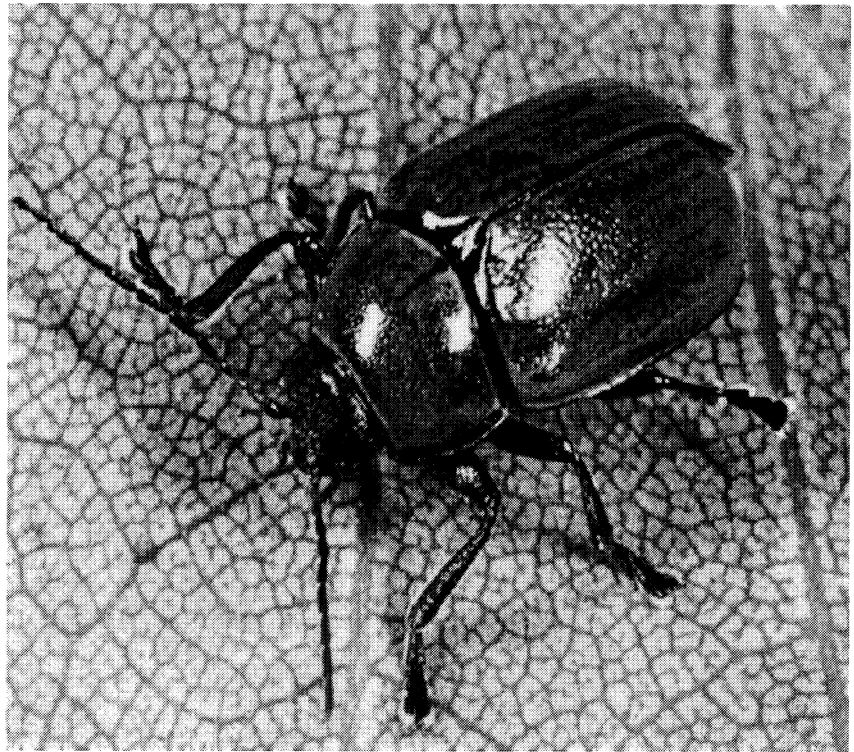


Cryptocephalus coryli (L.) (Col., Chrysomelidae)
Survey and monitoring for proposed
Species Recovery Programme

No. 246 - English Nature Research Reports



working today
for nature tomorrow

English Nature Research Reports

Number 246

Cryptocephalus coryli (L.) (Col., Chrysomelidae)

**Survey & monitoring for proposed
Species Recovery Programme**

Peter J. Hodge
and
S Alex Williams

Cover photograph: *Cryptocephalus coryli* ♀ at Kirkby Moor, by Roger Key

ISSN 0967-876X
Copyright © English Nature 1997

Contents

1.	Survey in Oxfordshire and Surrey (P J Hodge)	1
1.	1. Introduction	1
2.	2. Distribution and status	2
	2.1 Known records	2
	2.2 Current status	4
3.	3. Biology	7
4.	4. Habitat requirements	10
5.	5. Site descriptions	12
6.	6. The 1996 survey	14
7.	7. Management	16
8.	8. Other possible sites for <i>Cryptocephalus coryli</i>	18
9.	9. Acknowledgements	19
10.	10. References	19
	Appendix 1	22
	Insects recorded from North Unhill Bank, Oxfordshire (V.C. 22, Berks.), SU 561833	22
	Appendix 2	29
	Insects recorded from Headley Warren Nature Reserve, Surrey, (TQ 188539)	29
	Appendix 3	30
	Site maps	30
	Appendix 4	33
	Photographs	33
2.	Survey in Lincolnshire (S A Williams)	39
1.	1. Introduction	39
2.	2. Sites visited	39
	2.1 Kirkby Moor	39
	2.2 Linwood Warren	40
	2.3 Middle Rasen Plantation	40
	2.4 Warren Wood	41
	2.5 Moor Farm	41
3.	3. Notes	41
	Appendix 1 Site maps	43
	Appendix 2 Photographs	46

1. Survey in Oxfordshire and Surrey (P J Hodge)

1. Introduction

The objectives of this survey was as follows:

1. To study the habitat requirements of *Cryptocephalus coryli* in Oxfordshire/Berkshire and Surrey.
2. To investigate and record current site management and suggest ways of improving the habitat for *Cryptocephalus coryli*.
3. To estimate the likely size and extent of the colonies.
4. To provide a photographic record of the habitats where *Cryptocephalus coryli* has been recently recorded.
5. To obtain photographs of adults (and if possible early stages) of *Cryptocephalus coryli*.

In addition, the following information is included in this report.

1. A summary of some of the past British records for *Cryptocephalus coryli*.
2. a general list of insect species recorded during field work is given in Appendix 1.

2. Distribution and status

This section attempts to bring together the known data on *Cryptocephalus coryli*. However, even though the information is almost certainly incomplete, it is hoped that sub-paragraphs 2.1 and 2.2 below will at least give some help to those involved with the study of the species.

2.1 Known records

a. Records by counties

Records are known from ten British vice counties, nine in England and one in Scotland as follows:

Locality	Reference	Date of record
Bedfordshire, Bedford Purlieus	Peterken & Welch (1975)	1935 - 70
Bedfordshire, Leighton Buzzard (Crawshay)	Fowler (1913)	Pre 1913
Bedfordshire, Stockgrove near Leighton Buzzard	Shirt (1987)	Pre-1913
Berkshire, Streatley, (N.H. Joy)	Joy (1902), Fowler (1913)	1900 - 02
Berkshire, North Unhill Bank (A.B. Drane, P.J. Hodge, I.S. Menzies, D.A. Porter)		1991
East Kent, Blean Woods Complex (A.M. Masee)	ISR Database	1967
[East?] Norfolk	Stephens (1839)	Pre 1839
East Norfolk, Edgefield (Burrell)	Fowler (1913)	Pre 1913
North Lincolnshire, North Wood, Linwood (E.C. Riggall)	Riggall (1946)	1946
North Lincolnshire, North Wood, Linwood (E.C. Riggall)	Riggall (1950)	1949
North Lincolnshire, Linwood Warren	Riggall (1955)	1955
North Lincolnshire, Middle Rasen Plantation (H. E. Henson)	ISR Database	1965
North Lincolnshire, Kirkby Moor (A.S. Lazenby)	ISR Database	1987
Nottinghamshire, Langford Moor (J.W. Carr)	Carr (1916)	1899
Nottinghamshire, Sherwood Forest (J. Kidson-Taylor)	Kidson-Taylor (1904/06)	vi.1903 / vi. 1906
Nottinghamshire, Sherwood Forest (J. Kidson-Taylor)	Fowler (1913), Shirt (1987)	vi.1903 / vi. 1906
Scotland, Inverness-shire (P. Harwood)	Harwood (1947), Shirt (1987)	1946
Staffordshire, Cannock Chase (W.G. Blatch)	Fowler (1890)	Pre-1890
Staffordshire, Cannock Chase (W.G. Blatch)	Staffs VCH List (Page, 1908)	Pre-1908
Surrey, 'Dorking'	Owen (pers. comm.)	15.vii.1986
Surrey, Box Hill near Mickleham (J.J. Walker)	Walker (1890), Shirt (1987)	1.vi.1889
Surrey, Box Hill	Fowler (1890)	Pre-1890
Surrey, Box Hill (A.A. Allen)	Owen (pers. comm)	8.vi.1941
Surrey, Box Hill (F.D. Buck)	Buck (1948)	23.v.1948
Surrey, Headley Lane	Fowler (1890)	Pre-1890
Surrey, Headley Warren Nature Reserve (G.A. Collins)	Collins (In Press)	1995/96
Surrey, Headley Warren Nature Reserve (P.J. Hodge)	Hodge (1996)	1995/96
Surrey, Horsell	Fowler (1890)	Pre-1890

Locality	Reference	Date of record
Surrey, Mickleham	Fowler (1890)	Pre-1890
Surrey, Mickleham (E.C. Bedwell)	Owen (pers. comm)	21.v.192 .?
Surrey, Mickleham (A.A. Allen)	Owen (pers. comm)	27.vi.1943
Surrey, Reigate; (Blatch)	Fowler (1890)	Pre-1890
West Kent, Darenth	Stephens (1839)	Pre 1839
West Kent, Darenth Wood	Fowler (1890)	Pre-1890
West Kent, Darenth Wood	Kent VCH List (Page, 1908)	Pre-1908
West Kent, Darenth near Dartford	Shirt (1987)	Pre-1908
West Kent, Cobham	Fowler (1890)	Pre-1890
West Kent, Cobham near Gravesend (J.A. Stephens)	Maidstone L.R.C., Shirt (1987)	1943
West Kent, Westerham	Shirt (1987)	Unknown

b. Book references

Localities for the older published records are often vague making it impossible to determine the precise location of captures. However, the use of National Grid References (NGR's) by most biological recorders means that the precise location of most modern records can be determined with reasonable confidence.

Cryptocephalus coryli has been known from Britain since the early days of entomological study. Some quotations from published works on British Coleoptera are given below:

Stephens (1839) 'Hazel: Darenth; Norfolk: 6'. ['6' indicates that the species was found in June].

Fowler (1890) 'On young hazels; in woods in June; rare; Darenth Wood, Cobham, Mickleham, Headley Lane, Horsell, Box Hill, Reigate; Mr. W. G. Blatch has found it on birch on Cannock Chase, but this is the only locality that has been recorded outside the London district.'

Fowler & Donisthorpe (1913) 'Streatley, Berks (Joy); Norfolk, Edgefield (Burrell); Sherwood Forest (Taylor); Leighton Buzzard (Crawshay).'

Joy (1932) 'Eng. S. to Notts; r.' [England from Nottinghamshire southwards; rare].

Shirt (1987) 'There are old records from several localised, widely separated sites in England and one in Scotland. The English records are as follows: Cobham near Gravesend, Darenth near Dartford and Westerham (Kent); Box Hill near Mickleham (Surrey); Stockgrove near Leighton Buzzard (Bedfordshire); and Sherwood Forest (Nottinghamshire). The Scottish record is from Inverness (Highland). The adults occurred in low numbers in the above localities so that the populations are presumably small.'

Hyman (revised Parsons) (1992) 'Recorded from West Kent, Surrey, Berkshire, East Norfolk, Bedfordshire, Northamptonshire, and "Inverness" before 1970.'

c. Journal References

It has not been possible to search all the journals for references to *Cryptocephalus coryli* but most indexes to volumes of the *Entomologist's Monthly Magazine* have been searched. The following references have been identified and are listed in chronological order as follows:

Walker (1890) Recorded from Mickleham on 1 June 1889.

Joy (1902) Several by beating whitethorn near Bradfield, Berkshire in June (1900-02) [This is probably the Streatley record]

Kidson-Taylor (1904) Two males and six females by beating birch and oak in Sherwood Forest, Nottinghamshire in June 1903.

Kidson-Taylor (1906) Females on young birches in Sherwood Forest, Nottinghamshire in June 1906.

Harwood (1947) One specimen in Summer 1946 by beating birch in Inverness-shire.

Buck (1948) Beaten from birch at Box Hill, Surrey on 23 May 1948.

2.2 Current status

Cryptocephalus coryli is a relatively large, conspicuous leaf beetle and should not be confused with any of its close relatives. The only other British species that it might be mistaken for is the even rarer *Cryptocephalus primarius*.

Evidence suggests that *Cryptocephalus coryli* has declined during the 20th century, but from the available published records it is clear that the species has always been rare or erratic in its appearance and the question as to whether a genuine decline has really taken place needs to be critically assessed. Victorian entomologists are known to have been very diligent in their searches for rare species and some early collectors would probably not have given up until they had taken their series.

Recent entomological expeditions to North Unhill Bank, Oxfordshire (V.C. 22, Berks.), SU 561833, with Ian Menzies and others were initially made in order to search for *Cryptocephalus primarius*. On one of these trips in June 1991, *Cryptocephalus coryli* was unexpectedly discovered. However, although this species was probably present in reasonable numbers it was not easy to find, and it was only after spending several hours beating the branches of numerous hazel bushes over a wide area of the hillside that the species was discovered at all. Eventually, some idea of the size and extent of the colony was gained.

