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Researches about atmospheric phaenomena

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London, 1823

ETH-Bibliothek Zürich

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Persistent Link: <https://doi.org/10.3931/e-rara-41194>

Supplement. Calendar of flora fauna and pomona compared with the journal of the weather,
[...].

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SUPPLEMENT.

*Calendar of Flora Fauna and Pomona compared with
the Journal of the Weather, extracted from a Latin
Journal, recording Observations of Seventeen Years.*

1806, AT CLAPTON, MIDDLESEX, TILL 1817.—
AT TUNBRIDGE WELLS TILL 1818.—AT
HARTWELL, SUSSEX, *ad finem*.

MARCH 8.—A flock of Wild Fowls flew over towards the
South East.

30th.—The Green Woodpecker *Picus viridis* seen in the
garden.

APRIL 2d.—Two Swallows seen at Woodford, in Essex.

26th.—Swallows again appear in London Fields.

28th.—The Thrush singing.

MAY 1st.—The Wryneck *Jyax torquilla* first heard.

3d.—The Cuckoo first heard.

20th.—I noticed this evening, at Clapton, an immense
quantity of small Flies flying in a vortex.

31st.—*Iris lurida* in flower.

JULY 4th.—The Cuckoo still heard: Strawberries very
plentiful.

AUG. 10th.—Falling Stars numerous to-night.

OCT. 5th.—*Picus minor* seen.

29th.—Leaves begin to fall.

* 1807. APRIL 29th.—The Cuckoo heard, no leaves on the trees yet.

30th.—The Wryneck first heard.

MAY 1st.—Swallows as well as Martins first seen at Walthamstow.

9th.—The Sparrow has a brood in her nest under the gutter above my closet window.

10th.—The Raven flies high, indicating fair weather.

11th.—The Owls hoot in Walthamstow Grove.

16th.—The Swifts first seen and numerous.

JUNE 10th.—Blustering S.W. wind, quite shakes the house.

14th.—The Yellow Flag *Iris pseudacorus*, and the Lurid Iris *Iris lurida* in full blow.

JULY 2d.—The large White Poppy *Papaver somniferum* in flower.

SEP. 3d.—Swallows congregate as if about to depart.

OCT. 6th.—The Comet distinctly seen to-night.

18th.—*Viola odorata* still in blow.

NOV. 19th.—The first Snow fell to-day.

DEC. 2d.—The Snow lies thick: the birds come about the house for shelter and food.

* 1808. APRIL 18th.—The Swallow *Hirundo rustica* first seen at Barking, in Essex. From the 24th to the 29th no Swallows were seen, the wind being Northerly and cold.

MAY 1st.—The Wryneck first heard near Lea Bridge. The Martin *Hirundo urbica* seen.

14th.—The Swift *Hirundo apus* seen to-day in great numbers, as usual, at once.

21st.—A pale and lambent light of an electric kind was seen about the plants this evening, which I have already described in the foregoing pages.

29th.—I noticed Starlings at Hampton Court.

JUNE 3d.—The *Iris Germanica* in flower at Walthamstow. The Sparrow has young ones again in her nest above my window.

7th.—The Monkey Poppy *Papaver orientale* in blow at Clapton, but not yet at Walthamstow.

10th.—*Scilla Peruviana*, *Sarracenia purpurea*, and the Purple Goats Beard, *Tragopogon porrifolius*, in flower.

11th.—*Iris lurida* in flower.

20th.—The Monkey Poppy in flower in M. Forster's garden at Walthamstow. The Red Poppies *P. Rhaeas* and *P. Dubium*; and also garden varieties of *P. somniferum* in full blow.

23d.—The *Scilla Peruviana* gone out of flower and bearing seed. *Lucanus cervus* frequently caught flying this year at Clapton, though not in general common like *Scarabaeus fimetarius*.

24th.—*Sonchus coeruleus* flowering in the garden.

JULY 14th.—The weather for several days has been very hot; to-day the thermometer stood at 96° of Farenheit's scale, at Ryegate.

23d.—*Sonchus coeruleus* in seed.

27th.—Sparrows begin to congregate in flocks.

28th.—The Sunflower *Helianthus annuus* in blow.

AUG. 7th.—The Sparrow *Fringilla domestica* has a second brood in her nest over the window.

11th.—Martins congregate: Swifts departing fly high in the air in circles.

24th.—Although there be many Sunflowers in the garden, I could never observe their alledged property of turning round with the Sun.

25th.—The Goldcrest *Motacilla regulus* seen at Clapton.

SEP. 10th.—Large congregations of Martins noticed. Willow Wrens observed in the Larch Trees at Walthamstow. Marsh Titmouse seen.

11th.—I found in the garden at Clapton that rare Fungus the *Tremella purpurea*. Water Wagtails congregate in flocks.

14th.—Martins alight and sit on the roof of the house.

19th.—*Mustela nivalis* crossing the Lea Bridge Road. M. Benjamin M. Forster and myself found to-day in Wanstead Forest the following Fungi:—*Agaricus campestris*, *A. deliciosus*, *A. stipitis*, *A. verucosus*, *A. fascicularis*, *A. integer* purple, pale, and red varieties. *A. squamosus*, *A. amethystinus*, *A. farinaceus*, *A. lactifluus*, *Boletus bovinus*, and several others.

OCT. 14th.—Swallows last noticed by me at Chapel Field, near Norwich.

18th.—Martins last seen.

NOV. 14th.—The Owl heard at midnight.

* 1809. JAN. 29th.—Extensive floods in the marshes of the Lea. The waters were so much out at Hackney as to cover the bridge over the brook.

APRIL 10th.—The Bat first seen; it was caught flying in the house.

28th.—I noticed the first Swallow at Colnbroke, in my way to Bath.

MAY 1st.—I saw a vast quantity of torpid Bats in Wokey Hole, near Wells.

5th.—The Martin seen at Melksham, in Wiltshire.

17th.—The Monkey Poppy *P. orientale* in blow in the garden of T. F. Forster, Esq. at Clapton.

JUNE 11th.—*Scilla Peruviana* in full flower at Clapton: it has been in flower about ten days.—Purple Goat's Beard in flower. The Sparrow has young in her nest over my window.

22d.—Many varieties of garden Poppy *P. somniferum* in blow.
 JULY 1st.—*Sonchus coeruleus* in flower: the brittle stalk of this plant this year as well as last, is broke, yet it bears perfect flowers.

3d.—The Wryneck still heard.

4th.—I noticed to-day the Swift flying during a hard storm: *Fringilla linaria* has a nest near a pool called the Bog at Clapton.

5th.—The Cuckoo still heard.*

AUG. 13th.—The last Swift seen at Tunbridge Wells.

SEP. 10th.—The Sunflower in full blow. The Red Poppy still flowers.

12th.—*Agaricus fascicularis* springs up at the base of the door post.

18th.—Frogs still very abundant in the bog.

21st.—Swallows and Martins still very numerous, as I had occasion to notice to-day, in consequence of a great quantity of them being assembled to persecute a bird of the hawk kind.

23d.—Swallows seen in St. Helen's Place, London. The garden *Convolvuli* still in flower.

OCT. 1st.—Martins fly high: Bat seen.—3d. Last Swallow.—5th. Spiders come out on the walls of the house pending rain.

16th.—Martins last seen at Hackney.

22d.—Wild Ducks in flocks in the marshes.

* An old Norfolk proverb says:—

“In April the Cuckoo show his bill,

In May he sing night and day,

In June he change his tune,

In July away he fly,

In August away he must.”

NOV. 13th.—I made about this time numerous experiments on the direction of the wind, with inflammable air and fire Balloons, of which the results are recorded in this work.

DEC. 10th.—The Crickets about the fire place very clamorous; a few leaves still left on the Pear Tree.

19th.—I find the following observation made at night, recorded in my Journal: "*Audio aliquid stridens in aëre, sed nescio quid sit, fortasse mus est in muro, forte avis quaedam super domus culmen?*" I remember the noise: it was a very remarkable sound, probably in the air.

22d.—A fine discoid Lunar Halo, at half-past 11, P. M.

* 1810. JAN. 6th.—The Heartsease *Viola tricolor* in flower.

10th.—The Primrose in flower here and there.

FEB. 4th.—The Snowdrop in flower. Frogs seen.

10th.—The copulation of Frogs noticed to-day. At night the abundance of Spiders on the walls portends rain.

11th.—To the indications of Rain of last night, were added this morning Waneclouds and other light modifications variously mixed in the Sky: the Rain followed at night.

The Vapour Guage indicated no evaporation.

15th.—Hail fell in the form of small round globes: at night a Lunar Halo predicting a further fall.

16th.—Snow followed the prediction of last night.

17th.—The Marsh Titmouse noticed feeding among Sparrows. Snowdrops in flower plentifully, and the Crocus is beginning to blow.

MARCH 2d.—The yellow, the striped, the white, and the purple varieties of the Crocus plentiful.

4th.—Toads have been seen already.

10th.—Bats first seen this evening. Thermometer at 2, P. M. 58°. Sitting late at night by the fire place with my

father, we noticed the appearance of a large Scarabaeus crossing the hearth.

12th.—*Narcissus pseudonarcissus* the early Daffodil in blow.

19th.—I heard the song of the Thrush from a neighbouring garden.

24th.—Two unknown birds, exceeding the Thrush in bigness, flew over the house. *Camellia Japonica* in flower.

29th.—I find the following note in my Latin Journal of to-day:—*Visa vespertilio volitans vespere vero vere veniens.*

APRIL 4th.—Many of the Willows in flower.

18th.—M. Sowerby the minerlogist noticed two Swallows at Carshalton in Surry.

20th.—I saw Swallows and Martins at Plaistow, and heard the Wryneck.

21st.—Swallows frequent the Chimneys at Clapton.

22d.—Cuckoo first heard at Walthamstow.

24th.—The Wryneck *Lynx torquilla* now constantly heard.

30th.—Swallows become partly common.

MAY 6th.—Gyrations of Martins flying high in the air in circles. These birds seem to be very considerably diminished of late years in their numbers about Hackney Church.

19th.—Swift first seen at Upper Clapton. *Papaver orientale* in flower.

25th.—Hackney Old Tower abounds again with Swifts.

30th.—*Papaver cambricum* in flower.

JUNE 1st.—*Tragopogon porrifolius* in flower.

3d.—*Iris lurida*, *I. Germanica*, and others in flower: at night Falling Stars.

28th.—*Papaver orientale* in flower at Walthamstow, where it is always later than at Clapton.

JULY 2d.—The Song Thrush has built a nest in the Eglantine against the house. *Sonchus coeruleus* and numerous Poppies in flower.

17th.—The Sunflower in blow growing out of the garden wall, where it had taken root, probably from some seed dropped by a bird.

29th.—The blue flowered Sow Thistle in flower, which we have hitherto called *Sonchus coeruleus*.

AUG. 12th.—A Swift seen flying about within the Church. Willow Wrens seen.

26th.—I noticed Swifts flying about the towers of Ely Cathedral.

SEP. 2d.—Very hot day, the Thermometer 84° in the shade, and 78° at 3 P. M. under a tree. The clamorousness of the Ducks portends Rain.

5th.—*Stapelia verucosa*, *S. asteria*, and *S. radiata* in flower in the greenhouse of T. F. Forster, Esq. at Clapton.

21st.—*Stapelia variegata*, and *S. bigemina flore luteo* in flower.

24th.—Swallows and Martins congregate, as do also Sparrows. Sunflowers still common.

27th.—The wind has been for a long time S. E. at night, and we distinctly hear the very distant report of some evening cannon at 9 o'clock.

OCT. 2d.—The clouds to-day were all Stackenclouds, the Wanecloud, Sondercloud, and varieties of the Curlcloud, which have so long prevailed, having to-day been missed. Hypochondriacal and bilious complaints very prevalent this autumn.

3d.—*Jasmin Azoreticum* and *Oxalis purpurea* in flower.

10th.—Swallows and Martins seen at Ewell.

16th.—The loud report of a cannon, many miles to the

South East, distinctly heard at 8 and at 9 o'clock at Clapton :
Wind S. E. Starlings seen in numbers.

22d.—*Parus caudatus* seen at Walthamstow.—I passed the remainder of October and the chief part of November at Walthamstow, but was too ill to make any accurate observations, having participated largely in an atrabilious Epidemic that prevailed all the autumn. I learnt afterwards that the season had been marked by very peculiar circumstances of the Atmosphere and its Phaenomena. The Plane Trees in most parts of the Kingdom had died, and the distribution of clouds in the Sky was very peculiar during August and September; and hypochondriacal complaints began to prevail early in October, at the beginning of the rainy weather. It was at this period that the Electric Bells of M. Benjamin M. Forster's Electroscope beat with so remarkable a pulsation, to which I have alluded in my journals.

* 1811. JAN. 11th.—Sea Gulls seen in the marshes. Owls heard in the garden.

FEB. 13th.—Frogs seen already.

24th.—Thrushes and Blackbirds begin to sing. Owls hoot and schreech.

MARCH 4th.—The Croucs in flower at Clapton.

17th.—Frogs croak in the pools. Bat seen.

18th.—Clear weather with Easterly Winds, very multiform Cirri, Falling Stars, &c. marking a peculiarly unwholesome state of the air.

21st.—There are some germinal appearances on the earlier budding trees and shrubs. The Owls hoot very much this spring.

27th.—An early spring and the flowers of the Primaveval Flora forward. Daffodils and other early plants in flower.

APRIL 5th.—Tadpoles abundant: I made an experiment to show that they would live and grow to maturity in distilled water. I observed to day, for the first time, the Blackcap *Motacilla atricapilla* at Walthamstow.

17th.—The Wryneck *Iynx torquilla* first heard at Walthamstow.

20th.—The Redstart first noticed at Walthamstow.

21st.—Swallows first seen at Walthamstow, where I also first heard the Cuckoo.

MAY 13th.—*Papaver orientale* has been in full flower at Clapton for some days past. The Redstart has a nest with eggs already in the garden.

27th.—*Scilla Peruviana* in flower. This plant flowers annually about this time, in the small border with a Southern aspect. *Hyocyamus albus* also in flower.

JUNE 5th.—The purple Goatsbeard *T. porrifolius* in flower, as are likewise many Geraniums.

10th.—I observed the *Strix flammea* at Farningham.

