally on red currants. Eggs hatch in March and early April and the subsequent generations may cause damage to currants. Including necrotic yellows on lettuce, this aphid is a known vector of about ten viruses. Few alatae develop in the second generation, but more in the third generation and these migrate in late May and June to sowthistle. The suction-trap samples suggest there may be further migration between secondary hosts from late June to the end of August. In autumn the return migration to *Ribes* reaches peak numbers in early October. The numbers migrating in the autumn may indicate likely damage to currants the following spring.

The migratory cycles in spring are not very clearly separated, but overwintering is mainly in southern Britain. The summer migration reflects the distribution of *Sonchus* and the autumn migration is slightly higher in the southern half of Great Britain. There is an appreciable increase in population in the south by the next spring.

420, (*Macrosiphum*) *S. Sitobion avenae* (Fabricius, 1775) (Grain Aphid) (Figs. 8c and 21) is autoecious and can be a serious pest on cereals, particularly on wheat. This species is usually anholocyclic in Britain, but a small proportion of the population overwinters

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holocyclically as eggs on Gramineae. Eggs hatch and alatae fly in May and June to reinfest the same crop or migrate to other Gramineae. Alatae produced throughout the summer, in response to increasing density and declining food quality, may reinfest crops or migrate to other Gramineae. The later migrants infest grasses, and it is from these that the small autumn migration arises which infests early-sown winter cereals as well as grasses. Those that infest cereals can introduce barley yellow dwarf virus, but also establish overwintering populations which can develop rapidly in the spring if conditions are favourable.

The suction-trap samples in the autumn and spring indicate the numbers of *S. avenae* infesting crops, but as damage occurs some time after this initial infestation, when aphids are emigrating from crops, the samples are not ideal for monitoring the development on crops. However, development models are being devised to predict the maximum population on wheat, which use the number of aphids in the trap samples as a starting point (Carter & Dewar, 1981). The monitoring of the autumn migration to cereals is becoming increasingly important as the trend towards planting winter cereals earlier results in a larger proportion of the acreage becoming infested in the autumn.

The spring migration is much greater in southern England, diminishing northwards. The vast summer migration has a concentration in Norfolk, but is widespread at very high densities throughout the lowlands; even the highlands of the south-western peninsula, Wales, northern England and Scotland have very great aerial populations. The autumn migration is modest and diffuse so that the population increases considerably in the south during winter.

114, *Rhopalosiphum padi* (Linnaeus, 1758) (Bird-cherry Aphid) (Figs. 9d and 22) is mainly holocyclic in northern Britain, but in the south it is also anholocyclic. Eggs laid on *Prunus padus* from September to November hatch the following April. Alatae begin to migrate in early May to Gramineae, including wheat, barley and oats, where large colonies may occasionally develop, and some other monocotyledons. Alatae also migrate from anholocyclic populations at this time. The summer migration is mainly from cereals to grasses, particularly in eastern Britain, but also between grasses in western Britain. The timing of the autumn migration to *P. padus* for the holocyclic population, and to early-sown cereals and grasses for the anholocyclic population, is dependent on day length. Those aphids that migrate to the ever-increasing acreage of early sown winter cereals, are often the primary source of infection for barley yellow dwarf virus. The survival of the anholocyclic population on cereals during the winter greatly affects the subsequent spread of BYDV.

Suction-trap samples in the autumn, combined with a measure of the proportion of aphids transmitting virus, are used to give an indication of the potential risk of BYDV infection in early-sown crops in different areas of Britain (Plumb, 1981). This aphid is a vector for at least seven viruses. Its aerial populations far exceed those of any other aphid species in Britain and, in common with only *Rhopalosiphum insertum* and the *Pemphigus* spp., its cycles of migration increase progressively through the year. The losses over winter are very great and survival is maximal in the extreme east and west, unlike most aphids.

396, *Metopolophium dirhodum* (Walker, 1848) (Rose/Grain Aphid) (Figs. 8b and 23) is heteroecious and holocyclic although it may overwinter anholocyclically. Eggs laid on wild and cultivated roses in October and November hatch in the spring. Alatae migrate to grasses, especially *Bromus* spp., and cereals, particularly wheat, where the population can build up to epidemic proportions (Dewar, Woiwod & Choppin de Janvry, 1980). Alatae are produced on cereals in response to increasing population density and reinfest

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the crops or migrate to other grasses. *M. dirhodum* is a poor vector of barley yellow dwarf virus, although it can spread the virus within fields, and of radish yellows.

The suction traps monitor the small migration from roses to cereals and so give an indication of the initial infestation. However, subsequent population development is dependent on a number of factors. The suction traps monitor the emigration from cereals and grasses of alatae produced in response to increasing density and declining food quality.

In common with many crop aphids, the summer migration is much the largest but it is atypical in its distribution, maximal in the north-west and south-east, reflecting its grass hosts as well as cereals. The autumn migration is also unusual being greater in the north. By spring the distribution has reversed, overwintering evidently being more successful in the south.

111, *Rhopalosiphum insertum* (Walker, 1849) (Apple/Grass Aphid) (Figs. 9c and 24) is heteroecious and holocyclic overwintering as an egg mainly on apple, but also on pears, rowan, medlar and hawthorn. Eggs hatch in April and the developing population on apple may cause some damage in exceptional years. Alatae migrate to grasses during May and June where they colonise the roots. There is a large summer migration during which other grasses are colonised. In the autumn there is a large migration back to apple. This species transmits barley yellow dwarf virus and may be responsible for some of the initial infection of early-sown cereal crops in the autumn. Autumn suction-trap samples have been related to the number of oviparae on apple in the autumn and so to damage the following spring (Taylor, 1977b; Light, 1980). These autumn samples can now be used to warn of potential damage to apples in the following spring.

The three well-marked seasonal migrations increase progressively in size and their distributions show no regional characteristics, except that the spring migration tends to diminish slightly towards the east and west coasts. Unusually there is hardly any latitudinal segregation, overwintering losses being generally distributed throughout the island.

410, *Macrosiphum euphorbiae* (Thomas C. A., 1878) (Potato Aphid) (Figs. 7d and 25) is polyphagous and anholocyclic in Britain and only on rare occasions do sexual forms lay eggs on Rosaceae. Apterae overwinter on many species of weeds. Alatae migrate in May and June to new hosts, including potatoes on which they are a pest. If infestations are heavy there may be a second dispersal migration in July. Infestations are usually widespread on potatoes, but only occasionally reach large numbers when it causes 'false top roll'. There is a small migration of *M. euphorbiae* in the autumn. The timing and size of infestation on potatoes in the spring and early summer is dependent on the over-wintering survival of the anholocyclic population which would appear to be least successful in Scotland and northern England. *M. euphorbiae* is a poor vector of potato virus Y, but may be common enough to be included in a virus index for the probable infection of potato seed crops. It is a vector of more than 50 viruses, both persistent and non-persistent, including pea mosaic, onion yellow dwarf, beet mosaic and dock viruses. It is more highly polyphagous than most aphids, on monocotyledons as well as dicotyledons; it is of American origin, introduced to Europe about 1917.

The summer migration is the largest; both it and the smaller autumn migration are widespread over Great Britain. Only the spring migration is concentrated in the south where overwintering is apparently most successful.

421, (*Macrosiphum*) *S. Sitobion fragariae* (Walker, 1848) (Blackberry/Grain Aphid) (Figs. 7b and 26) is heteroecious and holocyclic, overwintering as an egg on blackberry. Eggs hatch in spring and alatae migrate to grasses in late spring and early summer. *S. fragariae* may be found on the ears of wheat, but is much less common than *S. avenae*. Alatae

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which are produced during the summer presumably migrate to other species of Gramineae.

The spring migration is mainly in the south-west and quite prominent. The summer migration is maximal in the midlands of England. The autumn return migration to blackberry is late and mainly in the south and west, but not so concentrated as in spring.

355, *Nasonovia ribisnigri* (Mosley, O., 1841) (Currant/Lettuce Aphid) (Figs. 6a and 27) may be a pest on both its primary and secondary host. In northern Britain it is normally holocyclic, overwintering as an egg on any part of gooseberries and currants, including the fallen leaves, but in the south this species can be anholocyclic on Compositae especially lettuce, on which it is the most important aphid pest, chicory, hawkweed and speedwell. Eggs hatch on the primary host in March and alatae that develop migrate, from mid-May to June, to lettuce where large colonies stunt growth and prevent hearting. Although the numbers in the trap samples are generally small, there is a suggestion of further redistribution of alatae during the summer, presumably between secondary hosts. There is a third migration in the autumn to the overwintering hosts which can be either gooseberries and currants or lettuce. As numbers in the trap samples are usually small, it may only be possible to give an indication of seasons in which either exceptionally large, or small, numbers are expected.

The three discernible migrations in this species are all diffuse and spread widely over Great Britain.

243, *Brachycaudus helichrysi* (Kaltenbach, 1843) (Leaf-curling Plum Aphid) (Figs. 5a and 28) is holocyclic. The primary hosts are various *Prunus* species, particularly plums and damson on which it can be a serious pest. Eggs hatch in February and March and alatae are produced in the latter half of May which migrate to a number of secondary hosts including clover, asters and chrysanthemums. The migration from *Prunus* is usually complete by early July. The return migration to *Prunus* begins in the latter half of August and continues until the end of October. It is the progeny of those aphids that successfully find *Prunus* in the autumn that develop into damaging infestations the following spring. It may therefore be possible to give an indication of the potential levels of infestation in the spring from the numbers of aphids migrating the previous autumn.

B. helichrysi is a vector of a number of virus diseases including plum pox and potato virus Y. Although a poor vector of PVY, *B. helichrysi* occurs in sufficiently large numbers to cause large infections of potato seed crops (Govier, pers. comm.) and has been included in an index assessing the potential risk to seed crops (van Harten, 1981).

Separate maps have been made for weeks 1–26 and 27–33, and these maps show a marked shift in distribution from south- and west-midland to east-midland England. They are not clearly segregated in time and the aphids ecology suggests they are both part of the primary migration. The smaller return migration is uniformly distributed over Great Britain, with no population growth in the north before spring because of the southerly distribution of the primary hosts.

292, *Cavariella aegopodii* (Scopoli, 1763) (Willow/Carrot Aphid) (Figs. 4a and 29) is heteroecious between willow species and various umbelliferous plants. Eggs laid on the young shoots of willow in the autumn hatch between February and early April. Alatae, developed in May, migrate over a 5- or 6-week period to umbellifers including carrots, parsnips, celery and parsley on which the aphid is a pest. In late seasons the migration from the primary host may be delayed by 2 or 3 weeks. As populations develop on carrot crops, the alatae produced migrate to hedgerow umbellifers. By the end of July few aphids can be found on carrots. In the autumn, sexuparae migrate back to willow where eggs are laid. An anholocyclic population also remains on overwintering umbellifers such as

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late lifted carrots and carrot seed crops. Spring alatae from anholocyclic populations migrate to umbelliferous crops earlier than those from willow. However, the proportions of the population overwintering holocyclically and anholocyclically are not known. *C. aegopodii* is a vector of persistent carrot motley dwarf virus and semi-persistent parsnip yellow fleck, and a number of non-persistent viruses.

The numbers migrating in the autumn may be reflected in the numbers migrating from willow the following spring. However, the spring migration from the umbellifers will depend on overwintering success. It is therefore important to know the proportions of the population that overwinter holocyclically and anholocyclically.

The primary migration is widespread throughout England and fairly heavy. The second map (weeks 27–37) may be secondary migrants, but is not yet clearly distinguished. The autumn return migration is uniformly distributed.

308, *Phorodon humuli* (Schrank, 1801) (Damson/Hop Aphid) (Figs. 5b and 30) is heteroecious and holocyclic, laying eggs in the autumn on blackthorn, *Prunus spinosa*, and damson and plum, *P. domestica*. Eggs hatch between late February and April, and the developing population on plums may cause some damage. The migration from *Prunus* to hops begins in late May and continues until late July or early August. Some aphids may remain on the sucker growth of plums throughout the summer. *P. humuli* is a pest of hops every year and therefore the timing of the migration to hops is probably of greater importance to growers than the size of the migration. The dates of the beginning and end of the migration can be obtained from the suction-trap samples. No alatae are produced on hops until gynoparae and males develop in the autumn and these migrate back to *Prunus*. This migration is concentrated in the two hop-growing regions of Britain (Taylor, Woiwod & Taylor, 1979). The size of the autumn migration may give an indication of potential damage to plums the following spring and the subsequent migration to hops.

Like *Brachycaudus helichrysi*, this species has two clearly segregated migrations, the first reflecting the overwintering *Prunus* host distribution. The profound difference in the distribution of their return migrations shows clearly the accumulative effect of intense cultivation of the primary and secondary hosts in close proximity. *P. humuli* transmits a number of plant viruses including plum pox and hop mosaic.

264, *Brevicoryne brassicae* (Linnaeus, 1758) (Cabbage Aphid) (Figs. 6b and 30) is autoecious on brassicas and produces sexual forms in the autumn. In the milder parts of the south and west the winter may be passed anholocyclically. The eggs laid on the stems of brassicas in the autumn hatch between the end of February and the end of April, and alatae are produced from the end of May to July which migrate to newly planted brassica crops such as cabbage, cauliflower, Brussels sprouts, kale, rape, radish, swedes and mustard. The aphids are heavily wax-coated. Dense colonies may develop on the leaves, or on the flower of seed crops, causing considerable damage, particularly in warm dry weather. Alatae, produced throughout the summer, infest other brassicas. In the autumn infestations in the heads of cabbage, cauliflower and Brussels sprouts reduce market value. *B. brassicae* is a vector of cauliflower mosaic virus and cabbage black ring spot as well as about 14 other plant viruses.

Few *B. brassicae* are found in the trap samples but the number recorded early in the year might indicate seasons of either exceptionally large or small infestations.

There is no pronounced seasonal segregation of migration in this species but the pattern of migration in weeks 1–34 suggests that agricultural practice is a major factor in perpetuating distribution.

110, *Hyalopterus pruni* (Geoffroy, 1762) (Mealy Plum Aphid) (Figs. 8d and 31) is hetero-

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ecious and holocyclic with eggs being laid on *Prunus* species, mainly plums, but also peaches, apricots and almonds. The eggs hatch in April, and the aphids developing on plums can cause serious damage curling the young leaves. Alatae of *H. pruni*, which develop later than those of other aphid pests of plums, migrate to waterside grasses and reeds from the beginning of June. The population on plums continues to increase until July, and the peak migration is observed between early July and mid-August. Some alatae migrating from plums may form new colonies on other plum trees. The return migration to *Prunus* begins in September. The small autumn migration may give an indication of the level of infestation on plums the following spring. *H. pruni* is a vector of plum pox.

The primary migration of this aphid is surprisingly easterly in its distribution in England, as compared with *Phorodon humuli* and *Brachycaudus helichrysi*, and requires further investigation.

500, *Eriosoma* (*Schizoneura*) *ulmi* (Linnaeus, 1758) (Currant Root Aphid) (Figs. 3c and 31) is heteroecious and holocyclic, overwintering as eggs on *Ulmus*. The eggs hatch in the spring and the fundatrices form galls on elm. Alatae migrate, after the beginning of June, to gooseberries where aphids may seriously check growth, and also to red and black currants. The alatae larviposit on the soil near the base of stems, and the larvae work their way through the soil to infest the roots. Alatae develop on gooseberry late in the autumn and migrate back to *Ulmus* where eggs are laid. The numbers of aphids migrating in the autumn and spring may indicate subsequent infestation of gooseberries.

The autumn migration reflects the distribution of soft fruit, but the decline of elm in the south seems to be reflected in the annual totals in the samples (Table 2cc) and may change the pattern progressively northward in the future.

91, *Drepanosiphum platanoidis* (Schrank, 1801) (Sycamore Aphid) (Figs. 3d and 32) is holocyclic and autoecious on sycamore, *Acer pseudoplatanus*. During the summer all adults are alate and active. There is a migration of the aphid in spring and early summer which is larger in the north of England and Scotland than in the south. This species is of no known agricultural importance. Much work has been done on the population dynamics of this species in the field and laboratory (Dixon, 1979). However, the distribution of the migrations in the two halves of the year differ more regionally than might be expected from what is known and suggest some overriding factor not yet evident.

397, *Metopolophium festucae* (Theobald, 1917) (Fescue Aphid) (Figs. 4b and 32) is autoecious on grasses, especially meadow grasses where the life cycle is anholocyclic except in the extreme north where it may be holocyclic. Alatae are produced from May to July which migrate to other grasses and cereals. This species may stunt winter oats if attacked early but is not usually a pest of cereals; heavy infestations may develop on grass seed crops particularly in the Midlands.

Distribution is widespread and undistinguished in either part of the year.

112, *Rhopalosiphum maidis* (Fitch, 1856) (Cereal Leaf Aphid) (Figs. 6d and 33) is anholocyclic feeding on leaf blades of grasses, and occasionally occurs on barley and maize in the summer in Britain. The trap samples indicate a small summer migration which may originate in cultivated cereals, particularly as it is concentrated in eastern Britain, but it occurs sporadically over the whole country.

376, *Aulacorthum solani* (Kaltenbach, 1843) (Glasshouse/Potato Aphid) (Figs. 4d and 33) is almost entirely anholocyclic in Britain occurring on a wide variety of plants particularly

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Digitalis. When sexual forms and eggs occur, they are found on many different plant species. It is a pest of potatoes but seldom occurs in sufficiently large numbers to cause direct feeding damage. However, it transmits more than 30 plant viruses including potato leaf roll and potato virus Y, though less efficiently than *Myzus persicae*.

The few *A. solani* found in trap samples probably give little indication of potential damage to potatoes. The overwintering survival and the time that aphids move to potatoes is of greater importance. The number of *A. solani* in trap samples together with their efficiency of transmission are incorporated in an index indicating potential risk of virus spread in potato seed crops (van Harten, 1981).

Its distribution is indeterminate.

234, *Dysaphis* (*S. Pomaphis*) *plantaginea* (Passerini, 1860) (Rosy Apple Aphid) (Figs. 5d and 34) is heteroecious and holocyclic spending the winter in the egg stage on apple, pear, hawthorn and *Sorbus* species. Eggs hatch from mid-March to early April, the subsequent aphid populations cause the most serious aphid damage to apples, severe leaf curling. Alatae on the primary host are produced in July which migrate mainly to plantain but also to umbellifers and docks. However, the suction-trap samples indicate that migration begins about a month earlier. Some aphids may remain on apples until August, or even for the whole year. The return migration to apple in the autumn begins at the end of August, but most are found in the trap samples in the last half of September and the first half of October. Trap samples in the autumn indicate the levels of infestation expected the following spring.