There have been a few other recent (post-1960) records. Alex Williams is dealing with the status of *Cryptocephalus coryli* in North Lincolnshire in a separate report. Precise details of the records for which information is currently available are given below:

- a. NORTH LINCOLNSHIRE, Middle Rasen Plantation (on the Caistor road from Market Rasen opposite the entrance to North Moor Farm) (TF 1091).

One male beaten off a birch sapling on 10 June 1965 by Harry E. Henson, 36 Thornleigh Drive, Orton Longueville, Peterborough PE2 7AL (Tel: 01733 231406).

- b. NORTH LINCOLNSHIRE, Kirkby Moor (TF 219630).

Found by A. Lazenby on 1 August 1987 (ISR database).

- c. SURREY, Headley Warren Nature Reserve (TQ 188539).

One male beaten from privet on 14 May 1995 by Graham Collins of 15 Hurst Way, South Croydon, Surrey, CR2 7AP (Tel: 0181 688 4539).

- d. OXFORDSHIRE (V.C. 22, BERKS), North Unhill Bank (SU 561833).

Several beaten off hazel on 1 June 1991 by Tony Drane, Peter Hodge and Ian Menzies.

Population size and estimated extent of colonies

- i. NORTH LINCOLNSHIRE, Middle Rasen Plantation, (TF 1091).

The current status of this colony is unknown. Harry Henson was not on a collecting trip but found the species quite casually during his lunch break, prior to a business appointment nearby, and the single specimen was knocked off a small birch tree onto his newspaper! The habitat at that time consisted of mixed deciduous and conifer woodland with an open ride where the *Cryptocephalus coryli* was found.

On 6 June 1987, Harry Henson and Tony Drane returned to the site to search for the species but they were unsuccessful. It is not known whether the habitat was still suitable.

- ii. SURREY, Headley Warren Nature Reserve, (TQ 188539).

This privately owned nature reserve has not been intensively studied for Coleoptera although I believe John Owen has visited the site on a few occasions. Two specimens of *Cryptocephalus coryli* have been found there recently (one in 1995 & one in 1996) and therefore a small breeding colony is almost certainly present.

There are other areas of suitable habitat nearby (Boxhill, Mickleham Downs, etc.) and there is a strong possibility that there are several small breeding

centres. [In Paul Hyman's 'English Nature Coleoptera Review records' there are Surrey records for 'Dorking' in 1985/86 by John Owen but more precise information is not currently available].

iii. OXFORDSHIRE (V.C. 22, BERKS), North Unhill Bank (SU 561833).

The species was relatively easy to find during June 1991 and a substantial population was probably present within a small area of south-facing downland. No specimens were found during late June 1996 but the habitat and site management has not changed and there is every reason to believe that a breeding colony is still present.

3. Biology

The following statements are made as a result of observations made in southern England and may not apply to colonies in North Lincolnshire or elsewhere.

a. Adults

It is thought that the adult season for *Cryptocephalus coryli* in its southern English sites extends from mid-May to about mid-July with the main emergence period probably between Mid May and mid June. There was therefore little opportunity to study the adults during this contract since work did not commence until 18 June 1996. However, a single female was discovered at Headley Warren, Surrey on 6 July 1996 and this was kept alive at home until 4 August 1996. Observations obtained from this captive specimen provided some useful information for this report. Observations made at North Unhill Bank, Oxfordshire (V.C. 22 Berks) on 1 June 1991 and during late June 1996 has also given some helpful clues relating to the habitat requirements of the beetle. Adults are certainly able to fly, but how far they do fly (if they disperse at all) is not known and they may merely make short flights within their breeding area. Dispersal may only occur during very hot weather. Adults that were beaten off hazel appeared to have dropped from foliage fairly high up on the bush but from current experience there is insufficient evidence to allow statements on adult behaviour to be made.

b. Habitat

Adults are almost always found on birch or hazel bushes (but perhaps not on large trees). They may prefer isolated bushes to those in hedgerows or woodland edges. The presence of ungrazed calcareous grassland may also be a requirement of the species although the reason for this is not known. An association with ants has been suggested in the past but this has not been substantiated. The species has been successfully bred in captivity by Ian Menzies in the absence of ants so their presence, if it is required, is likely to be for protection.

c. Eggs

Captive females lay their eggs whilst perched on foliage (hazel leaves). A freshly laid egg is held between the hind tarsi, then it is meticulously covered with tiny pieces of excrement. The egg, now resembling a tiny hand grenade, is then released and it presumably falls to the ground and remains amongst leaf litter, etc. until it hatches. Captive females appear to be capable of laying about six to eight eggs per day but their egg laying period extends for a month or more. Assuming that the beetles are most active during warm sunny weather, it follows that more eggs are likely to be laid during hot dry periods than when the weather is cool or wet.

d. Larvae

The larvae of *Cryptocephalus* species live in cases which they construct using pieces of their own excrement. They carry the case with them and do not appear ever to vacate them. When disturbed they retract into their protective case and would roll to the

ground if they happened to be on vegetation. For this reason it is thought that they are unlikely to live high up on trees or bushes and it is most likely that their lives are spent close to the ground beneath isolated birch or hazel bushes.

Accepting that there are few fallen hazel leaves during July and August when the eggs are hatching, it is possible that the freshly emerged larvae may be willing to eat many types of living or decayed plant material. Alternatively, it is possible that the young larvae climb tiny hazel or birch seedlings and feed on the lower leaves.

In captivity, larvae were reared in a small cage, on a diet of hazel or birch leaves. They were quite happy to feed on hazel leaves that were slightly withered, in fact they may actually prefer these to fresh foliage. Birch leaves were offered as an alternative to hazel and although the larvae did nibble them, they always preferred hazel if they were given the choice.

Some *Cryptocephalus* species have been found living amongst tree bark, e.g. *Cryptocephalus querceti*, *C. pusillus* & *C. parvulus* (Andreas Herrmann, pers. comm.) but it is not known whether *C. coryli* belongs to this group.

e. **Captive Breeding**

Ian Menzies has already reared *Cryptocephalus coryli* in captivity and he will be publishing his observations in due course.

The solitary female, which was found at Headley Warren Nature Reserve on 6 July 1996, was taken home and placed in a 700gm plastic screw-top sweet jar indoors. The jar was kept in a very warm room, but away from direct sunlight. A fresh hazel twig, in a small glass tube plugged with water-soaked tissue, was placed in the jar and the female *Cryptocephalus coryli* was introduced.

Hazel leaves were frequently nibbled and a constant supply of eggs were laid at the rate of about 6 to 8 per day. These were periodically removed and placed into a separate container. Altogether, about 300 eggs were laid between 6 July and 5 August 1996, on which date the female *Cryptocephalus coryli* died.

Before the eggs hatched a second plastic sweet jar was prepared as a larval cage. A ½ inch layer of damp sand was placed on the bottom of the jar, onto which was placed a porcelain petri dish. Eggs were placed in the petri dish and fresh hazel leaves were pushed into the damp sand.

After two to three weeks the eggs began to hatch and the young larvae soon started feeding upon the hazel leaves. Disturbance was kept to a minimum and fresh food was only given when the previous supply had been almost completely consumed.

My eggs were split between four entomologists in order to minimise the risk of total loss. John Owen, Ian Menzies and David Porter were each given 40 eggs. The balance of approximately 180 eggs were kept in captivity in my home at Ringmer.

Occasional hazel leaves were added as necessary by dropping them into the cage. Regular counts of the larvae were not made but when the cage was cleaned out on 15

December 1996, a total of 123 larvae were present. A sample (perhaps 10%) were examined under the microscope and all of these were still alive. The larvae were thought to be about half grown and the case size ranged from approximately 4 mm. to 6 mm. in length.

No reports have been received from the keepers of the remaining captive stock, but David Porter showed me his larvae in early December 1996 and it appeared that most had survived and were of similar size to mine.

It is not yet known whether the normal breeding cycle takes one or two years, but it is quite likely that the rate of larval development may vary and be dependent upon weather conditions.

A useful contact may be Andreas Herrmann, Bremervörder Straße 123, D-21682 Stade, Germany, with whom I have recently been corresponding. He has reared several *Cryptocephalus* species, including *C. parvulus*, *C. pusillus* and *C. querceti*. He has also referred me to a specialist on the Central European Cryptocephalinae: Dr Dieter Erber, Spitzwegring 81, D - 35396 Giessen, Germany.

4. Habitat requirements

A small group of *Cryptocephalus* species (*C. bipunctatus*, *C. coryli*, *C. nitidulus* & *C. sexpunctatus*) tend to occupy the same habitat type in the British Isles. Their exact requirements are uncertain, but they usually occur in places that are transitional between grassland and dense scrub. They are perhaps most frequently found on calcareous soils, at least that is the case in southern England, but sometimes occur in habitats which are not calcareous (at any rate, *C. bipunctatus* frequently occurs on young birch trees growing on acidic soils).

The sites occupied by *Cryptocephalus* species are invariably ungrazed, and tend to be unstable. Site management therefore plays an important role in the conservation of these sites because modern farming practices have resulted in a substantial reduction in the available habitat. More often than not, the boundary between arable land or pasture and woodland is very abrupt and lacks the edge habitat that so many insects (including many *Cryptocephalus* species) like to colonise.

The habitat at the Surrey and Oxfordshire (V. C. 22, Berks.) *Cryptocephalus coryli* sites is somewhat similar, but with some subtle differences. Both sites are on south facing chalk grassland slopes which are ungrazed, with scattered trees and shrubs that include some birch and hazel. Both sites also contain old *Lasius flavus* ant hills although this may merely indicate that there has been a long continuity of grassland habitat rather than an obligatory association. A warm micro-climate may be required since the beetles probably need a fairly high daytime temperature in order to complete their mating and egg laying activities.

The following observations have been made, either in the field or on the captive stock at home.

- a. Adults have not been found in dense woodland, although it is not known if larvae would survive in this habitat if they were artificially introduced.
- b. It is much more likely that the species requires grassy clearings amongst scrub because the micro climate there is warm and sheltered. Captive larvae ate hazel leaves but their range of food plants in the wild is not known. If the larvae can survive on fallen or decaying leaves, then why don't they occur in dense woodland? Perhaps the adults need open space in order to fly and mate, but why couldn't they do this in the tree canopy?
- c. Adults have not been observed visiting flowers.
- d. The larvae appear to have poor powers of adhesion and if disturbed they retract into their 'pots' and in the wild, would probably fall to the ground, if indeed they had climbed out of the undergrowth at all. For this reason it is thought unlikely that they are able to live high up on the foliage of trees or bushes, and these may merely be used by the adults as feeding, mating and egg laying perches.

This gives a strong clue as to the preferred habitat requirements. Females may unknowingly lay their eggs where the ground is covered with a profusion of tiny birch or hazel seedlings, growing beneath larger bushes.

- e. The natural mortality rate has not been determined. Because the larvae live in protective 'pots' it is most probable that they would not be safe as free living insects. The period of greatest vulnerability is not known but there has to be a reason why adults lay 200 or more eggs.

Perhaps a large proportion of young larvae die because they cannot find suitable food (this is quite likely since the eggs seem to be dropped indiscriminately, possibly from a great height!) or maybe the greatest mortality is during the winter period. Parasites are another possible threat although none appear to have been recorded in the British Isles.

The captive stock appears to have a very low mortality rate (over-wintering has not yet been attempted but Ian Menzies has successfully reared the species).

- f. Population peaks of *Cryptocephalus* species tend to occur during periods when there is a succession of hot summers. This may be related to an increase in adult activity, resulting in a larger number of eggs being laid.

5. Site descriptions

Brief descriptions are given below for the sites of the two *Cryptocephalus coryli* colonies studied during the 1996 survey. Reference should also be made to a series of photographs, taken in June/July 1996, of the two sites.

a. North Unhill Bank, Oxfordshire (SU 561833)

For recording purposes, this site is in Vice County 22 - Berkshire, although the administrative county is now Oxfordshire.