16th.—Walking with my sister at Upper Clapton this evening I observed very curious cymoid forms of the Wanecloud, which appeared to be produced by the passage under them of Twainclouds. By moonlight, later at night, a fine bed of Sondercloud prevailed.

17th.—*Papaver somniferum* in flower.

28th.—Being at Eaton near Norwich, I noticed this evening the whole welkin to be replete with beautiful Sonderclouds whose nubeculae were large and distinct.

29th.—I observed a vast quantity of *Fuci* on the beach at Crowmer.

AUG. 10th.—The night was clear after a showery day, returning from Walthamstow with my father, I noticed to him the extraordinary length and white phosphorent appearance

of the trains of light left behind the numerous Falling Stars which we observed. They are common in August.

11th.—Four Herons noticed at Walthamstow.

12th.—M. Sadler ascended in an air balloon from Hackney, and having got into a N. W. Wind, was carried towards the Thames, and descended near Tilbury Fort.

13th.—Apples seem abundant this year, as are also Apricots. Mellons are large but of bad flavour.

29th.—Sadler's balloon descended near Kelvedon, having mounted from Hackney. During this month my brother constructed and sent up a great number of small fire balloons, by observing which I ascertained by various circumstances elsewhere noticed, that the changes of wind begin first in the higher regions of the air.

SEP. 1st.—About four this morning my father entered my chamber, and said he observed something like a Comet in the North. I immediately got a telescope, when we both distinctly ascertained it to be one, and that it was in Asterion. This Comet became a brilliant spectacle during the remainder of the month.

10th.—*Cactus Jamaicensis* flowers in the garden.

OCT. 8th.—Congregations of Swallows and of Martins.

* 1812. JAN. 27th.—A coloured Lunar Halo appeared.

FEB. 6th.—The Slugs begin to crawl. The Thrush sings.

7th.—The Snowdrop in flower at Walthamstow.

16th.—The Crocus in flower. Snowdrops abundant. I heard the vernal sound of Frogs croaking in a pond by the side of the Lea Bridge Road.

22d.—A Thundershower with Hail to-day.

26th.—The proverb of "February fill dyke" is made good this year. The marshes of the Lea are quite flooded, and all the ditches stream with water.

MARCH 19th.—The European Goldcrest seen in the garden.

26th.—A small balloon sent up this day by my brother was moved first by a current from N. E., then N., and lastly E.

APRIL 12th.—Daffodils, and Primroses, and other plants of the Primavera Flora already in blow in profusion. But there are no signs of leaves on the trees yet.

16th.—I observed Swallows on the wing to-day.

18th.—I noticed Swallows and Martins flying about the lakes on Wanstead Forest.

23d.—St. George's Day. The Cuckoo first heard.

26th.—The Creeper observed running about the boughs and stems of the Larch Trees.

30th.—The Sparrows again building their yearly nest under the gutter above my window. Swallows begin to be common.

MAY 31st.—The Titmouse has a nest in the Vine at Walthamstow.

JUNE 2d.—The Purple Goatsbeard and the Monkey Poppy have for some days been in flower.

8th.—*Scilla Peruviana* coming into blow.

12th.—*Papaver orientale* in full flower. This plant appears not to be easily propagated by seed.

15th.—*Helonias Asphodiloides* in blow.

JULY 7th.—*Sonchus coeruleus* in blow: plenty of Poppies. Being of late for a week at Anchorwyck near Virginia Water, I omitted regular observations at Clapton.—I was again forced to omit regular observations, in consequence of a Tour to the Coast and to Tunbridge Wells, in August and September.

SEP. 1st.—*Hirundo apus* seen by me at Penshurst.

DEC. 18th.—Wildgeese have this year been numerous in flocks in Cambridgeshire, and frequently pass in aerial flights over the town, making a harsh cry.

* 1813. JUNE 16th.—*Papaver orientale* and *Tragopogon porrifolius* in full flower.

23d.—My regular register was again interrupted by an accident, this morning, by which the extensor tendon of the index was divided.

JULY 2d.—Travelling to Oxford and Southampton, the regular journal was omitted.

* 1814. FEB. 11th.—Sea Gulls *Lari cani* in the marshes.

APRIL 11th.—Wryneck *Iqut torgilla* heard.

19th.—Swallows seen about.

In August I went to North Wales, and this journal was discontinued for a time. In July 1815 I went to France and French Flanders; in August again to North Wales. In February, 1816, to Edinburgh and the Highlands, and in the autumn following to Weymouth and South Wales, consequently the regular series of observations at Clapton could not be recorded; nor were they resumed till we came into residence at Spa Lodge, Tunbridge Wells, in 1817.

* TUNBRIDGE WELLS, 1817. APRIL 10th.—*Hirundo rustica*.

26th. *Hirundo urbica*.

MAY 10th.—*Hirundo apus*.

AUG. 25th.—*Hirundo apus* still seen.

28th.—The last Swift, *H. apus*, seen.

SEP. 12th.—*Motacilla alba* very numerous.

29th.—The least Willow Wren, *Ficedula pinetorum*, seen on Bishop's Down.

OCT. 3d.—A flock of Wandering Tailpyes *Mecisturae vagentes*, seen near Lankington.

6th.—*Motacilla alba* still numerous and already in winter plumage.

16th.—Martins *H. urbicae* seen at Clapton.

19th.—The Creeper *Certhia familiaris* seen on the Pine Trees climbing the stems. The lesser Pettychaps *Ficedula pinetorum* seen on the Larch Trees running and flitting among the boughs, at Walthamstow.

20th.—Swallows *H. rusticae* last seen at Clapton.

NOV. 7th.—The Nuthatch *Sitta Europaea*, and the small Woodpecker *Picus minor*, observed at Bushy Heath. The Chaffinches very numerous, but almost all that I observed were small birds.

DEC. 7th.—I observed two birds in the garden at Walthamstow which from their appearance I judge to be Grosbeaks *Loxiae coccothraustes*.

* 1818. APRIL 16th.—The Wryneck, the Redstart, and the Blackcap, seen at Walthamstow.

17th.—The Swallow *Hirundo rustica* first seen at Woodford.

20th.—A great number of Narcissuses in flower at Walthamstow, which I purchased from the collection of the late M. Anderson.

29th.—The Martlett *Hirundo urbica* first appears. Swallows become numerous. Willow Wrens are already arrived.

MAY 1st.—Bats, which are numerous in spring and in autumn, begin already to be less frequent.

3d.—Tulips abundantly in flower at Clapton. The Cuckoo daily heard. Owls very noisy by night.

11th.—This day we came into residence at HARTWELL, near EAST GRINSTEAD, so that the observations herein subsequently recorded relate to this neighbourhood, unless otherwise specified.

12th.—The Waterhen *Fulica chloropus* has a nest in the pond.

16th.—Swallows flying low portend rain to-day.

30th.—The Nightingale *Sylvia Luscinia* still continues to

sing all night on the trees near the house. An electrical change in the air to-day produced headache and nervous complaints in many persons here. Swifts not common yet.

JUNE 2d.—The Blue Dragonfly *Libellula puella* first seen about the pond to-day. The following birds have now nests in the particular places subjoined:—

Muscicapa grisola, under the cover of the porch among the Woodbines.

Fringilla carduelis in the Apple Tree.

Fringilla coelebs in the same.

Passer domesticus in the roof of the house.

Hirundo rustica in the chimneys.

Sturnus vulgaris in the trees numerously.

4th.—*Iris Germanica alba var.* in flower.

9th.—The weather begins to be very hot, the thermometer* 74.°—the whole remainder of the summer continued hot, the thermometer being generally about 80.° of Farenheit's scale.

JULY 15th.—*Ficedula sylvicola* the Wood Wren seen and become common.

21st.—*Falco tinnunculus* has fledged young ones, two of which I brought up from the nest and liberated.

25th.—*Cyprinus phoxinus* caught in the stream.

Alcedo ispida the Kingfisher or Halcyon seen about the great pond.

27th.—The following fishes were to-day caught in the river:—

Cyprinus gobio the Gudgeon.

Cyprinus rutilus the Roach.

Cyprinus alburnus the Bleak.

Cyprinus phoxinus the Minnow—a sprinkling of rain

* Farenheit's scale is used.

made the fish bite very fast all the morning. Carp and Tench abundant in the ponds.

28th.—*Strix flammea* observed in the evening soaring about the meadows and under the hedges in search of food.

31st.—Four species of *Libellula* seen about the ponds.

AUG. 1st.—A small fish is caught by my brother and myself, in the streams about the bridges which seems to be the Bleak. We caught in the same place the Roach, the Dace, the Pearch, the Gudgeon, and the Chub.

2d.—Immense flocks of clamorous Starlings flying about the fields and lodging now and then on the trees.

14th.—The Swifts seem to have taken their departure. Falling Stars prevail much about this time of year, particularly with East winds.

20th.—Swallows fly near the ground, indicating rain.

Conops cursitans, that detestable Horsefly is particularly troublesome this year.

22d.—Sailing off Brighton with my brother, I noticed the quantity and diversity of Sea Gulls which inhabit this Coast. The Red Gurnet already in the markets. They say the Red Surmullet is also found here later in the year.

26th.—A Specimen of *Cyprinus gobio* the Gudgeon caught, which was as large as a Carp.

SEP. 2d.—*Limicula glottis* the Green Shank at Southampton.

7th.—The Grey Mullet common at Dawlish.

13th.—I noticed the Guillemot *Uria troile* while rowing in the Bay at Ilfra Combe, in Devonshire.

OCT. 12th.—*Agaricus varians*, *A. campestris*, *A. fascicularis*, and other Fungi and Mushrooms abundant. Abundance of Apples this year.

18th.—M. Benjamin M. Forster and I gathered to-day the following Fungi and Mushrooms in abundance:—

Agaricus denticulatus.

A. campestris, common Mushroom.

A. fascicularis.

A. floccosus, under the Apple Tree.

A. glutinosus, in the grass.

A. polygramus.

A. stercorarius, in long grass and dung.

A. verucosus.

A. integer, crimson, pale, and slate colour.

A. muscarius, of both colours.

A. procerus, the tall Agarick.

A. plicatilis, in the grass.

A. elephantinus, very large indeed.

A. cumulus.

A. congregatus.

A. violaceus, a beautiful species.

A. denticulatus, and many others.

Boletus bovinus, very large, some were one foot high.

B. edutis.

B. igniarcus.

Calvaria hypoxolon.

C. muscoides.

Helvelia sarcoides.

Peziza coccinea.

This is one of the most luxuriant seasons for all the above tribe of plants that I ever remember.*

25th.—Hydrophobia said to prevail much among Dogs.

NOV. 4th.—Flocks of Wild Geese.

* See my Letter in Phil. Mag.

* 1819. MARCH 16th.—Cloudy morning; fair afternoon. The thermometer 60°.

Tussilago farfara in flower beside Lea river. Daisies also bloomed. I found the *Peziza scutelata* var. (of Sowerby, Feb. 24th,) on cow dung to-day in the marshes.

Tussilago petasitis in bloom in the garden.

18th—*Bellis perennis* every where in flower; and the *Ficaria verna*, or Pilewort, here and there.

19th.—The first day of spring showers, the Wind changing at 10 A. M. from S.W. to N.W., and blowing a gale at times, with Rain and Hail in showers. Grape Hyacinth and the Blue Hepatica in flower.

23d.—*Stellaria media* in flower. The Rooks and Doves building their nests.

24th.—This was a fine spring day, with West Wind and mild air. The cumulus cloud as usual prevailed, but there was a fine display of cirrus and cirrostratus in mottled rows up in a higher region.

Leontodon taraxacum in flower. The Willows are in catkin every where; and the leaves of the Eglantine budding. The birds sung till past seven in the evening, when the *Scarabaeus fmetarius* was on the wing.

25th.—Fine warm day, with Westerly Wind and cirrus clouds. We had a smart Thundershower, with Hail, at about noon; and slight showers followed. The Larch Trees are budding, and the Elms in full flower.

Fumaria tuberosa in bloom.

Viola odorata also in flower.

26th.—*Carabus hortensis* first appeared to-day. The Horse Chesnut trees began to put forth leaves.

Anemone hortensis, *Calendula officinalis*, the Marigold, and several other early plants in flower in the garden.

27th.—Strong Wind from W. and troublesome dust ushered in Rain.

28th.—Fine small Rain and warm air; vegetation begins to advance rapidly.

29th.—*Veronica arvensis** in blow on a wall at Woodford. Several kinds of *Narcissi (exotici)* came into flower in the garden. The *Tremella deliquescentes* (of some authors) is still abundant on the sear wood of an old paling.

30th.—*Cardamine hirsuta* in flower to-day. Some of our vernal songsters are already arrived, and fill the groves with their music.

31st.—The Cowslip *Primula veris* came into flower, the Dead Nettle *Lamium purpureum*, the *Veronica agrestis*, and *Veronica hederifolia*. Clouded, warm, still day. S.W. Wind, and thermometer barely reached 60° of Fahrenheit. Pilewort is now plentiful in the meadows. I have not yet seen the Marsh Marigold; but as this plant flowered by unseasonable anticipation in December last, it may not, perhaps, have flowered a second time yet.

APRIL 1.—Fine warm weather, Wind W.S.W., and thermometer 62°. The Garden Spiders and the Earwig first seen. The Wallflower in bloom, and also *Lamium amplexicaule* on the walls. The Bees begin to abound.

2d.—*Caltha palustris* at length coming into flower: fine warm weather.

3d.—The temperature above 60°, with a clear welkin, and red sunset. I first noticed to-day the Least Willow Wren *Sylvia hippolais*, and the Blackcap *Curruca atricapilla*. The

* Botanists should avoid confounding this *Veronica* with the *V. agrestis*, which it much resembles; the latter grows generally on the ground; the former generally on walls, in company often with the *Draba verna*.

Bat was flying about in the evening. The yellow and brown Butterflies first appeared; and the *Auricula*, *Hyacinth*, and *Narcissi odori* in blow.

4th.—*Phoenicurus ruficilla* the Redstart first appeared
Anchusa sempervirens in bloom in the garden.*

6th.—Cold East Wind; but fine day.

7th.—*Anemone nemorosa*, *Erisemum barbarea*, and *Oxalis Acetosa* in flower on Hainault Forest. The Pettychaps became frequent on the Larch and Pine Trees in the garden. Various species of *Staphilynus* come forth.