During both primary and return migration this species remains mainly in the southern half of the island.

78, *Phyllaphis fagi* (Linnaeus, 1767) (Beech Aphid) (Figs. 5c and 34) is autoecious on beech. There is a redistribution of alatae from May to July, and another migration in the autumn which comprises sexuparae.

The summer migration is consistently larger than the autumn migration. Distribution is quite uniform in the autumn migration.

290, *Elatobium abietinum* (Walker, 1849) (Green Spruce Aphid) (Figs. 3a and 35) is autoecious on *Picea* species, particularly *P. sitchensis* on which it is a pest. In Britain it is almost exclusively anholocyclic; sexual forms or eggs only having been recorded on rare occasions. Alatae develop during the spring and early summer in response to the changing nutritional status of the host plant. They migrate from late April to the end of July to other spruce trees where they aestivate until the plants are again in a favourable condition.

The duration of the migration increases from south to north and its median date is associated with temperature (Carter & Cole, 1977). The size of the migration, together with the severity of winter weather, indicates the levels of damage expected the following year. There is a pronounced longitudinal graduation in distribution, with a maximum in the west, in contrast to the arable aphids.

318, *Myzus* (*S. Nectarosiphon*) *ascalonicus* Doncaster, 1946 (Shallot Aphid) (Figs. 3b and 35) lives anholocyclically on a wide variety of host plants and it may be a pest on a number of crops including strawberries, onions, shallots, lettuce and cabbage. Little seems to be known of its biology but it develops large populations at low temperatures. It is often one of the first aphids found in trap samples in the spring when redistribution flights begin and continues to migrate until mid-July. There is also a small autumn migration. The distribution reflects that of arable crops.

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315, *Myzus ornatus* Laing, 1932 (Violet Aphid) (Figs. 9b and 35) is anholocyclic on a wide variety of plants. Alatae develop in the spring and migrate from May to July to potatoes and other plants. Large infestations may develop on old and damaged leaves of potatoes in late August and September. A few alatae may be produced on potatoes, but few are found in the suction-trap samples throughout the year. In the laboratory *M. ornatus* has been shown to transmit a number of plant viruses including sugar beet yellows and potato leaf roll.

Occurs mainly in the south.

319, *Myzus* (*S. Nectarosiphon*) *certus* (Walker, 1849) (Violet/Dianthus Aphid) (Figs. 4c and 35) is difficult to separate taxonomically from *M. persicae* and little is known of its life history. It is most likely to be found on chickweed and violets. Few are found in the suction-trap samples, but most are found between mid-May and the end of July, and mainly in the midlands and central southern England.

1506, *Pemphigus* (*Prociphilines*) (Poplar-root Aphids) (Fig. 9a) includes a number of species which are difficult to separate taxonomically, including *P. bursarius* which is a root pest of out-door lettuces, and *P. phenax* which is occasionally a pest of carrots. Eggs are laid on poplar in autumn and hatch in March and April when the buds break. The aphids form galls on poplar in which the alatae develop in June. *P. bursarius* migrates to lettuces in July where it infests the roots. Sexuparae, which develop at the end of August, migrate back to poplar in late summer and autumn. Some aphids spend the winter anholocyclically on the roots of lettuce or even in the soil where they will colonise lettuce planted in the same soil the following year. It is difficult to give information concerning a single *Pemphigus* species from the suction-trap samples until the proportion of each species in the sample is known.

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Table 2 starts on page 39

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TABLE 1

Annual total sample for aphid species that occurred five or less times at 12·2 m, at any of the 16 sites listed in Table 2 during 1975–80 (excluding sites 904 and 911)

24 *Maculolachnus submacula* (Walker, 1848)
1978, 919 (2); 1979, 908 (1); 1980, 924 (1).

31 *Neotrama caudata* (Del Guercio, 1909)
1975, 901 (1).

33 *Trama rara* Mordvilko, 1908
1979, 923 (1).

48 *Chaitophorus tremulae* Koch, C. L., 1854
1976, 908 (1); 1977, 908 (1); 1979, 919 (1); 1980, 906 (2).

52 *Sipha kurdjumovi* Mordvilko, 1921
1976, 903 (2); 1980, 908 (2).

60 *Callaphis juglandis* (Goeze, 1778)
1978, 917 (1).

61 *Chromaphis juglandicola* (Kaltenbach, 1843)
1975, 924 (1); 1976, 903 (1); 1980, 901 (1).

65 *Myzocallis boerneri* Stroyan, 1957
1977, 912 (7); 1980, 912 (7).

71 *Tinocallis platani* (Kaltenbach, 1843)
1976, 910 (1); 1976, 913 (4); 1977, 913 (3); 1979, 913 (4).

73 *Takecallis arundinariae* (Essig, 1917)
1975, 903 (1); 1977, 908 (2); 1977, 913 (1); 1980, 913 (3); 1980, 917 (2).

86 *Symydobius oblongus* (von Heyden, C. H. G., 1837)
1979, 903 (2).

89 *Drepanosiphum acerinum* (Walker, 1848)
1975, 914 (1); 1977, 917 (2); 1978, 917 (1); 1978, 924 (1); 1979, 917 (2).

93 *Therioaphis ononidis* (Kaltenbach, 1843)
1978, 914 (1).

731 *Therioaphis riehmi* (Börner, C., 1949)
1979, 919 (2); 1980, 919 (2).

96 *Allaphis thripsoides* (Hille Ris Lambers, 1939)
1976, 919 (1); 1979, 919 (2).

107 *Plocamaphis bituberculata* (Theobald, 1912)
1976, 917 (2).

750 *Rhopalosiphum pilipes* Ossiannilsson, 1959
1976, 917 (2); 1978, 903 (1); 1979, 903 (2); 1979, 908 (1).

115 *Euschizaphis palustris* (Theobald, 1929)
1975, 923 (2); 1976, 916 (2).

116 *Schizaphis graminum* (Rondani, 1847)
1975, 923 (1); 1978, 910 (1).

154 *Aphis ruborum* (Börner, C., 1931)
1978, 910 (1).

155 *Aphis schneideri* (Börner, C., 1940)
1978, 914 (1).

163 *Aphis craccivora* Koch, C. L., 1854
1979, 901 (1); 1979, 903 (2); 1979, 908 (3); 1979, 924 (1); 1980, 924 (2).

196 *Aphis tormentillae* Passerini, 1879
1979, 912 (1).

204 *Aphis taraxacicola* (Börner, C., 1940)
1978, 923 (1).

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208 *Toxoptera aurantii* (Boyer de Fonscolombe, 1841)
1975, 908 (1); 1976, 908 (1); 1976, 910 (1); 1980, 910 (1).

244 *Brachycaudus jacobi* Stroyan, 1957
1976, 914 (1); 1978, 919 (1); 1978, 924 (1),

747 *Brachycaudus populi* (Del Guercio, 1911)
1977, 922 (1); 1979, 919 (2).

254 *Thuleaphis sedi* (Jacob, 1964)
1975, 907 (1); 1976, 919 (1); 1976, 924 (2).

255 *Brachycolus cerastii* (Kaltenbach, 1846)
1976, 908 (1); 1976, 910 (1).

262 *Hayhurstia cucubali* (Passerini, 1863)
1980, 910 (1).

274 *Decorosiphon corynothrix* Börner, C., 1939
1976, 908 (2); 1976, 923 (1); 1979, 923 (1); 1980, 910 (1); 1980, 924 (2).

278 *Coloradoa achilleae* Hille Ris Lambers, 1939
1976, 924 (2); 1977, 901 (2).

280 *Coloradoa rufomaculata* (Wilson, 1908)
1976, 901 (2); 1976, 905 (1); 1977, 914 (1); 1977, 922 (1); 1979, 919 (1).

748 *Coloradoa inodorella* Ossiannilsson, 1959
1978, 908 (1); 1978, 923 (1); 1979, 906 (1).

284 *Ericaphis ericae* (Börner, C., 1933)
1975, 908 (1); 1975, 913 (2); 1976, 912 (1); 1976, 916 (2); 1977, 906 (1)

288 *Chaetosiphon S. Pentatrichopus potentillae* (Walker, 1850)
1977, 917 (2); 1977, 924 (1); 1979, 922 (2).

304 *Ovatus mentharius* (van der Goot, 1913)
1976, 910 (1); 1978, 914 (1).

305 *Ovatus S. Ovatoides inulae* (Walker, 1849)
1975, 910 (1); 1978, 908 (1)

321 *Myzus S. Nectarosiphon myosotidis* (Börner, C., 1950)
1977, 919 (1).

341 *Capitophorus carduinus* (Walker, 1850)
1978, 922 (1); 1980, 907 (1).

349 *Pleotrichophorus duponti* Hille Ris Lambers, 1935
1978, 924 (1).

356 *Nasonovia S. Neokakimia dasyphylli* Stroyan, 1957
1976, 908 (1).

364 *Myzotoxoptera wimshurstae* Theobald, 1927
1975, 906 (1).

370 *Rhopalosiphoninus S. Submegoura heikinheimoi* (Börner, C., 1952)
1975, 901 (1); 1979, 908 (1); 1980, 908 (2).

375 *Aulacorthum rufum* Hille Ris Lambers, 1947
1975, 908 (1); 1975, 922 (1); 1977, 901 (1); 1977, 924 (1).

394 *Subacyrthosiphon cryptobius* Hille Ris Lambers, 1947
1977, 903 (2); 1977, 907 (1); 1977, 919 (1); 1979, 908 (1); 1979, 924 (1).

405 *Anthracosiphon hertae* Hille Ris Lambers, 1947
1975, 912 (1); 1976, 914 (1); 1978, 923 (1).

408 *Macrosiphum cholodkovskyi* Mordvilko, 1909
1978, 907 (1).

426 *Dactynotus achilleae* (Koch, C. L., 1855)
1980, 912 (1).

449 *Dactynotus S. Uromelan taraxaci* (Kaltenbach, 1843)
1979, 912 (5); 1980, 912 (8).

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455 *Macrosiphoniella pulvera* (Walker, 1848)
1978, 901 (1).

459 *Macrosiphoniella usquertensis* Hille Ris Lambers, 1935
1979, 908 (4).

464 *Macrosiphoniella S. Asterobium asteris* (Walker, 1849)
1976, 903 (1); 1978, 907 (1); 1978, 914 (1).

475 *Masonaphis S. Ericobium goldamaryae* (Knowlton, 1938)
1975, 913 (1); 1975, 917 (2); 1977, 908 (2); 1980, 903 (2).

476 *Masonaphis S. Ericobium morrisoni* (Swain, 1918)
1975, 908 (1); 1975, 910 (1); 1976, 922 (1); 1978, 924 (1); 1979, 908 (2).

479 *Wahlgreniella vaccinii* (Theobald, 1924)
1975, 919 (2); 1978, 912 (1).

483 *Anoecia vagans* (Koch, C. L., 1856)
1976, 903 (1); 1978, 914 (1); 1978, 924 (1).

487 *Glyphina betulae* (Linnaeus, 1758)
1975, 908 (1).

507 *Prociphilus fraxini* (Geoffroy, 1762)
1975, 903 (1); 1975, 916 (6); 1976, 908 (4); 1976, 919 (1).

526 *Smynthurodes betae* Westwood, 1849
1975, 914 (1); 1977, 910 (2); 1977, 913 (2); 1977, 914 (2).

532 *Geoica setulosa* (Passerini, 1860)
1976, 901 (2); 1976, 908 (2); 1976, 914 (4); 1978, 903 (1).

533 *Geoica eragrostidis* (Passerini, 1860)
1975, 908 (2); 1975, 914 (3); 1976, 908 (1); 1977, 901 (1).

727 *Melanaphis pyraria* (Passerini, 1861)
1978, 901 (1); 1978, 914 (1); 1979, 914 (2).

728 *Semiaphis dauci* (Fabricius, 1775)
1975, 910 (3); 1978, 910 (1); 1979, 910 (1); 1980, 901 (2).

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TABLE 2

Annual total sample for aphid species that occurred on more than five occasions at 12·2 m, at any of 18 sites during 1975–80. Zero catches are recorded 0; dashes indicate no record.

see pages 40–101.

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
4 *Schizolachnus pineti*									
1975	2	1	0	0	0	1	0	2	0
1976	17	11	5	1	0	0	4	8	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	1
1979	3	0	0	0	0	0	0	4	8
1980	108	3	2	0	0	16	11	32	1
23 *Tuberolachnus salignus*									
1975	0	0	0	0	0	0	0	1	0
1976	0	0	1	0	0	0	2	8	0
1977	0	0	0	1	1	1	0	0	0
1978	0	0	0	0	1	0	0	0	0
1979	0	0	0	0	1	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
28 *Protrama flavescens*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	1	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
30 *Protrama ranunculi*									
1975	0	0	0	0	0	0	0	2	0
1976	0	0	0	0	0	0	0	1	1
1977	0	0	0	0	0	0	0	2	0
1978	0	0	0	1	0	0	0	2	0
1979	0	0	0	0	0	0	1	1	0
1980	0	1	0	1	0	0	6	2	0
34 *Trama troglodytes*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	1	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
35 *Periphyllus acericola*									
1975	0	1	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	1	0	0
1977	0	0	0	0	0	0	1	0	0
1978	0	3	1	0	0	0	2	0	0
1979	0	0	5	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

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2(a)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
4 *Schizolachnus pineti*									
1975	—	0	3	6	10	28	8	1	0
1976	—	2	8	16	5	54	17	2	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	4	2	0	0	7	2	0	0
1980	—	12	23	15	4	173	31	4	0
23 *Tuberolachnus salignus*									
1975	0	0	0	0	0	1	0	0	0
1976	0	0	5	2	5	1	40	0	0
1977	2	1	0	0	1	0	1	0	0
1978	0	0	0	1	0	0	2	0	1
1979	0	0	1	0	0	1	2	0	0
1980	1	2	0	2	3	1	2	0	0
28 *Protrama flavescens*									
1975	—	1	0	0	1	1	0	0	0
1976	—	0	0	0	1	0	0	0	0
1977	—	0	2	0	0	1	0	0	0
1978	—	1	0	0	0	0	0	3	0
1979	—	0	2	0	0	4	0	0	0
1980	—	0	0	0	0	0	0	0	0
30 *Protrama ranunculi*									
1975	—	0	1	0	7	3	2	2	1
1976	—	4	2	3	3	2	2	0	0
1977	—	0	2	1	6	2	1	0	1
1978	—	0	1	1	1	1	2	0	1
1979	—	0	5	0	5	5	2	5	2
1980	—	2	4	4	6	4	0	1	1
34 *Trama troglodytes*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	2	2	0	0	0
1977	0	0	0	0	1	0	0	0	0
1978	0	0	0	0	0	0	1	0	0
1979	1	0	0	0	0	1	0	0	0
1980	2	0	0	0	0	2	0	0	0
35 *Periphyllus acericola*									
1975	—	0	0	0	0	1	0	0	0
1976	—	0	1	1	0	21	2	0	0
1977	—	0	65	1	0	0	2	1	0
1978	—	0	1	0	0	23	1	1	0
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	0	0	4	0	1	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
36 *Periphyllus xanthomelas*									
1975	1	0	0	0	0	0	0	0	0
1976	0	0	1	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	1	0	0	0	0	0
38 *Periphyllus hirticornis*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	1	0	0	0
1977	0	0	0	1	0	0	0	7	0
1978	0	0	0	0	0	0	1	3	1
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
39 *Periphyllus lyropictus*									
1975	0	0	0	0	0	0	3	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	1	0	1	1	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
41 *Periphyllus testudinatus*									
1975	3	4	7	0	0	0	15	3	1
1976	2	8	24	5	1	6	16	21	39
1977	0	0	5	1	2	3	3	17	1
1978	1	10	34	11	0	5	5	34	14
1979	2	12	7	5	0	7	3	127	6
1980	7	12	131	14	7	46	27	35	7
42 *Chaitophorus beuthani*									
1975	0	0	0	0	0	0	2	0	0
1976	0	0	1	0	0	3	4	0	0
1977	0	0	0	0	0	0	1	2	0
1978	0	0	0	0	0	0	2	7	0
1979	0	1	0	0	0	0	1	14	0
1980	0	0	0	0	0	0	1	2	0
43 *Chaitophorus capreae*									
1975	0	1	0	1	0	0	2	0	0
1976	0	2	0	0	0	0	0	0	1
1977	0	0	0	0	0	0	0	2	0
1978	0	0	0	0	0	0	0	1	0
1979	0	0	0	0	0	0	0	2	0
1980	0	0	0	0	0	0	1	0	0

https://doi.org/10.23637/ERADOC-1-21

2(b)

Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
36 *Periphyllus xanthomelas*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	5	0	0	0
	1977	—	0	0	1	0	6	0	0	0
	1978	—	0	0	0	0	0	0	1	0
	1979	—	0	0	1	0	5	0	1	0
	1980	—	0	0	0	0	1	0	0	1
38 *Periphyllus hirticornis*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	1	1	0	13	5	0	0
	1977	—	11	7	8	2	3	11	0	0
	1978	—	2	1	2	2	2	2	0	0
	1979	—	2	0	0	0	2	0	0	0
	1980	—	0	0	1	2	0	2	0	0
39 *Periphyllus lyropictus*	1975	—	0	0	2	0	0	0	0	0
	1976	—	0	0	4	0	0	0	0	0
	1977	—	0	0	0	0	6	0	0	0
	1978	—	0	0	0	0	0	1	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	2	2	0	0
41 *Periphyllus testudinatus*	1975	1	23	0	0	1	1	2	0	0
	1976	66	748	52	49	147	27	82	0	0
	1977	34	112	30	69	12	16	24	2	0
	1978	37	290	43	49	41	30	94	8	2
	1979	60	1003	145	193	62	109	35	10	0
	1980	114	273	141	227	61	5	116	4	2
42 *Chaitophorus beuthani*	1975	—	0	0	0	0	0	1	0	1
	1976	—	0	0	0	0	0	0	0	0
	1977	—	3	6	0	0	9	6	0	0
	1978	—	2	2	4	0	3	2	0	0
	1979	—	2	0	2	0	5	0	0	1
	1980	—	0	0	0	0	0	4	0	1
43 *Chaitophorus capreae*	1975	—	0	0	0	0	0	0	1	4
	1976	—	8	0	0	0	0	2	0	4
	1977	—	2	0	2	0	0	0	1	2
	1978	—	2	0	0	0	0	2	0	0
	1979	—	1	0	4	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	1