This site is situated on a very steep and unimproved south-facing hillside. To the north is an ancient track known as 'The Fair Mile' which has supported colonies of two scarce butterflies, *Lysandra bellargus* (Adonis Blue) and *Hesperia comma* (Silver-spotted Skipper). To the south is arable land known as Unhill Bottom. Between The Fair Mile and Unhill Bottom there is a long strip of woodland on a steep south-facing slope and the *Cryptocephalus coryli* colony covers part of this area. (See Appendix 4, Site Maps 1a & 1b).

The *Cryptocephalus coryli* site is ungrazed and consists of two large grassy clearings between two areas of dense woodland. The clearings are linked by narrow paths which are becoming overgrown. Isolated clumps of hazel and birch bushes are scattered over the clearings, which are surrounded by bushes, dominated by hazel. The open grassland clearings are quite species rich and the following plants were noted as growing commonly in the site:

Common Rockrose *Helianthemum nummularium*
Bird's-foot Trefoil *Lotus corniculatus*
St. John's Wort *Hypericum*
Bedstraw *Galium*
Milkwort *Polygala*
Salard Burnet *Sanguisorba minor*
Field Scabious *Knautia arvensis*
Marjoram *Origanum vulgare*
Bramble *Rubus*
Wild Rose *Rosa*
Hazel *Corylus avellana*
Birch *Betula*
Wayfaring Tree *Viburnum lantana*
Dogwood *Swida sanguinea*
Privet *Ligustrum vulgare*
Hawthorn *Crataegus*

A patch of Meadow Clary *Salvia pratensis* was observed in the glade parallel to The Fair Mile (SU 563834) but this is outside the known *Cryptocephalus coryli* breeding area.

b. **Headley Warren Nature Reserve, Surrey (TQ 188539)**

This site is not far from Box Hill (See Appendix 4, Site Maps 2 & 3) and the surrounding area in general has a long history of high entomological interest. Insects recorded in Victorian times from Headley Lane may actually have been from or very near to the site which is now known as Headley Warren Nature Reserve. In the past, species such as *Callistus lunatus* and *Cryptocephalus nitidulus* were recorded from the Headley Lane and Mickleham area and it is therefore not very surprising that a colony of *Cryptocephalus coryli* (another famous 'Box Hill insect') still flourishes.

Headley Warren Nature Reserve consists of a series of small fields, mainly on a fairly gentle south-facing slope and, because the site is ungrazed, young trees and bushes are invading the grassland.

The turf is very short, heavily rabbit grazed, and contains many very ancient *Lasius flavus* (Hym., Formicidae) nests, some of which have been damaged by the rabbits.

Most trees and shrubs are removed in their young stages, but a few isolated birches have been left to mature. In Dove's Field there are areas of privet/birch scrub that are managed to attract the barred toothed-striped moth *Trichopteryx polycommata*.

The western margin of the grassland abuts a mature pine plantation and the other three margins are bounded by mixed woodland.

The grassland is unimproved and species rich. The following plants were noted as growing commonly in the site:

Common Rockrose *Helianthemum nummularium*
Bird's-foot Trefoil *Lotus corniculatus*
Ploughman's Spikenard *Inula conyza*
St. John's Wort *Hypericum*
Cowslip *Primula veris*
Lady's Bedstraw *Galium verum*
Ground Thistle *Cirsium acaule*
Hazel *Corylus avellana*
Birch *Betula*
Field Maple *Acer campestre*
Dogwood *Swida sanguinea*
Privet *Ligustrum vulgare*

6. The 1996 survey

a. North Unhill Bank, Oxfordshire (SU 561833)

For recording purposes, this site is in Vice County 22 - Berkshire, although the administrative county is currently Oxfordshire.

Two days were spent during June/July 1996, to search for *Cryptocephalus coryli*.

The first visit was on 18 June 1996. The entire day was spent systematically working through the network of grassy clearings that are maintained by the gamekeeper amongst the dense scrub that covers a large portion of North Unhill Bank. No *C. coryli* were discovered.

On 10 July 1996 the site was revisited with Ian Menzies, who has successfully reared *Cryptocephalus coryli* from eggs obtained from females found on hazel bushes at North Unhill Bank in June 1991. The morning was spent covering the same ground that was searched on 18 June, but once again, no *C. coryli* were discovered.

b. South Unhill Bank, Oxfordshire (SU 561826)

Surveyed briefly on the afternoon of 10 July 1996. Unfortunately this is a north-facing hillside and this may rule out the possibility of *Cryptocephalus coryli* being present. Most of South Unhill Bank consists of dense mature mainly beech forest (marked as Unhill Wood on the 1" O.S. Map) but along the edge of the arable land in Unhill Bottom there are some areas of ungrazed grassland with scattered hazel bushes that would be ideal for *C. coryli* if the aspect was south-facing. No *C. coryli* were discovered, although a single *Conopalpus testaceus* (Nationally Scarce Category B) was beaten off a hazel bush.

c. Cow Common, Oxfordshire (SU 563820)

Surveyed briefly on the afternoon of 10 July 1996. This is a narrow valley between Unhill Wood and Ham Wood which consists almost entirely of improved pasture. However, along the southern fringe of Unhill Wood there are small areas of unimproved grassland with hazel bushes. Some time was spent beating the foliage of these bushes but no *Cryptocephalus coryli* were discovered. The area of suitable habitat was not large and it was thought that *C. coryli* was rather unlikely to be present.

d. Moulsoford Downs, Oxfordshire (SU 565824)

Surveyed briefly on the afternoon of 10 July 1996. This area of chalk grassland (although not in any way a likely *Cryptocephalus coryli* site) was examined briefly on our way home. The feature which drew our attention to the site was the vast amount of Musk Thistle *Carduus nutans*. There were three scarce insects associated with these thistles: *Trichosirocalus horridus* [Na] and *Hadroplontus trimaculatus* [Nb] (Col., Curculionidae), both in considerable numbers, and *Urophora solstitialis* [RDB3] (Dip., Tephritidae), a few specimens swept.

e. **Headley Warren Nature Reserve, Surrey (TQ 188539)**

Graham Collins beat a single male *Cryptocephalus coryli* off a privet bush situated near the western margin of 'Downs Field' on 14 May 1995 (Collins, G.A., in press).

On 6 July 1996, we visited the site together and Graham showed me the location of the privet bush. Although the weather was fine on our arrival, large and threatening thunder clouds quickly gathered and we hastily worked as much habitat as possible in 'Downs Field' and 'Stainton's Field' before the heavens opened and thoroughly soaked every tree and bush on the site, making it quite impossible to continue with our search after the rain storm had passed over.

About one hour was spent beating birch, hazel and privet in 'Downs Field' and 'Stainton's Field'. This time the search was not in vain and I beat a single *Cryptocephalus coryli* female off a young birch tree growing in the centre of an isolated clump of hazel bushes near the north-western corner of 'Stainton's Field'.

7. Management

The habitat in the two *Cryptocephalus coryli* sites studied during this survey are both managed by man, but in rather different ways. They would be unlikely to survive in their present state if left to nature alone.

a. North Unhill Bank, Oxfordshire (SU 561833)

The area where *Cryptocephalus coryli* occurred is managed as a pheasant shoot. Small trees and bushes are selectively removed as necessary in order to preserve the open woodland and unimproved chalk grassland structure.

The site has evidently remained largely unchanged, and in an ungrazed state, for many years. There are no plans to manage the site by grazing.

The entire hillside once probably contained very little scrub or no scrub at all, but much of the site has now developed into secondary woodland. The remaining areas of open grassland would probably not survive for long without management and it is the presence of an active pheasant shoot that keeps the habitat fairly stable.

A site meeting with the gamekeeper, Mr Lawrence Cul, was planned but unfortunately this was cancelled. We spoke on the telephone and Mr Cul expressed interest in the presence of such a rare species on his patch and indicated that he might be willing to co-operate with English Nature in order to protect the colony of *Cryptocephalus coryli*, providing there was no clash with his own professional interests.

Current habitat management is probably sufficient to ensure that the *Cryptocephalus coryli* colony is able to survive for at least a few years. However, maintaining chalk grassland habitat without grazing is not easy and is quite labour intensive. Grassy glades and clearings are often under attack from every direction as existing trees and bushes grow and fresh seedlings spring up. The habitat may change gradually from year to year and if measurements of these changes are not recorded, habitat loss will occur without the manager realising anything is wrong and it may then be too late to successfully reverse the process.

Because *Cryptocephalus coryli* appears to require a delicate balance between grassland, scrub and woodland, any clearance of bushes should be carried out to a predetermined plan. The main threat at the present time appears to be the closure of paths and glades that link the main clearings together. More habitat could therefore be created if these glades were opened up.

Once bushes have shaded out the grassland it is quite difficult to recreate the grassland habitat by cutting them back. Frequent cutting on a small scale is better than large scale clearance of scrub, therefore the edge of the shrub margin should be gradually pushed back each year without creating large patches of bare ground that are frequently invaded by undesirable plant species.

The aim should be to maintain a series of unimproved and ungrazed chalk grassland clearings, linked by paths and glades that are wide enough to support a grassland flora.

The woodland margins should contain both birch and hazel. The clearings should be maintained as they are now, with scattered hazel bushes and young birch trees. It may be especially important to conserve the large isolated hazel bushes where several specimens of *Cryptocephalus coryli* were found in June 1991.

There is some scope for extending the area of habitat for *Cryptocephalus coryli*, mainly by enlarging and linking small glades and clearings to the west of the main breeding area, but possibly also eastwards.

It is necessary to establish whether *Cryptocephalus coryli* is still present at this site since it was not found during the 1996 survey.

b. Headley Warren Nature Reserve, Surrey (TQ 188539)

This privately owned land forms part of the 'Mole Gap to Reigate Escarpment SSSI' and has been managed as a nature reserve for a number of years by Mr Mackworth-praed (now deceased) who was an entomologist. Mr Mackworth-praed's son has now taken over the reserve management. Some entomological survey work has recently been carried out by Graham Collins and John Owen.

The habitat at this site may actually contain too little rather than too much scrub. It is noteworthy that the female *Cryptocephalus coryli* that was found on 6 July 1996 occurred on one of the few isolated clumps of birch/hazel present.

It is not known whether the breeding centre of *Cryptocephalus coryli* is in Stainton's Field or Downs Field (or both) since one specimen has occurred in each place. Past management of these fields appears to be different. Stainton's Field contains very few isolated bushes whereas Downs Field contains a considerable amount of young saplings.

The habitat in both fields could be improved for *Cryptocephalus coryli* by allowing a small number isolated hazel and birch bushes to develop, whilst maintaining the areas between the bushes as rabbit-grazed grassland as it is now.

8. Other possible sites for *Cryptocephalus coryli*

Listing likely sites which might support a colony of *Cryptocephalus coryli* is highly speculative, but nevertheless, it is probably worth recording a few thoughts and ideas.

Several years ago English Nature sent me a number of SSSI maps showing the location of good Common Rockrose *Helianthemum nummularium* sites on the Chiltern Hills. This was primarily in order to plan future expeditions to search for *Cryptocephalus primarius*, but these trips were never made. However, the type of grassland that supports large areas of rockrose may also be ideal habitat for *Cryptocephalus coryli*, although it must be stressed that this statement has been made with no field knowledge of the sites concerned. Sites (i) and (ii) are in Oxfordshire (V.C. 22, Berks) and Site (iii) is in Oxfordshire (V.C. 23, Oxford) All the sites appear to contain at least some south-facing aspects and the SSSI schedules indicate that some birch or hazel scrub is present:

- Moulsoford Downs (SU 573826 & SU 581826)
- Aston Upthorpe Downs (SU 541829 & SU 544829)
- Swyncombe Downs (SU 671914 & SU 673911)

In Surrey, *Cryptocephalus coryli* could occur almost anywhere along the North Downs escarpment, especially between Guildford and Reigate. However, there are perhaps three areas which might justify further survey work:

- Box Hill (TQ 1852, etc.)
- Hackhurst Downs (TQ 0948 & TQ 1048)
- White Downs (TQ 1249)

The species may still be present in Kent but searching for the species might be too time consuming and speculative. The most recent Kent record is the one from the Blean Woods Complex by A. M. Masee in 1967 but without more precise information on the location of the site it would be difficult to justify a professional search.