8th.—Rainy day. The lesser Pettychaps already frequent the Larches.

9th.—The female Redstart seen.

10th.—*Jynx torquilla* heard at Walthamstow.

11th.—*Cuculus canorus* the Cuckoo at North Mims. Plants in flower, *Populus nigra*, *Primula elatior*, *Ribes alpina*, *Vince major*, and *V. minor*. *Scilla nutans* and *S. italicus* in the garden. *Luzula pilosus*, *L. forsteri*, and *L. campestris*. *Pulmonaria officinalis*, and *P. longifolia*, *Narcissus poeticus*, *N. pseudonarcissus*, *N. major*, *N. odorus*, *N. incomparabilis*, *N. tenuis*, and *N. Italicus*, in open ground in the garden, *Caltha radicans*, *Ranunculus aquatilis*, *Lamium Garganicum*, and *Anemone ranunculoides*.

Vegetation rapidly advances; the fields begin to be spangled every where with Pilewort, Daisies, and Dandelions. A few instances are still afforded of the production of unseasonable phaenomena, with which these last two years have abounded;

* The flowers of *Veronica chamaedris*, when growing wild, are of a lively blue colour, and so like those of *Anchusa sempervirens*, that only the slightest shade of difference can in general be found by comparison; there is a slight dash of green in one of them. The *Cynoglossum omphalodes* and the *Borago officinalis* afford examples of the finest and purest blue.

among others the *Bundfungus Agaricus fascicularis* is growing abundantly at Upton, in Essex.

M. Thomas F. Forster, of Clapton, discovered, at North Mims, on the 11th, a variety of the *Primula vulgaris*, with bright saffron coloured yellow flowers.

The Calendar of Flora Fauna and Pomona is from this time henceforward kept at Hartwell, by Tunbridge Wells, Sussex.

APRIL 15th.—*Hirundo rustica* the Swallow first made its appearance in the neighbourhood of Lingfield. The Turnip is now in full flower every where. *Fulica chloropus* the Moorhen is building. The seeds of *Papaver somniferum* coming up, which were sown only a week ago. Vipers and Snakes out a considerable time.

17th—Cool showery weather, and Westerly Wind. The Cowslip and Pagel* every where in flower hereabouts. Pilewort still flowering abundantly, and *Cardamine pratensis* in all the meadows.

18th.—*Orchis mascula* in flower under a hedge facing the South. The Kidlock *Sinapis arvensis* plentifully in flower in the corn fields near Cowden and elsewhere. Specimens appear here and there in marshy ground of the *Agaricus glutinosus*.

19th.—A thorough rainy day. A few Swallows were flying about at Hartfield. I had not seen this bird before

* The word Pagel for the *Primula veris* is evidently a corruption of Pratile; we have several such terminations, as Nightingale, &c.

since the 15th, and they are not common yet. *Allium ursinum* in flower.

20th.—Rainy morning. Stitchwort *Stellaria holostea* in flower under the hedges between Hartfield and Withyham.

21st.—Showery; but fair evening. *Tussilago farfara* in seed at Lankington Green.

22d.—Wind got to Northward, and cooler.

23d.—Rain in gentle showers, and cool. *Ranunculus bulbosus* came into flower. Swallows as yet but few. *Mercurialis perennis* in blow.

24th.—Rainy cold day. From a Correspondent I learn that *Thlapsi bursa pastoris*, *Fritillaria meleagris*, *Draba muralis*, and the great Leopard's Bane *Doronicum pardalianches* are in bloom at Walthamstow.

25th.—The Wryneck first heard at Hartwell; cold day. The House Martin *Hirundo urbica* seen. Swallows become more frequent. *Agaricus glutinosus* still found in the fields; but the pileus of it is lighter coloured than that of the same plant in autumn. The *Tremella mesenterica* growing on some sear trunks.

27th.—Clear cold day; Wind Easterly. *Lycoperdon epidendrum* found flourishing.

Sylvia luscinia the Nightingale first heard singing, notwithstanding the coldness of the night.

28th.—*Ranunculus acris* in flower here and there.

30th.—*Ranunculus arvensis* in bloom.

MAY 2d.—Warmer weather to-day, and a fine shower at night; the cirri and Waneclouds, which appeared all day and yesterday, were a sure indication of a change. *Sinapis arvensis* the Kidlock is still abundantly in flower every where.*

* This plant *Sinapis arvensis* should be carefully distinguished from the other, called Charlock, viz. *Raphanus raphanistrum*, which much

3d.—The *Cynoglossum omphalodes*, so remarkable for its brilliant blue colour, still in bloom.*

5th.—A fine warm spring day, alter a night of rain. *Schoeniclus arundinaceus* observed. Swallows and Martlets become common. *Orchis morio* in flower.

6th.—The following plants now in full flower:—*Ranunculus bulbosus*, *R. acris*, *Fragaria sterilis*, *Erysimum alliaria*, *Veronica chamaedris*, *V. serpyllifolia*, *V. agrestis*, *V. arvensis*, and *V. hederifolia*, *Anthoxanthum odoratum*. *Valeriana dioica*, and *V. locusta*, *Phleum pratense*. *Alopecurus pratensis*, *Briza major*, *Poa annua*, *P. trivialis*, and *P. pratensis*. *Galium cruciatum*, *Alchemilla arvensis*, *Sagina erecta*, *Myosotis arvensis*, *M. versicolor*, and *M. umbrata*. *Borago officinalis*, *Primula elatior*, and *P. veris*. *Anagallis arvensis*, *Viola tricolor*, and *V. tonbrigensis* (supposed a variety), *Sanicula Europoea*, *Caucalis anthriscus*, *Scandix pecten veneris*, *Viburnum lantana*, *Narcissus biflorus*, *Allium ursinum*, *Scilla campanulata*, *Vaccinium myrtillus*, *Acer pseudoplatanus*, and *A. campestre*. *Chrysosplenium alternifolium* (wild), *Arenaria trinervia*, *Lychnis dioica purpurea* and *L. dioica alba*, *Cerastium vulgatum*, *Euphorbia amygdaloides*, *Mespilus*

resembles it; but which in this district is not near so common. The former is a troublesome weed in corn; and its seeds, when deeply buried by ploughing, work their way by degrees up to the surface, and grow again. This circumstance, which is common to many plants, leads us to inquire by what means seeds possess this ascending power, when buried, of regaining the surface of the earth?

* There are three plants in our gardens noted for the brilliancy of their light blue flowers. The *Cynoglossum* is the purest fine ultramarine colour; the *Veronica chamaedrys* has a very slight tint of the red in its composition; and the *Anchusa sempervirens* (the third I allude to) has a tint of greenish. The blue of the *Cynoglossum* being the only perfect blue.

oxyacantha, *Pyrus malus*, and *P. aria*. *Adonis autumnalis* (in T. F. Forster's garden), *Ranunculus auricomus* in the corn fields.

12th.—*Raphanus raphanistrum* the Charlock; also *Sinapis nigra*. The *S. arvensis* still abounds.

The weather continues warm and still, and the foliage advances. There is every appearance of spring. The banks are covered with *Viola canina*, and the fields here gilded with *Ranunculi*, there blue with *Scilla nutans*.

13th.—*Iris Germanica* in flower in the garden.

14th.—*Hieracium pilosella* in flower on a warm bank near Lankington Green.

16th.—A single specimen of *Papaver argemone* found flowering near Epsom. Also in full flower,—*Geranium Robertianum*, *G. molle*, *G. rotundifolium*, *G. pusillum*, *Fumaria tenuifolia*, *F. officinalis*, *Genista anglica*, *Erodium cicutarium*, *Campanula hybrida*, *Scandix anthriscus*, *Viburnum lantana*, *Alopecurus pratensis*, and *Matricaria chamomilla*. The fields are now spangled with *Ranunculus*, and in some the luxuriance of *Scylla nutans*, makes the ground a beautiful blue colour.

17th.—*Hypochoeris radicata* came into flower on a dry bank by an orchard.

Hirundo riparia the Sand Martin flying about the holes in the sand near Withyham.

18th.—*Ranunculus repens* in flower every where. In the same meadow with this plant *R. bulbosus* and *R. acris* are abundant. *R. auricomus* and *R. arvensis* in the next field. *Narcissus poeticus* still in flower in the garden.

21st.—*Hirundo apus* the Swift to-day. They are said to have been seen for some time past. *Fringilla coelebs* has a fledged brood.

Papaver Cambricum in full flower in a garden at Withyham. The *Dentaria bulbifera* at the high rocks is gone out of flower; it was in full bloom April 22d. That beautiful plant the *Gentiana acaulis* flowered in the garden, and is now gone out.

22d.—Fine growing day after several of rain. Vegetation advances rapidly. *Rhododendron Ponticum* coming into flower; also Columbine, and many other garden flowers. The Monk's Hood Poppy *Papaver orientale* is just opening. I noticed the Mayweed *Chrysanthemum leucanthemum* in blow in the meadows. The Chub *Cyprinus jesus* caught in the stream which runs into the Medway. I have not yet seen the Pearch, Bleak, and Roach taken, which also abound in the same stream. The cottage gardens are now ornamented with Tulips, Marigolds, and Stocks.

24th.—NATALIS LINNAEI.—*Papaver orientale* the Monk's Hood Poppy in flower in several gardens; also here and there a wild specimen of *P. Argemone*.

25th.—*Tragopogon porrifolius* the Goat's Beard in flower in T. F. Forster's garden at Clapton; also *Scylla peruviana*.

26th.—Abundance of flexuous and angular cirrus cloud in the lighter intervals of a cool cloudy day, with N. E. Wind. *Tragopogon porrifolius* the Purple Goatbeard *Τραγοπωγών* came into flower in my garden this morning.

30th.—We have now come into flower, *Myosotus scorpioides*, *Erisenum officinale*, *Apargia hispida*, and *Cardamine amara*; and *Hypochaeris glabra* is coming out. In the hollow field I found the *Agaricus verucosus*. Columbines in full blow.

JUNE 3d.—The first Strawberry gathered to-day. *Digitalis purpurea* the Foxglove in flower. Thistles begin to bloom. *Carduus pratensis* is already out. The weather is warmer than it was last week, but by no means seasonable. *Fringilla*

carduelis the Goldfinch has young ones almost fledged. I noticed to-day the exactness with which the purple Goat's Beard closed its blossoms at noon.*

5th.—The gardens now begin to be ornamented with Pinks, Roses, and other early summer flowers.

Iris pseudacorus the Flag is still out in abundance by the sides of ponds and rivers. The Monkey Poppy, the German Iris, and Goat's Beard, with many others, are still in prime. The weather is moderately warm, with abundance of Cirrus clouds; afterwards a fine summer's evening, and stratus.

Ornithogalum umbellatum was flowering wild near Bleachingly to-day. This is a very rare plant hereabouts.

6th.—A return of fine warm spring weather, with S. W. Wind. In riding through the corn fields this morning, I was struck with the total absence of Corn Poppies *Papaver Rhæas*, and *P. dubium*. The former of these is a plentiful weed in Surrey, and in all the chalky soils also about London; but in this clay district it is a plant of extremely rare occurrence.

The yellow Jasmin is flowering in the garden. The four sorts of Ranunculi and the *Potentilla reptans* are still abundantly in flower in fields and hedges. Thermometer at 4 p. m. 62°; barometer falling, and 29° 95'. I found the Marsh Groundsel *Senecio aquaticus* flowering among the long grass in the meadows this evening. The Oxeye or Midsummer Daisy is now abundantly in flower.

8th.—*Sonchus oleraceus* the Sowthistle and lesser Stitchwort in flower.

* This property of many flowers, particularly of syngenesious plants, of closing at particular hours, ought to be more minutely attended to. The two British Goat's Beards *T. porrifolius* and *T. pratensis* shut up at noon. The Cat's Ear *Hypochaeris radicata* closes at three o'clock, and the *Hieracium pilosella* at three quarters past two.

10th.—The temperature remains steady; thermometer about 62°, barometer rising to 30° 10'. Fair weather, with occasional showers. The gardens begin to look very gay with flowers. Besides Pinks, Sweetwilliams, and various exotics, many of the solstitial flowers are opening; the garden Poppies will be out in a few days. Meanwhile the Vernal Flora has not yet subsided. Buttercups and Daisies still adorn the meadows. The POMONA also advances. Not only the scarlet Strawberry, but the Chili and the pine wood Strawberry were gathered abundantly in some gardens last and this week.

11th.—The wild Mallow is now in flower.

13th.—Arriving at Limpsfield to-day, I found *Papaver Rhaeas* flowering among the corn, though not a specimen is to be found about Hartfield. *P. argemone* was in seedpod, and already deflowered. The reason why the corn Poppies do not flourish about Hartfield, is probably the sort of soil. In the chalk countries within a few miles they are common weeds.

At Walthamstow to-day I found *Papaver somniferum* in flower in the gardens, both the large white Poppy and the garden or variegated species. In the ponds and rivers the Yellow Water Lily *Nymphaea lutea* is in blow.

14th.—*Gladiolus communis* the Corn Flag in flower. Returning home from London to-day, I observed the Red Poppy *Papaver Rhaeas* flowering among the corn and by the road sides, all the way as far as Limpsfield: but here we enter a different soil, and they are no longer common weeds.

The following plants of the VERNAL FLORA still remain in blow:—*Ranunculus acris*, *R. auricomus*, *R. bulbosus*, *R. hirsutus*, *R. pratensis*. The meadows are still spangled with them, and also here and there ornamented with *Lychnis dioica*, *Chrysanthemum Leucanthemum*, Shepherd's Purse, Daisies, &c. Marigolds and other spring flowers are still

seen in gardens. The Poppies belong more properly to the SOLSTITIAL FLORA. The *P. somniferum* is coming into flower in several gardens about London. *P. hortorum** is likewise in flower, and *P. orientale* and *P. cambricum* have not yet gone out. Wild as well as garden Roses are very luxuriant: of the former, *Rosa canina* and *R. rubiginosa* are very abundant. Cinquefoil *Potentilla reptans*, and also *Tormentilla reptans* in flower.

Tragopogon pratensis and *T. porrifolius* are now in full flower.