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
45	*Chaitophorus populeti*									
	1975	0	0	0	0	0	0	0	1	0
	1976	1	0	0	0	1	2	0	6	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	1	0	0	3	2	0
	1979	0	0	0	0	0	0	0	23	0
	1980	2	0	0	0	0	0	0	3	1
46	*Chaitophorus populialbae*									
	1975	0	1	1	2	0	0	1	2	0
	1976	0	0	0	0	0	3	0	0	0
	1977	0	0	0	0	0	0	1	7	0
	1978	2	0	0	1	0	1	6	11	0
	1979	0	0	0	0	0	4	2	17	0
	1980	0	0	0	0	0	0	5	12	0
47	*Chaitophorus salicti*									
	1975	0	3	1	2	0	0	0	0	0
	1976	0	2	2	2	0	0	0	0	0
	1977	0	0	0	0	0	0	2	9	0
	1978	0	2	0	2	0	0	4	0	0
	1979	0	0	0	0	0	0	5	8	0
	1980	0	2	0	0	0	1	2	9	0
49	*Chaitophorus truncatus*									
	1975	0	0	0	0	0	0	1	0	0
	1976	0	0	0	0	0	4	0	0	0
	1977	0	0	0	0	0	0	0	1	0
	1978	0	0	0	0	0	0	1	11	0
	1979	0	0	0	0	0	0	0	6	0
	1980	0	0	0	0	0	0	0	2	0
50	*Chaitophorus versicolor*									
	1975	0	0	0	0	0	0	1	1	0
	1976	0	0	0	2	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	1	1	0
	1979	0	0	0	0	0	0	1	16	0
	1980	0	0	0	0	0	0	0	0	0
742	*Chaitophorus leucomelas*									
	1975	0	0	2	0	0	0	0	2	0
	1976	0	0	0	0	0	0	4	0	0
	1977	0	0	0	0	0	0	1	1	0
	1978	2	0	0	1	0	0	1	3	0
	1979	0	0	0	1	0	0	10	30	0
	1980	2	2	0	0	0	1	0	1	0

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2(c)

Species / Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
45 *Chaitophorus populeti*									
1975	—	0	0	0	0	0	0	0	0
1976	—	4	8	10	0	64	9	2	0
1977	—	2	2	18	0	13	8	0	0
1978	—	4	2	1	4	2	4	0	0
1979	—	8	3	24	0	76	0	1	0
1980	—	2	2	2	12	3	1	0	0
46 *Chaitophorus populialbae*									
1975	—	2	0	0	0	1	1	0	0
1976	—	0	2	0	0	4	1	0	0
1977	—	2	6	1	1	7	18	1	1
1978	—	3	4	8	0	11	8	0	6
1979	—	5	3	4	0	17	15	0	5
1980	—	0	0	2	0	1	6	0	2
47 *Chaitophorus salicti*									
1975	—	0	0	0	0	0	1	0	0
1976	—	0	0	9	0	4	2	0	0
1977	—	3	2	4	0	3	11	0	0
1978	—	1	0	2	1	0	2	0	0
1979	—	4	0	3	0	5	6	6	0
1980	—	0	0	0	0	4	2	1	0
49 *Chaitophorus truncatus*									
1975	—	0	0	0	0	0	0	0	1
1976	—	0	0	2	0	0	0	0	0
1977	—	0	0	0	1	2	0	0	0
1978	—	2	0	0	0	0	1	0	0
1979	—	0	1	4	0	0	4	0	0
1980	—	0	0	0	2	0	0	0	0
50 *Chaitophorus versicolor*									
1975	—	0	2	0	0	0	0	0	0
1976	—	0	1	0	0	0	4	0	0
1977	—	0	0	1	1	0	1	0	0
1978	—	0	0	0	0	4	2	0	0
1979	—	0	4	0	2	3	0	0	0
1980	—	0	0	0	0	2	0	0	0
742 *Chaitophorus leucomelas*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	1	0	6	0	0	0
1977	—	3	3	10	6	4	8	0	0
1978	—	0	1	0	0	1	5	0	0
1979	—	14	0	3	2	17	2	5	0
1980	—	0	0	2	0	4	2	1	0

https://doi.org/10.23637/ERADOC-1-21

TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
51	*Sipha glyceriae*									
	1975	9	1	0	4	1	4	59	28	1
	1976	2	2	0	2	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	1	0	0
	1979	5	1	0	1	7	0	22	14	2
	1980	18	1	0	0	3	1	111	14	3
59	*Atheroides serrulatus*									
	1975	0	0	0	0	0	0	0	0	0
	1976	2	0	0	1	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	1	1	0	0	0	0	0	0
	1979	0	0	9	0	0	0	0	0	0
	1980	0	0	2	0	0	0	0	2	0
63	*Myzocallis castanicola*									
	1975	0	6	2	3	0	0	2	0	6
	1976	0	3	0	0	0	4	6	10	20
	1977	0	0	0	0	2	0	0	2	6
	1978	0	20	0	1	0	1	7	3	4
	1979	0	2	0	0	1	0	0	4	28
	1980	0	5	0	0	0	0	0	0	11
64	*Myzocallis coryli*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	1	0	4	9	6	0
	1977	0	0	0	3	0	0	0	5	0
	1978	0	0	0	0	1	2	4	1	0
	1979	0	0	0	3	3	7	1	10	36
	1980	0	0	0	1	0	1	0	0	5
68	*Tuberculoides annulatus*									
	1975	16	275	71	26	18	10	26	98	62
	1976	51	172	139	123	190	208	569	694	443
	1977	5	26	5	12	19	9	70	282	2
	1978	9	509	4	17	206	111	310	274	131
	1979	15	43	0	24	56	25	85	393	117
	1980	83	79	0	3	13	28	65	122	88
758	*Tuberculoides borealis*									
	1975	—	—	—	—	—	—	—	—	—
	1976	—	—	—	—	—	—	—	—	—
	1977	8	24	36	16	22	0	84	106	0
	1978	22	217	7	13	195	63	457	107	0
	1979	9	34	0	16	33	19	91	215	0
	1980	132	121	0	2	35	17	75	84	0

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2(d)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
51 *Sipha glyceriae*									
1975	0	10	1	2	13	5	0	9	43
1976	0	0	0	0	0	0	1	0	0
1977	0	0	0	0	3	0	0	0	0
1978	0	1	0	3	1	3	0	0	0
1979	1	6	0	2	9	4	4	2	0
1980	0	0	0	0	27	1	2	2	1
59 *Atheroides serrulatus*									
1975	—	0	0	0	0	0	0	0	0
1976	—	4	2	0	0	0	0	2	0
1977	—	0	0	0	0	0	0	0	1
1978	—	0	1	0	1	1	0	1	0
1979	—	0	0	1	2	0	0	0	0
1980	—	4	6	0	0	0	2	1	0
63 *Myzocallis castanicola*									
1975	1	0	0	0	0	3	5	1	8
1976	4	22	24	86	8	156	319	26	35
1977	5	12	3	4	0	61	13	57	7
1978	11	18	5	29	0	16	453	33	70
1979	16	24	15	87	11	467	487	100	6
1980	20	0	1	29	2	43	40	13	32
64 *Myzocallis coryli*									
1975	5	6	2	5	2	1	5	2	1
1976	2	41	19	73	55	13	147	5	9
1977	5	324	67	327	19	29	120	5	6
1978	4	40	31	27	35	11	143	3	2
1979	4	56	22	33	50	15	33	12	0
1980	1	8	20	4	16	2	22	2	4
68 *Tuberculoides annulatus*									
1975	375	112	229	293	43	207	222	46	11
1976	361	1493	885	2567	306	1215	1152	231	71
1977	569	3489	806	1795	155	1480	200	272	11
1978	1132	757	1267	1042	80	205	799	106	24
1979	1207	864	460	2080	126	2833	761	259	6
1980	203	252	293	239	60	215	363	68	8
758 *Tuberculoides borealis*									
1975	—	—	—	—	—	—	—	—	—
1976	—	—	—	—	—	—	—	—	—
1977	—	5047	199	1015	97	527	68	76	3
1978	—	279	313	444	50	104	278	31	13
1979	—	493	147	648	80	1520	432	126	2
1980	—	159	185	245	48	176	374	49	7

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
759 *Tuberculoides neglectus*									
1975	—	—	—	—	—	—	—	—	—
1976	—	—	—	—	—	—	—	—	—
1977	0	0	27	0	0	0	0	1	39
1978	0	0	1	0	0	0	1	0	1
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
69 *Tuberculatus querceus*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	1	2	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	2	1
1980	0	0	0	0	0	0	0	0	0
70 *Eucallipterus tiliae*									
1975	1	13	6	0	0	0	0	0	0
1976	1	2	0	0	1	2	22	10	0
1977	0	0	1	0	3	0	4	22	0
1978	0	3	1	0	1	1	5	4	0
1979	0	0	0	0	0	1	0	152	0
1980	0	2	7	0	0	0	2	4	0
72 *Takecallis arundicolens*									
1975	0	0	0	0	0	0	2	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	2
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
75 *Pterocallis alni*									
1975	37	17	8	3	1	4	47	3	0
1976	2	1	1	4	4	1	56	2	0
1977	1	1	0	1	1	0	6	14	0
1978	6	0	2	0	12	7	70	17	0
1979	1	0	0	2	2	0	22	4	2
1980	0	5	0	0	0	0	14	0	1
78 *Phyllaphis fagi*									
1975	32	326	185	101	10	29	13	0	2
1976	40	41	17	12	195	42	34	47	43
1977	6	15	41	17	8	0	7	10	3
1978	13	59	22	4	8	15	42	30	5
1979	20	23	16	4	12	17	7	27	2
1980	173	269	1258	85	38	23	35	6	4

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2(e)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
759 *Tuberculoides neglectus*									
1975	—	—	—	—	—	—	—	—	—
1976	—	—	—	—	—	—	—	—	—
1977	—	8	1	11	0	0	2	1	0
1978	—	0	0	1	0	0	0	0	0
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	0	0	0	0	0	0
69 *Tuberculatus querceus*									
1975	0	0	1	2	2	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	1	2	2	0	2	0	0	0
1978	0	0	2	0	0	0	2	0	0
1979	0	0	0	0	0	11	4	0	0
1980	0	0	0	0	0	8	0	0	0
70 *Eucallipterus tiliae*									
1975	4	0	31	17	4	14	5	1	0
1976	0	0	16	22	14	23	0	4	1
1977	1	20	107	35	7	26	7	1	0
1978	1	0	9	9	1	7	9	0	0
1979	78	0	11	25	0	62	4	1	0
1980	1	0	20	18	0	6	8	0	2
72 *Takecallis arundicolens*									
1975	—	0	1	6	0	0	1	6	10
1976	—	0	0	0	2	8	0	0	8
1977	—	0	0	14	1	1	0	3	5
1978	—	0	0	3	0	1	1	0	5
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	2	0	18	0	0	6
75 *Pterocallis alni*									
1975	—	5	0	3	0	3	14	8	2
1976	—	43	6	11	18	30	335	2	15
1977	—	205	10	41	7	33	149	1	1
1978	—	28	0	4	3	2	681	11	3
1979	—	52	0	6	10	22	338	17	0
1980	—	24	0	0	2	4	122	1	5
78 *Phyllaphis fagi*									
1975	4	2	2	0	11	8	4	2	3
1976	100	40	107	35	81	723	43	10	2
1977	16	6	29	10	4	28	62	5	0
1978	10	11	9	7	12	11	12	12	4
1979	22	6	19	30	9	188	25	15	0
1980	39	1	15	12	15	55	71	3	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
79 *Callipterinella calliptera*									
1975	0	0	1	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
80 *Callipterinella minutissima*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	1	3	1	0
1979	0	0	0	0	0	0	0	2	0
1980	0	0	0	0	0	0	0	0	0
82 *Kallistaphis basalis*									
1975	0	9	10	6	5	0	13	4	0
1976	1	0	2	1	24	11	28	2	1
1977	4	2	0	3	0	0	9	1	0
1978	0	0	0	2	2	0	21	0	0
1979	0	8	1	7	2	0	1	4	0
1980	16	16	0	6	5	3	6	0	0
83 *Kallistaphis betulicola*									
1975	2	1	0	0	0	0	0	0	0
1976	2	0	0	2	20	2	0	0	0
1977	1	0	0	1	0	0	0	1	0
1978	0	10	0	1	0	0	0	0	0
1979	0	0	0	0	2	2	0	2	0
1980	0	1	0	0	0	0	0	0	0
84 *Betulaphis quadrituberculata*									
1975	1	11	34	7	0	1	33	0	0
1976	0	0	0	3	4	0	20	0	2
1977	0	2	5	1	0	0	8	3	1
1978	5	36	6	3	1	2	26	6	0
1979	4	24	6	9	2	3	10	36	4
1980	143	125	112	19	79	8	32	12	0
87 *Clethrobius comes*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	1	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	2	0	0	2	0	0	4	0

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
79 *Callipterinella calliptera*									
1975	—	0	0	0	0	2	0	0	0
1976	—	0	1	0	0	10	0	0	0
1977	—	0	1	0	0	2	2	0	0
1978	—	0	0	0	0	0	1	0	0
1979	—	0	0	0	0	0	0	1	0
1980	—	0	0	0	0	4	0	0	0
80 *Callipterinella minutissima*									
1975	—	0	0	0	0	1	0	0	0
1976	—	0	0	1	0	1	0	0	0
1977	—	0	0	1	0	0	0	0	0
1978	—	0	1	0	4	1	3	0	0
1979	—	0	1	1	0	0	0	0	0
1980	—	0	3	0	0	0	0	0	0
82 *Kallistaphis basalis*									
1975	0	0	0	0	1	0	5	2	6
1976	0	15	4	6	0	35	45	0	2
1977	1	0	5	15	2	19	7	9	0
1978	0	0	1	3	2	5	24	2	13
1979	0	6	4	4	2	11	68	8	0
1980	1	0	0	2	0	6	12	4	9
83 *Kallistaphis betulicola*									
1975	0	0	0	0	0	1	1	1	0
1976	0	0	0	4	0	4	17	0	0
1977	0	1	0	2	0	6	1	0	0
1978	1	0	1	0	0	2	2	0	0
1979	0	0	0	0	0	9	43	2	0
1980	2	0	0	0	0	2	0	0	0
84 *Betulaphis quadrituberculata*									
1975	0	0	0	0	1	0	7	0	0
1976	4	12	0	0	4	8	5	0	0
1977	0	4	7	16	1	0	36	1	0
1978	44	11	2	4	5	1	49	0	0
1979	46	14	11	22	13	29	58	11	0
1980	0	1	0	7	2	3	15	2	0
87 *Clethrobius comes*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	2	0	0	5	0	0	0
1980	0	0	0	0	0	6	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
88 *Euceraphis punctipennis*									
1975	65	107	21	16	14	1	35	8	17
1976	16	20	14	15	69	19	29	69	55
1977	71	50	38	21	39	26	19	37	17
1978	277	77	29	14	98	50	173	124	37
1979	12	52	46	18	38	20	11	143	29
1980	422	288	230	138	219	123	90	175	26
90 *Drepanosiphum aceris*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
91 *Drepanosiphum platanoidis*									
1975	261	458	1056	69	142	124	747	816	127
1976	441	1646	3650	213	2527	1244	3566	2633	2631
1977	163	543	315	117	219	275	1382	442	41
1978	418	4136	5961	552	160	282	1414	320	747
1979	328	434	672	330	318	1066	1248	2178	366
1980	1101	2391	9000	543	2185	4128	3126	1839	1742
754 *Drepanosiphum dixon.*									
1975	0	0	0	0	0	0	0	2	—
1976	0	0	0	0	0	0	0	0	—
1977	0	0	0	0	0	0	0	0	—
1978	0	0	0	0	0	0	0	1	—
1979	0	0	0	0	0	0	0	0	—
1980	0	0	0	0	0	0	0	0	—
92 *Therioaphis luteola*									
1975	0	0	0	0	0	0	0	2	0
1976	0	0	0	0	0	0	0	0	0
1977	0	1	0	0	0	0	0	1	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	2	0
1980	0	0	0	0	0	0	0	0	0
95 *Trichocallis cyperi*									
1975	0	0	0	5	0	1	0	1	0
1976	2	0	1	0	0	0	0	0	0
1977	0	0	0	1	0	0	0	0	0
1978	1	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	2	0	0
1980	1	4	0	0	0	0	2	0	0

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Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
88 *Euceraphis punctipennis*	1975	1	3	10	27	6	22	21	13	3
	1976	56	34	59	123	55	586	93	17	1
	1977	78	54	96	160	102	267	187	66	63
	1978	132	47	97	169	71	88	111	43	14
	1979	122	98	70	192	65	1268	164	35	0
	1980	56	27	46	77	49	197	65	29	2
90 *Drepanosiphum aceris*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	2	0	0	0	0	0	0
	1977	—	2	2	2	0	0	0	0	0
	1978	—	1	0	0	0	0	0	0	0
	1979	—	0	3	0	0	0	1	0	0
	1980	—	0	1	0	0	0	0	0	0
91 *Drepanosiphum platanoidis*	1975	91	130	18	51	139	35	25	110	129
	1976	582	374	254	263	588	839	335	412	943
	1977	87	367	92	172	81	222	185	43	43
	1978	109	437	20	81	589	22	292	107	208
	1979	727	992	565	272	827	1550	244	186	108
	1980	2018	526	635	645	979	594	437	196	525
754 *Drepanosiphum dixoni*	1975	—	2	0	0	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	1	0	0	0	0	0	0	0
	1979	—	2	0	0	0	1	8	0	0
	1980	—	0	0	0	0	0	0	0	0
92 *Therioaphis luteola*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	1	0	0	0
	1979	—	0	2	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0
95 *Trichocallis cyperi*	1975	—	0	0	2	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	1	0	0	0
	1978	—	0	0	0	0	1	0	0	1
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
100 *Juncobia leegei*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	2	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
102 *Pterocomma pilosum*									
1975	0	2	1	0	1	0	1	0	2
1976	0	0	0	0	0	0	6	1	1
1977	0	0	0	2	0	0	1	0	0
1978	0	0	0	0	0	1	4	0	1
1979	1	0	0	6	1	1	3	7	0
1980	1	1	0	0	2	0	1	0	0
103 *Pterocomma populeum*									
1975	0	0	0	0	0	0	2	0	1
1976	0	1	1	0	0	0	0	5	3
1977	0	1	0	0	0	0	1	0	0
1978	0	1	0	0	1	0	5	0	1
1979	0	0	1	3	0	0	2	6	1
1980	0	0	3	0	1	0	0	1	6
104 *Pterocomma salicis*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	1	1
1979	0	0	0	0	0	0	0	1	0
1980	0	0	0	0	0	0	0	0	0
105 *Pterocomma steinheili*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	1	0
1977	0	0	0	0	0	0	1	0	0
1978	0	0	0	0	0	0	2	0	0
1979	0	0	0	0	0	0	0	10	1
1980	0	0	0	0	0	0	0	0	0
110 *Hyalopterus pruni*									
1975	11	2135	80	33	13	20	20	50	2
1976	45	1198	102	58	94	166	327	285	64
1977	25	170	68	60	8	33	197	1524	87
1978	7	121	14	12	17	57	149	361	19
1979	3	301	10	2	21	297	191	1749	37
1980	18	385	77	23	78	171	350	474	24