Cryptocephalus coryli appears to be curiously absent from the South Downs of East/West Sussex and South Hampshire. Although the species may possibly be breeding in some of the more wooded areas of downland in West Sussex, it may be that it is genuinely absent from this part of England (there are parallel cases such as *Callistus lunatus* (Col., Carabidae), which is recorded from several *C. coryli* sites but is not known from the South Downs).

9. Acknowledgements

I am grateful to the following people who helped me with this project:

Mr Graham A. Collins who arranged access and guided me around Headley Warren Nature Reserve on 6th July 1996 and also provided me with a copy of the nature reserve site map for this report.

Mr Lawrence Cul, the gamekeeper of North Unhill Bank, for granting permission to study insects and drive along private tracks in Unhill Bottom in order to reach the *Cryptocephalus coryli* study site.

Harry E. Henson for giving me precise details of his Lincolnshire record for *Cryptocephalus coryli*

Dr Ian S. Menzies for giving up his free time to join me in the search for *Cryptocephalus coryli* at North Unhill Bank on 10th July 1996 and for allowing me to include details of his personal records.

10. References

Literature References

- BUCK, F.D. 1948. South London Entomological and Natural History Society exhibits in the rooms of the Royal Society on 9th June 1948. *Entomologist's Mon. Mag.*, **84**: 185.
- CARR, J.W. 1916. *The invertebrate fauna of Nottinghamshire*. Nottingham: J. & H. Bell Ltd. viii + 618pp.
- COLLINS, G.A. 1996? (in press). Some Red Data Book beetles in Surrey.
- FOWLER, W.W. 1890. *The Coleoptera of the British Islands*. Vol. 4: 289-290. London: L. Reeve.
- FOWLER W.W. & DONISTHORPE, H. St. J. 1913. *The Coleoptera of the British Islands*. Vol. 6 (Supplement) p. 287. London. L. Reeve.
- HARWOOD, P. 1947. *Cryptocephalus coryli* L and *C. punctiger* Payk. (Col., Chrysomelidae) in Inverness-shire. *Entomologist's Mon. Mag.*, **83**: 88.
- HODGE, P.J. 1996. *Cryptocephalus coryli* (L.) (Col., Chrysomelidae). Survey and monitoring project for proposed species recovery programme. Including an assessment of the recent Berkshire/Oxfordshire & Surrey records. Peterborough: English Nature.
- HYMAN, P.S. (Revised PARSONS, M.S.) 1992. A review of the scarce and threatened Coleoptera of Great Britain, part 1. *UK Nature Conservation*, No. 3. Peterborough: JNCC.
- JOY, N.H. 1902. *Leptinus testaceus*, &c., near Bradfield, *Gnorimus nobilis* near Towcester, and *Meloe brevicollis* from South Devon. *Entomologist's Mon. Mag.*, **38**: 179.

- JOY, N.H. 1932. *A practical handbook of British beetles*, Vol. 1: 394. London: Witherby.
- KIDSON-TAYLOR, J. 1904. Occurrence of *Cryptocephalus coryli* in Sherwood Forest. *Entomologist's Mon. Mag.*, **40**: 32.
- KIDSON-TAYLOR, J. 1906. Coleoptera captured in Sherwood Forest, June 1906. *Entomologist's Mon. Mag.*, **42**: 272.
- PAGE, W. 1908. *The Victoria county history of the County of Kent*. Vol. 1. London: Archibald Constable.
- PAGE, W. 1908. *The Victoria county history of the County of Stafford*. Vol. 1. London: Archibald Constable.
- PETERKEN, G.F. & WELCH, R.C. 1975. *Bedford Purlieus. Its history, ecology and management*. Monks Wood Experimental Station. Symposium No. 7. Institute of Terrestrial Ecology.
- POPE, R.D. 1977. Kloet and Hincks a check list of British insects. Pt 3. Coleoptera and Strepsiptera. 2nd ed. *Handbooks for the identification of British insects*, **11(3)**. London: Royal Entomological Society of London.
- RIGGALL, E.C. 1946. Coleoptera. *Trans. Lincs. Naturalists' Union*, **11**: 187-189.
- RIGGALL, E.C. 1950. Coleoptera. Section Officers' Report for 1949. *Trans. Lincs. Naturalists' Union*, **12**: 159-163.
- RIGGALL, E.C. 1955. Coleoptera Report. *Trans. Lincs. Naturalists' Union*, **14**: 45.
- SHIRT, D.B. (ed.). 1987. *British Red Data Books : 2 : Insects*. Peterborough: Nature Conservancy Council.
- STEPHENS, J.S. 1839. *Manual of Coleoptera or Beetles*, p. 304. London.
- WALKER, J.J. 1890. Casual captures of Coleoptera. *Entomologist's Mon. Mag.*, **26**: 83 - 84.

Personal References

COLLINS, G.A., 15 Hurst Way, South Croydon, Surrey, CR2 7AP. Tel: 0181 688 4539.

CUL, L., Head Gamekeeper for North Unhill Bank. Tel: 01635 578369

DRANE, A.B., ROCKLANDS, 19 Station Road, Cogenhoe, Northampton, NN7 1LT.
Tel: 01604 890499.

ERBER, DR D., Spitzwegring 81, D - 35396 Giessen, Germany.

HENSON, H.E., 36 Thornleigh Drive, Orton Longueville, Peterborough PE2 7AL.
Tel: 01733 231406.

HERRMANN, A., Bremervörder Straße 123, D-21682 Stade, Germany.

MENZIES, Dr I.S., Villiers Lodge, I Cranes Park, Surbiton, Surrey. Tel: 0181 399 6000.

OWEN, PROF. J.A., 8 Kingsdown Road, Epsom, Surrey, KT17 8PU. Tel: 013727 23218.

PORTER, D.A., 76 London Road, Hailsham, East Sussex, BN27 3DD.

Appendix 1

Insects recorded from North Unhill Bank, Oxfordshire (V.C. 22, Berks.), SU 561833

1. Species recorded on 19.vi.1983

COLEOPTERA (Beetles)

BRENTIDAE (Weevils)

Acanephodus onopordi

CHRYSOMELIDAE (Leaf beetles)

Cryptocephalus labiatus

Cryptocephalus moraei

CURCULIONIDAE (Weevils)

Baris picicornis

Nationally Scarce Category B

Gymnetron melanarium

Nationally Scarce Category B

Gymnetron pascuorum

Phytobius quadrituberculatus

Sirocalodes depressicollis

MELYRIDAE

Anthocomus fasciatus

MORDELLIDAE

Mordellistena pumila

PHALACRIDAE

Phalacrus fimetarius

SCARABAEIDAE (Dung beetles & chafers)

Onthophagus ovatus

Omaloplia ruricola

Nationally Scarce Category B

2. Species recorded on 20.vi.1987

BRENTIDAE (Weevils)

Ischnopterapion loti

Squamapion atomarium

BYRRHIDAE (Pill beetles)

Chaetophora spinosa

CANTHARIDAE (Soldier beetles)

Rhagonycha lignosa

Rhagonycha lutea

Nationally Scarce Category B

CHRYSOMELIDAE (Leaf beetles)

Chrysolina polita

Cryptocephalus labiatus

Cryptocephalus moraei

Mantura matthewsi

Psylliodes affinis

Psylliodes dulcamarae

CURCULIONIDAE (Weevils)

Sirocalodes depressicollis

Nationally Scarce Category B

Sirocalodes mixtus

Nationally Scarce Category B

Ceutorhynchus resedae

Ceutorhynchus assimilis

DASCILLIDAE

Dascillus cervinus

ELATERIDAE (Click beetles)

Athous haemorrhoidalis

MORDELLIDAE

Mordellistena brevicauda

Red Data Book K - Insufficiently Known

NITIDULIDAE (Pollen beetles, etc)

Meligethes aeneus

Nationally Scarce

Meligethes lugubris

Nationally Scarce

Meligethes solidus

Pria dulcamarae

DIPTERA (Flies)

DOLICHOPODIDAE (Long-legged flies)

Xanthochlorus ornatus

SYRPHIDAE (Hover-flies)

Volucella bombylans

3. Species recorded on 29.vi.1988

COLEOPTERA (Beetles)

BRUCHIDAE (Pea-weevils)

Bruchidius cisti

CANTHARIDAE (Soldier beetles)

Malthinus balteatus

Nationally Scarce Category B

Rhagonycha fulva

CHRYSOMELIDAE (Leaf beetles)

Altica pusilla

Chrysolina hyperici

Chrysolina polita

Chrysolina varians

Mantura matthewsi

CURCULIONIDAE (Weevils)

Miarus campanulae

ELATERIDAE (Click beetles)

Agrypnus murinus

Athous bicolor

MORDELLIDAE

Mordellistena pumila

NITIDULIDAE (Pollen beetles, etc)

Meligethes aeneus

Nationally Scarce

Meligethes erythropus

Meligethes lugubris

SCARABAEIDAE (Dung beetles & chafers)

Omaloplia ruricola

Nationally Scarce Category B

TENEBRIONIDAE

Isomira murina

DIPTERA (Flies)

DOLICHOPODIDAE (Long-legged flies)

Neurigonia suturalis

Sciapus longulus

SYRPHIDAE (Hover-flies)

Paragus haemorrhous

HEMIPTERA-HETEROPTERA (Bugs)

COREIDAE (Squash bugs)

Ceraleptus lividus

MIRIDAE (Capsid bugs)

Amblytylus nasutus

Capsus ater

Calocoris roseomaculatus

Calocoris sexguttatus

- RHOPALIDAE
Rhopalus subrufus
Charagochilus gyllenhali
- LEPIDOPTERA (Moths)
 SESIIDAE (Clearwing Moths)
Bembecia scopigera (six-belted clearwing) **Nationally Scarce Category B**
4. **Species recorded on 1.vi.1991**
- COLEOPTERA (Beetles)
 ATTELABIDAE (Weevils)
Rhynchites olivaceus (One by A.B.Drane) **Nationally Scarce Category A**
 CANTHARIDAE (Soldier beetles)
Cantharis nigricans
Rhagonycha lutea **Nationally Scarce Category B**
 CERAMBYCIDAE (Longhorn beetles)
Phytoecia cylindrica **Nationally Scarce Category B**
 CHRYSOMELIDAE (Leaf beetles)
Cryptocephalus coryli **Red Data Book 1 - Endangered**
Cryptocephalus labiatus
 COCCINELLIDAE (Ladybirds)
Scymnus frontalis
 CURCULIONIDAE (Weevils)
Polydrusus cervinus
 ELATERIDAE (Click beetles)
Agrypnus murinus
 NITIDULIDAE (Pollen beetles, etc)
Meligethes solidus **Nationally Scarce**
 OEDEMERIDAE
Ischnomera cyanea **Nationally Scarce Category B**
Oedemera lurida
 PYROCHROIDAE (Cardinal beetles)
Pyrochroa serraticornis
 TENEBRIONIDAE
Gonodera luperus
Isomira murina
5. **Species recorded on 8.vi.1991**
- COLEOPTERA (Beetles)
 CHRYSOMELIDAE (Leaf beetles)
Cryptocephalus coryli
 (One male by Dr I. S. Menzies) **Red Data Book 1 - Endangered**
6. **Species recorded on 17.vi.1991**
- COLEOPTERA (Beetles)
 CHRYSOMELIDAE (Leaf beetles)
Cryptocephalus coryli
 One female by Dr I. S. Menzies) **Red Data Book 1 - Endangered**
7. **Species recorded on 18.vi.1996**
- COLEOPTERA (Beetles)
 ANOBIIDAE (Woodworm beetles)
Hemicoelus fulvicornis