† 16th.—Travelling into Hampshire, I again noticed the abundance of *Papaver rhæas* as soon as I got into the chalky soil. *P. dubium* likewise was flowering here and there.‡ *P.*

* I have adopted this name for the Variegated Garden Poppy till its species shall be determined. I am doubtful whether it should be regarded as a variety of the White Poppy *P. somniferum*, the capsule being only one fourth of the size, while the whole plant and flowers are larger, the leaves being paler and less jagged, and by its wanting the hispidity of the stalk beneath the flower. Moreover, I do not know of any proof that the seeds of the White Poppy come up and bear the flower of the variegated kind in any soil whatever. The origin of species generally may be reckoned very doubtful. Species may be only varieties become permanent in their character by time. But certainly the Variegated Poppy has as just a claim to distinction from the white as many plants admittedly different in species. The effect produced by soil, and the varieties in the composition of the characteristics in different specimens, may be regarded as constituting the strongest arguments on the other side of the question, and as corroborating the notion of the garden Poppy being only a variety.

† PRAGUE, AUG. 11.—The 26th ult. one of the towers of the Cathedral was struck by Lightning and entirely destroyed; the roofs of the adjoining houses were much damaged by the fall from it of masses of stones and masonry.

‡ *P. hortorum* is the name by which I sometimes distinguish the garden variety from the large White or Official Poppy.

hortorum is now common in the gardens; as are Auriculas, Sweetwilliams, Marigolds, Garden Mallows, and other summer flowers.

20th.—Fine warm weather has at length succeeded the cool. The hay is down, and in some places stacked. The Yellow Lily is in full flower; as are likewise the Pike Geranium, the White and also the Blue Flaxinella, and numerous Roses. The Peony is already casting its petals to decay. A variety of *Centaurea cyanus*, almost white, is common here.

Malva sylvestris in flower. The Stone Curlew heard by night. The Charlock, or Yellow Cornweed, of Hampshire, seems to be all *Sinapis arvensis*. In some places the fields are quite yellow with it; in others the Corn Poppy gives them the distant look of a scarlet sheet thrown over the meadows.

Verbascum Thapsus coming into bloom.

23d.—I gathered the seeds of *Tragopogon pratensis* near Odiham. *Crepis tectorum* abundant.

24th.—Showery weather again, and a clouded Sky, which retards the progress of the SOLSTITIAL FLORA. The Pike Geranium *G. sanguineum* in full blow.

26th.—*Lychnis Chalcedonica* the Scarlet Lightning in flower. The Canterbury Bells *Campanula Medium* in full blow in the garden. The Poppies in my garden are late this year; being sown in spring, instead of last autumn.

27th.—*Carduus palustris C. arvensis* and *C. acanthoides*, in flower. *Papaver hortorum* flowering against the wall of the porch. I noticed this evening, among the high wheat, abundance of the Corn Chamomile *Anthemis cotula* in flower.

28th.—Showery weather, and a great deal of hay beat down. I found this morning, among an abundance of the

Pimpernel *Anagallis arvensis*, the several specimens of the permanent white variety. The blue variety is not frequent here.

About half past eleven to-day there fell a violent shower of Hail, with Thunder and Lightning. The Hailstones were the largest I ever saw: some I measured exceeded half an inch in diameter.

Hieracium murorum and the *Cnicus pratensis* in flower in the hollow field, and *Myosotis palustris* by the side of the rivulets.

29th.—*Centaurea nigra* Knapweed in flower; also *Centaurea cyanus* Cornflower.

JULY 1st.—*Agrimonia Eupatoria* in flower on a bank between Groombridge and Withyham. The grass in this neighbourhood is for the most part standing yet. That which is already cut is somewhat damaged by the wet.

* 2d.—*Hypericum perforatum* St. John's Wort in flower on a bank between Hartfield and Withyham. *Lapsana communis* abundantly in blow.

3d.—Warm cloudy day, ushered in by misty Rain. Thermometer at maximum 70°, Barometer 29° 82', Wind S. W. The evening became very warm and fair. *Cyprinus rutilus* Roach taken in the river.

About eleven P. M. I accidentally discovered a brilliant COMET in the North. The nucleus of it seemed brighter and the tail longer than that of the Comet which appeared in 1811.

4th.—Hot morning. Thermometer 80°, Barometer fell, and it thundered P. M. The Copper Day Lily *Hemerocallis fulva* in full blow.

5th.—*Papaver somniferum* flowered in the Poppy field, sown in March. The Scarlet Lychnis makes a splendid figure in the gardens at present.

6th.—*Lilium candidum* the White Lily, and the Orange Lily *Lilium bulbiferum* in blow. Also the large Day Lily.

7th.—*Campanula hederacea*, *C. Trachelium*, and *C. glomerata*, in blow. Also *Convolvulus arvensis*, and *C. sepium*.

8th.—*Cnicus acaulis* in flower near Limpsfield on a chalk hill.

10th.—*Hieracium sylvaticum*, *H. murorum*, *H. prenanthoides*, *H. sabandum*, and *H. umbellatum*, in flower at Hale End. Likewise *Verbascum Thapsus*, *Carduis marianus*, and *C. acanthoides*.

Returning from town to-day, I again noticed the Red Poppy to be common all the way as far as Limpsfield, in Surrey, where they were last seen. The *Sonchus arvensis* was flowering near Cowden; and the Feverfew *Pyretrum Parthenium* by Eden Bridge.

11th.—A field of White Poppies *Papaver somniferum*, sown in March, is now in full bloom. *Campanula Medium* is in flower, apparently wild, near Hartfield; though perhaps its seeds had escaped from some garden.

12th.—*Agapanthus umbellatus* in blow in T. F. Forster's garden. Fair, warm, still clouded weather. *Oenothera biennis* or Evening Primrose in full flower. A field of White Poppies *Papaver somniferum* in bloom.* The following plants still

* Since I wrote the last note on the varieties of the Poppy, a curious circumstance has occurred.—I sowed some seeds of *Papaver somniferum* in a field of ordinary soil: they came up and bloomed with the plain white flower, and single petals. Some of the same seed, scattered in the rich soil of a garden, came up, and bore variegated flowers, some of which were double, some single, some red or purple, and a few white. The seed of all was from the same capsules, and was the white variety. From this (though there be contradictory evidence on the other side,) I should certainly infer, not only that the Garden Poppy was a mere variety, but that difference of soil has the power very rapidly of producing it.

ornament the gardens with their flowers:—*Lychnis Chalcedonica*, *Lillium candidum*, and *L. bulbiferum*, *Hemerocallis fulva*, *Campanula Medium*, *Rosa centifolia*, *R. canina*, *R. arvensis*, numerous Geraniums, Pinks, and various sorts of *Dianthus barbatus* called Sweetwilliams. In the fields the *Agrimonia Eupatoria* now abounds.

Sedum acre flourishes on the walls.

By a survey of a great number of Poppies sown for the purpose of comparison, I have in these determined the Official and Garden Poppy to be only varieties. I have always been of opinion, that species originate in hybrid productions in *lusus*, and in permanent varieties, whose characteristics are consolidated by time, and often fixed by soil. Another remarkable instance of the effects of soil occurred to me. I had sown a quantity of Official Poppy seed in a field, and some of the same in a rich garden soil. The former came up White Official Poppies, while the latter were varied, and had black seeds. What is more curious in proportion is, that as the colour of the petals became red, the capsule turned out smaller; and I have intermediate varieties, between the White Official and the Variegated Garden Poppy, whose petals were pale purple, the capsules of a middling size, between the two, and the seed not black, but brownish. Instances, however, occurred of Purple Poppies with large capsules. Another remarkable thing I have observed about these plants is, that when I sowed seed in the garden in clumps, all the Poppies composing certain clumps came up and flowered with the petals of one particular colour, while other clumps were of another colour. Likewise in scattered seed, Poppies immediately in vicinity of each other came up of similar colours. To what this apparent sympathy of contiguity may be owing, I am ignorant; but were it more known, it might throw some light on the true principle of variation and the production of duplicity in flowers.

In one cluster of Poppies, and in one only, they all came up double dentated and white; in another double dentated or fringed and red; in another purple; in a fourth single red; and in a fifth single purple. There were only a few exceptions in individuals to this apparent rule of the uniformity of colour in neighbouring Poppies. I have noticed similar phaenomena in Hollyhocks.

13th.—Fair, but clouded and warm. The Chub *Cyprinus Jases*, the Roach *C. rutilus*, the Bleak *C. alburnus*, and the Pearch *Perca fluviatilis*, caught in the stream between Hartfield and Summer Ford.

14th.—Fair and bright day. *Antirrhenum Linaria* in flower. The Gudgeon *Cyprinus gobio* caught in the stream. *Malva moschata* out.

15th.—St. Swithin's Day produced only a few drops of Rain. *Lythrum salicaria* abundantly in flower along the banks of the rivers.

16th.—The POMONA is rather backward. Red, White, and Black Currants just ripe. The Scarlet Strawberry still abundant in shady places, though the Chili, the Alpine, and the Hautboy, which came in later, are already going out. The Wood Strawberry still flourishes. Abundance of Minnows caught in the streams. The yellow Hawkseye *Crepis barbata* flowering on a bed of dung, though only sown in the middle of May. Also *Lavatera trimestris*.

17th *Anthemis inodorus*, *A. arvensis*, *A. cotula*, *Matricaria chamomilla*, *Pyrethrum parthenium*, and *Gentiana centaurea* now common.

18th.—Hollyhocks, both white and red varieties, in flower in many gardens hereabouts.

22d.—A white variety of *Digitalis purpurea* in flower at Walthamstow. Sun Flowers in bloom. A variety of *Carduus Marianus* without the milk in seed at Clapton. In the garden of M. Loddidges, at Hackney, I noticed a vast display of *Dalias Dahlia superflua* in full flower, and all of different hues.

27th.—Fair warm weather. The Hollyhocks *Althaea rosea* in great profusion now adorn the gardens all the way through Surrey and Kent, from London to Hartfield. In the

Southern parts of Sussex also they are much cultivated. *Cnicus lanceolatus*, *Cnicus arvensis*, and *C. palustris* in full blow every where.

30th.—Weather hot and dry, with S. and E. Winds. Thermometer in the shade 76°. To-day M. Thomas F. Forster found *Buxbaumia foliosa* at Harrison's Rocks. The plant suspected to be *Drosera Anglica*, growing near Forest Row, turns out to be *Drosera longifolia*.

31st.—Very hot day. *Papaver rhæas* (sown only in June) now in full flower in my garden. *P. somniferum* still flowers here and there. The generality of them are in capsule.

Inula dysenterica is now abundantly in flower near Cowden, and elsewhere.

Hieracium sabaudum also in bloom.

AUG. 1st.—*Apargia autumnalis* in blow to-day. I found *Epilobium roseum* and *E. palustre* by the river side. *E. hirsutum* and *E. tetragonum* are also in flower.

2d.—*Linum angustifolium* in blow by the side of the lane at Perry Hill, where it grows of a great size. Apricots and Plums begin to be common.

3d.—The misty mornings begin to indicate autumn. The Mouse Ear Hawkweed *H. Pilosella* in blow a second time. This plant has generally a second flowering in autumn, after having previously gone out of flower.

The *Sedum Forsterianum* still in blow. This plant has accidentally been omitted in Withering's Bot. Arrang. It was found first by M. Edward Forster, at Pont y Mynach, called the Devil's Bridge, in Wales, in 1805.

We discovered to-day, on a bank near Forest Row, an apparently new species of *Hieracium*. It grew close by *H. sabaudum* and *H. umbellatum*; but though it resembled

the latter, did not resemble the former enough to be regarded a hybrid production. M. Edward Forster has had specimens of the same from different parts of England and Wales.*

4th.—*Campanula Medium* still in blow. (This word was erroneously printed *media* in the Journal of last Month.) The weather continues warm; and though obscured by much cloud and mist, the Rain keeps off, and the Barometer rises again.

5th.—The quantity of Cirrus and cirrocumulative Cirrostratus indicates Rain to-day, as does the fading of flowers and the falling of newly planted plants.

6th.—Some Fungi began to appear. *Agaricus integer*, *A. campestris*, var. β ., and *Boletus edulis* found here and there in moist places. *Malaxis paludosa* in flower on Ashburn Forest.†

7th.—*Lysimachia vulgaris* near Summer Ford in flower. The weather warm and dry, but the nights begin to be cooler, with much dew. An unusual degree of haziness has, however, been observed in the air of late, which some persons have ascribed to an eruption of Vesuvius. Summer Pears gathered.

8th.—The weather still dry. *Antirrhenum Linaria* now common in every hedge.

12th.—The Chinese Starwort *Aster Chinensis* in blow in the gardens. *Aster Tradescanti* the Michaelmas Daisy

* This plant turns out to be only a Sussex variety of *Hieracium Sylvaticum*. I have since increased it by seed, so that I observe it yearly in my garden—1823.

† The *Malaxis paludosa* has not been found in this neighbourhood before, since the time of Ray. It is certainly one of our scarcest plants.

sparingly in flower, and what is curious, this has come out on a recently transplanted specimen.

The weather continues hot and dry, with an unusually great quantity of cloudiness and mist in the morning. The soil here is chiefly clay and marle, with some yellow sand. The timber is principally Oak, chiefly the *Quercus Robur*, though we have some *Q. Tessiliflora*. There are some Ashes *Fraxinus elatior*, Beech, and Hornbeam; but scarcely an Elm for many miles round. Our soil does not suit them. The Spanish Chesnut grows here very luxuriantly.

15th.—The weather continues very hot and dry, but the atmosphere is unusually hazy, and there is a greater proportion of cloud than usually happens with hot weather in August. The Thermometer averages as high as 75° at its maximum; to-day it is 78° in the shade; the Barometer rising at 30·10. Wind calm and Southerly.

A few instances of *Papaver Rhæas* occur now near Withyham; but this is a scarce plant here, and for many miles round. *P. somniferum* continues to flower from seeds sown late.

16th.—*Amaranthus hypochondriacus* the Prince's Feather in blow. The weather continues hot, and the mornings clouded, with misty horizon. Barometer rising. *Solidago virgaurea* now abundantly in blow.

21st.—*Papaver hybridum* in flower at East Bourne, where I also observed the wild Cabbage.

25th.—*Hirundo apus* a Swift still seen, though it was probably only a straggler, left behind after the annual emigration, which took place, with the majority of these birds, about ten days ago.

