Traditional Orchards: Central Asia to East Anglia.

- Orchards and their fruit, where and when did it all begin?
- Diversity of European orchard traditions.
- “Residential”/community vs Commercial orchards. Different? or just an issue of scale?
- Historic maps and orchards.
- 2007: Traditional Orchards become a UK Priority Habitat.

Suffolk Traditional Orchard Group

New and Old Orchards for Suffolk

Supported by The National Lottery® through the Heritage Lottery Fund
heritage lottery fund

What is an orchard?
What is a traditional orchard?

- **“Orchards are places in temperate climates where people grow trees that bear edible fruit and nuts for their consumption or sale”.**

- **“Biological ecologists have traditionally been reluctant to study human ecology, gravitating instead to the ‘allure of wild nature’ ”**

- **“Human ecology has begun to focus attention on humans’ impact on their now almost universal biotic world.”**

An unusually neat Suffolk farmstead orchard with trees of many different ages, the oldest planted about 1890, the youngest planted recently. Apart from initial formation pruning very little has been done to these old trees for decades. Typical of the high Suffolk “claylands”, but considerably tidier than most!

Typically these provided fruit, nuts and perhaps cider for the family and farm workers for up to 9 months of the year, sometimes with some left over to sell.

Other human influenced biotic habitats are:
managed woodland,
hay meadows,
semi-natural grassland,
beetle banks,
arable land,
ditches,

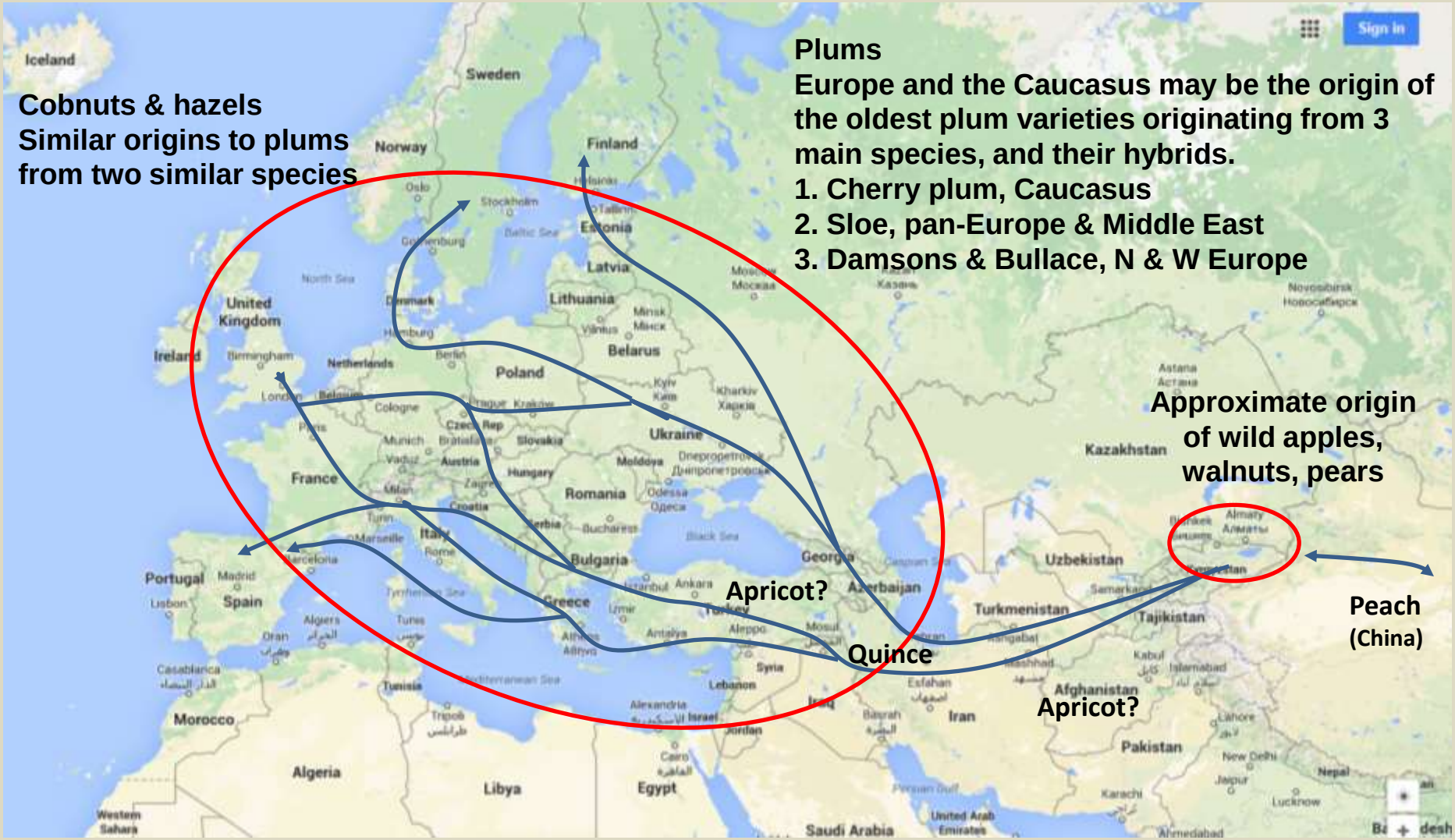
hedges,
lawns,
gardens
allotments,
kitchens,
sinks,
and my office (full of spiders)
.....etc.

Natural England's definition of a TRADITIONAL ORCHARD

- **5 or more fruit or nut trees**
- **Less than 20m between canopies**
- **Large growing trees budded/grafted onto vigorous rootstocks (HLS specifies M25, *Pyrus communis* seedling, F12/1, and Brompton.....only unless given derogation for alternatives)**
- **Unsprayed trees or ground flora**
- **In grazed, or ungrazed and mown once annually, grassland,**
- **Preferably with deadwood in canopy and left on the ground,**
- **With associated hedges and ponds,**
- **And new replacement trees.**

WILDLIFE IN ORCHARDS

Species associated with other habitats also present, such as hedges, ponds and ground flora
AND
generalist tree eaters
PLUS
specialist species of epiphytes, saprophytes and xylophages.



