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Bibliography

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Revision date 13.5.24 (details changes to the taxonomic status of the fragrant-orchids and Narrow-leaved Marsh Orchid)

Introduction

Orchids are a fascinating group of plants with over twenty of the fifty British representatives occurring in Norfolk. They occupy a wide range of habitats including dune slacks, marshes, woodland, dry grassland, roadside verges and waste places.

Their life history is complex. Their seeds are minute and with minimal food reserves must land in ideal conditions with supporting mycorrhizal fungi if they are to germinate successfully.

Development can take many years before the flowering stage is reached. Some species may flower only once before dying, others may flower irregularly according to the nature of the season or even the preceding season.

It is this unpredictability which adds to the allure of the species, and their pursuit at a national level can become quite addictive, taking the *aficionado* into many beautiful and wild parts of the country, where they offer rewarding photographic opportunities.

This guide is intended to help the newcomer to identify the species that he or she encounters in the Norfolk countryside. The species texts give the main flowering periods in a typical year, and the number of tetrads (2x2km grid squares) in which the species were found during the 1985-99 survey work for "A Flora of Norfolk" (Beckett et al).

For a more detailed study of the family, readers are referred to the texts in the bibliography.



Marsh Helleborine

Epipactis palustris

Flowers July, recorded in 47 tetrads.

Marsh Helleborine is widely distributed across England, Wales and Ireland, where it can be locally common in suitable habitat.

In Norfolk it is found in dune slacks along the north-west coast and in widely scattered marshes and fens across the county.

It has a dense, one-sided flower spike, whose blooms have soft pink or purplish-brown sepals and a white lower lip.

Its numbers were much reduced by the 19th century drainage of marshes and fens with losses continuing into the 20th century.

Good sites include Holkham dune slacks, on the seaward side of the pines beyond the Washington Hide, and Buxton Heath.



Broad-leaved Helleborine

Epipactis helleborine

Flowers Jul-Aug, recorded in 21 tetrads.

Widespread across much of Britain and Ireland, except for treeless areas of northern Scotland, the Borders and the Fens.

In Norfolk it is found in ancient woodland, or on the sites of long-established shelter belts within conifers.

It has a tall, loose flower spike, the flowers often with deep pink or wine red sepals and lower lip.

It can be erratic in appearance, but one reliable colony can be found at Santon Warren (NW of Thetford), north of the railway underpass by St Helen's Church.



Green-flowered Helleborine

Epipactis phyllanthes

Flowers Jul-Aug, recorded in 4 tetrads.

A nationally scarce species, most frequent in central and southern England.

It was not recorded in Norfolk until 1969 and is still known from only a few sites, where it usually occurs in deep shade.

The green-coloured flowers are rarely fully opened as it is self pollinated with fertilisation possible within the unopened flower.



Fen Orchid

Liparis loeselii var. loeselli

Flowers Jun-Jul, recorded in 3 tetrads.

A small orchid with inconspicuous greenishyellow flowers facing upwards, now restricted to calcareous fens in the Broads.

Although it was formerly known from about thirty sites in East Anglia, these had been reduced to just three sites in Norfolk at the end of the 20th century, with perhaps just 250 plants left.

Since then, improved fen management and the discovery of new sites have increased the known population to about 12,000 plants, but it remains vulnerable because of the risk of winter inundation and trampling of its fragile moss mat.

A separate form, var. *ovata* occurs in South Wales where it occupies dune slacks.



Common Twayblade

Listera ovata

Flowers May-Jun, recorded in 167 tetrads.

Widely distributed across the British Isles as far north as Orkney.

Frequent in Norfolk, occurring in a wide range of habitats including woods, dry grassland and marshes.

The 20-60cm spike grows from broad basal leaves which give the plant its name. Its greenish yellow flowers have a split lower lip which gives them the appearance of miniature human figures.





Creeping Lady's-tresses

Goodyera repens

Flowers in Jul-Aug, recorded in 6 tetrads.

A plant of coniferous woodland, mainly known from the north-east of Scotland, but found in some plantations in Norfolk, possibly as an introduction with pines brought from Scotland.

It is a delicate plant, typically growing to 20cm. The small white flowers are densely hairy.

It is perhaps best looked for in Wells and Holkham pine woods but its small colonies are difficult to find.