ATTELABIDAE (Weevils)
 Apoderus coryli
 Rhynchites aequatus
 BRUCHIDAE (Pea-weevils)
 Bruchidius cisti
 BYTURIDAE (Raspberry beetles)
 Byturus tomentosus
 CANTHARIDAE (Soldier beetles)
 Rhagonycha lutea
 Rhagonycha lignosa
 Cantharis decipiens
 Malthinus flaveolus
 Malthodes minimus
 Cantharis rustica
 Cantharis nigricans
 CERAMBYCIDAE (Longhorn beetles)
 Grammoptera ruficornis
 Anaglyptus mysticus
 Alosterna tabacicolor
 Tetrops praeusta
 Agapanthia villosoviridescens
 CHRYSOMELIDAE (Leaf beetles)
 Chrysolina polita
 Cryptocephalus moraei
 Phyllotreta nigripes
 Phyllotreta nodicornis
 Cryptocephalus labiatus
 COCCINELLIDAE (Ladybirds)
 Adalia bipunctata
 Halyzia sedecimguttata
 Tytthaspis sedecimpunctata
 Psyllobora vigintiduopunctata
 Coccinella septempunctata
 Propylea quattuordecimpunctata
 Calvia quattuordecimguttata
 CURCULIONIDAE (Weevils)
 Polydrusus cervinus
 Polydrusus pterygomalis
 Otiorhynchus singularis
 Curculio nucum
 Curculio venosus
 Ceutorhynchus assimilis
 Gymnetron pascuorum
 Sirocalodes depressicollis
 Phyllobius pyri
 Phyllobius roboretanus
 DASCILLIDAE
 Dascillus cervinus
 ELATERIDAE (Click beetles)
 Athous haemorrhoidalis
 Agrypnus murinus
 Agriotes sputator
 Prosternon tessellatum
 Agriotes pallidulus
 Athous hirtus
 MELANDRYIDAE
 Isomira murina
 Gonodera luperus

Nationally Scarce Category B

MORDELLIDAE

Mordellochroa abdominalis

PYROCHROIDAE (Cardinal beetles)

Pyrochroa serraticornis

SCARABAEIDAE (Dung beetles & chafers)

Onthophagus ovatus

Phyllopertha horticola

SCRAPTIIDAE

Anaspis maculata

DIPTERA (Flies)

ASILIDAE (Robber flies)

Leptogaster cylindrica

EMPIDIDAE (Dance flies)

Empis picipes

TEPHRITIDAE (Picture-winged flies)

Urophora stylata

THEREVIDAE

Thereva plebeia

Nationally Scarce

HEMIPTERA-HETEROPTERA (Bugs)

ACANTHOSOMATIDAE (Shield bugs)

Elasmostethus interstinctus

COREIDAE (Squash bugs)

Coreomeris denticulatus

MIRIDAE (Capsid bugs)

Calocoris fulvomaculatus

Calocoris sexguttatus

Capsus ater

PENTATOMIDAE (Shield bugs)

Eurydema oleracea

LEPIDOPTERA (Butterflies)

LYCAENIDAE

Callophrys rubi (Green Hairstreak)

Celastrina agriolus (Holly Blue)

Polyommatus icarus (Common Blue)

NYMPHALIDAE

Cynthia cardui (Painted Lady)

PIERIDAE

Gonepteryx rhamni (The Brimstone)

SATYRIDAE

Coenonympha pamphilus (Small Heath)

LEPIDOPTERA (Moths)

NOCTUIDAE

Colocasia coryli (Nut-tree Tussock)

Larva on hazel

8. Species recorded on 10.vii.1996

COLEOPTERA (Beetles)

CANTHARIDAE (Soldier beetles)

Malthinus flaveolus

Rhagonycha fulva

CHRYSOMELIDAE (Leaf beetles)

Oulema rufocyanea

COCCINELLIDAE (Ladybirds)

Exochomus quadripustulatus

CURCULIONIDAE (Weevils)
Anthonomus pedicularius
ELATERIDAE (Click beetles)
Athous bicolor
SCARABAEIDAE (Dung beetles & chafers)
Hoplia philanthus
Onthophagus joannae
TENEBRIONIDAE
Lagria hirta

DIPTERA (Flies)
ASILIDAE (Robber flies)
Leptarthrus brevirostris
SYRPHIDAE (Hover-flies)
Chrysotoxum bicinctum
TEPHRITIDAE (Picture-winged flies)
Terellia colon

HEMIPTERA-HETEROPTERA (Bugs)
PENTATOMIDAE (Shield bugs)
Palomena prasina
MIRIDAE (Capsid bugs)
Atractomus mali
Calocoris sexguttatus
Leptoterna ferrugata
Notostira elongata
Phylus coryli
Polymerus unifasciatus
RHOPALIDAE
Myrmus miriformis

HEMIPTERA-HOMOPTERA (Bugs)
CICADELLIDAE
Ledra aurita

HYMENOPTERA (Bees, wasps, ants, etc)
APIDAE (Bees)
Hoplitis claviventris
Hylaeus annularis
Nomada fabriciana

LEPIDOPTERA (Butterflies)
HESPERIIDAE
Ochlodes venata (Large Skipper)
LYCAENIDAE
Cupido minimus (Small Blue)
Lycaena phlaeas (Small Copper)
NYMPHALIDAE
Vanessa atalanta (Red Admiral)
SATYRIDAE
Maniola jurtina (Meadow Brown)
Pyronia tithonus (The Gatekeeper)
Aphantopus hyperantus (The Ringlet)
Melanargia galathea (Marbled White)

LEPIDOPTERA (Moths)
PYRALIDAE
Pyrausta nigrata

ORTHOPTERA (Grasshoppers & crickets)

TETTIGONIIDAE (Bush-crickets)

Meconema thalassinum (Oak Bush-cricket)

Pholidoptera griseoptera (Dark Bush-cricket)

Leptophyes punctatissima (Speckled Bush-cricket)

ACRIDIDAE (Grasshoppers)

Omocestes viridulus (Common Green Grasshopper)

Appendix 2

Insects recorded from Headley Warren Nature Reserve, Surrey, (TQ 188539)

Species recorded from Stainton's Field & Downs Field on 6.vii.1996

COLEOPTERA (Beetles)

CANTHARIDAE (Soldier beetles)

Rhagonycha lutea

Nationally Scarce Category B

CHRYSOMELIDAE (Leaf beetles)

Cryptocephalus coryli

Red Data Book 1 - Endangered

CURCULIONIDAE (Weevils)

Otiorhynchus clavipes

Polydrusus cervinus

ELATERIDAE (Click beetles)

Athous haemorrhoidalis

MORDELLIDAE

Mordellistena variegata

TENEBRIONIDAE

Isomira murina

DIPTERA (Flies)

ACROCERIDAE

Ogcodes pallipes

Nationally Scarce

STRATIOMYIDAE (Soldier flies)

Chorisops tibialis

HEMIPTERA-HETEROPTERA (Bugs)

ACANTHOSOMATIDAE (Shield bugs)

Elasmucha grisea

ANEURIDAE

Aneurus laevis

HYMENOPTERA (Bees, wasps, ants, etc)

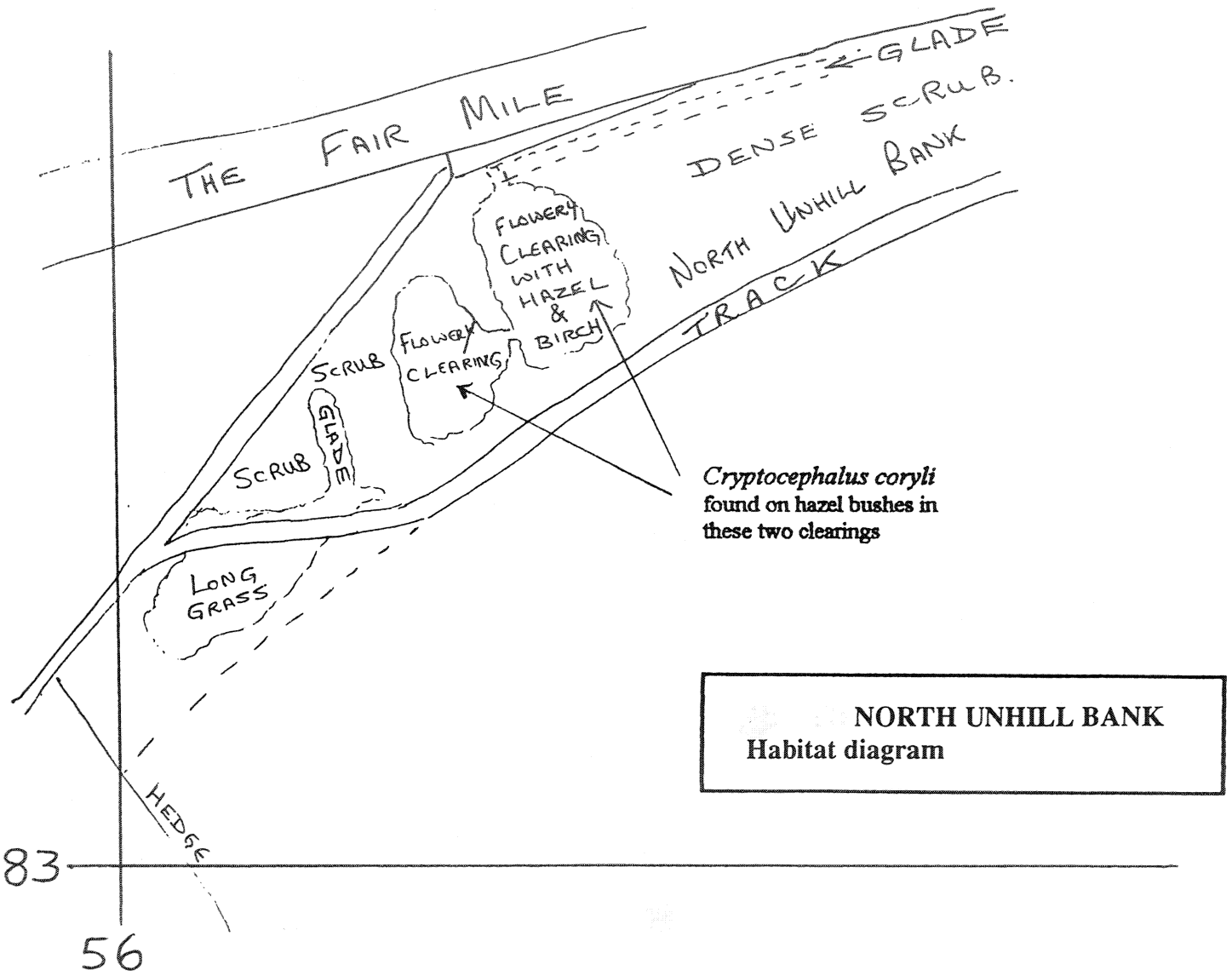
SPHECIDAE (Solitary wasps)