FRUIT "MIGRATION": appears to follow various Silk Road routes. most apples require a winter chill of over 1000 hrs. Minimum Chill Requirement (MRC) is the minimum hours per year when the temperature should be below 45F / 7C, but above freezing. Dating this migration has always been difficult. Earliest "modern" plum stones 1,500BC in Maiden Castle. Earliest apples probably known from 1,000BC Switzerland.

JUNE IN AN APPLE FOREST IN KIRGHIZIA

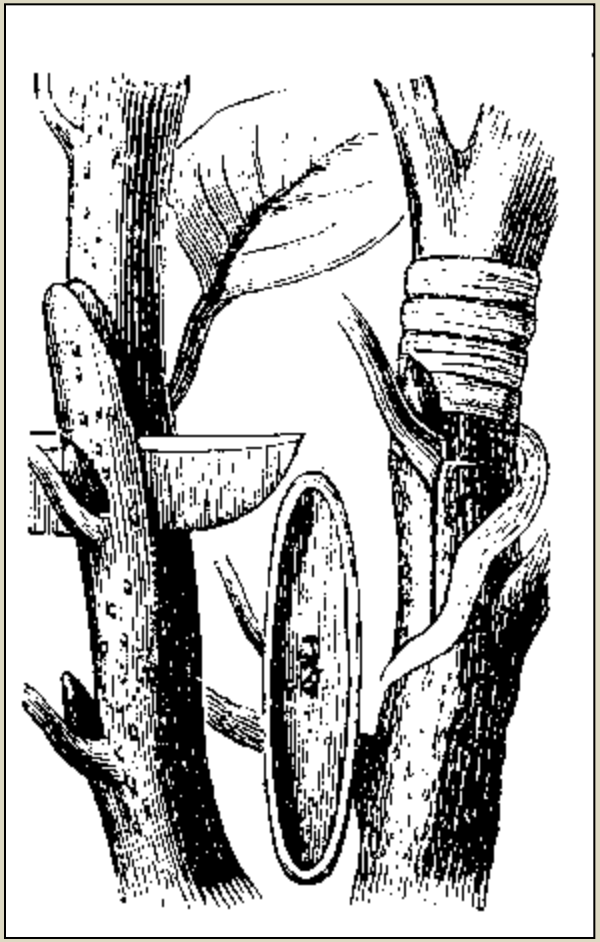
Apples as an understory in a probably well managed mixed deciduous forest. Largest trees are poplars and walnuts, and a single pear (top left).

Left: this narrow valley floor orchard is almost identical in structure to the orchards of Cantabria in NW Spain

SELECTED VARIETIES OPF FRUIT WERE TRANSPORTED AS SEED, AS SUCKERS AND AS WOOD FOR GRAFTING.

LEFT: Manor Farm, Ashbocking, a Pear grafted onto a seedling "Wild Pear", *Pyrus communis* rootstock.

Below: Old Hall, Framsden, Cobnuts growing on their own roots, propagated from detached suckers.



Grafting was probably the only way to propagate some fruit for many centuries.

The earliest grafted fruits were oranges in China, possibly as early as 2,000BC.

Grafting enabled selected varieties to be transported as a live wood.

Diverses techniques de greffage

3) La greffe anglaise

Il existe la greffe anglaise simple et la greffe anglaise compliquée.

Dans le cas de la greffe anglaise simple, la préparation du porte-greffe et du greffon est simple, mais la ligature est moins aisée. Dans le cas de la greffe anglaise compliquée, c'est l'inverse.

Ces techniques ne peuvent s'appliquer que si le porte-greffe et le greffon sont de même diamètre, ce qui les réserve pour les jeunes sujets. Les zones génératrices pouvant être atteintes hors sève, on peut tenter de greffer de cette façon « sur table », avant plantation, les jeunes porte-greffes que l'on vient de recevoir.

Greffe anglaise simple

Préparation du porte-greffe. À l'endroit où son diamètre est identique à celui du greffon, on le sectionne en biseau sur une longueur de 3 cm environ, en laissant quelques petits tire-sève si c'est possible.

Préparation du greffon. On pratique, à l'opposé d'un bourgeon bien formé, une coupe en biseau. Ce biseau doit être le même (ou le plus proche possible) que celui pratiqué sur le porte-greffe. Comme pour les greffes précédentes, la longueur du greffon est souvent limitée à 3 yeux.

Assemblage. Les biseaux du porte-greffe et du greffon sont plaqués l'un contre l'autre.

Ligature. C'est la phase la plus délicate car les 2 parties à assembler ne sont pas enchâssées l'une dans l'autre et elles bougent. Il faut s'assurer qu'il y ait toujours bien contact entre les zones génératrices. Les bandes élastiques sont très pratiques pour ce genre de ligature.

Isolation. Si les différents tours de la ligature se chevauchent bien, il n'est pas nécessaire d'appliquer une couche de mastic sur cet assemblage. Par contre, on peut en mettre un peu à l'extrémité du greffon.

Greffe anglaise compliquée

Elle diffère de la précédente par le fait que, à partir des biseaux du porte-greffe et du greffon, on va fendre chacun d'eux sur une longueur de 2 cm environ, ce qui va permettre de les enchâsser l'un dans l'autre. Ces fentes longitudinales sont un peu « compliquées » à réaliser car les 2 parties sont de faible diamètre et on a vite fait de « déraper ». Par contre, porte-greffe et greffon étant enchâssés l'un dans l'autre, ils ne bougent plus pendant la ligature, ce qui la rend plus aisée.