27th.—The weather is become more cloudy, and the Barometer falls: but it is as yet very dry, and few Fungi

have appeared. The POMONA bids very fair. Peaches and Nectarines are in great abundance. Apricots are going out. Pears are more abundant than last year, but Apples are fewer.

30th.—Wind got to S. S. W., and falling Barometer, with the rapid formation of the lighter sorts of cloud over the cumuli. Rain is evidently approaching.

The fields now begin to abound with *Apargia autumnalis*,* *Apargia hispida*, *Trinchia hirta*,† *Hypochaeris radicata*, *H. glabra*, and here and there *Leontodon taraxicum*, still flower. *Crepis barbata* is still abundant in the gardens. *Scabiosa succisa* now common. The Garden Artichoke *Cynara scolymus* in full blow.

31st.—Barometer rising again, with cool Wind. The night was very cold.

SEP. 1st.—A cold autumnal morning. Swallows begin to increase in numbers, from the accession of the later broods of young. These birds as well as Martins fly very low to-day, skimming over the surface of the meadows and ponds in pursuit of their prey. The Pied Wagtails are very numerous, and begin to gather into small flocks.

4th.—*Achillaea Ptarmica* still in blow. Swallows fly low, indicating Rain.

5th.—Rainy morning, and fine clear night afterwards. The meadows are now yellow with *Apargia autumnalis*,

* The *A. autumnalis* most common here is the variety 3 of Withering's Botany. The leaves are extremely wingleft, and the stalk tall.

† This plant was called *Leontodon* by Linnaeus; it was afterwards made a *Hedypnois*; then *Apargia*; and, lastly, in *Hort. Kewensis*, named *Trinchia*, and thus distinguished, "*Recept. plumosum, Pappus difformis Marginalis membrana multifida, centralis stipitata plumosa, Cal. octangulus octophyllus.*"—Second Edition, p. 447.

which, when viewed from a distance, present the appearance of a second spring.

6th.—*Viola tricolor* in flower.

7th.—Many varieties of *Papaver somniferum* still in flower in my garden.* *Boletus bovinus* here and there found. Also *Agaricus campestris* and *A. glutinosus*.

8th.—The Pheasant's Eye *Adonis autumnalis* in flower.

14th.—The Swans are observed flying against the Wind, which is reckoned here a sure indication of approaching Rain. The weather is again very warm; but the disproportion between the heat of the day and the cold of the night is increased.

Boletus bulbosus found. Swallows and Martins congregate in flocks. The Willow Wrens are still seen.

15th.—A warm, cloudy, lowering morning. Rain commenced in the afternoon. The Michaelmas Daisy *Aster tradescanti* in flower. Many of the summer plants still remain in blow. *Boletus bovinus* coming up here and there.

[Being absent some little time on a tour to Brussels and through the Netherlands, the continuity of this Calendar, as relates to TUNBRIDGE WELLS, has necessarily been interrupted. I have therefore substituted my observations made on the FLORA of the country through which I passed, and added collateral observations on this neighbourhood, made during my absence by competent persons, whereby the reader may in some measure compare the FLORA of the two climates. From the 14th instant the Calendar will commence again in the neighbourhood of TUNBRIDGE WELLS.]

21st.—I noticed among large flights of Rooks not only the

* A variety of the large white kind of Poppy occurred, whose capsule opened to emit the seed, like those of *P. horti*:—a circumstance which further corroborates the idea of this plant being only a variety.

Daws but the Starlings. I have not before noticed this bird mixed with Rooks.

25th.—*Vanellus Gavia* the Lapwing flies high, indicating Rain.

26th.—Fungi come forth, *Agaricus floccosus*, *A. stercorarius*, and others. Likewise *Boletus edulis* and *B. bovinus*. Showery day.

OCT. 2d.—Passing along to-day through Ardres, from Calais to St. Omer, I noticed *Apargia autumnalis* and *Papaver Rhæas* in blow in the fields. The *Cychorium intybus* was also abundant near the coast.

The trees in this part of the country, as in nearly all Flanders, are generally planted in straight rows, on each side the road. They are likewise thus disposed in the fields. I noticed that the Ash, Elm, and Beech trees rose with more smooth and longer trunks than the same trees do in England. They are likewise more naked of foliage till nearer the top of the tree. I have noticed this circumstance before in France, and also in Scotland, where walks planted with rows of trees near the towns are equally common as on the continent. I think, therefore, that the manner of disposing the trees together in rows may be partly the cause of this difference. *Agaricus fascicularis* is springing up by the road side.

3d.—Proceeding from St. Omer to Cassel, and thence through Balleul and Armentiere to Lille, I observed the same circumstance of luxuriant and tall trees with very naked trunks. The country was rich, the stubble entirely removed from the corn land, and the meadows very verdant. A great quantity of Stonecrop grew along the top ridges of the barns. In general Lichens and Mosses are less frequent here than in England. The buildings in Flanders are generally large, and

either slated or thatched, very old, and often with zigzag gable ends towards the street; but, owing probably to the greater dryness of the air, they do not so readily become covered with Moss. It is only here and there that one sees the tiled roof so richly yellow with Lichen and Moss as is very common in England. The Martins were still numerous. The weather rainy and warm.

4th.—Passing onward to Tournay, Ath, and Enghien, I observed very few things remaining in flower, except the *Apargia autumnalis* and a few Dandelions *L. taraxicum*. The country was more open and less planted hereabouts. We slept at Enghien; and in walking in the park and garden the next morning, I saw nothing in blow but a few Roses and Marigolds. The leaves were turned yellow and falling, and in a much more autumnal state than in France and England.

5th.—Gentle showers, with fair intervals. The country became more wooded again with Ashes and Beeches in rows as we passed through Halle to Bruxelles. The atmosphere is certainly more transparent than in the Eastern part of England; we saw the lofty spires of the Hotel de Ville of Bruxelles, and other high buildings, at a distance.

The *Aster Chinensis*, *A. Tradescanti*, and Marigolds, are most cultivated, and are now in blow in Belgium. The Aspen trees and Poplars are less common here than in French Flanders. The rows are seldom composed for long together of Lombardy Poplars, though I saw some of prodigious growth, considering they were first introduced on this side the Alps only about sixty years ago. The Limes are not so fine as in Kent, Sussex, and Surrey.

6th.—The road to Mechlin is uninteresting in a botanical point of view, being by the side of a canal made for the

treckschuyts and barges. The Marsh Groundsel was the only flower I saw.

7th.—Weather again rainy. At Antwerp I noticed abundance of *Agaricus campestris*. I likewise saw the *Boletus edulis* vended in the markets as an article of food. I made few observations on Natural History here, being taken up with the numerous antiquities and pictures with which this town abounds; but one thing I noticed (which shows the greater dampness of English air even compared with Dutch marshes), was, that the bells in the tower of the cathedral, and even those of the carillon, which are exposed in the open part of the spire, were free from rust, though bells of much more recent date in England become quite green with it.

At the Tête de la Flandre, on the West side the Scheldt, they keep the Yellow Wagtail *Motacilla flava* domesticated in the rooms to catch the flies, which are very troublesome.

In the marshes East of Antwerp, and in Holland, grows the *Senecio paludosus*.*

8th.—About Lookeren the country is marshy and flat, and abounds with windmills; but they are not so plentiful here as at Lille, where several hundred mills are employed to drain the suburbs of that city.

Near Courtray, where we slept, *Papaver Rhæas* begins again to be common; the road about Ghent, and all the way to Courtray, is lined with trees, and the country much enclosed. About Ghent I also noticed Oaks and a sandy soil.

9th.—At Ypres:—The Martins *H. urbiacæ* very numerous, and evidently congregating to depart.

* I saw this plant in abundance about Amsterdam and Haerlem, in August, 1822.

10th.—Weather fine and warm; we passed last night at Dunkerque. The POMONA seems very luxuriant this year throughout Flanders, particularly in Pears and Grapes.

In crossing the channel this evening from Calais to Dover, the captain noticed to me the quantity of Gossamer on the rigging of the vessel, which he said was a sure sign of fine weather.

On the 11th and 12th I noticed this web so abundant all the way through Kent, by Canterbury and Maidstone, to Hartfield, that the fields were quite white with it.

Swallows were numerous, and in large flocks on the coast and hills of Kent on the 11th.

13th.—At Hartfield the *Amaryllis sarniensis* in flower in the open ground. Of *Papaver somniferum* many varieties. *Agaricus muscarius*, *A. verucosus*, and others.

15th.—*Aster tardiflorus*, *A. Tradescanti*, and *A. Chinensis*, in full blow. The cold Northerly Wind, with frosty nights, which set in a few days ago, carried away all the Swallows. I have seen none since the 11th instant.

16th.—There are still some remains of summer flowers. The White Poppy, the Red Field Poppy, the Garden Crepis, autumnal Dandelion, with a few Roses, Geraniums, and Marigolds, still bloom. The Guernsey Lily *Amaryllis sarniensis* is still in blow, but begins to droop with the frost.*

* I noticed to-day a habit among Starlings *Sturni vulgares* which I have not seen mentioned in any works on ornithology. When they alighted on the grass, they sat in a regular circle. Pliny and other writers mention that these birds fly in a globular figure; but I have not yet seen any account of their sitting in a ring, nor can the reason of their choice of this position be easily assigned. Pliny says of their flight:—"In orbe volant omnibus in medium agmen tendentibus."

17th.—Riding between East Grinstead and Ryegate I saw large specimens of *Agaricus muscarius* growing by the road side, whose pilei measured above ten inches in diameter. The *Campanula rotundifolia* was still flowering in the fields.

20th.—*Senecio squalidus* (from a young seedling) in flower in the garden. *Tagetes patula* still in the cottage gardens.

21st.—*Agaricus floccosus* is springing up under an Apple tree, near the root. It came in the same spot about a week earlier last year. Several varieties of *A. integer* and *Boletus bovinus* are still common. Some flowers remain on the Canterbury Bells, which is very late in the season.

22d.—The fruit of the large Pumpkin Gourd *Cucurbita Pepo* gathered to-day. Some of them grew this year to an enormous size and weight. Weather changeable; clear Sky, Snow, and Rain, in the course of twenty-four hours.

26th.—Rapid transitions of cold and wet, with warmth. The nights become very cold and frosty, which has destroyed a great part of the Fungi. Some specimens of *Agaricus fascicularis*, *A. integer*, *Boletus bovinus*, and several *Helvellae* and *Hypoxyla* still spring up.

NOV. 2d.—The Fieldfares *Turdi Pilares* begin to be seen in small flocks. A few flowers are yet seen here and there of the Periwinkle, the Dandelion, and the Autumnal Apargia. The Rains have again caused the Bundle Fungus *Agaricus fascicularis* to spring up abundantly. The Flock Fungus *A. floccosus* likewise remains in perfection at the stumps of trees, while in the meadows *A. glutinosus* abounds.*

3d.—*Adonis autumnalis* the Pheasant's Eye still flowers.

* The Fungi in general have been considerably less numerous this autumn than they were last. They were particularly numerous and of prodigious growth last year. The temperature, since the beginning of October, has been much lower than during the same period last year.

4th.—*Boletus scaber*, of Bulliard, *B. edulis*, *B. communis*, *Agaricus ovatus*, *A. fascicularis*, *A. floccosus*, *A. integer*, *A. muscarius*, and *A. lactiferus*, still found at Hartfield, and in Buckhurst Park; but in general they are decaying.

That curious little Agaric the *A. racemosus* was found in my field.*

5th.—Goldfinches *Fringillae carduelles* resort to the gardens in flocks, and feed on the seeds of the *Oenothera biennis*.

8th.—*Peziza coccinea* springing up near Buckhurst, in the same spot as last year.

16th.—Rainy weather; *Agaricus irregularis*, and several others, still seen. The mosses are late in appearing this season.

17th.—Rain the whole of the Day. A few Fungi re-appear.

19th.—The weather cold and raw. The last two or three days have produced a sensible change in the appearance of the country. The leaves are fallen, the temperature low, and the waters in some places are out in the low meadows that border the streams of the Medway.

21st.—Some of the summer flowers remain in solitary specimens here and there. Fieldfares continue to arrive in great abundance. The number of these birds are said to correspond with the degree of severity of the winters in the Northern regions. The circumstance of their great abundance,

* The more closely I examine the Fungi, the more convinced I become of the confusion and imperfection of the present systems and nomenclature: it is much to be wished that some person qualified would illustrate this hitherto unexplored branch of botany, and supply the deficiency by adding a correct account of cryptogamia to the Flora Britannica. I know of no person so qualified as M. Benjamin M. Forster, of Walthamstow, who has been for many years making researches into Fungi.

therefore, this year, may be interesting to those who are concerned about the situation of the Polar Expedition. The hedges this autumn are very full of Berries, which adds much to their picturesque appearance, and contributes to enliven this dreary season of the year.

DEC. 5th.—The following cryptogamous plants are now in fructification:—*Funaria*, *hygrometrica*, *Bryum hornum*, *B. caespitium*, and *B. roseum*; *Polytrichum commune*, *P. subrotundum*, and *P. nanum*; *Parmelia candelaria*, *P. ciliaris*, *P. prunastri*, *P. farinacea*, and *P. vitellina*; *Bacomyces furcatus*, *B. pyxidatus*, *B. fimbriatus*, and *B. farinaceus*; *Peltidea caninus*, *P. vinosus*, and *P. horizontalis*.

Besides the above, many species of *Jungermannia* and of *Hypnum* are in perfection, not yet examined as to species. *Dicranium pulvinatum*, *D. bryoides*, and *D. viridulum*, and *Neckera heteromalla*, and *N. crispa*, were found yesterday in fructification.

Several Sea Gulls were on the 2d instant seen at Croydon in Surrey; and the abundance of Fieldfares increases.*

Many flowers are as yet unblasted by the frosts. Some Periwinkles, Dandelions, and Mallows yet remain.

Some species of Orchis are appearing above ground. The weather continues very changeable, and, for the most part, cold and windy. Hares are particularly numerous this year,

* In alluding to different species of birds in the course of this Calendar, I shall make use of the generic nomenclature and the arrangement I have adopted in a small paper entitled, "Synoptical Catalogue of British Ornithology," which I lately composed, and which is published by Messrs. Nicholls and Co., &c., London, 1819; the arrangement and division of genera being founded on numerous dissections of the brain, and other parts of the birds, on the form of the cranium, the bill, &c.

and of late several Foxes have appeared in this neighbourhood; but this animal is, in general, very rare here, though so common in the bordering parts of Surrey.