Crossocerus annulipes

Appendix 3

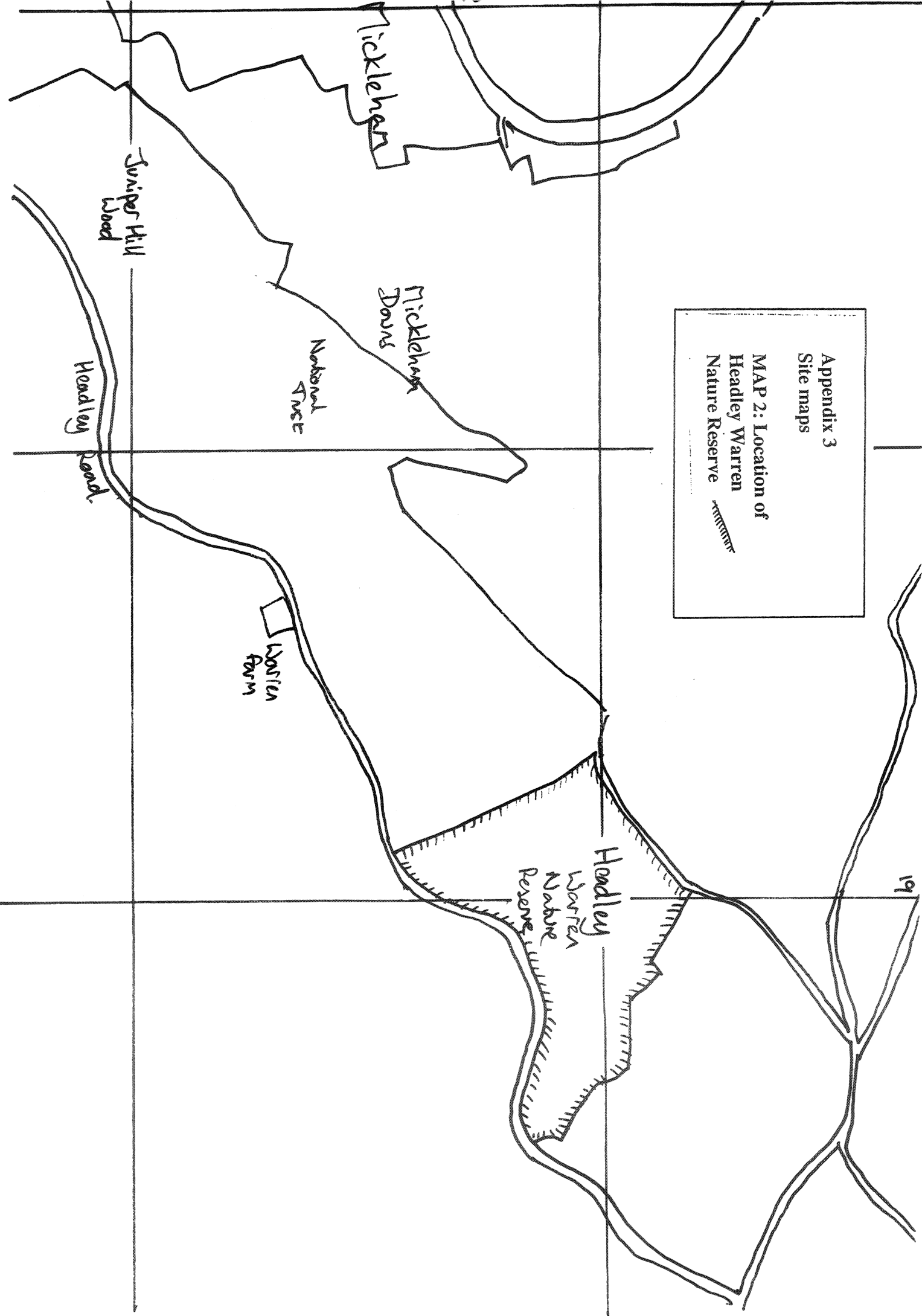
Site maps

MAP 1: NORTH UNHILL BANK
Location of *Cryptocephalus coryli* colony



Appendix 3
Site maps

MAP 2: Location of
Headley Warren
Nature Reserve



HYDE & SLOUGH FARMS
HEADLEY WARREN NATURE RESERVE

Detail not to scale

SURREY. GRID REF TQ 1574

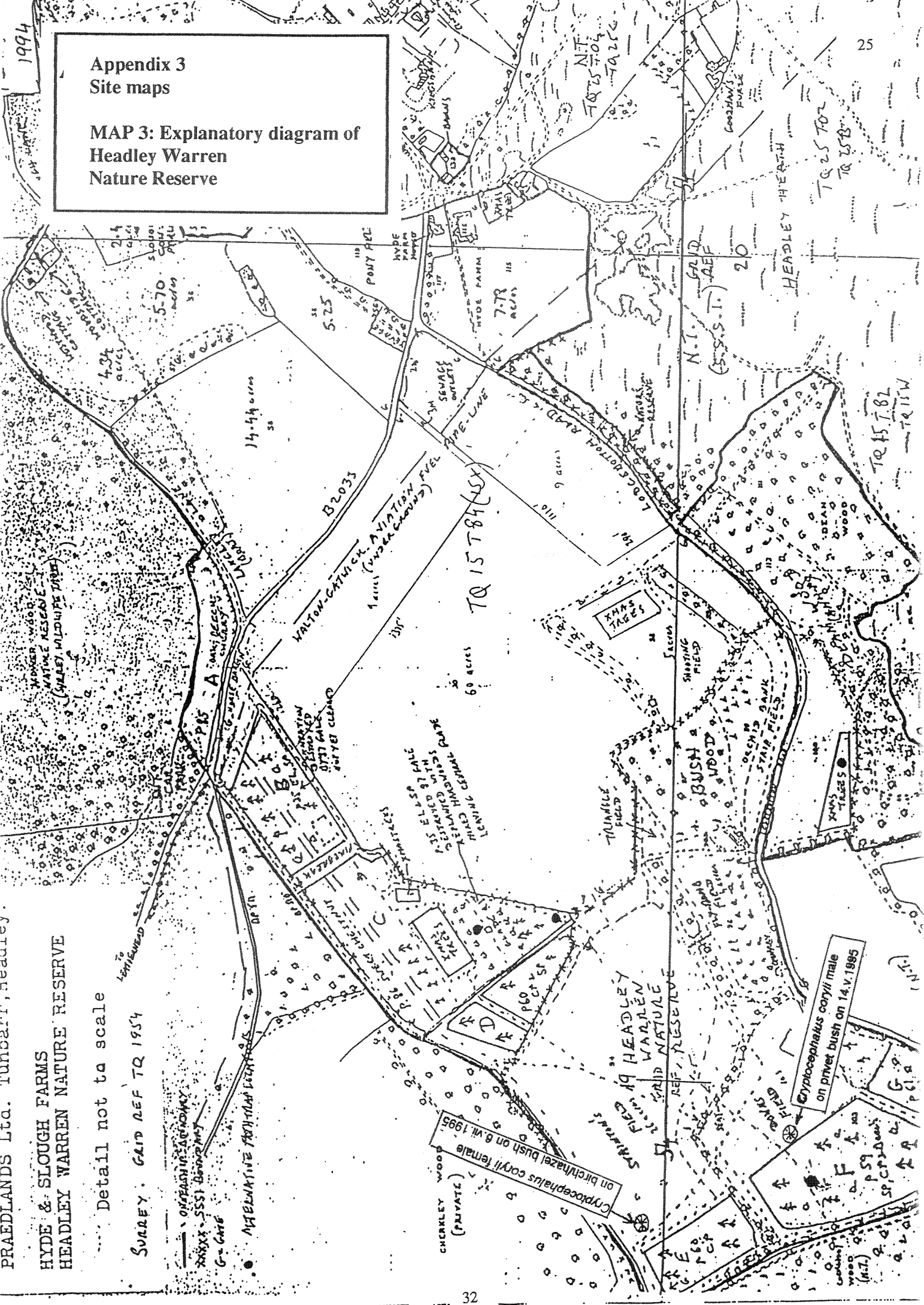
OPERATING AUTHORITY
S551 SSSI BOUNDARY
G-C GATE

ALTERNATIVE TERN MAP BIRTH

CHERKLEY WOOD (PRIVATE)
on bichthazel bush on 8.vi.1995
Cryptocephalus coryli female

on privet bush on 14.v.1985
Cryptocephalus coryli male

Appendix 3
Site maps
MAP 3: Explanatory diagram of
Headley Warren
Nature Reserve



Appendix 4

Photographs

A short series of photographs, showing the *Cryptocephalus coryli* habitat at North Unhill Bank and Headley Warren Nature Reserve, are enclosed with this report.

Ian Menzies has a comprehensive collection of slides showing stages of the life history, including adults, eggs and larvae and he would almost certainly be willing to supply English Nature with a set for scientific use.



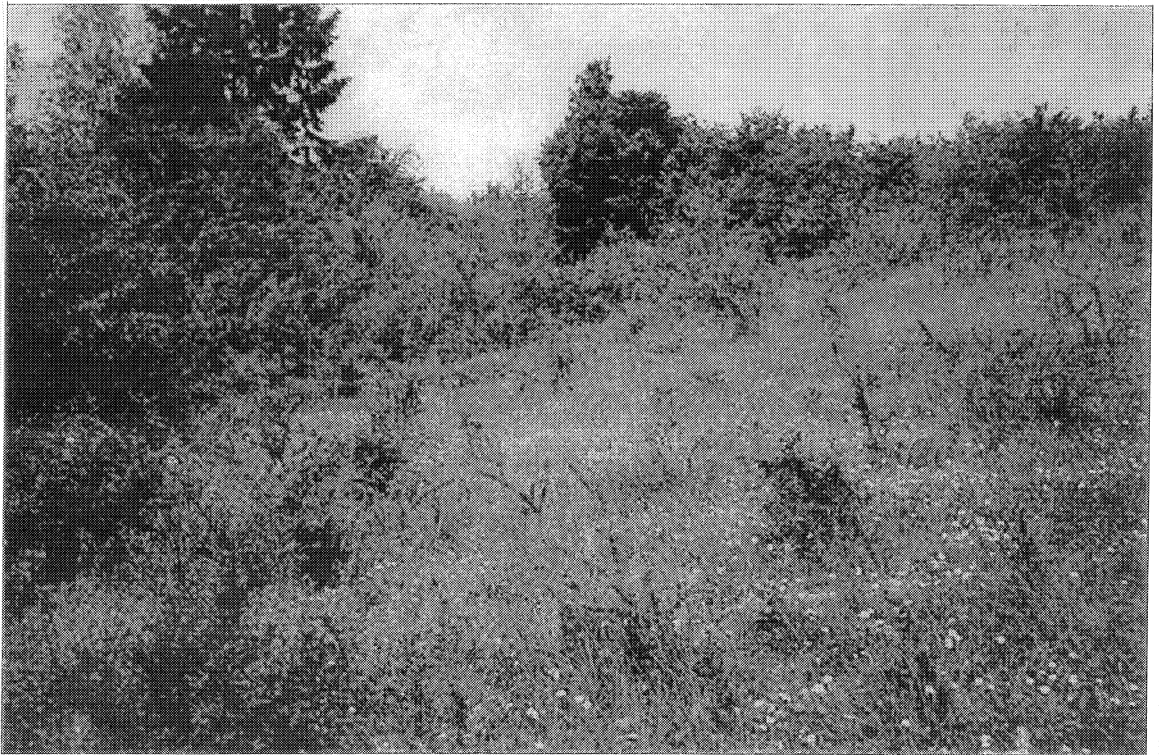
North Unhill Bank (SU561833) 18 June 1996. View looking east near centre of eastern clearing. Several *Cryptocephalus coryli* have occurred on the large hazel bush.



North Unhill Bank (SU561833) 18 June 1996



North Unhill Bank (SU561833) 18 June 1996



North Unhill Bank (SU561833) 18 June 1996



North Unhill Bank (SU561833) 18 June 1996



Headley Warren Nature Reserve (TQ189539) 6 July 1996. Stainton's Field, looking south



Headley Warren Nature Reserve (TQ189539) 6 July 1996. Stainton's Field, looking towards north-west corner. *Cryptocephalus coryli* female on hazel/birch bush in centre on 6 July 1996



Headley Warren Nature Reserve (TQ189539) 6 July 1996. Western edge of Down's Field, looking north. *Cryptocephalus coryli* male on privet bush in centre-background on 14 May 1996.



Headley Warren Nature Reserve (TQ189539) 6 July 1996. Down's Field, looking north.



Headley Warren Nature Reserve (TQ189539) 6 July 1996. Down's Field, looking east.

2. Survey in Lincolnshire (S A Williams)

Cryptocephalus coryli Survey of Lincolnshire sites
Species Recovery Programme, Survey and Monitoring Project
S.A. Williams 23 July 1996

1. Introduction

Before leaving for Lincolnshire I tried to contact Alan Lazenby at Sheffield who had found *Cryptocephalus coryli* in the county in 1965, but I was too late as he had left for the continent the previous day. I was luckier with Harry Henson of Peterborough who found the beetle in Lincolnshire in 1987, making his the most recent county record. He found it along the road between Woodhall Spa and Kirkby on Bain by the Lincolnshire Trust Reserve of Kirkby Moor. I had a six figure map reference of this capture. Harry was able to give me a little more detail of his capture and to say that he had spent some time there the day prior to my call looking for the beetle, but with no success.