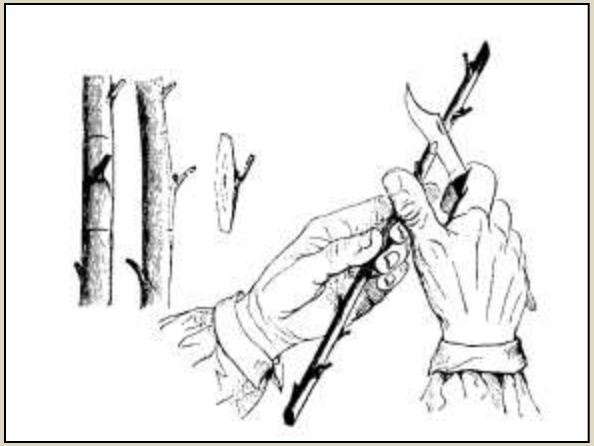
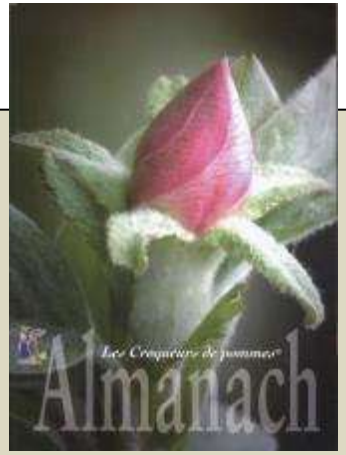


FIG. 48
WHIP-AND-TONGUE GRAFT



Generally ancient rootstocks were seedlings and produced trees about the same size as the tree on its own roots.

This plum (in Bedfordshire) is thought to be on its own roots.

Until 20th C some plums were propagated on their own roots (for example in East Anglia, Yellow Egg)

Mikko's orchard in Finland

Some apples varieties in Finland freeze and hang on the tree well into winter. They are taken off the tree just before eating!

These "ice-apple" varieties are considered to be very ancient. Recently very cold tolerant varieties in Canada and Scandinavia have been discovered to be tetraploid.

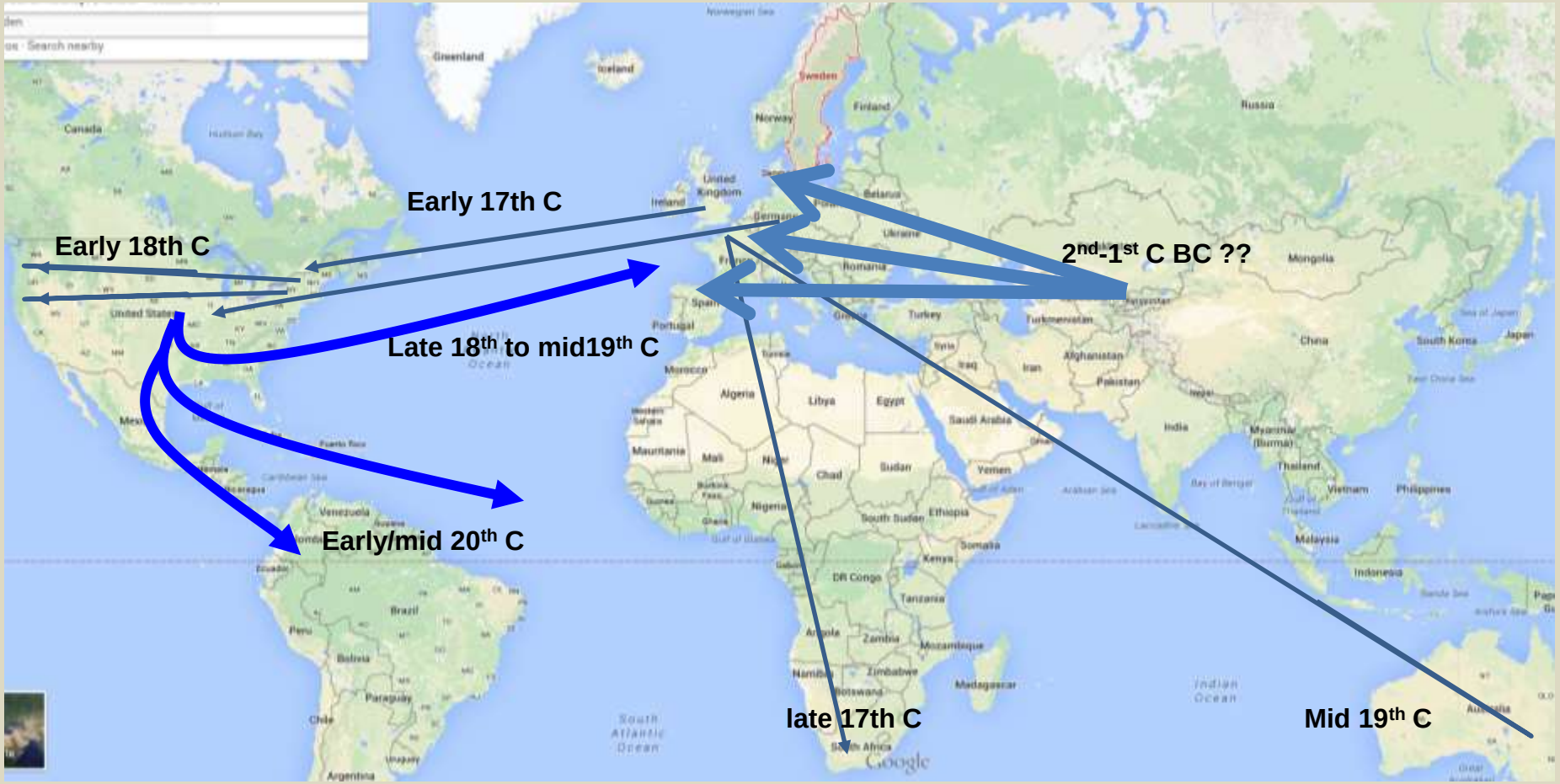
April in a farm house orchard in the claylands of central Suffolk, old varieties of daffodils and *Narcissus poetaz;* and other spring bulbs that flower before the canopy develops and the ground dries.

Many parts of Europe have traditional 3-use landscape scale orchards.

Scattered big fruit trees in hay cut grassland grazed by cattle after the cut.

These are in southern Germany , known as *Streuobst).*

Old orchard retained when a row of cottages was replaced by a new house.



The travels of apples: most apples require a **winter chill** of over 1000 hrs. **Minimum Chill Requirement** (MRC) is defined as the number of hours per year when the temperature should be below 45F / 7C, but above freezing. However some apples appear to need less. **Dorsett Golden**, which was found in the Bahamas, needs less than 100 hours. **Gala** needs 300 but will tolerate over 600. Most subtropical apples are recent discoveries.

Orchards in England:

RESIDENTIAL/COMMUNITY ORCHARDS

ORCHARD LOCATION
Close to house (for security/ convenience).
Multiple use of land

CROP CHOICE/TREE FORM CHOICE
Liked by family
Tree longevity reduces management.
Wide season of crop use
Long shelf life

PURPOSE/CROP USE
Local use: family, servants, farm workers, day labourers, friends,
Locally stored.
Local sale.