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
100 *Juncobia leegei*									
1975	—	0	0	2	0	0	0	0	0
1976	—	0	0	2	0	0	0	0	0
1977	—	0	0	0	6	0	0	23	0
1978	—	0	0	0	1	0	0	0	0
1979	—	0	0	0	4	0	0	1	0
1980	—	0	0	0	0	0	2	0	0
102 *Pterocomma pilosum*									
1975	0	0	0	0	1	0	0	1	0
1976	0	0	0	0	4	7	1	0	0
1977	0	4	1	0	0	1	0	0	2
1978	0	2	2	0	0	1	0	0	0
1979	1	12	0	1	3	4	1	0	0
1980	0	0	1	2	0	4	1	1	0
103 *Pterocomma populeum*									
1975	—	1	0	0	0	2	1	0	2
1976	—	2	0	0	0	0	0	0	0
1977	—	1	0	0	0	1	1	0	0
1978	—	1	0	0	1	3	1	0	0
1979	—	9	0	0	1	3	1	0	0
1980	—	2	3	0	0	2	0	0	0
104 *Pterocomma salicis*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	2	0	0	1	0	0	0	0
1979	—	1	0	0	0	1	0	0	0
1980	—	0	0	0	0	0	0	0	0
105 *Pterocomma steinheili*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	4	0	2	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	11	0	0	2	0	0	0	1
1980	—	0	0	0	0	0	0	0	0
110 *Hyalopterus pruni*									
1975	111	15	29	127	34	18	73	61	3
1976	575	240	476	1710	191	486	599	177	59
1977	589	918	1733	1711	1130	830	1769	960	107
1978	304	115	201	337	114	161	408	101	12
1979	3463	410	1747	2782	648	1549	5299	231	69
1980	167	36	121	161	60	195	324	60	7

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
111 *Rhopalosiphum insertum*									
1975	93	448	469	521	248	220	595	659	528
1976	358	1544	745	2261	1699	314	2113	259	764
1977	595	1134	1010	1481	1396	387	2439	1936	313
1978	468	3534	1607	2680	2942	1945	6561	5787	6402
1979	2791	3192	2686	933	6524	4320	8702	7483	9133
1980	3136	4827	1011	3752	2320	1198	10986	2002	1849
112 *Rhopalosiphum maidis*									
1975	19	28	31	28	48	84	11	19	3
1976	6	3	13	2	4	7	8	1	2
1977	3	7	11	3	3	4	5	13	14
1978	6	5	4	2	6	2	9	7	17
1979	29	153	9	5	69	313	124	160	105
1980	2	12	0	6	7	4	7	0	10
113 *Rhopalosiphum nymphaeae*									
1975	0	0	1	0	0	0	0	1	0
1976	0	0	1	0	2	1	3	65	2
1977	0	0	1	0	0	2	6	11	1
1978	0	0	1	0	0	0	14	1	0
1979	0	1	0	0	2	3	5	27	0
1980	0	1	0	0	1	0	33	2	0
114 *Rhopalosiphum padi*									
1975	2332	4784	5516	1879	1197	681	10839	2720	2779
1976	2107	11779	5383	3633	6012	3916	3215	4379	976
1977	17887	10571	4356	4298	4552	2020	14580	13201	5253
1978	18805	41677	10434	4317	7511	4797	14703	22840	10662
1979	11301	15667	8028	1913	3361	4240	5949	7857	2197
1980	2620	6243	4543	3693	3782	2591	11569	21658	2766
739 *Rhopalosiphum rufulum*									
1975	0	0	0	0	0	0	0	0	—
1976	0	0	0	0	0	0	0	0	—
1977	0	0	0	0	0	0	0	0	—
1978	0	0	0	0	0	0	3	7	—
1979	0	0	0	0	0	4	56	68	—
1980	0	0	0	0	0	0	0	0	—
121 *Paraschizaphis scirpi*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	4	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	1	0	0	0	0	2	4	0

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
111 *Rhopalosiphum insertum*									
1975	218	171	124	208	194	167	679	259	532
1976	93	266	214	193	126	203	382	181	91
1977	1268	1060	1981	2227	540	2028	2320	1101	294
1978	5198	14537	5939	3108	6015	4626	6998	5646	3026
1979	1033	8702	1104	710	1600	1702	2244	1407	813
1980	1044	844	858	620	1623	890	1029	1043	1815
112 *Rhopalosiphum maidis*									
1975	18	8	14	16	5	5	18	31	12
1976	3	2	3	5	8	0	15	6	6
1977	31	5	27	66	12	9	30	33	37
1978	12	1	2	4	7	3	17	7	7
1979	977	77	186	255	38	75	804	88	224
1980	18	2	1	4	10	2	9	11	6
113 *Rhopalosiphum nymphaeae*									
1975	0	0	2	2	6	5	5	1	0
1976	0	4	3	20	14	24	30	7	2
1977	0	0	6	5	7	6	10	1	0
1978	0	1	0	1	5	1	16	0	3
1979	0	7	0	16	3	37	3	2	0
1980	1	6	5	8	26	12	116	2	2
114 *Rhopalosiphum padi*									
1975	5421	3974	1079	2728	1701	2153	1657	3273	2516
1976	3846	3196	1992	5644	2175	4046	5596	4586	473
1977	12177	7721	8149	15700	8723	10301	10054	13384	5385
1978	9628	9785	3254	3782	8924	5799	35749	10639	1762
1979	18815	6226	3807	6835	5480	3800	9313	6452	634
1980	4756	4417	2720	3741	3878	2688	5295	2202	675
739 *Rhopalosiphum rufulum*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	18	0	0	0
1978	—	3	3	1	0	9	0	0	0
1979	—	0	6	2	0	10	1	0	0
1980	—	0	0	0	0	0	0	0	0
121 *Paraschizaphis scirpi*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	1	0	0	0
1977	—	0	0	0	0	0	2	0	0
1978	—	0	0	0	0	1	0	0	0
1979	—	0	0	0	0	2	0	0	0
1980	—	2	2	2	0	0	2	0	0

https://doi.org/10.23637/ERADOC-1-21

TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
125	*Aphis sambuci*									
	1975	1	27	317	14	2	4	2	17	8
	1976	0	0	4	5	2	6	5	22	4
	1977	1	8	11	18	2	3	20	35	0
	1978	2	68	121	8	6	8	8	3	0
	1979	0	7	8	0	1	2	10	180	0
	1980	2	42	420	6	4	6	13	8	0
132	*Aphis fabae*									
	1975	56	195	157	187	48	7	2	13	5
	1976	34	95	16	148	132	10	13	19	19
	1977	41	211	88	185	16	11	137	613	79
	1978	180	1432	193	108	847	238	528	1024	421
	1979	35	47	50	39	161	1852	294	2401	84
	1980	58	359	195	29	410	19	118	49	47
137	*Aphis rumicis*									
	1975	0	1	0	2	0	0	0	4	0
	1976	0	0	0	1	0	0	0	0	0
	1977	0	0	0	0	0	0	1	0	0
	1978	1	1	0	0	1	0	0	0	0
	1979	0	0	0	0	7	1	17	12	0
	1980	8	3	4	1	0	0	1	0	0
142	*Aphis corniella*									
	1975	0	3	3	0	0	0	0	3	1
	1976	0	4	1	0	5	6	109	25	31
	1977	0	1	9	6	1	0	11	60	0
	1978	0	0	1	0	1	0	8	14	0
	1979	0	18	2	0	7	3	5	138	0
	1980	0	13	9	2	6	0	9	2	0
150	*Aphis idaei*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	1	0	0	0	0	0	0	0
	1977	0	0	0	1	0	0	0	0	0
	1978	0	0	0	0	0	1	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0
152	*Aphis nasturtii*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	2
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	64	0
	1980	0	0	0	0	1	0	1	0	0

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
125 *Aphis sambuci*									
1975	—	0	6	8	3	12	5	5	5
1976	—	1	11	41	14	28	15	0	56
1977	—	19	41	72	21	87	34	7	3
1978	—	0	13	13	4	18	4	3	1
1979	—	8	43	27	26	51	24	4	3
1980	—	0	2	13	7	9	30	0	2
132 *Aphis fabae*									
1975	292	15	505	151	13	32	50	32	20
1976	22	12	155	238	48	162	149	77	57
1977	1164	511	1388	4939	470	1511	985	299	56
1978	2001	407	187	640	133	114	327	95	28
1979	8709	825	793	1508	340	501	763	181	6
1980	133	53	25	110	51	41	135	12	15
137 *Aphis rumicis*									
1975	—	0	0	0	0	0	0	0	1
1976	—	2	0	0	0	0	0	0	0
1977	—	0	1	0	0	0	0	0	0
1978	—	4	0	0	0	0	0	0	0
1979	—	20	6	0	0	2	0	0	0
1980	—	0	0	0	0	4	0	0	0
142 *Aphis corniella*									
1975	0	0	3	4	2	5	6	0	0
1976	2	0	5	26	10	8	20	5	0
1977	0	5	5	10	14	14	5	5	0
1978	6	6	2	1	12	5	7	6	2
1979	19	1	10	45	7	71	20	1	0
1980	2	6	1	2	2	13	4	2	0
150 *Aphis idaei*									
1975	—	0	0	0	0	0	0	0	0
1976	—	4	0	0	0	2	0	0	0
1977	—	0	0	5	0	0	0	0	0
1978	—	0	0	0	0	2	0	0	0
1979	—	0	2	0	0	0	0	1	0
1980	—	0	0	0	0	0	0	0	0
152 *Aphis nasturtii*									
1975	—	0	0	0	2	0	0	0	0
1976	—	0	0	0	0	1	0	0	0
1977	—	0	5	4	2	0	0	0	1
1978	—	0	0	2	0	0	0	0	0
1979	—	76	26	12	2	20	26	0	0
1980	—	0	0	0	0	0	2	0	0

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
153	*Aphis pomi*									
	1975	2	43	370	5	1	1	1	11	1
	1976	0	1	4	3	2	7	11	41	0
	1977	4	2	0	13	1	0	16	40	0
	1978	3	70	0	3	7	3	3	2	0
	1979	0	1	3	3	0	1	8	80	0
	1980	4	53	98	12	5	1	14	18	0
211	*Ceruraphis eriophori*									
	1975	4	8	9	34	4	0	4	3	46
	1976	31	45	84	511	8	0	20	5	143
	1977	35	9	18	42	2	0	38	2	50
	1978	8	6	13	18	46	7	169	24	497
	1979	49	22	57	21	55	7	159	35	234
	1980	92	54	38	132	115	14	37	19	94
234	*Dysaphis plantaginea*									
	1975	1	1	0	1	0	0	0	4	14
	1976	1	0	0	2	2	5	15	30	125
	1977	0	0	5	5	1	2	7	39	37
	1978	0	0	0	2	0	2	3	14	49
	1979	0	1	0	1	0	0	1	6	64
	1980	0	1	0	1	0	0	0	14	7
235	*Dysaphis pyri*									
	1975	0	0	0	0	0	0	0	6	1
	1976	0	1	0	1	0	0	7	17	1
	1977	2	0	0	0	0	2	7	66	0
	1978	0	1	0	7	0	0	1	3	0
	1979	2	1	0	1	1	1	0	14	0
	1980	0	3	0	2	0	0	0	4	0
238	*Anuraphis farfarae*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	0	0
	1977	0	1	0	0	0	0	0	3	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	1	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	1	0
239	*Anuraphis subterranea*									
	1975	0	0	0	1	0	0	0	0	0
	1976	0	0	0	0	0	0	0	4	1
	1977	0	0	0	2	0	0	0	4	0
	1978	2	5	0	2	0	1	0	0	1
	1979	1	0	0	0	0	0	0	0	1
	1980	0	1	0	0	0	0	0	0	0

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Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
153 *Aphis pomi*	1975	—	4	8	12	8	31	11	6	10
	1976	—	6	28	64	39	86	22	5	2
	1977	—	18	14	45	43	53	27	18	7
	1978	—	1	7	10	14	11	9	3	4
	1979	—	6	14	8	33	57	6	7	2
	1980	—	2	7	4	26	11	14	3	4
211 *Ceruraphis eriophori*	1975	—	1	0	0	0	0	0	8	1
	1976	—	0	0	2	3	7	6	10	0
	1977	—	5	3	1	6	19	8	26	14
	1978	—	34	11	4	35	29	42	24	10
	1979	—	43	4	5	27	30	15	13	2
	1980	—	15	2	5	19	7	1	12	2
234 *Dysaphis plantaginea*	1975	27	10	11	2	35	20	4	29	0
	1976	44	79	36	70	172	71	79	22	5
	1977	63	70	37	32	40	51	22	17	18
	1978	14	12	13	6	31	86	15	27	29
	1979	33	6	19	8	9	22	11	6	2
	1980	43	0	2	11	7	10	4	3	1
235 *Dysaphis pyri*	1975	—	1	0	2	2	8	1	2	0
	1976	—	4	18	13	13	36	10	2	2
	1977	—	3	12	55	8	33	22	1	0
	1978	—	1	2	0	7	12	4	0	2
	1979	—	3	2	0	13	16	17	2	0
	1980	—	0	2	4	2	2	2	1	0
238 *Anuraphis farfarae*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	1	2	1	1
	1977	—	0	0	0	0	0	0	1	0
	1978	—	0	1	0	0	0	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0
239 *Anuraphis subterranea*	1975	—	0	2	1	1	2	0	2	0
	1976	—	1	1	3	2	2	4	1	0
	1977	—	2	3	2	1	0	5	0	0
	1978	—	1	0	0	2	0	1	1	0
	1979	—	0	0	0	0	1	3	1	1
	1980	—	2	1	0	0	2	0	0	1

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
241 *Brachycaudus cardui*									
1975	0	4	0	4	1	3	15	9	8
1976	2	7	0	5	1	0	1	16	0
1977	0	1	0	0	1	1	1	5	3
1978	2	4	1	0	0	0	5	4	5
1979	0	2	1	2	5	0	1	12	0
1980	2	1	0	2	0	0	3	8	4
243 *Brachycaudus helichrysi*									
1975	71	181	432	106	103	1148	635	1357	146
1976	113	120	231	143	78	155	361	637	138
1977	59	96	240	147	74	63	270	1321	754
1978	23	414	92	185	142	524	590	625	747
1979	59	58	57	9	44	120	315	1083	149
1980	92	242	197	82	172	391	446	808	718
245 *Brachycaudus klugkisti*									
1975	0	0	1	0	0	5	2	2	0
1976	0	0	0	0	0	0	0	0	0
1977	1	1	0	0	0	0	0	1	0
1978	0	0	0	0	0	1	1	0	0
1979	0	0	0	0	0	1	1	9	0
1980	0	0	0	0	0	0	2	2	0
249 *Brachycaudus persicae*									
1975	0	0	0	1	0	0	0	2	0
1976	0	0	1	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	1
1980	0	0	0	1	0	0	0	0	2
253 *Thuleaphis rumexicolens*									
1975	3	2	10	5	7	5	7	123	0
1976	9	7	15	13	37	74	170	900	10
1977	2	0	0	1	0	3	2	121	0
1978	2	1	1	0	3	2	2	28	0
1979	8	3	0	0	2	11	1	8	0
1980	13	10	0	0	0	1	2	0	0
259 *Diuraphis muehlei*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	1	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
241 *Brachycaudus cardui*									
1975	8	14	8	10	27	22	3	4	6
1976	14	8	6	8	9	7	5	5	2
1977	3	7	20	4	17	25	15	13	2
1978	1	8	5	6	15	9	0	4	0
1979	4	1	0	2	7	3	5	2	0
1980	0	8	1	8	10	17	5	6	0
243 *Brachycaudus helichrysi*									
1975	1428	1129	1178	2293	760	1202	1815	383	216
1976	227	734	416	465	960	445	607	327	360
1977	921	597	1083	1306	428	855	593	550	109
1978	728	1210	971	1296	1649	943	1240	408	105
1979	899	2054	473	656	723	466	421	166	129
1980	1919	622	1626	2737	1085	713	1359	475	101
245 *Brachycaudus klugkisti*									
1975	—	1	0	1	5	1	3	4	9
1976	—	1	0	3	0	0	0	1	0
1977	—	1	4	2	0	0	0	0	1
1978	—	1	0	2	1	1	1	0	2
1979	—	0	1	1	0	0	0	1	0
1980	—	4	0	0	4	2	0	16	8
249 *Brachycaudus persicae*									
1975	—	0	3	5	4	20	4	2	1
1976	—	0	5	11	0	7	0	4	0
1977	—	1	4	4	1	13	2	6	1
1978	—	2	5	5	2	10	1	0	0
1979	—	0	2	2	0	1	1	0	0
1980	—	2	8	21	2	11	5	0	0
253 *Thuleaphis rumexicolens*									
1975	—	15	60	157	86	136	10	21	3
1976	—	36	193	424	47	269	55	21	10
1977	—	13	33	106	59	30	17	24	10
1978	—	4	12	13	7	28	17	13	0
1979	—	4	9	79	4	10	10	3	0
1980	—	0	10	37	2	7	2	1	0
259 *Diuraphis muehlei*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	2	0	0	0	0	0	0
1977	—	0	0	4	0	0	0	0	0
1978	—	0	1	0	0	0	1	0	0
1979	—	0	0	1	0	0	0	0	0
1980	—	0	0	0	0	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
261 *Hayhurstia atriplicis*									
1975	41	19	2	1	1	3	1	0	4
1976	33	4	1	1	11	7	23	61	77
1977	9	5	0	0	3	18	24	102	0
1978	10	7	2	4	2	2	2	3	1
1979	0	2	0	0	0	11	2	10	0
1980	0	6	0	0	0	1	6	22	0
264 *Brevicoryne brassicae*									
1975	4	31	22	6	1	5	24	218	13
1976	465	50	24	50	18	88	31	1810	37
1977	0	1	3	1	2	3	20	15	71
1978	0	0	0	0	0	0	2	8	7
1979	0	0	0	0	0	0	1	0	0
1980	0	37	2	0	0	2	0	70	15
267 *Lipaphis erysimi*									
1975	5	2	0	0	0	0	0	0	3
1976	0	2	0	2	0	0	0	0	1
1977	3	23	1	1	0	0	1	2	0
1978	136	7	1	0	0	1	0	0	1
1979	36	9	18	0	0	1	3	34	1
1980	16	3	12	0	0	2	2	0	0
269 *Lipamyzodes matthiolae*									
1975	0	0	0	1	1	1	0	0	0
1976	0	0	0	0	0	2	1	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
271 *Hyadaphis foeniculi*									
1975	4	15	39	5	20	28	19	140	10
1976	113	24	66	6	74	48	49	94	13
1977	1	0	3	1	0	2	6	37	2
1978	1	0	3	1	1	2	4	7	0
1979	0	0	0	1	3	0	2	14	0
1980	0	1	5	0	0	1	6	6	0
273 *Staegeriella necopinata*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	1	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