The following plants, to which reference is made sometimes in this Calendar, have been discovered since the publication of the *Flora Tunbrigensis* :—

<i>Drosera longifolia,</i>	<i>Spiloma decolorans,</i>
<i>Festuca calamaria,</i>	<i>Lecidea petraea,</i>
<i>Parmelia perforata,</i>	<i>Lecidea scabrosa,</i>
<i>Parmelia borveri,</i>	<i>Lecidea ferruginea,</i>
<i>Parmelia furfuracea,</i>	<i>Polytrichum urnigerum,</i>
<i>Parmelia Clementiana,</i>	<i>Tragopogon porrifolius,</i> and
<i>Parmelia sophodes,</i>	<i>Rosa Micrantia.</i>

After continued research, I cannot find that *Papaver somniferum* is wild hereabouts. This plant has been put down as such from specimens escaped by the fall of seeds from garden plants; neither are the other four species, so common elsewhere, by any means numerous in this neighbourhood.

1820. JAN. 14th.—At this hybernal season of the year there is, necessarily, very little movement in the vegetable kingdom. The Fauna alone presents objects of interest. The weather is still intensely cold, which drives many sea birds to the inland parts of the country. The Wild Duck *Anas boschas* is very abundant; and Wild Geese are said to have been heard performing their aërial migrations by night. Numerous small birds are found frozen to death on the ground. The Thermometer fell to 10°, that is, 10° below 0 of Farenheit.

21st.—Weather milder and thawed, but dark and gloomy. Narcissi begin to flower in warm rooms in the house. A curious variety of *N. Tazetta*, from Holland, is come into bloom in my room, having a duplication of petals, two of which are placed within the nectary.

Severe cases of small pox have again appeared: and, in general, I have noticed also an unusual prevalence of inflammatory complaints.

29th.—I noticed the Beeches and Oaks very destitute of decayed leaves this winter, owing, probably, to the late severe frost. The ground about Godstone, and all the way to Outwood, and about East Grinstead, is remarkably swampy, deep, and heavy to ride over. I scarcely ever remember it worse.

FEB. 1st.—Dead Nettle and Groundsel here and there seen in flower. The Fieldfares are nearly all gone from the gardens and yards near the house. In general, the number of small birds seems greatly diminished since December.

5th.—I observed, at Walthamstow, Snowdrops abundantly in flower this morning.

10th.—Some Crocuses *Croci vernaes* and the yellow *Narcissus Tazetta* in blow in the house. Weather mild and open. Likewise a few Snowdrops. Very large coveys of birds are still seen in this neighbourhood. And Wild Ducks abound in the ponds and marle pits filled with water.

15th.—Some other varieties of *Narcissus* begin to appear in a warm room. Out of doors there is scarce any indication of spring yet, the season being backwarder than last year.

Narcissus lactus, *N. Tazetta*, &c. in blow in the house. Bullfinches become numerous in the gardens.

23d.—*Galanthus nivalis* and *Heleborus hyemalis* in flower in the open ground at Maresfield. The birds begin to sing early and late. Some Crocuses *Croci vernaes* in blow under shelter of the house.

26th.—A return of N. E. Wind, and showers of sleet in the morning, which was very raw and cold. *Hyacinthus orientalis* in blow in the house.

MARCH 8th.—This was really a spring day, and was very fine, though the Wind remained Northerly. I noticed the Winter Hellebore in flower at Upton in Essex. *Primula vulgaris*, and its several varieties, called Polyanthuses, are in blow at Walthamstow ; and Snowdrops are numerous.

M. Benjamin M. Forster to-day discovered a curious vegetable phaenomenon in London Fields. On cutting down a Poplar tree, it was discovered that its roots, instead of descending into the ground, had returned upwards, and grown into the stump of the tree, which was thus nourished by a reabsorption of its own substance.

15th.—This was the first warm spring day: the air was mild and serene, and the temperature increased, though the Wind was North and East. Crocuses in full flower, and the purple variety of *Anemone hepatica*, at Walthamstow. Frogs and various insects come forth. Two Bats were seen flitting about in the evening.

16th.—Warm, and gentle South East Wind, and very fine afternoon. I observed the Willows, I believe *Salix caprea*, in bloom as I rode from Lanedon Hills to Brentwood, by Burstead: but this is certainly a late spring, compared with last year.

18th.—Primroses and some other spring flowers begin to be vended in the streets and markets of London. Several shrubs begin to bud.

Tussilago alba is still in full flower at Clapton.

22d.—*Viola canina* in flower in a warm situation at Walthamstow.

23d.—In a long ride through a large portion of Essex, by Abridge, Brentwood, &c. I had occasion to notice the extreme barkwardness of the present season. I scarcely saw a wild plant out, though the day was fine ; and, had it not been for

the Crocuses and Snowdrops, which ornamented the gardens, and here and there Narcissi and Hyacinths in the windows of houses, one might easily imagine it February, instead of March.

24th.—*Viola odorata* just in blow; also the *Narcissus pseudonarcissus*, as well as its double variety, called the Yellow Double Daffodil. The Wind is Westerly, but the temperature rather low. I hear that the flowers of *Tussilago Farfara* were seen yesterday vended in London streets; but I have not yet seen this plant in flower. The Apricot is in blossom. A cold East Wind returned at night.

25th.—*Thlaspi Bursa Pastoris* the Shepherd's Purse in flower. Cold North Wind.

26th.—*Hyoscyamus Scopolia* in flower at Clapton, in T. F. Foster's garden.

29th.—*Ficaria verna** the Pilewort, and *Leontodon taraxacum* the Dandelion, in blow near Aldenham. In a field hard by I discovered also abundance of *Tussilago Farfara* the Colt's Foot. I hear that the *Daphne Laureola*, *D. Mezereon*, and *Pyrus Japonica*, flowered to-day; and that the *Papilio Io* was seen.

30th.—Butterflies and other insects begin to be common.

31st.—*Pulmonaria officinalis* in flower.

APRIL 1st.—This is a late season; not a leaf is to be seen yet. Crocuses, Snowdrops, Violets, Daffodils, Wallflowers, and the varieties of Polyanthus, and of the *Hepatica*, ornament the gardens and the thickets.

* The *Ranunculus ficaria* of some authors. This plant was first seen to-day in Berkshire, near Binfield, and in other places. It is probable that plants in very different places come into flower at the same time; the first warm day bringing them out.

In Berkshire, to-day, *Mercurialis perennis*, *Veronica agrestis*, and *V. serpillifolia*, in flower.

2d.—*Bellis perennis* the Daisy in flower. The lesser Pettychaps *Ficedula pinetorum* seen and heard.

3d.—*Draba verna* in flower.

5th.—*Narcissus minor*, and *Cynoglossum ompkalodes*, in flower at Hale End, in a garden. Riding to-day, I observed a fine blow of Hyacinths *H. orientalis* of various colours, in full luxuriance, in the open air, at least protected only by an awning.

6th.—*Caltha palustris* in flower below the long bridge in the marshes. *Lamium purpureum* every where in bloom.

To-day the April showers began from the West, and the spring seems rapidly advancing; the Birds sing; Fruit trees are in blossom: and abundance of Daffodils are conspicuous in the gardens every where.

7th.—I observed the flowers of the Van Thol Tulip, and also the early Clarimond Tulip, in Covent Garden for sale. The double varieties of various Daffodils begin to be sold about.

8th.—The female Redstart first seen. The double varieties of *Narcissus lactus* in blow in the gardens.*

9th.—The leaves begin to bud. Dandelions, Pilewort, and other spring plants, begin to be common.

10th.—Dark day, with gentle showers from the South.

13th.—*Anemone nemorosa* in flower.

14th.—Moist, misty weather. I saw the Red Crown Imperial *Fritillaria imperialis*, and the varieties of *Primula*

* There is still some doubt respecting plants of this genus. The species I allude to is the *Narcisse des Jardin* of St. Hilaire, in his *Plants de la France*.

Auricula in flower to-day near Ilford, and the yellow variety of the former is just coming out. The Van Thol Tulip and Hyacinths and Narcissi also in blow. The Cuckoo first heard to-day.

15th.—*Primula elatior* the Oxlip in flower at Hartwell: the Van Thol Tulips and other garden plants are rather earlier here than in Essex.

16th.—*Cardamine hirsuta* and *Orchis mascula* in flower. A straggling Swallow seen at Hartfield.

17th.—*Narcissus elatior*, *N. bicolor*, and *N. calathinus* in flower at Hale End, besides several double varieties. *Narcissus Tazetta*, both the yellow and white sorts, now in flower in the open ground.

18th.—*Vinca minor* in bloom every where.

19th.—*Cardamine pratensis* and *Stellaria Holostea* in flower, but the latter is very scanty yet, and only out on a warm bank at Hartwell.

20th.—*Doronicum Pardalianches*, *Fritillaria imperialis*, three varieties, and many varieties of Daffodils, Narcissus, and Hyacinths, in flower in the garden at Hartwell. *Orchis mascula* in the fields.

Riding to-day through part of Surrey, Kent, and Sussex, I could not help noticing how rapidly the spring has advanced within a few days. Daisies, Pilewort, Periwinkles, Dandelions, Violets, Heartseases, Wood Anemones, Cowslips, and Primroses, are now very abundant, and adorn the banks and thickets in profusion every where. The Wryneck *Jynx torquilla* has been arrived some days; and I have already heard the Willow Wren *Ficedula salicium* and the Stone Curlew *Fedoa Oediceemus*.

21st.—*Anomone hortensis* the Garden Anomone in blow.

22d.—The Swallow again seen: this bird is, however, of

rare occurrence as yet. The great Leopard's Bane in full flower. The Fruit trees are now in bloom; and the foliage advances faster than it did last year.

23d.—*Scilla nutans*, *Ranunculus auricomus*, and the Alehoof *Glechoma hederacea* in flower to-day. The Wood Anemone is abundantly in flower in the woods. Wallflowers begin to be common; and the *Oxalis Acetosella* is very numerous.

24th.—*Cardamine amara*, and *Ranunculus bulbosus* in flower. I saw, to-day, for the first time, several Swallows *Hirundines rusticae*, but stragglers have been so early as the 10th instant. Weather dry, with N. E. Wind.

25th.—The *Gentiana acaulis*, or Junckanella, as the country folks call it, flowered to-day. The cottage gardens in this neighbourhood are ornamented now with Stocks, Wallflowers, and Anemones. The Garden Ranunculi are also in bloom.

26th.—*Chaerophyllum sylvestre* in flower. Swallows fly low, denoting Rain.

27th.—Cold, showery, cloudy day, with Northerly Wind. *Tulipa Gesneriana* the variety called the Golden Eagle just in blow.

29th.—Narcissi, Crown Imperials, and Doffodils, still in flower, though much faded.

30th.—*Leucojum aestivum* in flower. A Swift *Hirundo apus* seen at Walthamstow.

MAY 1st.—*Veronica chamaedris* in flower. Fair day, but the temperature low.

2d.—*Erysimum Alliaria* abundantly in flower. The Swallow *Hirundo rustica* is become pretty common. A Solar Halo this morning.

3d.—*Senecio squalidus* and *Narcissus poeticus* in flower.

The Martin *Hirundo urbica* first seen, by me, to-day. This evening the abundance of Cirrocumulus and Wanecloud indicates Rain. The weather is very cold.

4th.—*Geranium molle* in flower.

6th.—I saw Trout, Perch, Bleak, and Roach, caught to-day in the stream. The day was cloudy and cold, with South Wind, followed by Rain and Gales at night.

9th.—As I returned from London, I observed all the way along that the *Ranunculus bulbosus* was become common, and spangled the meadows and fields with its rich yellow.

Hesperis inodora, *Iris Germanica*, and *Tulipa Gesneriana*, in bloom in the gardens. I saw here and there a very fine blow of Tulips about London. Near Edenbridge I observed the Yellow Asphodel *Asphodelus luteus* just coming into flower. The weather is warmer after the showers of last night. At Clapton, *Narcissus biflorus*, *N. poeticus*, and *N. angustifolius*, in blow.

10th.—*Papaver Cambricum* and *Peonia tenuifolia* in flower at Withyham, in a garden, where I also saw to-day the vernal bastard flower of the *Colchicum Autumnale*, which is a curious phaenomenon.

11th.—*Dentaria bulbifera* flowering at Withyham.

12th.—*Scandix odorata* in flower in a garden. The bulbous Crowfoot is abundant in the fields near Tunbridge Wells, and about London, and other places. The neighbourhood of Hartfield, however, is peculiarly destitute of this and other vernal flowers, the fields here looking quite like winter. This backwardness of the FLORA should be viewed in conjunction with the peculiarly great degree of cold which happened here almost locally in January last; the Thermometer here being many degrees lower than it appears to have been in any other part of the island. My Thermometer, on the night of

January 14, descended so low as ten degrees below zero ; and at midnight I saw another Thermometer so low as five degrees below zero. I forbear speculating on the cause of this circumstance ; but the comparatively late state of the vegetation here, and the destruction produced in the plants, corroborate the fact, without explaining its cause.

13th.—*Pyrethrum inodorum* has one flower already.

14th.—*Geranium molle* and *G. Robertianum* now common. *Myosilus scorpioides* is also in blow, and the common *Tormentilla*, the *Potentilla*, Wild Mustard, Charlock, and others.

16th.—*Hieracium Pilosella* in flower on a warm bank, but it is not generally in blow yet.

19th.—**Hieracium murorum* in flower under a steep bank between Cowden and the high road.

20th.—*Sinapis arvensis* begins to abound.

21st.—*Hypochaeris radicata* in flower. This fine warm weather has in two days produced more flowers than, in the last preceding week, the Rain did. The *Iris lurida* is in flower in the garden. Nearly all the *Ranunculi* and *Potentillae* are in blow in the fields ; and the rapid growth of the midsummer flowering plants is prodigious. The meadows have now assumed their rich yellow bespangled appearance ; while in other places they are beautifully blue with the flowers of the Harebell *Scilla nutans* ; but still some few fields are almost flowerless, *Ranunculus repens* not being out yet.

24th.—NATALIS LINNAEI.—*Tragopogon pratensis* in flower at Hartfield. The weather extremely hot.