" MODERN", COMMERCIAL (1533 or 1650)

ORCHARD LOCATION
Good land
Transportation to market available
Designed for economy of manpower

CROP CHOICE/TREE FORM CHOICE
Yield important
Ease of transportation
Long shelf life
Ease of harvesting
Wide season of crop use
Refrigeration tolerant (later)

PURPOSE/CROP USE
To supply market demand
Profitability

Massive expansion with railways mid 19th C

After Hoare 1928

A diverse small old orchard in Suffolk, 26 fruit and not trees, 26 cultivars of fruit. Oldest tree probably 150-200 year old pear but acobnut could be older, last tree planted about 1930.

Farmhouse type orchard

Woodhall, Thrandeston,

Suffolk.

The Suffolk cobnut variety "*Cosford*", named after the parish in which it is said to have originated, and inset above, "*Kent Cob*", below White Filbert.


SUFFOLK
TRADITIONAL
ORCHARD GROUP

Commercial orchard about 1900(?), local quarter- and half- and bushel baskets. Probably just a few varieties of fruit, mostly apples.

Photo by Nigel Russell

South Suffolk

Morello cherries, a variety of *Prunus cerasus,* the Sour Cherry, rarely grow larger than this.

A very unusual crop but both sweet and sour cherries are traditional crops in this area.

Dwarfing rootstocks have been used in England for apples and pears since the late 16th C

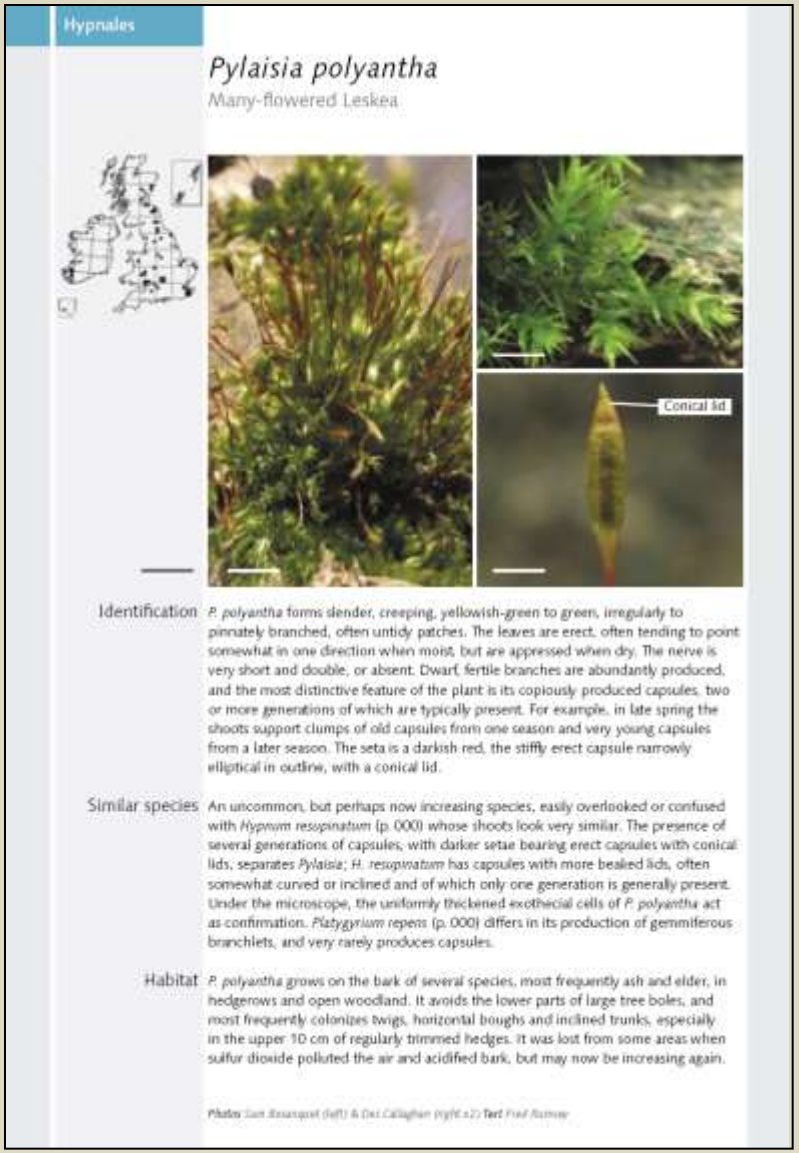
The rare moss, *Pylaisia polyantha*

Fruiting plants on apple trees in old orchard at Rummers Lane, Wisbech St Mary, The first vice-county records of an uncommon epiphyte.

Rare mosses are found on East Anglian fruit trees, especially veteran commercial trees, which are often damaged by pruning designed to maximise the crop