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Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
261 *Hayhurstia atriplicis*	1975	0	21	0	0	4	1	5	18	0
	1976	43	588	16	25	146	86	199	189	192
	1977	4	156	13	26	141	26	2	27	1
	1978	6	4	0	1	2	2	2	3	3
	1979	351	70	24	48	10	10	30	167	7
	1980	60	8	2	4	4	16	6	1	1
264 *Brevicoryne brassicae*	1975	258	431	405	1350	108	788	347	337	65
	1976	232	475	365	643	407	1166	430	291	296
	1977	70	11	5	49	20	7	3	117	1
	1978	81	260	19	59	18	41	246	1185	25
	1979	353	6	1	38	1	8	10	21	1
	1980	109	31	14	65	42	63	14	76	4
267 *Lipaphis erysimi*	1975	—	0	0	0	0	0	1	0	1
	1976	—	0	1	0	6	1	1	1	2
	1977	—	0	6	0	1	0	1	1	0
	1978	—	1	0	0	2	1	0	3	2
	1979	—	32	8	0	8	15	37	61	0
	1980	—	0	0	0	0	2	2	2	0
269 *Lipamyzodes matthiolae*	1975	—	0	0	3	0	1	0	0	0
	1976	—	0	6	6	0	2	1	0	0
	1977	—	1	1	0	0	3	0	0	0
	1978	—	0	0	0	0	0	1	1	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	8	0	1	4	0	0
271 *Hyadaphis foeniculi*	1975	142	106	122	230	216	161	89	96	47
	1976	110	80	117	101	88	123	64	37	17
	1977	70	16	39	94	30	55	57	51	5
	1978	5	5	7	15	18	31	17	5	3
	1979	3	4	14	22	44	21	52	6	1
	1980	23	8	23	49	25	20	12	7	3
273 *Staegeriella necopinata*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	8	2	1	2
	1978	—	0	0	0	1	1	0	0	0
	1979	—	0	0	2	2	2	2	0	0
	1980	—	0	0	0	0	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
275 *Pseudacaudella rubida*									
1975	1	0	0	0	0	0	0	0	0
1976	0	0	0	2	0	0	0	0	0
1977	1	0	0	0	0	0	0	0	0
1978	0	1	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	1
276 *Hyalopteroides humilis*									
1975	1	0	4	0	0	2	3	15	1
1976	0	6	6	0	3	0	3	16	0
1977	0	0	0	0	0	0	1	0	1
1978	0	0	0	0	0	0	0	3	0
1979	0	0	0	0	0	0	1	0	0
1980	0	0	0	0	1	1	11	16	0
283 *Longicaudus trirhodus*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	1	0	0	0	2	0	0
1977	0	0	0	0	0	0	0	3	0
1978	0	0	0	0	0	0	0	1	0
1979	0	1	0	0	0	0	0	2	0
1980	0	0	1	0	0	0	1	0	1
286 *Myzaphis rosarum*									
1975	0	2	2	0	0	1	2	8	4
1976	1	2	3	0	0	3	0	30	0
1977	0	0	0	0	0	0	1	1	0
1978	0	0	2	1	1	0	0	1	0
1979	0	0	0	0	0	0	2	0	0
1980	0	0	3	0	0	1	0	0	7
287 *Pentatrichopus fragaefolii*									
1975	4	153	1	0	0	1	1	5	0
1976	12	0	1	0	0	0	0	4	0
1977	0	0	0	0	0	0	0	0	0
1978	2	1	2	0	0	0	0	0	0
1979	0	0	0	0	0	1	0	2	0
1980	0	1	0	1	0	0	0	0	0
289 *Pentatrichopus tetrarhodus*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	2	0	0	0	0	0	0
1977	0	0	4	0	0	0	0	0	0
1978	0	0	3	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	8	0	0	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

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Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
275 *Pseudacaudella rubida*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	0	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	1
276 *Hyalopteroides humilis*	1975	—	2	3	0	0	14	0	0	0
	1976	—	3	2	3	2	3	4	1	8
	1977	—	0	0	1	0	0	0	0	1
	1978	—	3	2	1	4	4	1	0	0
	1979	—	0	0	0	0	1	0	0	0
	1980	—	10	6	1	0	7	16	0	0
283 *Longicaudus trirhodus*	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	2	2	0	4	2	0	0
	1977	0	0	0	3	0	0	0	0	0
	1978	0	0	0	0	0	2	0	0	1
	1979	0	0	4	2	1	4	17	0	0
	1980	0	1	1	0	1	2	0	0	0
286 *Myzaphis rosarum*	1975	3	2	13	15	11	11	6	4	6
	1976	0	0	15	27	19	17	2	2	2
	1977	0	0	0	2	0	1	0	0	0
	1978	0	0	0	2	0	1	0	0	0
	1979	0	0	2	0	0	0	0	0	0
	1980	0	0	1	4	1	1	2	0	0
287 *Pentatrichopus fragaefolii*	1975	0	4	0	1	4	1	0	5	0
	1976	0	2	3	4	8	2	0	3	1
	1977	0	1	0	0	1	0	0	2	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	8	0	0	0	5	1
289 *Pentatrichopus tetrarhodus*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	4	0	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	1	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	1	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
290 *Elatobium abietinum*									
1975	475	304	131	103	156	32	111	20	1821
1976	471	93	106	173	284	162	8	12	631
1977	11	19	7	45	82	0	98	2	887
1978	1	18	31	106	11	30	55	20	307
1979	34	5	5	81	3	2	3	2	1061
1980	2116	705	952	2765	1393	149	79	22	2391
291 *Liosomaphis berberidis*									
1975	0	0	0	0	0	0	2	1	1
1976	2	1	2	0	0	2	0	0	0
1977	0	0	2	0	0	0	1	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	2	0	1	0	0	0	0	0
1980	0	1	1	0	0	0	1	0	8
292 *Cavariella aegopodii*									
1975	26	18	33	8	11	69	64	104	7
1976	162	93	232	41	187	282	676	220	104
1977	456	40	43	26	26	68	472	1016	127
1978	11	70	21	20	68	125	141	520	55
1979	217	191	86	14	104	451	464	2930	28
1980	10	20	14	7	14	11	92	54	12
293 *Cavariella archangelicae*									
1975	0	13	6	29	2	1	46	3	1
1976	4	10	5	3	3	0	10	3	1
1977	3	9	0	8	4	2	48	4	24
1978	0	6	1	19	15	1	49	10	22
1979	0	5	0	5	4	5	37	59	9
1980	5	14	22	13	12	4	29	2	10
295 *Cavariella konoi*									
1975	0	0	2	1	0	0	2	0	0
1976	0	2	0	2	0	0	2	0	0
1977	0	1	0	2	1	0	3	0	0
1978	6	2	2	1	1	0	4	2	1
1979	0	4	1	1	2	4	84	76	10
1980	0	7	21	6	1	0	12	2	0
296 *Cavariella pastinacae*									
1975	12	6	6	16	4	6	43	9	8
1976	18	201	59	45	127	191	222	23	22
1977	8	30	55	30	11	6	165	312	139
1978	65	147	47	44	122	96	172	310	42
1979	10	100	164	37	163	1002	270	2432	47
1980	36	96	73	12	38	3	50	6	5

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
290 *Elatobium abietinum*									
1975	12	180	19	11	111	86	60	84	58
1976	6	163	42	8	57	237	178	76	6
1977	3	14	2	0	10	75	5	17	12
1978	46	118	91	20	150	789	122	24	49
1979	7	18	6	4	11	35	25	22	26
1980	17	741	37	26	381	153	179	184	85
291 *Liosomaphis berberidis*									
1975	0	0	0	0	4	0	0	2	0
1976	3	0	2	0	0	2	0	0	0
1977	0	1	0	1	1	0	0	0	0
1978	0	0	0	1	0	0	1	0	0
1979	0	0	0	0	0	3	0	0	0
1980	0	2	0	0	2	3	6	1	0
292 *Cavariella aegopodii*									
1975	126	9	49	252	31	69	94	63	26
1976	569	334	166	256	295	316	467	364	27
1977	976	865	807	1803	453	1771	461	928	169
1978	250	292	273	396	135	167	305	52	20
1979	631	1417	822	762	767	1055	634	82	14
1980	161	63	81	159	281	128	145	77	15
293 *Cavariella archangelicae*									
1975	0	3	0	2	4	1	1	5	34
1976	0	0	4	0	3	7	8	2	0
1977	0	8	4	3	2	5	4	5	1
1978	0	15	1	6	8	6	5	2	1
1979	4	70	12	8	21	34	43	7	0
1980	0	3	0	0	3	7	3	3	5
295 *Cavariella konoi*									
1975	0	0	0	0	0	0	0	0	0
1976	0	2	0	0	0	1	0	0	0
1977	0	0	0	1	0	0	1	2	0
1978	0	2	0	0	2	0	1	0	0
1979	0	185	6	5	12	0	21	1	0
1980	0	0	0	2	2	0	6	3	1
296 *Cavariella pastinacae*									
1975	22	5	4	27	7	8	17	1	0
1976	10	133	8	12	76	6	55	6	2
1977	301	317	598	418	370	512	199	104	25
1978	269	350	92	147	123	53	77	50	11
1979	2262	1821	435	615	520	557	277	80	5
1980	7	24	10	16	31	12	64	4	2

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
298	*Cavariella theobaldi*									
	1975	1	8	12	5	3	2	6	8	3
	1976	19	80	31	18	92	105	55	128	39
	1977	12	21	36	15	20	22	76	620	119
	1978	18	48	8	8	17	20	62	205	32
	1979	12	29	32	11	27	41	32	417	29
	1980	4	14	12	3	5	0	7	2	1
300	*Jacksonia papillata*									
	1975	1	0	2	2	3	1	1	1	1
	1976	1	0	0	0	4	0	0	0	0
	1977	0	0	0	0	1	0	0	0	0
	1978	0	0	0	0	0	1	1	2	0
	1979	0	0	0	0	2	0	0	0	0
	1980	0	1	1	4	9	2	0	0	2
301	*Ovatus crataegarius*									
	1975	1	0	11	2	0	1	21	26	2
	1976	2	2	14	2	11	6	4	67	0
	1977	1	0	0	0	2	0	4	19	0
	1978	0	6	0	0	0	2	8	1	0
	1979	0	1	0	0	0	1	1	18	0
	1980	0	0	0	0	0	0	4	16	0
303	*Ovatus insitus*									
	1975	0	0	0	0	0	0	0	1	0
	1976	0	0	0	0	0	0	1	2	0
	1977	0	0	0	0	0	0	2	37	0
	1978	0	0	0	0	0	0	1	4	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0
306	*Ovatomyzus calaminthae*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	2	0	0	0	0	0	0
	1977	0	0	0	0	0	0	0	1	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0
307	*Ovatomyzus stachyos*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0

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Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
298 *Cavariella theobaldi*	1975	24	7	10	23	14	9	21	13	12
	1976	36	247	34	59	69	16	84	11	0
	1977	558	180	1038	1040	345	654	290	333	87
	1978	57	120	20	20	31	22	36	14	18
	1979	103	242	88	57	145	107	65	20	17
	1980	4	1	5	6	21	11	24	5	2
300 *Jacksonia papillata*	1975	0	2	0	0	0	4	0	0	0
	1976	0	0	0	0	1	1	0	0	0
	1977	1	0	0	0	0	1	0	0	0
	1978	1	0	0	1	0	1	0	1	0
	1979	0	0	0	0	1	0	0	0	0
	1980	2	0	1	0	0	2	0	0	0
301 *Ovatus crataegarius*	1975	6	4	12	8	27	13	6	0	6
	1976	8	4	12	38	43	29	10	0	6
	1977	76	10	22	53	46	23	22	4	3
	1978	14	2	8	5	33	12	12	12	2
	1979	6	13	8	12	47	19	23	0	2
	1980	2	2	6	5	6	19	6	1	1
303 *Ovatus insitus*	1975	—	1	0	1	0	0	0	0	0
	1976	—	0	0	10	1	1	10	0	0
	1977	—	4	32	103	14	58	20	6	1
	1978	—	1	0	3	7	2	9	3	0
	1979	—	2	0	0	4	10	13	1	0
	1980	—	0	0	0	0	1	0	0	0
306 *Ovatomyzus calaminthae*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	5	4	0	0	0
	1977	—	0	0	0	4	0	0	0	0
	1978	—	0	0	0	1	0	1	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0
307 *Ovatomyzus stachyos*	1975	—	0	1	0	1	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	4	1	0	0	0	0
	1978	—	0	0	0	0	0	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	1	0	3	0	0

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
308	*Phorodon humuli*									
	1975	0	11	6	0	1	0	0	44	5
	1976	1	15	3	1	2	8	8	184	22
	1977	0	3	9	2	0	4	20	825	150
	1978	0	17	8	3	11	110	13	207	50
	1979	0	4	2	0	12	39	5	905	10
	1980	0	21	5	1	0	13	15	74	32
309	*Rhopalomyzus poae*									
	1975	2	5	8	2	1	0	0	5	1
	1976	5	8	4	0	0	0	0	22	0
	1977	0	0	0	0	0	0	0	1	2
	1978	0	0	0	1	0	0	0	3	4
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	1	1	6	0	2	0
310	*Rhopalomyzus lonicerae*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	0	0
	1977	0	0	0	0	0	0	0	2	0
	1978	0	0	0	0	0	0	22	3	0
	1979	0	0	0	0	0	1	5	9	0
	1980	0	1	0	0	2	0	20	6	0
311	*Myzodium modestum*									
	1975	2	0	0	0	0	0	0	0	0
	1976	0	1	1	3	0	1	1	0	0
	1977	0	0	0	1	0	0	0	0	0
	1978	0	0	0	0	0	0	0	1	1
	1979	0	0	1	0	0	0	0	0	0
	1980	0	0	1	0	0	0	0	0	0
312	*Myzus cerasi*									
	1975	16	20	19	9	4	8	19	85	1
	1976	77	157	48	23	34	5	24	68	14
	1977	23	18	24	24	3	4	23	86	34
	1978	12	185	38	29	20	6	58	61	0
	1979	24	112	84	45	52	38	132	524	7
	1980	22	169	56	31	23	15	116	43	6
314	*Myzus lythri*									
	1975	0	0	0	0	0	0	0	0	0
	1976	1	1	2	1	1	4	2	1	2
	1977	0	0	0	1	0	0	2	31	0
	1978	0	1	0	0	1	0	0	4	0
	1979	0	1	0	0	2	0	0	5	0
	1980	0	0	0	1	0	1	0	4	1

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904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne	
									308 *Phorodon humuli*
36	471	42	144	140	105	732	20	1	1975
297	1214	128	518	692	354	1317	13	0	1976
4719	3566	3682	13815	876	3008	2239	726	5	1977
215	2018	197	318	184	297	792	64	5	1978
518	3223	455	526	494	818	1896	62	2	1979
137	546	61	231	115	159	742	18	2	1980
									309 *Rhopalomyzus poae*
—	1	4	1	2	12	1	4	0	1975
—	0	10	8	4	34	4	5	1	1976
—	0	0	0	1	0	0	0	0	1977
—	0	0	1	0	3	4	0	1	1978
—	0	0	0	0	0	0	2	0	1979
—	0	0	2	14	3	1	3	1	1980
									310 *Rhopalomyzus lonicerae*
—	0	0	0	0	0	0	0	0	1975
—	0	0	0	0	0	0	0	0	1976
—	4	0	3	5	0	4	0	0	1977
—	37	3	2	63	2	3	13	0	1978
—	7	2	0	4	1	0	1	0	1979
—	0	1	0	0	0	2	0	1	1980
									311 *Myzodium modestum*
—	0	0	0	0	0	0	0	0	1975
—	0	0	0	0	1	0	0	0	1976
—	0	0	0	0	0	0	0	0	1977
—	0	0	0	0	0	0	0	0	1978
—	2	0	0	0	0	0	0	0	1979
—	0	0	0	0	0	0	0	0	1980
									312 *Myzus cerasi*
24	36	37	52	47	36	45	42	9	1975
11	64	18	77	106	54	249	67	8	1976
67	78	85	308	156	276	351	182	29	1977
49	39	77	33	60	119	76	26	7	1978
388	403	421	429	259	641	776	106	8	1979
20	15	34	56	51	70	46	35	9	1980
									314 *Myzus lythri*
—	0	0	2	2	4	0	0	0	1975
—	4	13	24	19	6	23	23	2	1976
—	6	9	18	4	15	20	15	7	1977
—	2	2	4	10	7	9	4	2	1978
—	2	0	1	0	6	0	8	2	1979
—	0	2	8	2	2	4	2	0	1980