Greater Butterfly Orchid

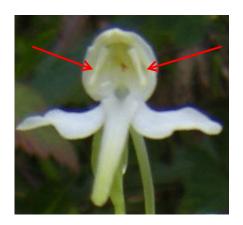
Platanthera chlorantha

Flowers in Jun-Jul, recorded in 11 tetrads.

Widespread but decreasing across Gt Britain and Ireland. In Norfolk it is a scarce plant of ancient woodland recorded from only about a dozen sites.

Note the distinctive, long curved spurs, which give the flower an untidy appearance.

It can be distinguished from Lesser Butterfly Orchid by its widely spaced and angled *pollinia* within the hood *(see below)*.





Lesser Butterfly Orchid

Platanthera bifolia

Flowers in Jun-Jul, recorded in 3 tetrads.

Widespread on the west side of Gt Britain and Ireland, but absent or uncommon elsewhere.

Known from only three sites in Norfolk at the end of the 20th century, including Beeston Regis Common where it is described as "hard to find".

Like Greater Butterfly Orchid it has long slender spurs to the white flowers. It can be distinguished from Greater Butterfly Orchid by the *pollinia* which in Lesser Butterfly Orchid lie close together and are parallel.

Pollinia are the column-like masses of pollen grains which form the male reproductive organs in orchids.



Pyramidal Orchid

Anacamptis pyramidalis

Flowers in Jun-Jul, recorded in 61 tetrads.

Widespread on chalk and limestone in southern and eastern England as far north as the Scottish border. Coastal in Wales and Ireland and also across the Irish midlands.

Locally frequent on calcareous soils in Norfolk, particularly in the west and along the north Norfolk coast, also on calcareous clays in the south-east of the county.

The flower spike is conical when the first blooms open, becoming more domed as the upper flowers in the spike come to maturity.

Reliable sites include Warham Camp near Wells-next-the-Sea and Cranwich Camp near Thetford.



Chalk Fragrant-orchid

Gymnadenia conopsea

Flowers in Jun-Jul

Found on dry calcareous sites throughout the British Isles, except for Scotland.

It is the less common of the two species of fragrant orchid which occur in Norfolk.

The flower spike is a paler pink than that of Marsh Fragrant-orchid, and is not as tall as the spike in that species.



Marsh Fragrant-orchid

Gymnadenia densiflora

Flowers in Jun-Jul

Found in moist grassland and fens throughout the British Isles.

It has a tall densely flowered spike with a lilac hue which distinguishes it from the rarer Chalk fragrant-orchid.

Good sites include Beeston Regis Common and Buxton Heath.

This and the preceding species were reported from a combined total of 26 tetrads in Beckett and Bull, but had decreased seriously during the late 20th century.



Common Spotted Orchid

Dactylorhiza fuchsii

Flowers in Jun-Jul, recorded in 282 tetrads.

Widespread and locally abundant throughout the British Isles.

This is the most frequently occurring orchid in Norfolk. It can be found in woodland rides and damp grassland across the county, but is absent from the Fens and the intensive arable countryside in the north-west of the county.

It readily hybridises with other species of marsh orchid (*Dactylorhiza sp*). Look for the deeply notched, three-lobed lower lip in the pure species.



Heath Spotted Orchid

Dactylorhiza maculata

Flowers in Jun-Jul, recorded in 49 tetrads.

Widespread in western and northern parts of the British Isles, including Orkney and Shetland.

It is a plant of acid soils such as grassland, moors and heaths, and can be found in these habitats in Norfolk.

It readily hybridises with Common Spotted Orchid, and such plants can often be identified by their larger size and vigorous growth.

Note the broad lower lip in the pure species.



Early Marsh Orchid

Dactylorhiza incarnata

Flowers in Jun-Jul, recorded in 106 tetrads.

Sparsely distributed across the whole of the British Isles but occurring in smaller numbers than the other marsh orchids.

In Norfolk it can be found in damp meadows and fens across the county but it is never common.

The flower is usually pale pink with the sides of the lower lip turned down. An attractive dark red subspecies *coccinea* can be found along the north coast *(see below).*



Early Marsh Orchid

Dactylorhiza incarnata ssp coccinea

This extremely attractive dark red form of the Early Marsh Orchid is nationally scarce, typically occurring in coastal grasslands and in damp dune slacks.