Article

Bryophytes in East Anglian orchards



Hypnales

Pylaisia polyantha

Many-flowered Leskea

Conical lid

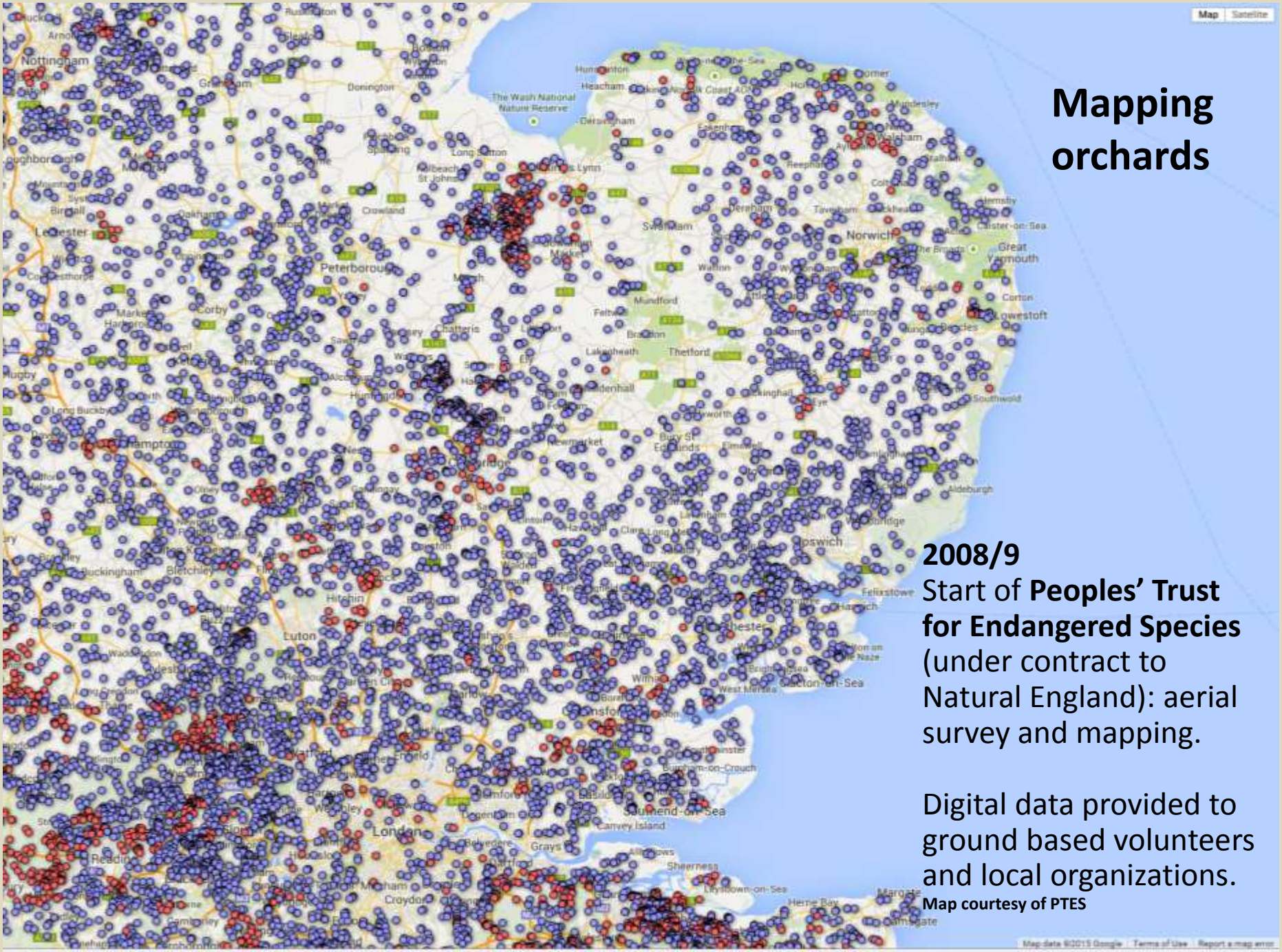
Identification *P. polyantha* forms slender, creeping, yellowish-green to green, irregularly to pinnately branched, often untidy patches. The leaves are erect, often tending to point somewhat in one direction when moist, but are appressed when dry. The nerve is very short and double, or absent. Dwarf, fertile branches are abundantly produced, and the most distinctive feature of the plant is its copiously produced capsules, two or more generations of which are typically present. For example, in late spring the shoots support clumps of old capsules from one season and very young capsules from a later season. The seta is a darkish red, the stiffly erect capsule narrowly elliptical in outline, with a conical lid.

Similar species An uncommon, but perhaps now increasing species, easily overlooked or confused with *Hypnum resupinatum* (p. 000) whose shoots look very similar. The presence of several generations of capsules, with darker setae bearing erect capsules with conical lids, separates *Pylaisia*; *H. resupinatum* has capsules with more beaked lids, often somewhat curved or inclined and of which only one generation is generally present. Under the microscope, the uniformly thickened exothecial cells of *P. polyantha* act as confirmation. *Platygyrium repens* (p. 000) differs in its production of gemmiferous branchlets, and very rarely produces capsules.

Habitat *P. polyantha* grows on the bark of several species, most frequently ash and elder, in hedgerows and open woodland. It avoids the lower parts of large tree boles, and most frequently colonizes twigs, horizontal boughs and inclined trunks, especially in the upper 10 cm of regularly trimmed hedges. It was lost from some areas when sulfur dioxide polluted the air and acidified bark, but may now be increasing again.