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TABLE

	Elgin 916	Dundee 907	Edinburgh 912	Auchincruive 923	Newcastle 906	High Mowthorpe 905	Preston 922	Shardlow 919	Aberystwyth 911
315 *Myzus ornatus*									
1975	3	9	27	5	7	1	17	31	8
1976	6	5	52	6	6	1	3	11	4
1977	1	4	3	1	0	1	0	5	9
1978	0	1	2	1	1	0	2	2	11
1979	0	0	2	0	0	0	0	0	1
1980	0	1	9	0	4	0	2	4	14
318 *Myzus ascalonicus*									
1975	16	14	58	74	47	86	106	251	53
1976	56	15	93	6	40	27	22	250	9
1977	0	0	4	3	5	0	2	19	6
1978	0	6	16	15	12	6	31	74	0
1979	2	0	19	0	2	2	6	14	7
1980	24	2	42	26	71	96	30	176	19
319 *Myzus certus*									
1975	5	16	33	4	39	51	52	234	17
1976	6	10	30	7	4	11	30	123	3
1977	2	1	4	2	0	0	8	15	1
1978	0	3	4	3	3	2	3	2	12
1979	0	5	1	0	1	2	5	6	5
1980	0	2	18	2	0	2	6	7	14
320 *Myzus ligustri*									
1975	0	3	5	4	4	3	10	17	0
1976	1	6	36	2	1	5	21	26	0
1977	0	1	4	1	0	0	2	4	0
1978	0	1	1	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	2	0
1980	0	0	0	0	0	0	0	1	0
322 *Myzus persicae*									
1975	89	292	580	84	197	153	68	926	71
1976	75	231	97	86	84	76	286	3964	100
1977	109	96	27	28	16	5	129	142	82
1978	9	42	19	21	9	6	80	132	43
1979	3	97	11	5	6	59	51	245	12
1980	2	20	16	7	9	19	37	222	22
740 *Myzus varians*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	1	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

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2(r)

Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
315 *Myzus ornatus*	1975	6	8	44	25	101	37	10	48	12
	1976	1	4	12	10	39	27	4	33	22
	1977	0	1	5	2	6	11	0	3	5
	1978	1	1	2	3	12	6	1	3	0
	1979	0	0	4	0	1	4	0	1	1
	1980	0	2	8	13	42	15	3	18	2
318 *Myzus ascalonicus*	1975	78	217	141	68	119	128	55	26	31
	1976	37	84	149	60	48	164	34	25	15
	1977	14	7	14	15	3	20	11	4	7
	1978	47	28	54	30	52	76	22	8	15
	1979	13	3	7	13	11	16	7	7	10
	1980	87	92	179	131	140	185	103	85	34
319 *Myzus certus*	1975	40	67	34	43	55	81	25	12	14
	1976	14	149	26	34	97	89	40	49	3
	1977	1	8	9	9	19	22	6	26	2
	1978	8	2	1	11	2	6	3	2	5
	1979	5	0	0	7	3	1	7	1	4
	1980	8	9	7	10	10	24	9	4	4
320 *Myzus ligustri*	1975	—	5	13	9	17	19	7	3	2
	1976	—	8	12	15	12	34	6	8	2
	1977	—	3	1	0	0	9	0	2	0
	1978	—	0	0	0	2	1	2	0	0
	1979	—	0	0	0	0	1	2	1	0
	1980	—	0	0	2	0	5	4	0	0
322 *Myzus persicae*	1975	585	234	586	158	205	354	100	101	15
	1976	1107	193	913	1526	210	463	534	58	36
	1977	73	421	159	173	225	115	124	345	83
	1978	127	109	52	151	54	53	303	201	36
	1979	450	37	110	123	27	30	323	30	16
	1980	209	35	58	200	71	82	156	19	20
740 *Myzus varians*	1975	—	0	0	1	4	1	0	0	0
	1976	—	4	2	0	1	2	1	0	0
	1977	—	2	1	2	0	1	3	1	0
	1978	—	0	2	1	7	1	1	0	0
	1979	—	0	0	1	3	1	1	0	0
	1980	—	0	1	0	0	0	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
323 *Myzus cymbalariellus*									
1975	0	0	0	0	1	0	0	4	0
1976	0	0	3	0	0	0	0	9	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	1	2
1979	0	0	0	0	0	0	0	0	0
1980	0	1	2	7	2	2	0	25	4
325 *Tubaphis ranunculina*									
1975	1	2	2	1	2	0	16	74	5
1976	0	0	3	3	1	1	10	0	1
1977	3	0	0	0	0	0	2	0	8
1978	0	1	0	2	1	0	1	0	4
1979	5	0	1	1	9	0	0	0	1
1980	2	1	1	0	2	0	5	2	3
327 *Vesiculaphis theobaldi*									
1975	0	0	0	0	0	0	0	0	3
1976	0	2	1	0	6	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	1	0	0	0	0	0	0
330 *Aspidaphium escherichi*									
1975	2	1	0	0	0	0	0	0	0
1976	2	1	0	2	0	2	0	0	0
1977	1	0	0	0	0	0	0	0	0
1978	5	0	2	0	2	3	0	0	0
1979	1	2	1	0	1	0	0	0	1
1980	4	2	0	1	3	0	0	0	1
335 *Cryptomyzus ballotae*									
1975	0	1	0	0	0	0	1	5	0
1976	0	0	6	0	0	1	0	17	0
1977	2	1	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	1	0	0	0
336 *Cryptomyzus galeopsidis*									
1975	110	35	30	17	3	5	8	56	4
1976	24	40	58	17	14	12	51	93	17
1977	308	52	69	90	20	7	80	57	41
1978	114	124	15	6	5	11	31	16	29
1979	80	31	74	14	18	85	142	198	22
1980	11	26	10	11	3	11	4	16	12

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
323 *Myzus cymbalariellus*									
1975	—	0	5	0	11	3	0	2	1
1976	—	0	1	1	16	4	0	3	2
1977	—	0	0	0	0	0	0	0	0
1978	—	0	1	0	6	1	0	0	0
1979	—	0	0	0	0	0	0	0	0
1980	—	3	17	19	25	41	9	6	0
325 *Tubaphis ranunculina*									
1975	—	23	10	7	80	25	14	43	5
1976	—	4	0	3	13	5	0	14	34
1977	—	0	0	0	2	0	0	0	1
1978	—	0	0	0	0	5	1	1	1
1979	—	1	0	0	0	1	2	1	3
1980	—	0	1	6	9	2	2	2	9
327 *Vesiculaphis theobaldi*									
1975	—	1	0	2	0	3	3	1	0
1976	—	1	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	1	0	0	0	0	0	0	0
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	0	0	2	0	2	0
330 *Aspidaphium escherichi*									
1975	—	0	0	0	0	0	1	0	1
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	1
1978	—	0	0	0	1	3	0	0	1
1979	—	0	0	0	0	2	0	0	1
1980	—	0	0	0	0	0	2	0	0
335 *Cryptomyzus ballotae*									
1975	—	1	3	20	3	8	1	1	1
1976	—	0	8	29	0	15	12	3	0
1977	—	0	0	7	0	7	0	1	0
1978	—	0	0	0	0	0	1	2	0
1979	—	1	0	0	0	0	0	1	0
1980	—	0	0	6	0	3	0	13	0
336 *Crymptomyzus galeopsidis*									
1975	14	48	11	17	41	18	26	4	7
1976	8	26	7	23	51	54	15	19	5
1977	11	23	21	37	15	10	22	17	13
1978	19	6	4	5	27	4	26	10	11
1979	115	41	47	21	19	24	72	20	7
1980	9	25	1	7	33	9	17	18	4

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
339 *Cryptomyzus korschelti*									
1975	1	0	0	1	0	0	3	2	1
1976	1	0	0	0	0	0	0	1	0
1977	1	0	0	0	0	0	1	0	0
1978	0	0	0	0	0	0	0	0	1
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	1	1	1
340 *Cryptomyzus ribis*									
1975	2	0	0	0	0	0	0	0	0
1976	6	0	0	0	0	0	3	0	2
1977	9	0	0	0	0	0	22	7	1
1978	0	0	0	1	0	0	2	1	0
1979	0	0	0	1	0	0	7	6	2
1980	0	0	0	0	0	1	4	5	1
342 *Capitophorus elaeagni*									
1975	0	2	4	0	1	0	1	0	0
1976	4	3	4	0	8	3	1	8	1
1977	0	1	0	1	1	0	8	12	0
1978	6	0	0	1	0	0	0	0	5
1979	1	0	0	2	3	0	3	4	0
1980	0	6	0	0	2	0	5	2	0
343 *Capitophorus hippophaes*									
1975	21	70	54	53	16	4	20	36	63
1976	88	69	29	75	14	18	218	35	141
1977	173	40	27	52	34	9	384	233	185
1978	134	118	38	63	40	28	313	593	306
1979	97	103	36	18	81	280	555	1236	129
1980	10	70	9	20	15	4	60	57	31
344 *Capitophorus horni*									
1975	0	1	4	0	1	0	0	0	0
1976	0	0	0	0	0	2	1	5	0
1977	0	0	4	0	0	0	1	1	0
1978	0	0	0	1	0	0	0	0	0
1979	0	0	0	0	2	0	0	2	0
1980	0	2	0	0	0	0	0	0	0
346 *Capitophorus similis*									
1975	8	31	25	8	4	3	31	44	10
1976	3	39	32	17	11	6	75	25	7
1977	9	105	107	62	62	8	71	175	0
1978	4	49	63	18	19	7	45	72	0
1979	7	117	137	21	37	14	49	65	0
1980	2	60	40	15	15	6	10	27	1

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2(t)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
339 *Cryptomyzus korschelti*									
1975	—	7	2	9	11	7	4	10	9
1976	—	0	0	0	3	8	2	2	0
1977	—	0	0	1	0	0	0	0	0
1978	—	1	1	0	0	0	0	2	1
1979	—	0	0	1	0	0	0	0	0
1980	—	0	1	0	6	1	0	5	0
340 *Cryptomyzus ribis*									
1975	10	0	0	0	0	0	0	1	0
1976	0	0	0	1	1	0	1	4	0
1977	0	5	0	6	13	4	5	7	15
1978	0	1	1	2	2	1	2	4	2
1979	0	2	6	2	4	3	5	9	1
1980	0	0	5	2	0	0	2	1	0
342 *Capitophorus elaeagni*									
1975	—	0	1	1	7	1	2	10	4
1976	—	6	3	40	6	8	65	12	3
1977	—	0	0	10	2	2	11	4	1
1978	—	0	1	1	1	0	0	1	0
1979	—	4	9	4	3	6	12	1	1
1980	—	2	1	4	2	2	6	6	1
343 *Capitophorus hippophaes*									
1975	31	7	8	29	38	18	87	48	20
1976	36	13	15	44	74	19	109	27	68
1977	49	97	50	80	155	83	123	223	159
1978	271	186	46	86	369	150	450	408	176
1979	1541	138	213	263	124	111	491	53	28
1980	44	12	17	84	35	17	101	16	23
344 *Capitophorus horni*									
1975	—	2	0	0	0	0	0	0	0
1976	—	2	0	0	4	1	2	0	0
1977	—	0	0	6	1	0	0	2	0
1978	—	1	0	0	0	1	0	0	0
1979	—	2	0	0	0	0	0	0	0
1980	—	0	1	0	0	0	0	0	0
346 *Capitophorus similis*									
1975	11	5	11	6	16	8	7	10	5
1976	50	19	11	29	34	8	18	5	3
1977	45	32	17	46	22	23	24	20	2
1978	44	20	24	20	38	4	43	18	3
1979	83	7	5	3	9	4	1	2	0
1980	12	14	11	4	3	7	18	5	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
350 *Pleotrichophorus glandulosus*									
1975	0	0	0	0	0	0	0	1	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	1	0	0	0	4	0
1980	0	0	0	0	0	0	0	0	0
354 *Nasonovia pilosellae*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	2	0	4	0
1977	0	0	0	1	0	0	0	0	0
1978	0	0	0	0	0	0	1	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
355 *Nasonovia ribisnigri*									
1975	17	6	11	3	3	3	3	30	3
1976	18	11	14	10	1	6	6	29	23
1977	47	0	6	1	3	1	7	49	56
1978	6	10	8	2	3	4	8	15	28
1979	8	2	5	0	2	23	9	26	27
1980	6	4	11	1	3	4	4	11	17
358 *Hyperomyzus lactucae*									
1975	5	9	36	5	12	62	15	149	32
1976	23	42	69	5	24	41	38	47	21
1977	7	15	11	2	7	7	9	108	42
1978	1	17	5	7	12	7	18	63	17
1979	8	31	16	6	17	40	27	209	25
1980	2	42	11	1	4	5	28	17	11
359 *Hyperomyzus lampsanae*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	2	2	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	1	0	0	0	0	0	0
1980	0	0	1	0	0	0	0	0	1
360 *Hyperomyzus pallidus*									
1975	0	0	0	0	0	2	0	0	0
1976	0	2	0	0	0	6	3	0	1
1977	0	0	0	0	0	0	8	15	1
1978	0	0	1	0	0	0	0	0	0
1979	0	6	0	0	0	38	2	24	0
1980	0	0	1	0	0	0	1	1	0

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2(u)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
350 *Pleotrichophorus glandulosus*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	9	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	0	0	0	2	1	0	0	0
1980	—	0	0	0	0	0	0	0	0
354 *Nasonovia pilosellae*									
1975	—	0	0	0	2	4	0	2	0
1976	—	0	0	1	2	1	0	1	2
1977	—	1	1	3	2	0	0	0	0
1978	—	0	1	1	3	0	0	2	0
1979	—	2	2	0	0	0	0	1	0
1980	—	0	0	2	3	0	0	0	0
355 *Nasonovia ribisnigri*									
1975	8	6	28	16	15	15	12	18	14
1976	7	7	7	41	24	24	27	21	4
1977	13	12	34	39	31	43	27	91	61
1978	24	10	16	8	28	21	51	14	9
1979	92	47	33	27	23	34	29	22	9
1980	21	11	13	3	11	13	13	11	9
358 *Hyperomyzus lactucae*									
1975	118	100	90	97	104	103	60	32	16
1976	29	59	33	34	60	43	34	38	14
1977	51	113	69	148	52	100	69	172	80
1978	27	43	26	19	27	21	89	32	10
1979	362	147	171	116	56	185	366	64	12
1980	13	9	14	28	64	27	34	35	2
395 *Hyperomyzus lampsanae*									
1975	1	2	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	2	2	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	7	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
360 *Hyperomyzus pallidus*									
1975	0	2	0	3	0	0	2	0	0
1976	0	6	5	2	2	0	4	1	0
1977	6	7	16	8	10	7	1	8	0
1978	0	7	1	1	2	0	3	1	0
1979	0	8	22	12	1	19	31	5	0
1980	0	4	0	2	0	0	0	1	2

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
362 *Neonasonovia picridis*									
1975	1	0	0	0	0	0	0	1	0
1976	0	0	0	0	0	1	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
363 *Hyperomyzella rhinanthi*									
1975	1	1	1	6	1	2	0	0	4
1976	1	0	1	3	0	0	1	0	0
1977	4	0	1	6	0	0	0	0	0
1978	6	0	0	6	2	0	0	0	1
1979	2	0	0	3	1	0	4	0	0
1980	4	0	1	2	1	0	2	0	0
366 *Rhopalosiphoninus latysiphon*									
1975	4	3	2	2	1	0	6	3	2
1976	4	1	0	0	1	3	1	3	0
1977	2	2	0	0	1	0	0	0	1
1978	3	5	1	0	2	0	0	1	3
1979	1	1	0	0	0	0	0	1	1
1980	0	2	1	1	1	1	0	0	0
367 *Rhopalosiphoninus ribesinus*									
1975	0	0	1	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	1	0	0	0	0	2	0	0
1979	0	0	0	0	0	0	0	2	0
1980	0	2	0	0	1	0	0	0	0
368 *Rhopalosiphoninus staphyleae*									
1975	1	4	4	2	2	11	15	10	6
1976	9	8	8	7	2	6	7	64	2
1977	1	0	0	1	0	1	3	4	7
1978	2	1	0	1	0	0	2	1	2
1979	0	0	0	1	8	0	0	4	0
1980	2	4	3	2	2	2	5	4	3
372 *Microlophium evansi*									
1975	1	1	2	19	3	77	197	1092	25
1976	623	330	555	34	217	258	335	1376	284
1977	1	0	1	2	7	0	22	115	14
1978	0	19	0	0	3	1	3	16	7
1979	16	0	0	1	0	0	25	8	1
1980	0	3	2	10	15	50	139	1105	658

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	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
362 *Neonasonovia picridis*									
1975	0	3	2	8	1	9	8	0	0
1976	0	0	0	7	2	0	3	0	0
1977	0	0	0	16	1	1	1	6	0
1978	0	0	0	1	0	0	2	0	0
1979	0	0	3	1	0	4	2	0	0
1980	1	0	3	8	0	0	2	0	0
363 *Hyperomyzella rhinanthi*									
1975	—	0	0	0	0	0	1	0	1
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	1	0	8
1978	—	0	0	0	0	0	0	1	1
1979	—	0	0	0	0	8	18	0	0
1980	—	6	0	2	4	2	2	0	1
366 *Rhopalosiphoninus latysiphon*									
1975	4	1	0	5	1	1	5	1	3
1976	1	6	0	0	0	6	2	1	2
1977	0	2	0	0	0	0	7	2	2
1978	1	0	0	1	2	0	2	1	4
1979	0	0	0	4	3	1	2	1	2
1980	3	1	0	1	0	1	5	0	1
367 *Rhopalosiphoninus ribesinus*									
1975	—	0	0	2	0	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	0	1	0	1	0	0	0	1
1980	—	0	3	0	0	0	0	0	0
368 *Rhopalosiphoninus staphyleae*									
1975	9	15	7	4	25	9	14	2	8
1976	10	5	0	17	5	3	3	2	3
1977	12	3	2	10	10	8	4	7	3
1978	3	4	5	2	6	23	3	2	3
1979	4	0	0	0	2	4	1	0	0
1980	0	0	1	1	8	21	4	2	2
372 *Microlophium evansi*									
1975	909	621	316	611	711	612	306	207	11
1976	212	324	149	1253	1319	840	637	197	148
1977	216	150	38	240	33	60	113	123	98
1978	13	2	4	22	3	1	1	1	1
1979	3	2	4	2	0	0	1	1	9
1980	1383	1187	331	859	2318	1158	1762	485	55