* I know not to what species to refer the *Hieracium* alluded to. I believe it to be a new one.

25th.—*Tragopogon porrifolium* in flower. In the gardens about London the *Lilium bulbiferum* is already in blow. *Papaver orientale* is in flower at Clapton and elsewhere. *Hypochaeris radicata* begins to abound.

26th.—*Chrysanthemum Leucanthemum* in flower. I also saw the *Papaver nudicaule* in blow in abundance in a garden in Penshurst parish.*

29th.—*Sonchus oleraceus*, *Lychnis Flos Cuculi*, *Saxifraga granulata*, *Hemerocallis flava* the Yellow Day Lily, and *Linum perenne* in flower.

30th.—*Aquilegia vulgaris* in flower. This plant is found apparently wild hereabouts, though I have never yet found it greatly remote from the houses.

31st.—The different varieties of Azalea are in beautiful bloom. The weather is still very showery, and the temperature low for the time of year. The rising of the Barometer is unattended now by fair weather; and the showers fall so rapidly, that one can scarce get away from them. The FLORA is very backward here. The meadows are hardly yellowed with Crowfoot in some places yet, particularly where the *R. Repens* grows. Some garden flowers, however, have been early this year, as Tulips and Crown Imperials.

JUNE 1st.—This month has set in with showery weather, which has continued for a long time past, while the temperature remains low, and the Wind South and Westerly. There is nearly twenty degrees of difference between the maximum heat of this and of last first of June. The VERNAL FLORA is passing away, while the SOLSTITIAL is backward in the

* This is the *Papaver erraticum nudicaule* of Dillenius, in Hort. Eltham. It is about the size of *P. Cambricum*, but the flower is of a paler yellow, and approaches more to sulphur colour.

gardens. The Purple as well as the Yellow Goat's Beard is in full flower; but this weather seems to retard its meridian closure of the flowers, often for above twenty minutes.

2d.—Weather showery. There are still in flower, in the gardens, *Iris lurida*, *I. Germanica*, *I. Pseudacorus*, *Hemerocallis flava*, *Hesperis matronalis*, *Aquilegia vulgaris*, *Papaver orientale*, *P. Cambricum*, *P. nudicaule*, *Asphodelus luteus*, a few Roses, &c.

3d.—Weather calmer and warmer, but we had a few gentle showers.*

4th.—Clouded and calm, with gentle showers. *Senecio squalidus* still in full blow.

5th.—*Cnicus pratensis* in flower in my garden; it is not common yet in the fields. I hear that the Corn Rose *Papaver Rhacae* is in flower at Walthamstow to-day; those sown in my garden are not yet in bloom. Rhododendra, Azaleas, and other shrubs, in flower.

8th.—The common Peony in flower.

9th.—The weather is now warmer, without much Rain; but the preponderance of clouded over clear Skies still prevails, and is unusual at this time of year.

10th.—*Lychnis dioica*, *L. flos cuculi*, the several Geraniums, the *Ranunculi*, &c. are now numerous every where. *Tragopogon porrifolius* and *T. pratensis* are numerous in blow; but in general the gardens are comparatively dull, the VERNAL FLORA having subsided, while the SOLSTITIAL plants, or those which come into flower about midsummer, are not yet out.

* This present showery weather, in this district at least, seems very wholesome; we have rarely had a season of less sickness. Is this from the peculiar electric state of the Rain and Atmosphere generally? For some rainy seasons are as remarkably unwholesome as the present is healthy.

11th.—*Papaver somniferum* in flower in my garden, from seeds which came up last autumn. (The petals are single, pale purple, and like those of the large white kind in shape.*

12th.—*Anagallis arvensis* the Wincopipe in flower, but its petals are closed on account of the showery weather.

13th.—*Papaver Rhaeas* in flower in my garden. This plant in general blooms very early in the morning. As far as I can observe, each morning supplies a fresh set of flowers, and they soon drop off, and the capsule ripens.

14th.—*Ophrys bifolia* in flower in my field; likewise a variety of *Carduus Marianus*, without the milky streaks. *Valeriana officinalis*, *Lysimachia nemorum*, and *Dianthus barbatus*, are also in flower to-day; the latter is, of course, in the garden. I hear that *Papaver Rhaeas* is now very abundantly in flower among the corn in Surrey.

15th.—*Digitalis purpurea* in flower on most of the banks. This evening the stratus filled the valley of the Medway, and indicated a change to fine weather—a sign alluded to by Virgil: "*At nebulæ magis ima petunt, campoque recumbunt,*" &c.—See *Georg.* lib. i.

17th.—Fine morning. *Dianthus barbatus* the Sweet Williams, *Gladiolus communis* the Sword Flag, just coming into flower at Hartwell.

18th.—Riding to Merstham, I observed Corn Poppies *P. Rhaeas* to begin to be common at Bleachinglye, though they are not numerous in all the fields there. In some places only, the fields are already quite scarlet with them; the soil being there a red sand, mixed with chalk; but on the Sussex side of the town, and in all this tract, of dun coloured clay and marle, about East Grinstead, and as far as Tunbridge Wells, there is scarce a Poppy to be seen, except in gardens.

* I shall notice the particular varieties from time to time, as I find old Gerard considered them to be permanent.

The *Lychnis dioica* is abundant by the road sides in Surrey, and the Germander Speedwell every where blooms on the braes.

19th.—*Carduus marianus* (*sine lacteis striis*) and *Hera-
cleum sphondylium*, now in full flower.

20th.—*Gladiolus communis* the Corn Flag in full flower.

21st.—Weather calm and fair.

Lychnis chalconica just coming into flower. Poppies begin to be common; though those sown in the spring are as yet small, and only just begin to rise up in the stalk. Sweet Williams and Pinks are also in bloom.

Oenanthe crocata in flower by the road sides.

22d.—I procured and sowed some of the seeds of the Maw Poppy, which are of a bluish grey colour. I take this to be the wild *P. somniferum*.

23d.—I found *Papaver Rhæas*, *P. dubium*, *P. Argemone*, and *P. hybridum*, all flowering near Brighton. I likewise saw the small variety of *P. Argemone*, which is by some persons mistaken for a new species, and called *Papaver maritimum*. In riding through Chaley, from Brighton to Hartfield, I observed that no Poppies were found nearer than Newark, and there were only a few there, perhaps one or two by accident. I should consider the tract of country devoid of Poppies (of which tract we may consider Crawbrough Beacon as in the centre), as extending to within five miles of the sea. When on the South Down Hills again, they are seen among the corn and other sown fields, though by no means so numerous as in parts of Surrey and Hampshire.*

* A work exclusively on the Range and Distribution of the Habitats of Plants, made out to correspond with maps of the strata, would be very interesting; and if such a work were in the contemplation of any able person, I should be happy to contribute several observations which I have made on this subject.

26th.—Hot weather. Thermometer eighty four degrees in the shade. The Sky, though free from many definite clouds, nevertheless misty, and of a whitish hazy blue. The gardens are much improved by the change of weather. *Campanula Medium* and *Linum perenne* in flower already, besides numerous Poppies, Pinks, Roses, Carnations, the Yellow Day Lily, Heartseases, &c.

27th.—*Apargia hispida* in flower; also *Rosa canina*. The weather hot, but the horizon always thick and misty.

29th.—*Lapsana communis*, and *Crepis tectorum*, and the Stonecrops.

30th.—*Crepis barbata*, *Convolvulus Nil.*, *Cnicus palustris*, *C. lanceolatus*, and *C. arvensis*, in flower. A few young plants of Leopard's Bane are still flowering. The Yarrow and the *Achillaea Ptarmica* are coming out, and the *Malva Moschata* was out this evening.

The Poppies, which are now numerous in blow every where, appear to me to have produced the same varieties from the same coloured seeds as they did last year; that is, the seed of any particular variety produces the same variety again, perhaps out of a whole capsule of seeds, there being only one new variety, or *lusus*, which becomes a plant, the generality of whose seeds come up like the parent, that is, like the new *lusus*. And this seems the manner in which varieties of plants in general are formed and perpetuated. With regard to *Papaver somniferum*:—1. One variety has large round capsules, white petals, and white seeds. 2. The next allied to this has a capsule not quite so large and round, pale lilac petals, deeper purple at the unguis, and bearing dingy yellowish seeds. 3. The Garden Poppy, with black seeds, has many varieties, both single and double, the seeds being greyer in proportion as the colour of the petals is

lighter. The deep red kind, with blackish unguet to the red petals, produces black seed; the lake coloured sort, dark grey seed; the double white, yellowish or pale seed; the cream and rose coloured, deep yellow seed; and so on. These seeds produce again the same varieties.

JULY 1st.—This month commenced with cool fair weather, after the storms of yesterday. Notwithstanding the season has been very different, the plants have flowered at nearly the same time as last year, and some on the same day. The *Hypericum perforatum*, *Verbascum Lychnitis*, and *V. virgatum*, flowered to-day. I likewise first saw the Garden Chrysanthemum and the *Crepis barbata* in flower. Roses, Sweet Williams, Pinks, Convolvuli, Corn Flags, Poppies, and other solstitial flowers now ornament the garden in profusion. *Papaver Rhæas* and *P. dubium* are in flower numerously about Hartwell, from seeds sown by me in the autumn. Among the former I observe none of the variety with a dark spot at the base of the petals, so common in Surrey.

2d.—*Agrimonia Eupatoria* and *Senecio aquaticus* in flower; they have the appearance of having been out a day or two. Weather showery again.

3d.—*Oenothera biennis*, *Hemerocallis fulva*, the greater and the lesser Garden Convolvulus, the Hawk's Eye, and others. *Achillea Millifolium* is abundant in the fields.

6th.—A white variety of the Foxglove in flower at Walthamstow; also *Calendula officinalis*, *Tagetes Africana*, &c. Stocks, and other late flowers, are now abundant. A Poppy is now flowering with red petals, except a perfectly white unguis.

7th.—A white variety of the Garden Poppy in flower; that is, with white petals, a glaucous leaf, small capsule, and

many flowers on one plant. The Narsurtium flowered first to-day. There are still some flowers of the Great Leopard's Bane yet remaining. By cutting down the old stalks as the blossoms fade, new ones will spring up, and then the plant will continue flowering all the early part of the summer.

8th.—Cool Day and Northerly Wind. Perch, Trout, Chub, and Roach, caught in the streams of the Medway at Hartfield and Withyham. *Malva sylvestris*, *M. Moschata*, and *Convolvulus arvensis*, in blow.

10th.—The Garden Chrysanthemum *C. coronarium*, Lupines *L. varius*, and *L. luteus*, in blow abundantly in the garden. The grass began to be cut to-day.

15th.—*Sonchus arvensis* in flower among the Oats, in a field beside the Withyham road.

16th.—*Lilium candidum* in flower in the gardens. *L. bulbiferum* has been in full blow some weeks.

20th.—Several Dahlias in flower in the garden. Weather fair, but with frequent Thunder showers almost every day. A Boletus, with a fox coloured pileus and yellow gills, is springing up near Stoneland Park; perhaps *B. edulis*.

23d.—*Papaver Argemone* in flower in the garden, which is late for this species. Nasturtiums are now in full flower.

26th.—*Althaea rosea* the Holyhock came into flower in my garden to-day. *Hieracium murorum* and *Doronicum Pardalanches* still in blow. The Purple Martagon Lily just in flower in my garden.

27th.—Riding to-day through Maresfield, Newark, Chailey, &c. to the sea side, I noticed a considerable advance in the SOLSTITIAL FLORA. *Lythrum Salicaria* was in blow by the river sides. *Sonchus arvensis* very abundant every where among the Oats, &c.; and the Fleabane *Inula dysenterica* was coming into flower. As I got into the chalky and sandy soils, I observed several plants in flower, which, not being

common on our clay here, may have been out in blow some days without my noticing them, such as the *Scabiosa arvensis*, *S. succisa*, *Centaurea nigra*, *C. cyanus*, *Chrysanthemum segetum*, *Anthemis nobilis*, and many others.

Walking by night on the high hills of the South Down, I noticed the most beautiful display of the Cirrocumulus, disposed like fine windrows of hay in lofty beds floating gently along in a serene welkin over the calm sea by moonlight.

28th.—*Campanula Trachelium* still in blow. The White Hedge Bindweed *Convolvulus sepium* begins to be common, and to hang its white bells about every hedge. The small species *C. arvensis* is also common. I found to-day that Red Poppies were common all the way from Brighton to Chailey, where they became rare, and at length disappeared.

30th.—*Lobelia urens* in flower in the garden. Fungi begin to appear. The Nasturtiums *Tropaeolum majus* now make a splendid figure, but begin to fade away.

31st.—*Campanula rotundifolia* in flower.

Being in Hampshire in August, the regularity of the Calendar was omitted.

SEP. 1st.—This month set in with fair weather, a steady Barometer, and clear nights, with stratus.

2d.—Falling Stars observed to-night. The Moorhen *Fulica chlorossus* noticed in the ponds.

4th.—A Falling Star was described to me by a person this evening as descending and running along the ground: it was probably an *Ignis fatuus*.

7th.—During the Eclipse the Thermometer fell from ninety three degrees (in the Sun) to seventy degrees.

18th.—I found *Agaricus muscarius*, a beautiful crimson Fungus with white spots, in abundance, growing on the grass in Stoneland Park. *Boletus edulis* is also common.

19th.—The Autumnal Crocus, or Saffron, in blow.

21st.—Sweet Peas, African Marigolds, Dalias, and China Asters, are still in blow in the gardens; and here and there a few Poppies. The *Monarda didyma* flowers at Hartwell Farm.*

29th.—The following plants still flower, though sparingly, and are much injured by the cold nights, and by the hard Rains occasionally:—*Calendula officinalis*, *Tagetes patula*, *T. Africana*, *Dahlia superflua*, *Chrysanthemum coronarium*, *Papaver Rhaeas*, *P. dubium*, *P. somniferum*, and *P. Cambri-cum*. *Apargia autumnalis* still abounds in the fields.

Swallows and Martins congregate and prepare for departure.

30th.—*Agaricus floccosus* and *A. fascicularis* springing up, though neither have been of any considerable magnitude yet. Fungi are certainly scarce this year. Swallows and Martins begin to assemble in flocks. Large flights of Starlings are also numerous already.