In Norfolk it can be found at Holme dunes and in the wet flushes of the slumping cliffs at Overstrand.



Southern Marsh Orchid

Dactylorhiza praetermissa

Flowers in Jun-Jul, recorded in 206 tetrads.

Widespread throughout southern Britain as far north as Lancashire and Yorkshire.

It is frequent in wet grassland and fens in Norfolk where it can form dense populations, but is at risk of hybridising with Common Spotted Orchid. The most robust plants are likely to be hybrids.

The pure plant has a dense head of dark lilac flowers, with delicate lining on the lower lip. The leaves are heavily spotted with purplish-brown.



Narrow-leaved Marsh Orchid

D. praetermissa ssp schoenophila

Flowers in May-Jun, recorded in 21 tetrads.

For many years, narrow leaved marsh orchids growing in Norfolk were interpreted as Pugsley's Marsh Orchid *D. traunsteineroides*, a nationally scarce species. But genetic research in the early 21st century determined that populations of that species south of a line from the Severn to the Wash, were more closely related to Southern Marsh Orchid *Dactylorhiza praetermissa*. In the BSBI Plant Atlas 2020 they are given subspecies status *schoenophila*.

Compared with Southern Marsh Orchid, schoenophila has smaller, looser flower heads, with 5-18 flowers often arranged to one side of the spike, and narrower leaves without the heavy leaf-spotting of the full species.

In Norfolk it is found in calcareous fens and base rich marshes, but like all *Dactylorhiza* species it has a propensity to hybridisation, making it difficult to find in some locations. Buxton Heath and Booton Common are good sites in the north of the county.



Early Purple Orchid

Orchis mascula

Flowers in May, recorded in 124 tetrads.

Widespread throughout the British Isles.

In Norfolk it is a perennial of long-established woodlands and roadside verges on clay soils.

It is an early flowering species with a loose spike of large purple flowers above a prominent rosette of heavily spotted leaves.





Green Winged Orchid

Orchis morio

Flowers in May, recorded in 27 tetrads.

A plant of southern Britain, found in longestablished meadows but susceptible to loss through ploughing and pasture improvements.

The best known colony in Norfolk is at New Buckenham Common.

Look for the delicate green or bronze lining on the upper sepals. The leaves are unspotted.





Bee Orchid

Ophrys apifera

Flowers in Jun-Jul, recorded in 156 tetrads.

Found in a wide range of habitats throughout eastern and central England, coastal areas in north and south Wales, and across Ireland.

In Norfolk it is found on base rich soils, dune slacks, forest rides, factory sites and unmown lawns. It is free seeding and quick to colonise new ground.

In Norfolk it is uniquely identified by its dark brown tongue-shaped lower lip surmounted by three large pale pink sepals.

It is very weather dependant, with many large colonies being reported in particularly wet years.

Other species

The following species were also recorded in Norfolk during survey work for "A Flora of Norfolk".

They are very restricted in their distribution and unlikely to be encountered by the casual observer.

Bird's-nest Orchid Neottia nidus-avis	Flowers May-Jun, recorded in 3 tetrads	A parasitic plant with no green pigments, easily confused with Common Broomrape.
Autumn Lady's-tresses Spiranthes spiralis	Flowers Aug-Sep, recorded in 2 tetrads	Superficially similar to Creeping Lady's-tresses but with flowers in a more distinct spiral.
Man Orchid Aceras anthropophorum	Flowers in May-Jun, recorded in 1 tetrad	Currently known from only a single site in the north-west of the county. Its flower is like that of Twayblade but with a more prominent "helmet" of green sepals.



Checklist of Norfolk Orchids

Print out this page to record your sightings of Norfolk Orchids.

Species	Where	When
Marsh Helleborine		
Broad-leaved Hell.		
Green-flowered Hell.		
Fen Orchid		
Twayblade		
Creeping Lady's-tresses		
Greater Butterfly Orchid		
Lesser Butterfly Orchid		
Pyramidal Orchid		
Chalk Fragrant-orchid		
Marsh Fragrant-orchid		

Species	Where	When
Common Spotted Orch.		
Heath Spotted Orchid		
Early Marsh Orchid		
" " " ssp coccinea		
Southern Marsh Orch.		
Narrow-leaved Marsh Orchid		
Early Purple Orchid		
Green-winged Orchid		
Bee Orchid		