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
374	*Aulacorthum palustre*									
	1975	0	0	0	1	0	1	61	15	12
	1976	4	1	4	0	0	1	18	0	1
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	3	0	0	0	0	0	0
376	*Aulacorthum solani*									
	1975	6	18	11	7	5	10	143	97	17
	1976	8	12	20	5	11	6	27	119	2
	1977	2	4	3	0	1	0	8	8	4
	1978	0	2	5	0	2	0	20	10	3
	1979	0	0	5	1	0	0	1	0	2
	1980	0	1	19	1	0	0	6	14	14
377	*Aulacorthum speyeri*									
	1975	0	0	0	0	0	0	1	0	0
	1976	6	0	0	0	0	0	0	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	0	1	0
	1979	0	0	0	0	0	0	0	4	0
	1980	0	1	0	0	0	0	0	0	0
378	*Neomyzus circumflexum*									
	1975	0	0	0	0	1	0	3	3	4
	1976	0	0	5	0	0	0	2	0	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	1	0	0
381	*Acyrthosiphon loti*									
	1975	0	4	1	1	0	0	6	2	3
	1976	0	0	0	0	1	0	0	0	0
	1977	0	0	0	1	0	0	1	1	0
	1978	1	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	2	2	0
	1980	0	2	0	0	0	0	0	1	0
382	*Acyrthosiphon malvae*									
	1975	1	3	0	0	0	0	1	3	1
	1976	0	0	1	0	1	0	8	3	2
	1977	1	1	1	1	0	1	0	0	2
	1978	0	0	0	0	0	0	0	1	6
	1979	0	0	0	0	0	0	0	0	0
	1980	0	4	0	1	1	0	0	9	0

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2(w)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
374 *Aulacorthum palustre*									
1975	—	13	0	5	3	6	3	5	5
1976	—	15	0	2	12	0	2	0	1
1977	—	0	0	1	1	0	0	2	0
1978	—	2	0	0	1	2	0	0	1
1979	—	0	0	0	0	0	0	1	0
1980	—	1	0	2	2	2	2	5	3
376 *Aulacorthum solani*									
1975	23	41	16	38	52	15	21	19	28
1976	9	21	9	27	35	26	15	21	28
1977	6	2	0	8	5	11	8	35	5
1978	22	16	7	15	18	9	11	8	7
1979	0	0	0	0	2	4	1	9	5
1980	6	0	2	12	52	9	36	52	58
377 *Aulacorthum speyeri*									
1975	—	1	0	0	0	0	0	2	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	2	2	2	2	0	0	0
1978	—	0	1	0	0	0	0	0	1
1979	—	0	0	0	0	1	0	1	0
1980	—	0	0	0	0	0	4	0	0
378 *Neomyzus circumflexum*									
1975	0	7	4	3	14	11	3	7	6
1976	0	2	0	0	4	0	0	1	4
1977	0	0	0	0	0	0	1	2	2
1978	0	0	0	0	3	0	0	2	3
1979	0	0	0	0	0	0	0	0	2
1980	0	0	0	0	6	7	0	15	0
381 *Acyrthosiphon loti*									
1975	—	4	3	4	76	5	3	17	2
1976	—	6	0	0	2	2	1	0	0
1977	—	0	0	1	2	2	0	2	1
1978	—	1	1	1	3	1	1	0	0
1979	—	2	1	0	2	1	2	0	0
1980	—	5	1	0	14	3	4	0	5
382 *Acyrthosiphon malvae*									
1975	—	3	2	5	19	7	0	0	2
1976	—	11	3	2	7	14	0	12	2
1977	—	0	3	5	3	9	0	9	5
1978	—	3	1	1	5	0	3	0	0
1979	—	0	1	0	0	0	2	1	0
1980	—	12	2	0	93	25	2	17	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
389 *Acyrthosiphon pisum*									
1975	60	39	12	25	2	30	16	60	5
1976	50	212	37	20	38	330	86	312	31
1977	32	25	8	4	1	3	40	101	36
1978	13	435	5	7	14	32	9	422	29
1979	69	210	35	26	77	735	165	386	47
1980	4	54	8	7	15	67	16	150	5
392 *Acyrthosiphon primulae*									
1975	0	1	3	1	0	0	0	1	0
1976	0	2	1	0	1	2	13	1	0
1977	0	0	0	0	0	0	0	1	0
1978	0	0	0	0	0	0	0	1	0
1979	0	0	0	0	0	25	0	2	0
1980	0	0	0	0	0	1	3	2	6
395 *Metopolophium albidum*									
1975	2	3	6	10	2	8	47	40	19
1976	18	0	32	2	0	0	0	1	1
1977	0	0	0	0	0	0	1	1	9
1978	0	0	0	0	0	0	1	0	4
1979	2	0	0	0	0	0	0	0	1
1980	2	2	0	2	15	0	13	15	41
396 *Metopolophium dirhodum*									
1975	109	342	1291	822	795	2084	1392	4876	198
1976	80	1454	4522	509	2282	523	710	4277	234
1977	393	706	198	84	44	32	83	247	43
1978	1092	18561	4718	190	3575	2515	420	7054	141
1979	308	1714	3567	738	2333	14999	2719	54793	738
1980	18	1205	339	29	77	546	222	995	65
397 *Metopolophium festucae*									
1975	283	20	75	317	85	235	1879	981	114
1976	41	284	74	35	91	176	55	98	11
1977	1	0	0	1	1	3	43	4	10
1978	11	3	13	27	5	21	76	7	28
1979	7	3	21	5	8	86	30	24	19
1980	14	10	42	47	120	187	145	93	187
398 *Metopolophium frisicum*									
1975	0	1	6	22	8	3	79	94	1
1976	0	0	0	0	2	0	0	0	0
1977	0	0	1	0	0	0	0	0	0
1978	1	0	0	0	0	0	1	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	1	0	8	7	10	0

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		904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Roswearne
389 *Acyrthosiphon pisum*	1975	249	41	41	249	27	58	71	27	16
	1976	494	83	220	692	52	281	71	75	5
	1977	266	97	404	697	106	213	163	148	20
	1978	398	108	70	267	51	53	116	48	5
	1979	2198	451	313	654	115	145	1107	190	6
	1980	67	26	31	91	43	61	80	25	7
392 *Acyrthosiphon primulae*	1975	—	4	0	1	6	0	1	4	2
	1976	—	17	12	14	5	13	5	2	1
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	3	3	1	0	0
	1979	—	16	4	1	0	5	34	0	0
	1980	—	4	0	2	3	4	3	1	0
395 *Metopolophium albidum*	1975	—	21	17	4	60	79	2	5	5
	1976	—	3	3	1	6	4	1	4	0
	1977	—	0	6	0	0	1	1	3	3
	1978	—	2	2	0	2	0	2	2	0
	1979	—	0	0	0	2	3	0	0	1
	1980	—	21	15	10	83	68	50	17	10
396 *Metopolophium dirhodum*	1975	5717	282	371	674	315	312	269	114	66
	1976	1018	4154	1616	5797	2225	1364	1277	247	34
	1977	855	105	501	1354	126	946	446	2144	793
	1978	4114	664	606	1055	208	231	689	249	32
	1979	104429	8592	18427	21085	1597	7377	34449	1967	421
	1980	73	49	19	38	185	35	54	80	12
397 *Metopolophium festucae*	1975	41	221	109	29	167	115	24	41	25
	1976	138	203	163	97	43	104	71	55	11
	1977	73	9	115	36	4	53	34	26	51
	1978	111	32	61	73	56	31	23	8	28
	1979	179	28	63	27	19	9	150	42	40
	1980	145	642	160	140	1298	295	260	234	122
398 *Metopolophium frisicum*	1975	—	17	4	2	6	9	0	2	1
	1976	—	0	0	0	1	3	4	6	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	2	0	0	0
	1979	—	0	0	0	0	0	2	1	0
	1980	—	7	2	2	8	3	12	3	2

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
399	*Metopolophium tenerum*									
	1975	0	0	1	1	0	0	1	7	0
	1976	0	0	1	0	0	0	0	0	1
	1977	0	0	0	0	0	0	2	0	0
	1978	0	0	0	0	1	0	1	0	1
	1979	0	0	0	0	0	0	2	0	0
	1980	0	0	2	0	2	0	0	0	4
400	*Cryptaphis poae*									
	1975	0	1	0	0	2	0	5	0	1
	1976	0	0	1	0	1	0	0	11	0
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	0	0	0	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	7	1
402	*Linosiphon galiophagus*									
	1975	3	1	6	3	3	8	17	22	0
	1976	82	7	33	1	11	0	2	8	1
	1977	0	0	1	0	1	0	0	1	0
	1978	1	9	3	0	9	0	0	0	0
	1979	1	0	0	0	0	0	3	0	0
	1980	0	1	0	3	3	1	7	33	0
403	*Corylobium avellanae*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	0	2
	1977	0	0	0	0	0	0	0	0	0
	1978	0	0	0	0	1	0	1	0	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0
410	*Macrosiphum euphorbiae*									
	1975	104	196	160	30	46	147	244	502	87
	1976	57	75	90	35	61	21	176	291	50
	1977	25	194	67	48	13	0	182	121	92
	1978	35	440	178	69	51	12	156	113	44
	1979	22	153	63	16	16	8	46	144	14
	1980	30	154	80	14	105	9	52	90	41
412	*Macrosiphum funestum*									
	1975	1	0	1	0	0	1	2	0	0
	1976	0	0	5	0	1	0	0	10	2
	1977	0	1	0	1	0	0	4	0	0
	1978	0	0	0	0	0	0	2	1	0
	1979	0	0	0	0	0	0	0	0	0
	1980	0	0	0	1	1	0	1	1	0

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2(y)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
399 *Metopolophium tenerum*									
1975	—	3	1	0	1	1	0	0	0
1976	—	0	0	0	0	2	0	0	0
1977	—	0	0	0	0	0	0	1	12
1978	—	0	1	0	2	3	0	1	0
1979	—	0	0	0	0	0	0	0	1
1980	—	1	0	4	1	4	4	0	0
400 *Cryptaphis poae*									
1975	—	1	1	2	1	8	0	0	2
1976	—	0	0	0	0	16	0	0	0
1977	—	0	0	0	0	0	0	0	1
1978	—	0	0	0	0	3	0	0	0
1979	—	0	0	0	0	1	0	0	0
1980	—	0	1	0	0	15	0	0	0
402 *Linosiphon galiophagus*									
1975	—	118	20	29	18	23	9	11	2
1976	—	2	0	0	4	2	1	9	1
1977	—	0	0	0	1	0	2	13	5
1978	—	2	1	0	2	0	0	1	0
1979	—	0	0	8	0	1	2	0	0
1980	—	132	5	1	17	4	4	74	4
403 *Corylobium avellanae*									
1975	—	0	0	0	0	0	0	0	0
1976	—	2	3	0	0	0	8	5	0
1977	—	1	0	4	2	0	1	3	0
1978	—	0	0	0	4	0	4	0	0
1979	—	2	0	1	0	0	0	0	0
1980	—	0	0	0	0	0	0	0	0
410 *Macrosiphum euphorbiae*									
1975	62	143	104	124	256	152	86	72	36
1976	131	78	68	188	107	149	187	77	17
1977	37	125	87	159	88	164	87	448	743
1978	54	122	30	35	103	55	39	76	72
1979	95	111	56	20	28	64	150	33	24
1980	18	102	47	69	144	122	106	62	10
412 *Macrosiphum funestum*									
1975	—	0	0	0	2	2	4	3	3
1976	—	24	5	0	20	18	15	1	0
1977	—	5	0	1	0	2	3	4	2
1978	—	0	1	0	3	0	6	0	1
1979	—	4	0	36	0	2	0	0	2
1980	—	0	3	0	17	1	0	3	4

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
413	*Macrosiphum gei*									
	1975	2	0	1	1	7	0	5	4	5
	1976	4	0	4	0	0	0	4	0	3
	1977	1	0	0	1	0	0	0	2	0
	1978	0	0	0	1	1	0	2	2	0
	1979	0	2	0	0	0	1	0	4	0
	1980	0	1	0	0	1	1	4	0	0
416	*Macrosiphum rosae*									
	1975	4	5	8	9	4	2	5	20	8
	1976	5	11	14	18	17	8	12	35	30
	1977	0	2	4	4	1	0	2	25	7
	1978	2	9	6	1	4	1	10	4	3
	1979	2	4	5	5	1	0	15	12	10
	1980	0	4	31	3	5	6	8	13	39
420	*Sitobion avenae*									
	1975	1012	2627	3768	1505	848	4269	1905	5943	1877
	1976	1594	2578	4474	6615	3300	2871	13713	12676	4616
	1977	282	801	502	790	702	875	429	1140	598
	1978	189	287	284	50	284	316	92	1632	312
	1979	162	354	774	26	43	382	111	190	195
	1980	128	544	475	470	745	3582	1511	3695	441
421	*Sitobion fragariae*									
	1975	14	11	76	67	19	43	151	161	52
	1976	50	19	82	23	39	5	80	31	23
	1977	41	4	29	11	9	1	235	65	168
	1978	5	115	14	37	60	112	62	382	64
	1979	57	69	46	20	69	373	116	1165	35
	1980	16	46	27	14	57	102	64	160	30
450	*Macrosiphoniella abrotani*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	1	1	0	2	0	8	0
	1977	0	0	0	1	1	0	0	1	0
	1978	0	0	0	0	0	0	0	0	0
	1979	2	0	0	0	0	0	0	0	0
	1980	0	0	0	0	0	0	0	0	0
451	*Macrosiphoniella absinthii*									
	1975	0	0	0	0	0	0	0	0	0
	1976	0	0	0	0	0	0	0	4	0
	1977	0	0	0	0	0	0	0	3	0
	1978	0	0	0	0	0	0	0	4	0
	1979	1	0	0	0	0	0	0	24	0
	1980	0	0	0	0	0	0	0	0	0

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2(z)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
413 *Macrosiphum gei*									
1975	0	1	7	4	8	4	3	0	1
1976	0	6	2	0	0	8	2	0	0
1977	0	0	0	0	0	5	1	0	0
1978	0	0	0	0	7	2	2	0	0
1979	0	0	0	0	1	0	3	2	1
1980	5	4	2	4	7	2	1	0	1
416 *Macrosiphum rosae*									
1975	8	15	9	15	35	26	12	20	4
1976	0	14	19	8	54	59	38	5	6
1977	0	30	21	27	11	37	12	115	32
1978	0	7	4	3	12	13	7	2	3
1979	0	4	14	16	6	30	40	10	4
1980	0	8	13	19	82	64	39	13	5
420 *Sitobion avenae*									
1975	9676	3019	1522	2632	5851	2740	1992	2029	524
1976	8639	7567	7596	9461	4301	10261	4112	2636	262
1977	2081	1327	2794	3604	1187	3590	3096	4800	4597
1978	1134	911	578	1241	526	680	813	580	200
1979	2141	106	376	678	122	452	1828	509	222
1980	2777	999	827	2140	1115	2407	4569	628	122
421 *Sitobion fragariae*									
1975	124	101	116	187	140	137	122	120	148
1976	68	39	29	79	56	61	51	123	77
1977	58	42	18	64	63	72	37	93	53
1978	349	833	497	377	437	718	468	332	27
1979	2088	551	678	385	105	520	645	357	55
1980	33	138	69	77	180	149	106	180	43
450 *Macrosiphoniella abrotani*									
1975	—	0	0	0	1	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	0	0	0	0	8	0	0	0
1980	—	0	1	0	0	0	0	0	0
451 *Macrosiphoniella absinthii*									
1975	—	0	0	0	0	0	2	0	0
1976	—	0	2	0	0	0	4	0	0
1977	—	0	0	0	0	0	0	2	0
1978	—	1	0	0	2	0	0	0	0
1979	—	0	0	10	0	0	0	0	0
1980	—	0	0	0	0	0	2	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
452 *Macrosiphoniella artemisiae*									
1975	0	0	0	0	0	0	0	0	0
1976	2	0	0	0	0	0	0	2	1
1977	0	1	0	0	0	0	0	2	0
1978	2	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	2	0	0	0
1980	0	1	0	0	0	0	0	0	0
453 *Macrosiphoniella millefolii*									
1975	1	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	1	0	0
1978	0	0	0	0	0	0	0	3	0
1979	0	0	0	0	1	0	0	4	0
1980	0	0	0	1	0	0	0	0	0
462 *Macrosiphoniella persequens*									
1975	0	0	0	0	1	0	0	1	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	1	0	0	0	0	1
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
463 *Macrosiphoniella sejuncta*									
1975	0	0	0	0	1	0	0	0	1
1976	1	0	0	0	0	0	0	4	0
1977	0	0	0	0	0	0	0	4	1
1978	0	0	0	0	0	0	0	0	0
1979	1	0	1	0	0	0	0	0	0
1980	0	0	0	1	0	0	0	0	0
732 *Macrosiphoniella tapuskae*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	3	8	0
1977	0	0	0	0	0	0	2	18	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	1	0	0	0
1980	0	0	0	0	0	0	0	0	0
467 *Amphorophora gei*									
1975	0	0	0	0	0	0	0	1	0
1976	0	2	2	0	2	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	1	0	0	1	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

2(aa)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
452 *Macrosiphoniella artemisiae*									
1975	—	0	0	0	0	0	0	0	0
1976	—	2	0	12	0	0	3	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	1	2	0	0	2	0	0	0
1980	—	0	0	0	0	0	0	0	0
453 *Macrosiphoniella millefolii*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	0	5	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	1	0	0	0
1979	—	0	0	0	0	6	2	1	0
1980	—	4	0	0	0	0	0	0	0
462 *Macrosiphoniella persequens*									
1975	—	0	0	0	0	0	0	7	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	1	0	0	2	0	0	0
1978	—	0	0	0	0	0	2	0	0
1979	—	0	2	0	0	3	0	0	0
1980	—	0	0	0	0	0	0	0	0
463 *Macrosiphoniella sejuncta*									
1975	—	0	0	0	0	0	0	1	2
1976	—	4	4	1	4	3	2	0	0
1977	—	0	0	0	2	2	0	2	0
1978	—	0	0	0	0	2	0	1	0
1979	—	0	0	0	0	1	0	2	0
1980	—	0	0	0	2	1	0	0	0
732 *Macrosiphoniella tapuskae*									
1975	—	1	0	0	2	0	2	0	0
1976	—	4	5	18	1	4	18	0	0
1977	—	1	3	6	7	2	6	7	0
1978	—	0	0	0	1	2	2	0	0
1979	—	4	0	8	0	1	0	0	0
1980	—	0	0	2	0	1	0	0	0
467 *Amphorophora gei*									
1975	—	1	2	1	0	0	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	0	0	0	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
468 *Amphorophora rubi*									
1975	0	19	1	0	1	0	16	1	6
1976	4	15	12	0	1	6	8	0	5
1977	1	29	11	0	1	0	3	5	1
1978	1	9	1	0	2	3	1	3	1
1979	10	64	2	1	2	0	0	14	0
1980	0	8	2	0	5	1	2	4	27
470 *Megoura viciae*									
1975	4	2	0	4	2	3	4	4	0
1976	7	2	1	0	5	0	4	0	0
1977	0	0	1	1	0	0	0	0	0
1978	1	0	0	1	0	0	2	0	0
1979	1	1	1	3	3	0	2	0	2
1980	2	3	6	2	10	0	1	0	2
471 *Megourella purpurea*									
1975	0	0	0	3	0	0	0	2	1
1976	0	0	1	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	1	0
1979	0	0	0	0	0	0	1	0	1
1980	0	0	1	0	1	1	1	0	0
741 *Masonaphis lambersi*									
1975	0	0	0	0	0	0	0	0	—
1976	0	0	0	0	0	0	0	0	—
1977	0	0	0	0	0	0	0	0	—
1978	0	0	0	0	0	0	0	0	—
1979	0	0	0	0	0	0	0	1	—
1980	0	1	0	0	0	0	0	0	—
477 *Wahlgreniella arbuti*									
1975	0	0	0	0	0	0	0	73	0
1976	0	0	7	0	2	7	4	305	0
1977	0	0	0	0	0	0	1	83	0
1978	0	0	0	1	1	1	2	4	0
1979	0	0	1	0	0	0	2	0	0
1980	2	2	19	0	4	2	3	31	0
480 *Anoecia corni*									
1975	4	0	0	17	0	3	17	89	28
1976	3	2	1	7	2	3	24	62	40
1977	0	0	0	3	1	1	8	72	40
1978	1	1	0	6	1	3	23	121	74
1979	0	0	0	2	0	2	21	140	54
1980	0	5	1	7	0	8	37	69	35