Photos Dan Bosanquet (left) & Dan Callaghan (right x2) Text Fred Rumsey

Robin Stevenson & Jenny Rowntree, Field Bryology, No. 99, Oct 2009

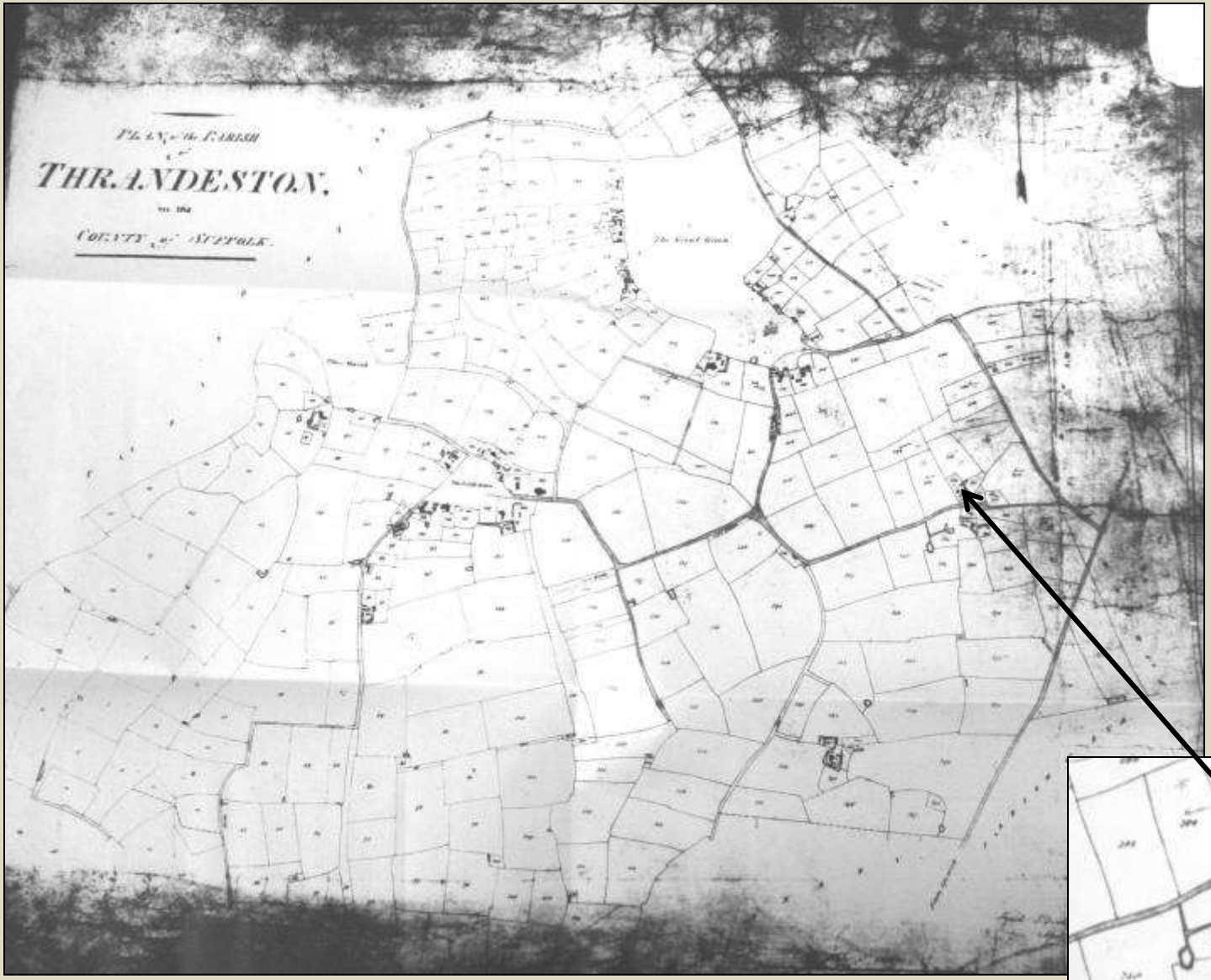


Mapping orchards

2008/9
Start of **Peoples' Trust for Endangered Species** (under contract to Natural England): aerial survey and mapping.

Digital data provided to ground based volunteers and local organizations.

Map courtesy of PTES



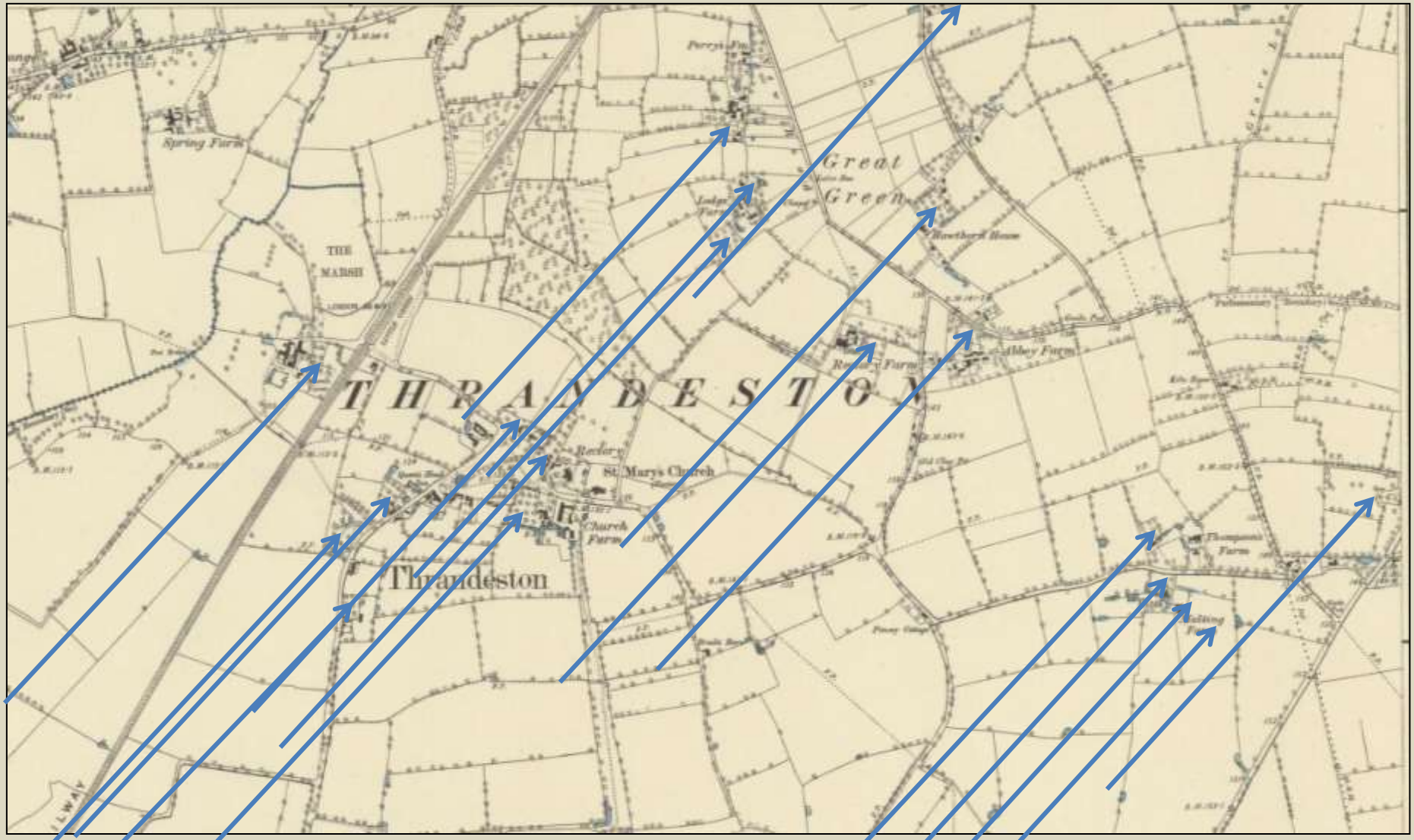
In 1836 12 orchards were listed in the parish, each associated with a farmstead

Other orchards existed on other maps!