2. Sites visited

Kirkby Moor	TF2163
Moor Farm	TF2263
Linwood Warren	TF1387
Middle Rasen Plantation	TF1091
Warren Wood	SK8288 (TF1388, see 2.4)

2.1 Kirkby Moor

Map 2 Photographs 1-3

I started my search at Kirkby Moor as it was the only site that I was acquainted with as well as being that of the most recent capture. I beat both sides of the road where Harry Henson had found it, going deep into the woodland on the north side where the birch was thickest. I swept part of the time, but mostly used the beating tray. I was unsuccessful so I moved south of the road into Ostler's Plantation and eventually found the first (and only) *C. coryli*. It was a large and rather battered looking female, on young birch about 4 m high, with the beetle about chest height. The tree was in a clearing, open at one end with the remainder surrounded by pine. There were many birch around, all about the same height with abundant large leaves. Many birch that I had been beating until then were taller and straggly where they competed for light. It may be that these are not so good for the beetle, they are certainly more difficult to beat. I didn't keep the beetle for photographing as it was not a good specimen and I was a little worried about keeping it in my hotel for a week. I worked the area for a few hours but saw no more, I also searched the birch further south towards the old house (see map) but saw no more *C. coryli* despite return visits.

Addendum to Kirkby Moor - by Roger Key (English Nature)

On 20th June 1997, 21 members of English Nature's Lowlands Team visited Kirkby Moor as part of a team-building exercise. This included a search for *Cryptocephalus coryli* which was successful. Three specimens, all female, were found in an area close to Mr Williams' discovery, in the strip of scrubby heathland adjacent to Ostler's Plantation. Two were on small birches at the edge of a large open space. One was regrowth from a previously cut birch, currently approximately 3 metres high, the other on a small, sickly sapling 1.5m high. A third specimen allighted on one of the searchers in the same area, and a fourth specimen was found on a 2m birch sapling in the south part of the reserve and all finds have been located on Mr Williams' map. All four birches on which the species has been confirmed at the site have been marked with wooden stakes by the Trust warden, Terry Bailey.

2.2 Linwood Warren Map 3 Photograph 4

I thought that this was a most suitable place for *C. coryli* and was surprised not to turn it up. The species seems to have been taken here regularly in the 1940s and, although the area has changed a lot since then, it still looks most promising. The Lincolnshire Trust, who manage the site, have cut down a good deal of birch but, looking at the stumps, it seems likely that these were growing very close together and possibly straggly and so perhaps it's not a great loss. The fringe of the heath contains excellent young bushes and trees that are perhaps more to the beetles' liking (although it is dangerous to base a view on one specimen!) I spent most of my time at Linwood beating, but I also swept and grubbed around the base of the birch in the hope of finding larva.

I feel sure that this is the Warren mentioned by E.C. Riggall (1955) in his address to the Lincolnshire Society when he said that "*coryli* appears well established at the Warren", and not Warren Wood over by Gainsborough (which I refer to later) (but see 2.4). Since the 1940s, a golf course has been built here and a large area of pine planted, nevertheless Linwood looks to be a strong possibility for *C. coryli*.

2.3 Middle Rasen Plantation Map 1

This is where the beetle was taken in 1965, but I don't know exactly where. I was able to discuss the area with the Forestry Department at Market Rasen but didn't manage to meet the forester concerned with this particular plantation, Chris Reynolds, despite an early morning visit to his office. At first the plantation looks devoid of anything other than pine, but once inside it is possible to find clumps of birch in amongst them and particularly along the railway line where there is a wide track. It is my guess that it was along this track where the beetle was found in 1965, although the whole area most probably changed about then with the planting of pine. I spent most of my time beating along the railway line as this is where most of the birch is. I saw no sign of the beetle.

2.4 Warren Wood

This was a complete failure; enquiries at the Forestry Department at Market Rasen had pinpointed a wood over near Gainsborough, but I could get no further information. I did find it after a little trouble but discovered it was heavily kept and the gamekeepers dogs ran loose and were very fierce. I talked to local people but didn't go in the wood which looked to have no birch in it anyway. One lady who lived in the wood did think that there was birch (she may well be correct) and to contact the land agent, Mr Sharp, Thonock Estates on 522018 (Gainsborough).

(Addendum by R S Key: Further research has indicated that the Warren Wood referred to is what is now a conifer plantation to the north of Linwood Warren at TF133882)

2.5 Moor Farm Map 4

This is very close to Kirkby Moor and is a large sandy heath with lots of birch around the edge and larger stands in the west where it is wet around two ponds. I spent a lot of time here as it looked a most suitable place for the beetle, particularly as it was so close to where I had taken it a few days earlier. I beat mostly, swept and searched by hand, but found no beetles. I met the warden who was particularly helpful even when I told him that *C. coryli* was associated with birch, not the most popular tree on the reserve and one that they had been removing to turn into charcoal. Not that there is any shortage of birch and where it has been taken out it is regenerating.

3. Notes

Cryptocephalus coryli is a rare insect in Britain and has probably always been so, but sometimes it occurred in numbers at certain places, for instance: "taken in plenty near Cobham Park in 1858 by Dr Power, Mr Stevens, E.C. Rye and other collectors, but not met with since that time, except one example taken by me on hawthorn, 4 June 1898 in Cobham Park" (J.J. Walker, 1900, Coleoptera of Rochester). It may still occur in Kent, but if so it must be very local and rare, it has not been recorded for many years. Most specimens that I have seen in collections (including my own) have come from Mickleham, Surrey, where, as far as I am aware, it was rarely seen in numbers. It may well be on the edge of its northern range in England and adversely affected by cold winters. It may also be attractive to birds.

Peter Hodge is in touch with Ian Menzies who has actually bred *Cryptocephalus coryli* and I understand that his report will feature some aspects of its life history. It does seem from his work that the beetle does prefer young birch bushes rather than tall trees.

The beetle seems easy enough to breed and lays a lot of eggs, perhaps as many as 200, so it should be possible to take a female from, say, Kirkby Moor and rear a batch of *C. coryli* and return them to the site and see if it has any effect on the population. The one factor that is least understood is the role played by ants - if any; perhaps Peter's experiments may throw some light on this.

There looks to be no shortage of young birch at all the north Lincolnshire sites visited. It might be of interest that the trees that form the edge to the central heathland at Linwood

Warren have the grass beneath them grazed whilst at the other sites the grass is tussocky. I mention this in case ants are involved in some way.

I do wonder if anything is known about *Cryptocephalus coryli* on the continent so I will search the literature when I next visit the Royal Entomological Society library.