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2(bb)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
468 *Amphorophora rubi*									
1975	24	17	4	24	61	15	17	43	33
1976	50	12	4	4	55	18	20	8	10
1977	47	9	0	10	3	2	3	18	0
1978	6	10	3	6	2	7	5	1	0
1979	7	10	4	10	0	20	4	0	0
1980	30	14	2	2	41	9	17	34	14
470 *Megoura viciae*									
1975	2	4	1	14	0	2	2	0	1
1976	2	0	0	0	0	0	3	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	1	0	0	10	6	1	54	0	3
1980	3	0	2	4	0	6	4	0	1
471 *Megourella purpurea*									
1975	0	2	0	0	0	0	0	1	2
1976	0	0	0	0	0	2	0	0	1
1977	0	0	0	0	0	0	0	0	0
1978	0	0	1	0	0	1	2	0	0
1979	0	0	0	2	0	0	0	1	0
1980	0	0	0	0	0	2	0	0	0
741 *Masonaphis lambersi*									
1975	—	0	0	0	0	2	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	1	0	0	0
1979	—	0	2	0	0	19	0	0	0
1980	—	0	0	0	0	0	0	0	0
477 *Wahlgreniella arbuti*									
1975	—	2	92	103	15	240	12	1	2
1976	—	35	293	288	22	309	30	0	0
1977	—	17	61	135	29	200	41	1	6
1978	—	5	15	15	19	37	1	0	0
1979	—	9	4	8	10	32	19	0	0
1980	—	15	86	174	29	152	35	6	0
480 *Anoecia corni*									
1975	48	75	75	116	275	271	84	42	24
1976	49	24	77	150	162	219	89	19	26
1977	84	66	130	220	278	318	164	130	44
1978	132	171	124	94	371	446	307	68	28
1979	87	155	76	93	201	296	183	61	16
1980	61	66	100	133	291	348	151	35	52

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TABLE

		916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
490	*Thelaxes dryophila*									
	1975	0	11	10	16	0	0	1	6	8
	1976	13	54	10	15	2	4	22	5	6
	1977	0	0	0	3	1	0	1	5	3
	1978	0	3	2	2	0	4	2	2	6
	1979	0	1	1	0	2	6	0	16	0
	1980	0	3	17	1	3	0	2	6	0
491	*Mindarus abietinus*									
	1975	0	1	0	0	0	0	0	0	1
	1976	2	0	0	2	1	0	0	0	3
	1977	1	0	0	1	0	0	1	0	9
	1978	0	0	0	0	0	0	0	0	0
	1979	0	1	0	0	0	0	0	0	2
	1980	0	0	0	0	0	0	0	0	1
499	*Eriosoma patchae*									
	1975	6	9	3	5	0	2	1	19	2
	1976	48	16	6	22	4	12	20	21	4
	1977	5	18	0	23	0	4	16	21	3
	1978	1	20	2	1	6	7	7	8	5
	1979	8	54	17	1	6	18	4	21	0
	1980	12	14	0	0	0	7	7	6	1
500	*Erisoma ulmi*									
	1975	5	38	15	5	4	11	4	15	4
	1976	121	540	63	26	72	97	229	336	15
	1977	7	118	35	15	10	9	33	22	7
	1978	32	331	75	10	37	43	118	107	10
	1979	32	244	12	4	30	94	45	218	11
	1980	18	138	25	14	7	24	32	27	8
502	*Kaltenbachiella pallida*									
	1975	1	0	0	0	0	0	0	0	1
	1976	3	2	3	1	0	0	10	0	30
	1977	0	0	0	0	0	0	0	0	0
	1978	0	1	0	3	2	0	1	0	0
	1979	0	0	0	0	0	0	0	0	2
	1980	0	0	0	0	0	0	0	2	0
503	*Tetraneura ulmi*									
	1975	2	1	0	0	0	0	2	9	3
	1976	2	0	1	1	1	0	2	3	4
	1977	3	0	0	1	0	0	2	7	357
	1978	4	3	1	5	3	1	5	10	0
	1979	8	4	0	4	0	0	7	4	3
	1980	0	10	0	4	0	1	15	14	15

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2(cc)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
490 *Thelaxes dryophila*									
1975	27	19	5	14	16	36	56	44	2
1976	29	153	31	48	31	654	95	130	8
1977	38	456	24	160	35	239	63	110	0
1978	45	81	10	45	32	47	60	104	0
1979	14	363	14	47	15	178	46	125	0
1980	26	97	0	37	14	113	30	41	1
491 *Mindarus abietinus*									
1975	—	0	0	0	0	2	0	0	0
1976	—	0	0	0	0	0	0	0	0
1977	—	0	0	0	0	0	0	0	0
1978	—	0	0	0	0	0	0	0	0
1979	—	0	0	0	0	0	0	1	1
1980	—	0	0	0	0	0	0	2	0
499 *Eriosoma patchae*									
1975	—	13	1	0	12	10	4	2	3
1976	—	1	4	9	4	7	5	4	1
1977	—	4	1	6	7	16	9	3	4
1978	—	29	12	10	48	68	62	7	6
1979	—	48	15	28	18	74	40	5	3
1980	—	0	9	10	14	19	16	2	2
500 *Eriosoma ulmi*									
1975	26	20	6	7	10	7	12	4	0
1976	78	241	98	62	65	47	44	8	1
1977	31	93	5	38	10	10	36	2	0
1978	114	231	29	69	33	29	91	2	3
1979	245	425	33	71	28	52	221	1	2
1980	17	108	12	12	25	15	35	1	1
502 *Kaltenbachiella pallida*									
1975	—	0	0	0	0	0	0	0	0
1976	—	0	0	0	0	1	0	0	0
1977	—	0	1	0	0	0	0	0	0
1978	—	1	0	0	0	3	1	0	0
1979	—	0	0	0	0	1	0	0	0
1980	—	0	0	2	0	0	0	0	0
503 *Tetraneura ulmi*									
1975	—	0	6	5	28	10	6	7	1
1976	—	2	5	42	36	7	28	3	2
1977	—	1	7	14	34	9	15	5	3
1978	—	9	10	6	32	25	14	1	0
1979	—	1	2	14	18	27	14	3	0
1980	—	12	4	8	17	21	14	4	2

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
508 *Prociphilus pini*									
1975	51	21	0	4	8	3	0	4	22
1976	19	3	1	4	4	3	0	27	3
1977	14	0	0	1	2	0	0	0	0
1978	10	7	0	1	1	1	0	0	0
1979	3	0	0	0	0	0	0	0	0
1980	4	3	0	0	0	1	0	0	0
510 *Mimeuria ulmiphila*									
1975	0	0	0	2	0	1	1	0	0
1976	0	0	0	0	0	0	0	18	0
1977	0	0	0	0	0	0	0	0	0
1978	1	0	0	0	0	0	0	0	0
1979	1	0	0	0	0	0	0	0	0
1980	0	0	0	0	1	0	0	0	0
512 *Thecabius affinis*									
1975	16	65	51	27	75	25	55	84	124
1976	16	26	20	118	94	6	142	7	147
1977	37	13	4	26	17	3	25	16	0
1978	2	27	16	21	21	2	12	26	0
1979	47	11	23	6	87	6	30	33	15
1980	7	17	31	3	16	2	29	12	0
523 *Parathecabius lysimachiae*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	1	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	2	0
1978	0	0	0	1	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
527 *Forda formicaria*									
1975	0	0	0	0	0	0	2	5	2
1976	0	0	0	0	0	0	0	4	1
1977	0	0	0	0	0	1	1	4	2
1978	1	0	0	0	0	0	1	3	0
1979	1	0	1	1	0	0	1	0	0
1980	0	0	0	0	2	2	1	2	1
528 *Forda marginata*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	2
1978	0	0	0	0	0	0	1	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

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2(dd)

	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
508 *Prociphilus pini*									
1975	—	2	3	0	6	58	16	1	0
1976	—	0	1	4	0	63	5	0	0
1977	—	0	5	0	0	4	6	1	0
1978	—	0	2	0	2	9	4	0	0
1979	—	1	0	0	0	11	15	0	0
1980	—	2	0	0	0	2	0	0	0
510 *Mimeuria ulmiphila*									
1975	—	1	2	1	1	3	0	3	0
1976	—	0	4	6	0	0	1	2	0
1977	—	0	0	7	1	1	1	12	0
1978	—	0	0	6	2	17	9	23	1
1979	—	0	2	3	5	11	3	6	0
1980	—	0	2	0	5	6	2	3	0
512 *Thecabius affinis*									
1975	0	23	3	23	56	23	32	33	30
1976	0	13	3	6	15	19	5	5	5
1977	0	9	0	4	22	12	9	25	4
1978	0	32	3	6	21	22	12	30	8
1979	0	12	8	6	16	25	16	6	18
1980	0	12	3	14	18	7	2	12	10
523 *Parathecabius lysimachiae*									
1975	—	0	1	0	0	0	1	0	0
1976	—	0	0	0	1	0	0	0	0
1977	—	1	0	0	0	0	0	0	0
1978	—	1	0	0	3	0	0	0	0
1979	—	0	0	0	0	0	0	0	0
1980	—	0	0	0	0	0	0	0	0
527 *Forda formicaria*									
1975	1	1	3	2	15	6	12	0	0
1976	0	0	0	0	7	9	1	2	0
1977	0	1	1	0	9	8	1	4	6
1978	0	1	1	1	2	2	4	2	1
1979	0	0	0	0	3	3	9	4	0
1980	0	0	3	3	2	2	3	2	0
528 *Forda marginata*									
1975	—	0	0	0	1	0	0	0	0
1976	—	0	0	0	0	4	0	0	0
1977	—	0	0	0	2	0	0	0	0
1978	—	0	0	0	2	0	0	0	0
1979	—	0	0	0	0	0	0	2	0
1980	—	0	0	0	0	0	0	0	0

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TABLE

	916 Elgin	907 Dundee	912 Edinburgh	923 Auchincruive	906 Newcastle	905 High Mowthorpe	922 Preston	919 Shardlow	911 Aberystwyth
530 *Aploneura lentisci*									
1975	0	1	15	7	2	3	0	21	3
1976	1	5	3	42	28	37	56	680	207
1977	1	0	2	1	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	1	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
531 *Baizongia pistaciae*									
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
726 *Melanaphis elizabethae*									
1975	0	11	0	0	0	1	0	0	0
1976	0	38	0	0	0	0	0	0	0
1977	0	4	0	0	0	0	0	0	0
1978	0	1	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	1	0	0	0	0	0	0	0
733 *Nearctaphis bakeri*									
1975	0	0	0	0	0	0	0	2	1
1976	0	0	5	0	1	1	1	3	1
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
751 *Utamphorophora humboldti*									
1975	0	0	0	0	0	0	0	6	0
1976	0	1	10	0	0	0	2	4	0
1977	0	0	0	0	0	0	1	3	0
1980	0	1	4	0	0	0	14	23	0
1979	0	0	0	0	0	0	3	0	0
1980	0	0	0	1	2	0	13	41	24
756 *Cedrobium laportei*									
1975	0	1	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0

https://doi.org/10.23637/ERADOC-1-21

2(ee)

Species	Year	904 Broom's Barn	917 Hereford	901 Rothamsted	924 Writtle	914 Long Ashton	908 Silwood Park	903 Wye, Kent	913 Starcross	910 Rosewarne
530 *Aploneura lentisci*	1975	0	19	62	30	35	23	78	23	53
	1976	73	1635	680	647	3161	604	635	941	5115
	1977	1	5	0	0	3	1	0	4	0
	1978	0	0	0	0	7	0	0	2	1
	1979	0	0	3	0	0	0	0	2	0
	1980	0	0	0	0	0	0	0	0	0
531 *Baizongia pistaciae*	1975	—	0	6	5	3	8	2	0	0
	1976	—	0	0	0	0	2	2	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	2	0	0	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0
726 *Melanaphis elizabethae*	1975	—	0	0	0	0	0	0	0	0
	1976	—	0	0	0	0	0	0	0	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	0	0	0	0
	1979	—	0	0	0	0	0	0	3	0
	1980	—	0	0	0	0	0	0	0	0
733 *Nearctaphis bakeri*	1975	—	5	9	17	2	12	12	13	1
	1976	—	11	16	12	2	9	5	6	3
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	1	3	1	1	0
	1979	—	0	0	0	2	0	0	0	0
	1980	—	0	2	0	0	0	0	0	0
751 *Utamphorophora humboldti*	1975	—	3	54	13	12	102	0	2	0
	1976	—	23	15	5	24	15	0	5	1
	1977	—	1	1	0	0	2	1	4	6
	1978	—	14	10	10	45	18	12	18	13
	1979	—	0	0	0	0	1	0	3	1
	1980	—	7	13	15	67	35	50	77	29
756 *Cedrobium laportei*	1975	—	0	0	4	0	4	0	1	0
	1976	—	0	4	4	0	6	0	2	0
	1977	—	0	0	0	0	0	0	0	0
	1978	—	0	0	0	0	0	0	0	0
	1979	—	0	0	0	0	0	0	0	0
	1980	—	0	0	0	0	0	0	0	0

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Figs. 17–35. The average geographical distribution of each seasonal migration for the years 1975–80 mapped from the 18 sample stations listed in Table 2 using the SYMAP program (Laboratory for Computer Graphics, Harvard). The number of migrations per year is based on the known biological cycles, the published phenological evidence (Taylor *et al.*, Figs. 3–9) and examination of the daily sample records from individual sites. The dates selected for separation of migratory cycles are averages over time for data that are not synchronous. This leads to a loss of definition but represents the general expectation until adequate phenological models for each species justify shifting the time scale for each site/year.

Periods for indeterminate flight activity for some species have been separated arbitrarily to show either continuation of the same geographical distribution or changed distribution not yet understood.

Layering intervals are numbered at each sampling site on the maps as follows:
1 (no shading), zero sample; 2, 1–2; 3, 3–9; 4, 10–31; 5, 32–99; 6, 100–315; 7, 316–999; 8, 1000–3161; 9 (solid black), 3162–9999.

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FIG. 17. 132, *Aphis fabae*: i, weeks 1–25; ii, weeks 26–38; iii, weeks, 39–52.

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FIG. 18. 389, *Acyrthosiphon pisum*: i, weeks 1–25; ii, weeks 26–36; iii, weeks 37–52.

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FIG. 19. 322, *Myzus persicae*: i, weeks 1–25; ii, weeks 26–35; iii, weeks 36–52.

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FIG. 20. 358, *Hyperomyzus lactucae*: i, weeks 1–25; ii, weeks 26–36; iii, weeks 37–52.

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FIG. 21. 420, *Sitobion avenae*: i, weeks 1–23; ii, weeks 24–39; iii, weeks 40–52.

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FIG. 22. 114, *Rhopalosiphum padi*: i, weeks 1–25; ii, weeks 26–34; iii, weeks 35–52.

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FIG. 23. 396, *Metopolophium dirhodum*: i, weeks 1–23; ii, weeks 24–36; iii, weeks 37–52.

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FIG. 24. 111, *Rhopalosiphum insertum*: i, weeks 1–26; ii, weeks 27–36; iii, weeks 37–52.

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FIG. 25. 410, *Macrosiphum euphorbiae*: i, weeks 1–25; ii, weeks 26–36; iii, weeks 37–52.

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FIG. 26. 421, *Sitobion fragariae*: i, weeks 1–26; ii, weeks 27–38; iii, weeks 39–52.

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FIG. 27. 355, *Nasonovia ribisnigri*: i, weeks 1–25; ii, weeks 26–34; iii, weeks 35–52.

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FIG. 28. 243, *Brachycaudus helichrysi*: i, weeks 1–26; ii, weeks 27–33; iii, weeks 34–52.

FIG. 29. 292, *Cavariella aegopodii*: i, weeks 1–26; ii, weeks 27–37; iii, weeks 38–52.

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FIG. 30. 308, *Phorodon humuli*: i, weeks 1–34; ii, weeks 35–52.
264, *Brevicoryne brassicae*: iii, weeks 1–34; iv, weeks 35–52.

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FIG. 31. 110, *Hyalopterus pruni*; i, weeks 1–36; ii, weeks 37–52.
500, *Eriosoma ulmi*: iii, weeks 1–34; iv, weeks 35–52.

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FIG. 32. 91, *Drepanosiphum platanoidis*; i, weeks 1–29; ii, weeks 30–52.
397, *Metopolophium festucae*: iii, weeks 1–32; iv, weeks 33–52.

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FIG. 33. 112, *Rhopalosiphum maidis*: i, weeks 1–36; ii, weeks 37–52.
376, *Aulacorthum solani*: iii, weeks 1–36; iv, weeks 37–52.

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FIG. 34. 234, *Dysaphis plantaginea*: i, weeks 1–34; ii, weeks 35–52.
78, *Phyllaphis fagi*: iii, weeks 1–35; iv, weeks 36–52.

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FIG. 35. 290, *Elatobium abietinum*: i, weeks 1–52. 318, *Myzus ascalonicus*: ii, weeks 1–52. 315, *Myzus ornatus*: iii, weeks 1–52. 319, *Myzus certus*: iv, weeks 1–52.

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