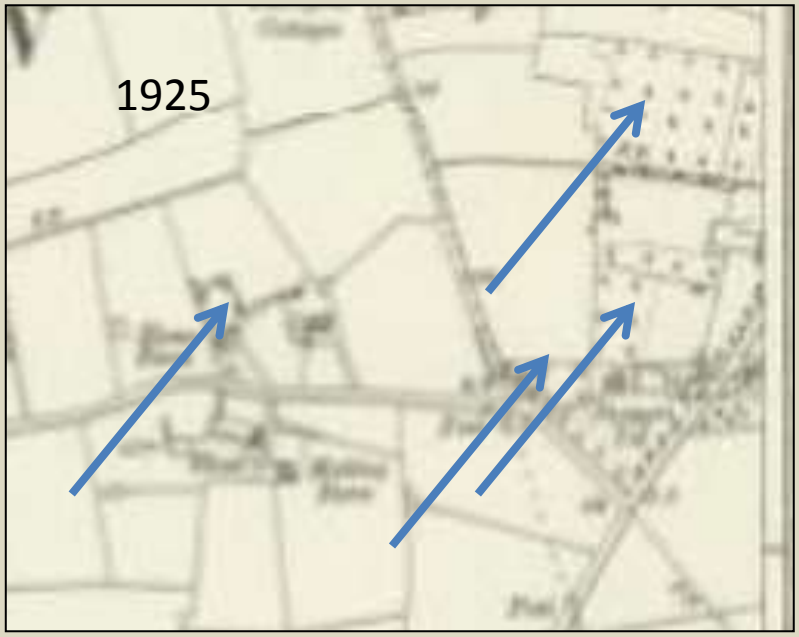
No 284 Orchard.

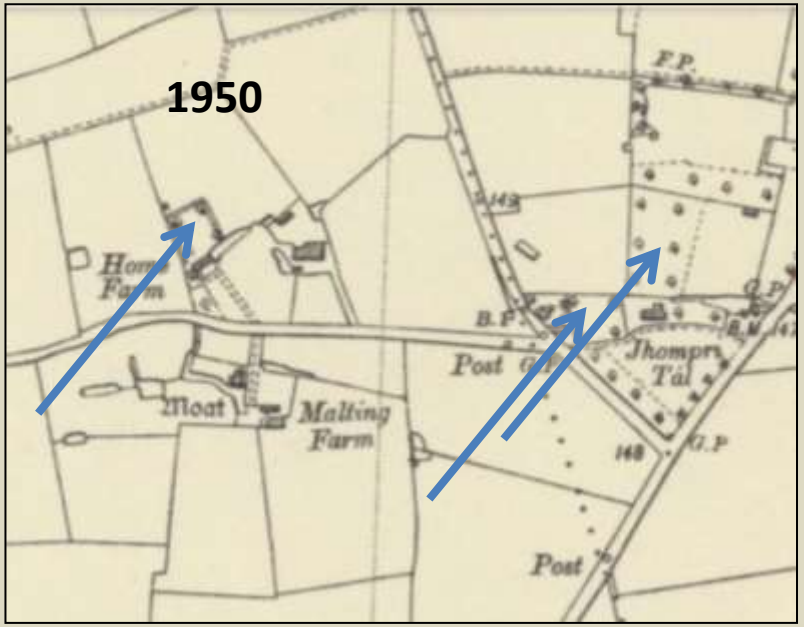
Thrandeston Tithe Plan, 1836, mapped and listed farm land and the annual tithes of land holdings. Orchards were often listed as “pasture” (which had a lower value than being listed as “orchard” and so was “preferred” by the farmer!).

Thrandeston near Eye, Suffolk OS 6” to the mile, 1885
18 orchard sites. 3 others known to have existed but not recorded.



Thrandeston near Eye, Suffolk OS 6” to the mile

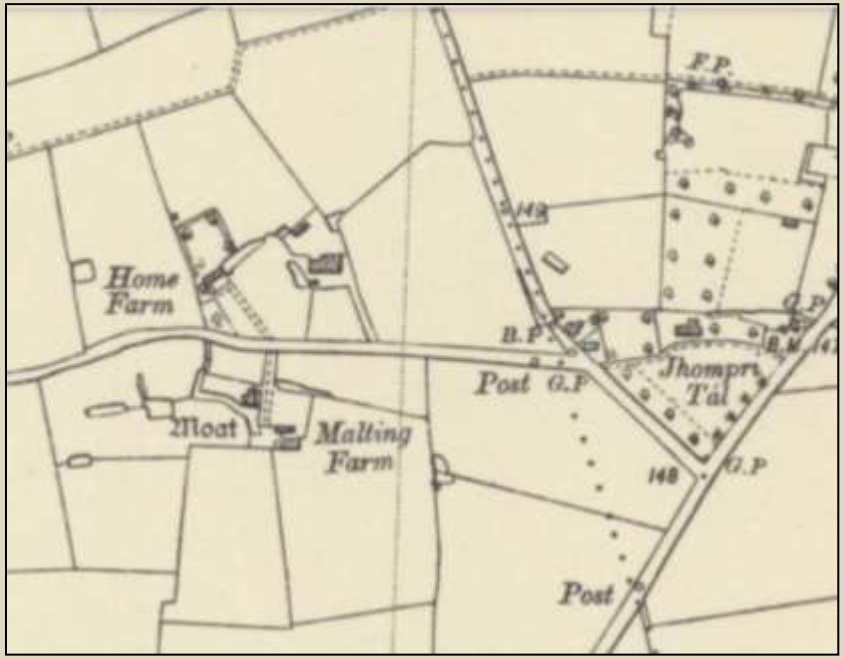




In 2015 most of these sites are arable fields or houses.

Except
Malting Farm.