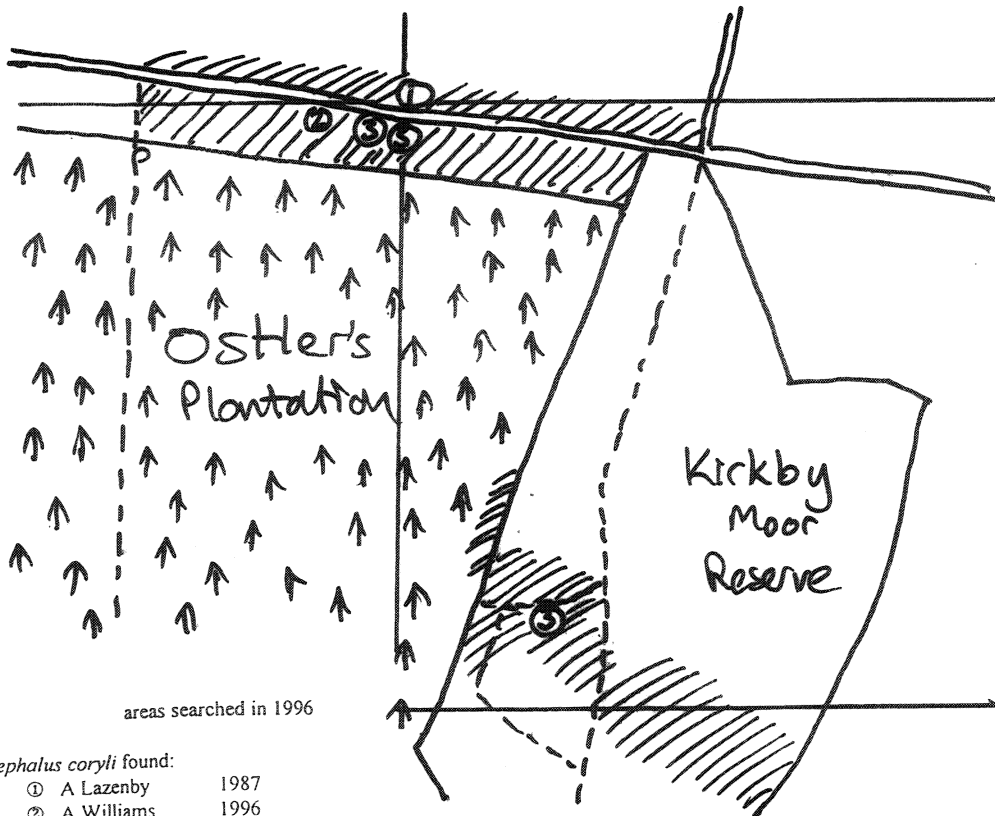
Appendix 1 Site maps

////// area examined

Map 1 Middle Rasen Plantation TF1091



Map 2 Kirkby Moor TF2163



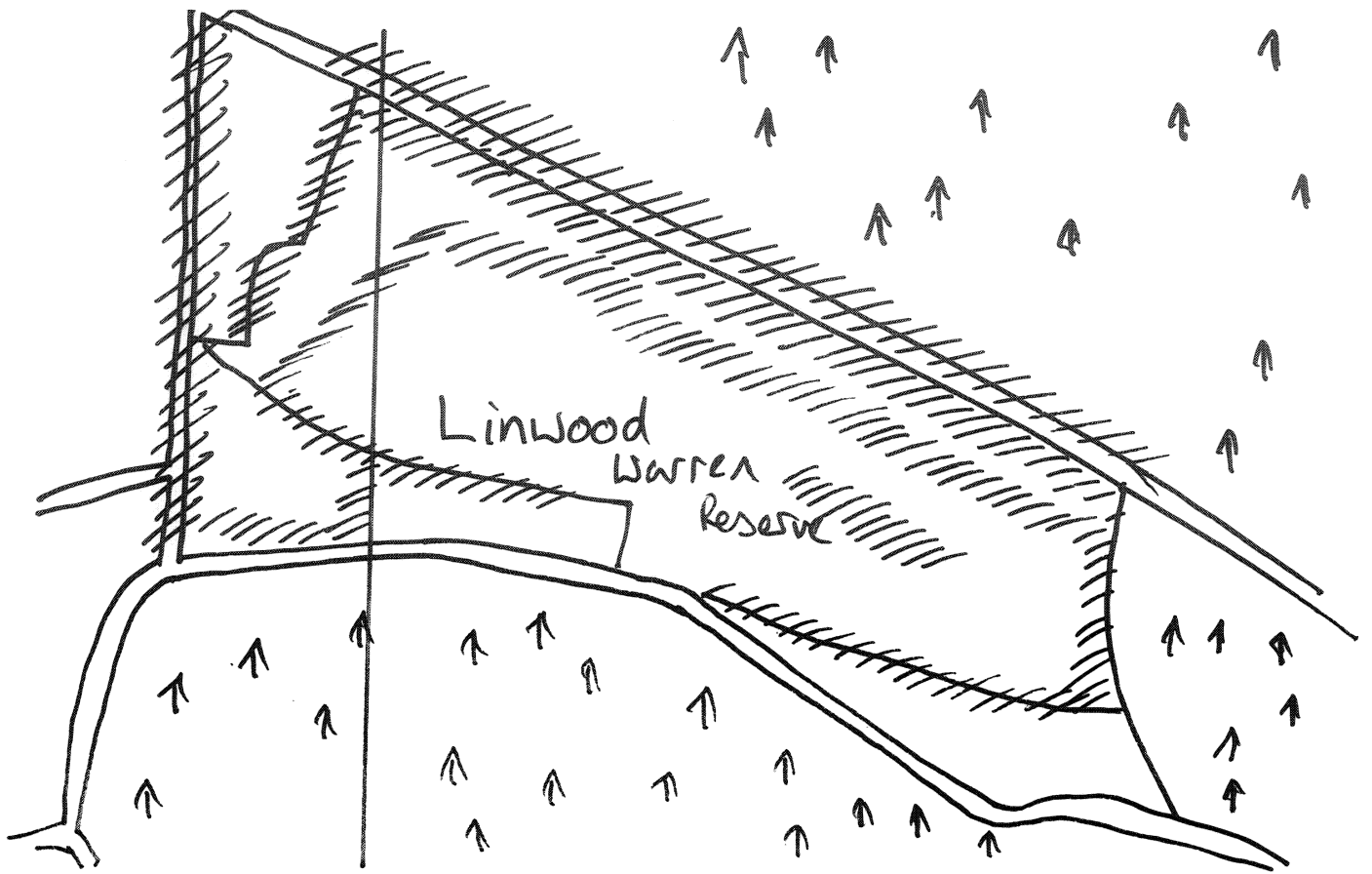
KEY

areas searched in 1996

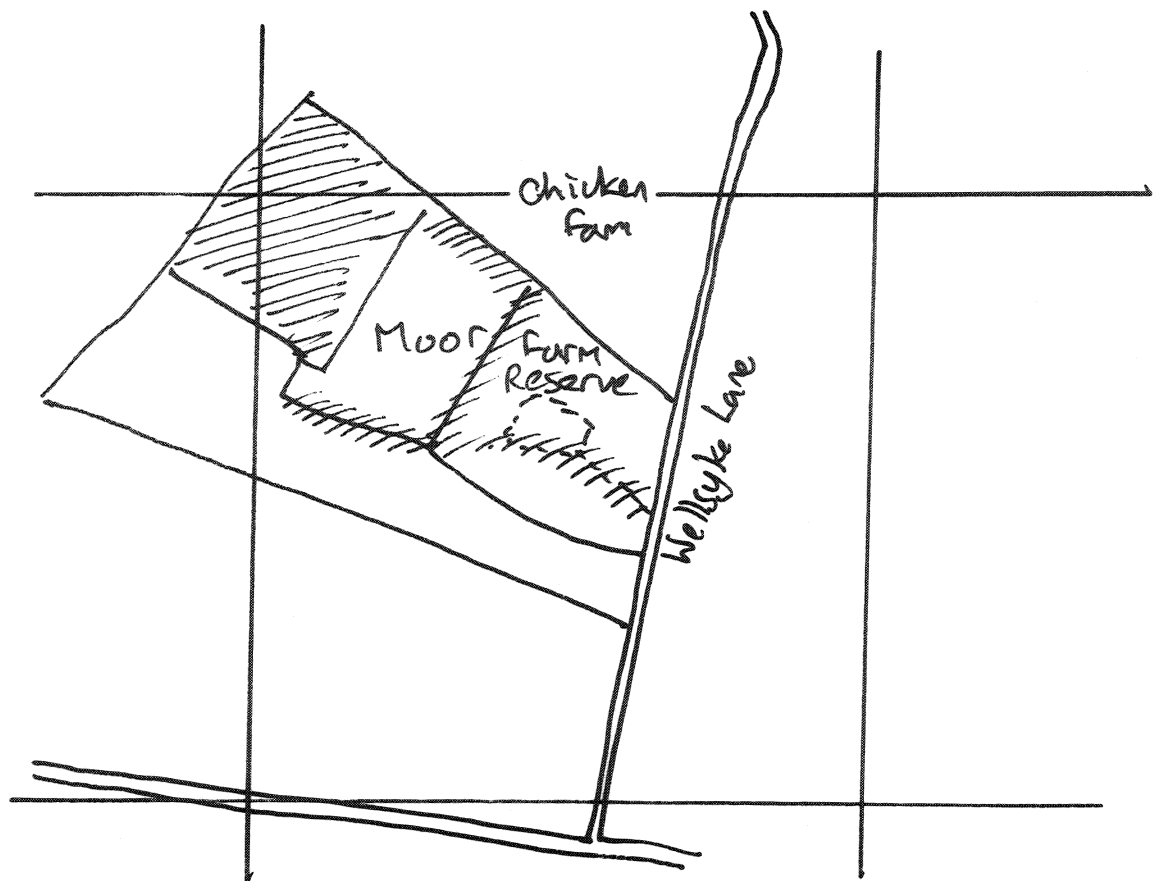
Cryptocephalus coryli found:

- ① A Lazenby 1987
- ② A Williams 1996
- ③ R Key &c 1997

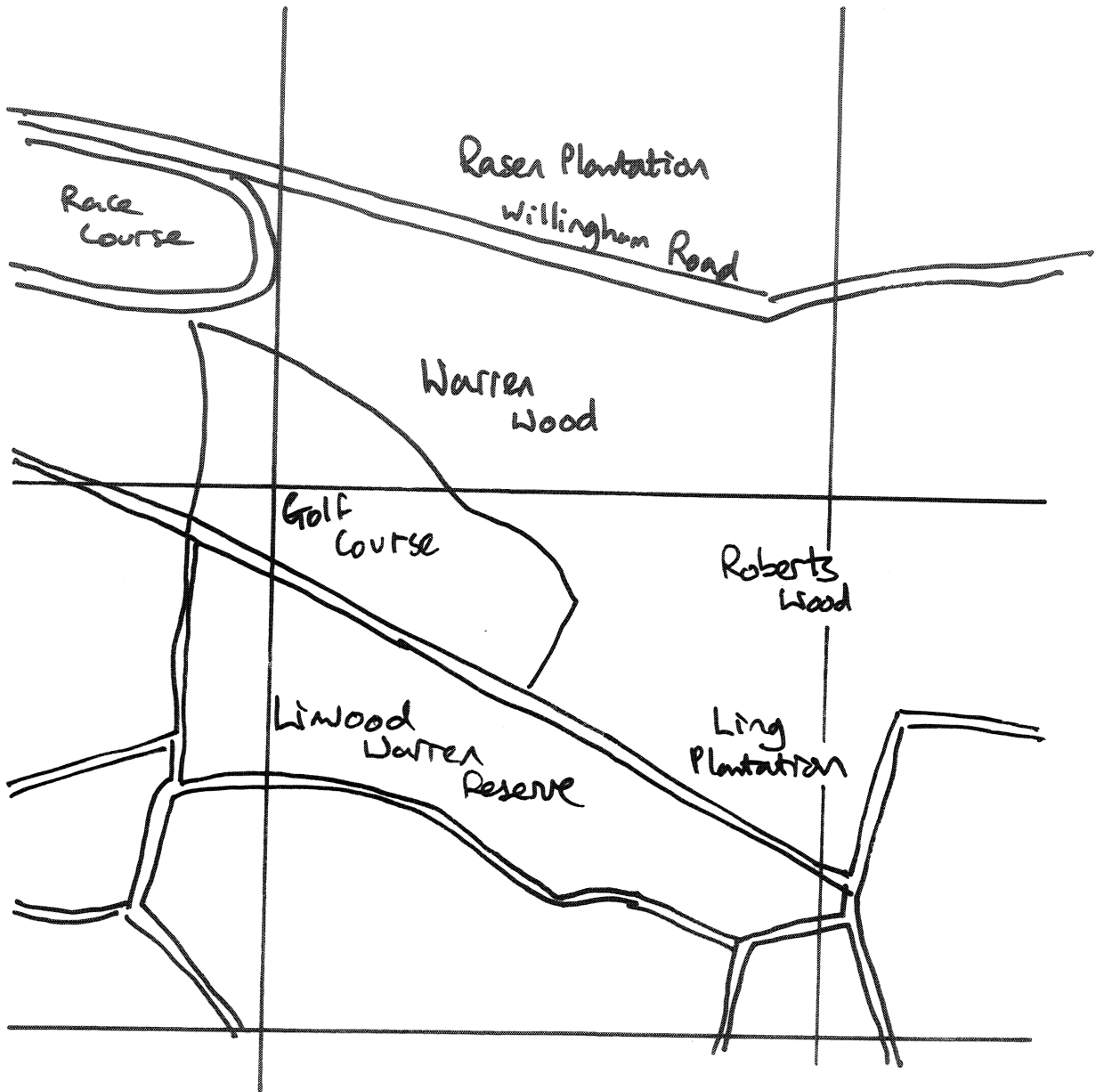
Map 3 Linwood Warren TF1387



Map 4 Moor Farm TF2263



Map 5 Warren Wood TF1388 (not studied)



Appendix 2 Photographs

Kirkby Moor (1)



In this clearing adjacent to Ostler's Plantation the only specimen of *Cryptocephalus coryli* was found on the birch (centre right).

Kirkby Moor (2)



Both pictures show the clearing adjacent to Ostler's Plantation with birch, oak and pine. The trees in the clearing are widely spaced - where they are closer together it is still possible to walk around them.

Kirkby Moor (3)



Another view of the clearing where *Cryptocephalus coryli* was found

Kirkby Moor (4)

Young birch in heathy open area adjacent to Ostler's Plantation where *Cryptocephalus coryli* was found in June 1997 by R.S. Key *et al.*



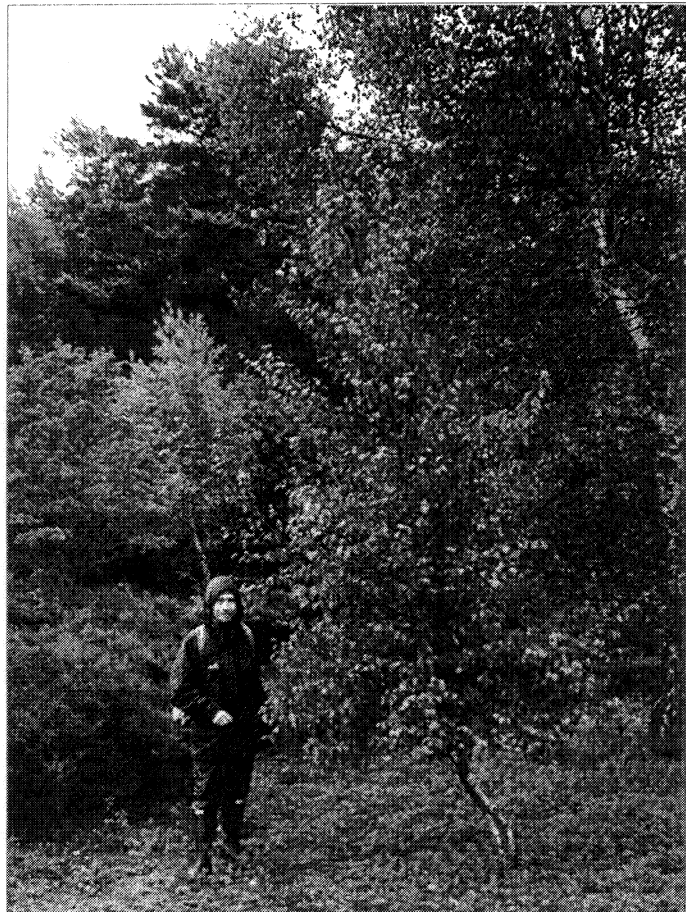


Kirkby Moor (5)

Small sapling birch in heathy clearing adjacent to Ostler's Plantation where *Cryptocephalus coryli* was found in June 1997 by R.S Key *et al.*

Kirkby Moor (6)

Small tree on main part of reserve where *Cryptocephalus coryli* was found in June '97 by R.S Key *et al.*



Linwood Warren (1)



Showing stumps of birch etc. The trees around the edge and isolated clumps are mostly birch.