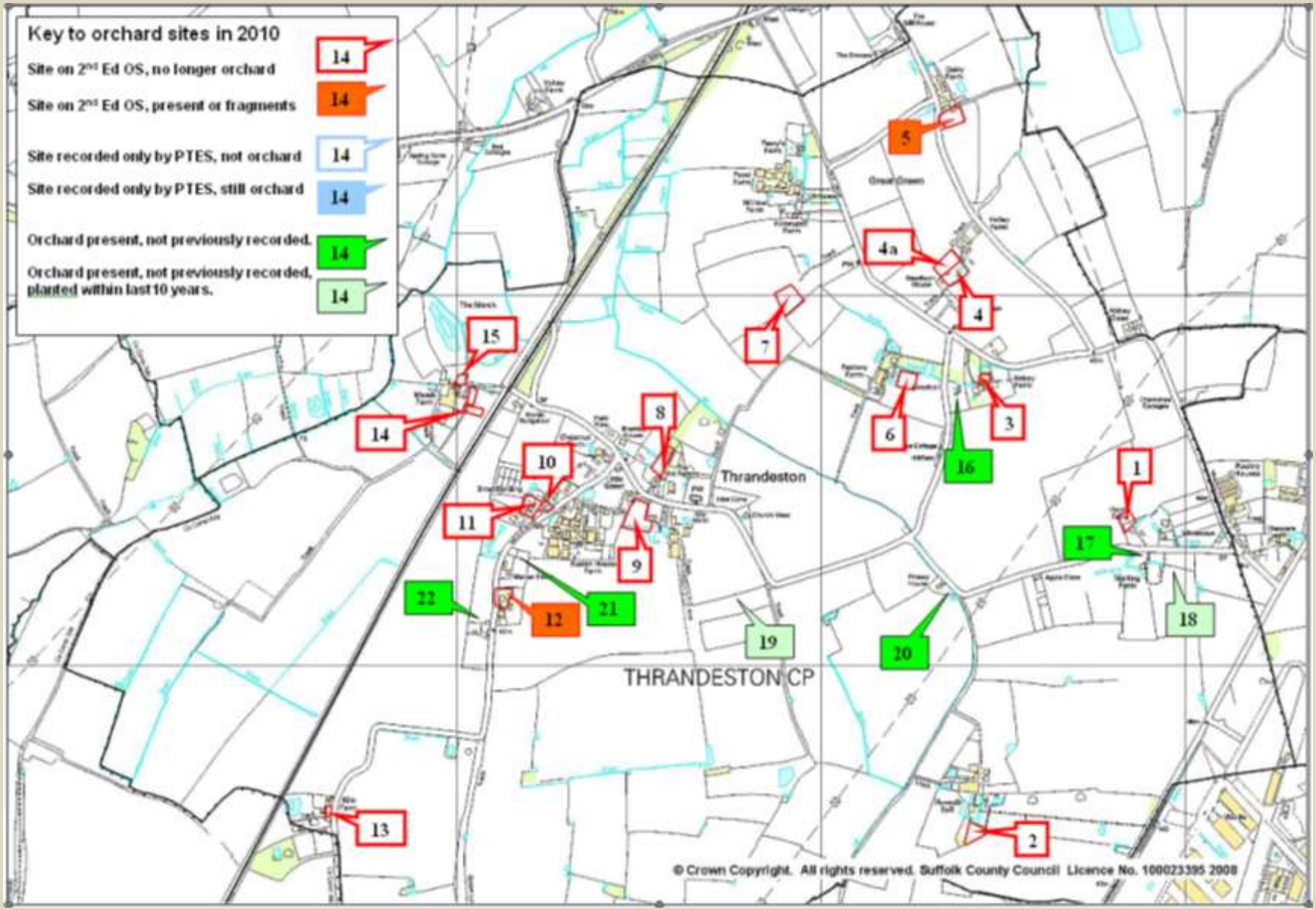
Last recorded in 1903. It is still there, 6 cobnuts, 4 large apples and several plums



A farmhouse orchard, now fragmented but once provided fruit for family, farm workers and day labourers, from July to May, plus cider, cash crops for sale, and something for the harvest festival..

Malting Farm, Thrandeston, Suffolk, 16thC farmhouse, old orchard site with several old apple trees on large rootstocks, cobnuts and recently planted apples and plums on modern semi-dwarfing stocks.

STOG survey of Thrandeston, north Suffolk “claylands”, near Eye. This parish had 17 orchard sites recorded by OS in 1905. Today 9 remain.



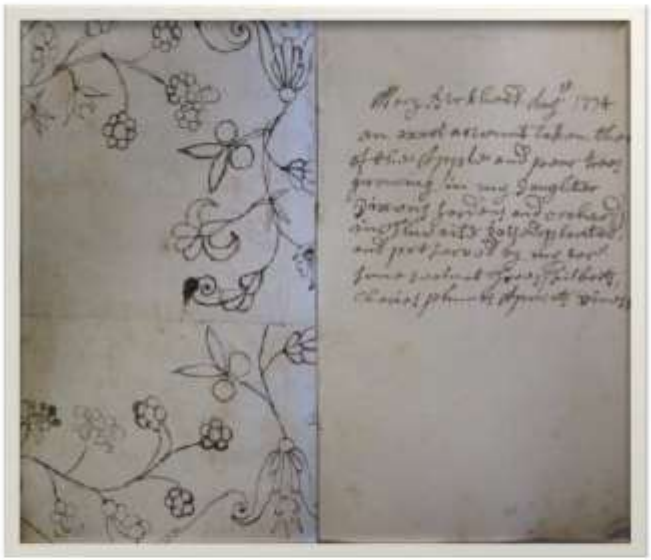
2009/2010,UEA/Patsy Dallas's Norfolk sampling survey, based on historic maps and archive information.

Suffolk have very few commercial orchards, new or old.

From STOG's current Suffolk survey, Patsy's evidence, and other surveys elsewhere, it is clear that many more of these older residential/community orchards still exist than once believed.

Orchards in the Norfolk Landscape: historic evidence of their management, contents and distribution.

Patsy Dallas, MA
March 2010.



Mary Birkhead, Aug'st 1734 an exact account taken then of the Apple and pear trees growing in my daughter Dixons gardens and orchards in Thwaite raised, planted and preserved by my care. Some walnut trees, filberts, cherries, plumbs, apricots & vines

Apple *Lady Henniker*.

A delicious variety said to have been found growing from cyder waste under a hedge in Thornham, Suffolk by Mr Perkins, Head Gardener at Thornham Hall in the early 19th Century!

Cooked from September, eaten raw until Feb.

Apple *Catshead*

From a small farm orchard, a very ancient variety once widely grown in England, now rare, cooked in autumn, eaten raw until Christmas.

Probably not a single variety, more a population of similar varieties