* 1821. MAY 1st.—Fine warm weather. The Peony coming into flower. Swallows still rather scarce. *Papaver Cambricum* just in flower at Hartwell.

3d.—Stocks in flower in the gardens. Tulips now in full blow. *Chaerophyllum Sylvestre* in flower in the fields. The Wryneck *Iynx torquilla* is arrived, and heard daily.

This season is, in many respects, backward; in others, by no means so. The leaves are less forward on the trees than usual; but the flowering of plants has occurred at the usual period. Those local abscesses, called *Furunculus* and *Authrax*, are said to be very common this spring.

10th.—Returning home through Croydon, I first observed Martins *Hirundines urbicae*; but it is probable they have

* This plant is here called the Balm of Gilead.

appeared ten days or a fortnight ago, though not noticed by me. *Senecio squalidus* in full flower.

11th.—*Chacrophyllum Sylvestre* in flower. *Hieracium Pilosella* on warm banks.

13th.—*Iris lurida* and *Convallaria majalis* in flower.

14th.—*Iris Germanica flore albo* now blows. Weather showery.

Papaver Cambricum in full blow.

15th.—*Hirundo apus* the Swift first seen. Sand Martins have been seen some days.

17th.—A day of Rain. Martins and Swallows fly low, and skim about the pond. *Senecio squalidus* in full flower. This plant has become quite a numerous weed in my garden. It is found wild no where in Britain, except the walls about Oxford.

18th.—*Hieracium murorum* in flower near Cowden. A few Fungi appear at this unwonted season.

19th.—*Tragopogon porrifolius* in flower against the porch of the house.

Chrysanthemum Leucanthemum just coming into flower.

21st.—*Hesperis inodora* the Motherwort. Poppies come up badly, and will be very late in flower this year. Cold and unfriendly weather to vegetation.

23d.—Cold N. E. Wind, with clouds and some Rain. The progress of vegetation seems retarded.

24th.—NATALIS LINNAEI.—The weather cold and unseasonable, and vegetation quite at a stand.

26th.—Cold N. W. Wind, and Hail shower. The Thermometer, at 10, P. M. thirty seven degrees. The common Peony just in flower. The *Peonia tenuifolia* has finished flowering. *Aquilegia vulgaris* in full flower. The Poppies are hardly up yet, and are at least a fortnight later than last year.

27th.—We experienced to-day a most extraordinary degree of cold for the time of year. During the fall of a shower of sleet, the Thermometer fell to thirty nine degrees of Farenheit at two o'clock in the afternoon. The germination of plants seems quite suspended; the last week having produced no ostensible alteration in the gardens and fields. The *Agapanthus umbellatus*, which lived through last winter in the open ground, seems to suffer much from the frosty nights. The Crowfoot, the Harebell, and other field flowers do not show their wonted brilliancy.

31st.—Sharp Easterly Wind to-day, nothing seems to grow.

JUNE 1st.—*Iris pseudacorus* flowers. The Bees have all died this spring.

3d.—*Hemerocallis lutea* in blow. Young Starlings already seen about.

4th.—*Papaver orientale* in blow near the Mill Pool, going to Cowden.

JULY 1st.—A showery day.

2d.—A day of rain. On returning to Hartfield from Hampshire, I noticed that some plants were rather forwarder at the former place than at the latter; but in general there was very little difference. Scarlet Strawberries plentiful.

3d.—*Papaver somniferum* at last coming into blow in the garden.

Lychnis Chalcedonica just opening its flowers—very late this year. Sweet Williams are now abundant.

4th.—*Senecio aquaticus* in flower.

5th.—A variety of *Carduus Marianus*, without the milky streaks, now flowers in my garden. Charlock, Kidlock, Mustard, Cress, and many of the kind of tetradyamous plants, are now in full flower, and give many of the fields a

smart, yellow appearance. The Foxglove is also abundant, and in the gardens a profusion of Sweet Williams, Pinks, and Roses. The Wild Roses have flowered late and badly this season.

7th.—Several Poppies now begin to flower, though this —*P. somniferum*—has, in general, been near three weeks later this year than last.

8th.—*Oenothera biennis*, and the Goat's Beard, and Welch Poppy still blow.

10th.—*Hemerocallis fulva*.

11th.—St. Barnabas *Crepis barbata* flowers, though badly. *Cyrysanthemum segetum*.

Agrostemma githago.

12th.—*Lapsana communis*.

13th.—*Convolvulus tricolor* and *Sonchus arvensis*.

The *Convolvulus arvensis* plentifully.

15th.—St. Swithin again showery.

16th.—*Tropaeolum majus* plentifully in blow.

19th.—A great variety of Poppies now in full flower. A large Boletus found.

20th.—St. Margaret. *Sillium bulbiferum* still in blow.

22d.—Within the last week, or ten days, the Willow Wrens—*Ficedula salicum* and *F. pinetorum*—have been very numerous. I have also seen the *F. sylvicola*.

23d.—*Lillium candidum* at length in flower, though very late this year.

The Scarlet Lichnis still very abundantly in flower.

Lillium Martagon still blows.

Senecio squalidus flowers.

26th.—Showery weather, with very drying and sunny intervals. Having several Cherry Clacks in the garden and orchard, I had an opportunity of noticing, by the varying

degrees of strength in their clacking noise, that the Wind came in puffs, or very irregular gales.

27th.—*Papaver Rhæas* still bears flowers abundantly. *P. dubium* in flower also in my garden.

28th.—*Carduus Marianus* still flowers. *Papaver dubium*.

30th.—*Tagetes erecta* just coming into flower in the garden; and several sorts of Garden Hawkweed.

31st.—*Hieracium umbellatum*.

AUG. 4th.—*Althea rosea* in flower. Canterbury Bells going out of flower, as is also Love in a Mist.

17th.—*Agaricus muscarius* found.

19th.—A remarkable blue colour of the Sun noticed by M. Benjamin M. Forster of Walthamstow.

22d.—*Amaranthus hypochondriacus* flowers.

SEP. 1st.—*Lilium tigrinum* in flower. Garden Poppies continue in full blow.

3d.—*Helianthus annuus* the Sunflower now blows.

4th.—*Adonis autumnalis* in flower. Marigolds common.

13th.—The Wind has destroyed the Sunflowers.

21st.—*Boletus bovinus* and others.

Gnaphalium stoechas in blow.

24th.—*Fringilla linota* congregates.

27th.—*Aster tardiflorus* and *Colchicum autumnale*.

28th.—*Dalias* in flower.

OCT.—*Hieracium murorum* now has its second or autumnal flowering. White Blue Bottle in flower.

25th.—*Aster Chinensis* and *Tagetes erecta* still in flower.

27th.—*Agaricus fascicularis*.

NOV. 1st.—*Agaricus floccosus*: a great many plants continue in flower.

26th.—*Scabiosa atropurpurea* still in flower with Chrysanthemums and many others.

DEC. 4.—*Tussilago fragrans* the Shepherd of Madonna in blow, whose odorous blossoms we smelled at a great distance.

Helleborus hyemalis in flower.

This is a very unseasonably mild winter, and we have numerous garden plants still in flower.

18th.—A flight of Teals seen in the grove and above the wet marle pits.

* 1822. JAN. 1st.—*Tussilago fragrans* the Shepherd of Madonna in flower, and scenting the air with its odorous blooms.

2d.—Bullfinches observed to be numerous.

9th.—Large flocks of Rooks pass over to feed of a morning, and as usual I observe numerous Daws among them.

Vinca minor the Periwinkle in flower here: this plant in mild weather blows all winter.

11th.—*Primula verna* the Primrose, and the Polyanthus in flower in the garden. Weather very mild. The garden infested with small Slugs, and some unseasonable bloss buds on the Willow. Wild Ducks and other waterfowl heard.

19th.—*Lamium purpureum* the Dead Nettle in flower.

24th.—*Viburnum Tinus* the Laurelstine in blow.

25th.—St. Paul's Day is this year fair and clear.

28th.—The Primrose in flower on the banks by the road side.

29th.—*Galantha nivalis* the Snowdrop already flowers.

FEB. 2d.—Candlemas Day windy. It blew violently as I returned home from Clapton, and at night became boistrous from the South with Rain, making good Virgil's lines:—

“----- *Non Eure tuum neque solis ad ortum*

In Boream Caurumve, aut ubi nigerrimus Auster.

Nascitur et pluvio contristat frigore coelum.”

6th.—*Anemone hepatica* in flower in a Southern aspect.

Tussilago alba plentifully.

8th.—*Crocus vernus* the Spring Coeus in blow to-day; but neither this plant nor the Snowdrop are yet very numerous, though the latter has been out this fortnight.

17th.—The Yellow *Narcissus Tazetta* in flower in the house; also the Blue *Hyacinthus orientalis*. The bulb of this plant being injured last year, produces now a very curious distorted flower. I observe to-day the Crocus, the Snowdrop, and the Double Daisy to flower abundantly in all the gardens.

18th.—*Viola tricolor* the Heartsease in flower.

19th.—At a gardeners at Cowden I saw a plant of the *Scilla Peruviana* flowering of immense size; I afterwards purchased it. Its floraison now is an unseasonable anticipation of its proper period by at least two months.

24th.—The following is a list of plants, belonging to the PRIMAVERAL FLORA, now in blow:—

Primrose, numerously.

Cowslip, here and there one.

Polyanthus, many varieties in gardens.

Daisy, both single and double var. common.

Peruvian Squill, in the garden in a pot.

Star Windflower.

Hepatica, both the purple, the white, and the blue.

Mezereon.

Periwinkle.

Crocus, several varieties.

Snowdrop, still flowering.

Early Daffodil.

Roman Narcissus, double white and orange.

Papyraceous Narcissus, white with pale cups.

Heartsease.

Violet.

27th.—I observe the Crown Imperial just shooting up above ground.

MARCH 1st.—*Leontodon Taraxacum* the Dandelion begins to flower in a few warm places here and there.

Daphne Mezereon makes a beautiful figure in the garden.

2d.—Lunar Halo in a thin Wanecloud.

3d.—*Ficaria verna* the Pilewort in flower on a bank at Hartfield, but not common yet: it is seldom numerous before the end of this month.

5th.—*Hyacinthus botryoides* the Grape Hyacinth in blow in the garden at Walthamstow.

Scilla amoena is said to be already blowing, as was told me by M. Dickson the botanist this morning. Daffodils, Croci, Double Daisies, and other early plants, now profusely decorate the gardens.

Tulipa suaveolens in blow in the house, with many varieties of *Narcissus Tazetta*, *N. orientalis*, *Hyacinthus orientalis*, and others.

8th.—The Yellowstriped or Scotch Crocus in blow.

9th.—*Chiranthus cheiri* the Wallflower already out.

Calendula officinalis the Marigold, and *Narcissus lactus* in the gardens, this latter plant is called the Great Jonquil. There is another variety closely allied to it and hardly distinguishable, called *N. Odorus* by Curtis, but both have a delicious odour.

10th.—The White Violet in blow in the garden.

14th.—My father showed me a perfectly new *Narcissus*, resembling the early Daffodil, in flower in his garden.

16th.—Pilewort now flowers abundantly on banks, and in shady groves by thickets. The Early Daffodil is also very abundant.

Limaceous reptiles very troublesome this spring.

18th.—*Narcissus incomparabilis* just in flower.

19th.—*Fritillaria Imperialis* coming into blow in my garden.

Cheiranthus cheiri flowers here and there. The banks begin to be covered with the Primrose pale and Violet blue.

20th.—*Doronicum Pardalianches* in flower.

22d.—*Narcissus Tazeita flava* in the open ground.

23d.—The New Moon happened to-day, and esteemed by the country folks unlucky. A prejudice exists here against Saturday's Moon, as being productive of stormy and bad weather. The Stone Curlew heard now by night: yesterday for the first time. The Snowdrops are now quite out of flower and gone.

24th.—*Narcissus bulbocodium*.

Cyclamea Europocum.

Leucojum vernalis.

Narcissus orientalis albus flavo nectario.

25th.—*Charadrius Oedrinemus* the Stone Curlew again heard by night.

26th.—*Cardamine pratensis*.

Cardamine hirsuta.

Stellaria holostea.

Sinapis arvensis. I noticed the above plants in flower to-day as I rode to Tunbridge Wells.

27th.—*Ranunculus bulbosus* just out. The Crown Imperial now common. A piece of the root of Leopard's Bane, which had been completely crushed last winter, revived this spring, and to-day produced the strongest flowers in the garden.

29th.—Windflowers common in my garden.

30th.—Two more varieties of the Oriental *Narcissus* in flower out of doors.

31st.—Water Wagtails common. Lunar Halo.

- APRIL 1st.—Clarimond Tulips in flower.
 2d.—*Senecio squalidus* begins to open its flowers.
 4th.—*Cynoglossum omphalodes* in flower. The Thrush sings.
 5th.—*Caltha palustris* abundantly.
Orchis mascula. Both yellow and red varieties of the Crown Imperial still in blow.
 17th.—*Hirundo rustica* the Swallow seen.
 18th.—Common Tulips in flower, but not yet quite full blown.
 22d.—*Scilla nutans* the Harebell, sparingly. This is the Hyacinthus non scriptus of the old botanists.
 23d.—*Symphetum tuberosum*.
Borago officinalis.
 24th.—*Galcopsis versicolor*. Already the bulbous Crowsfoot is become common.
 25th.—*Gentiana acaulis* the Junkanella.
 27th.—*Narcissus bicolor* in my garden.
 29th.—*Veronica Chamaedris* abundant.
Cuculus canorus the Cuckoo heard.
Papaver Cambricum. Tulips are now abundant and full in blow
 MAY 1st.—*Narcissus biflorus* in the garden.
Narcissus Papyraceus of Curtis again in blow ; it flowered on the 24th of February last.
 2d.—*Iynx torquilla* the Wryneck heard.
 3d.—*Hieracium Pilosella* the Mouse Ear in flower near Rusthall Common, on a warm bank.
 4th.—*Paeonia tenuifolia* flowers in the garden already.
 5th.—*Narcissus Poeticus* in the garden in flower. The weather very warm and fine, and the season forward. I observed one flower open on a plant of *Papaver orientale* at Withyham, where I saw the *Iris Germanicum* in flower.

- 6th.—*Graphalium Stoechas*.
- 8th.—*Hirundo apus* the Swift arrives.
- 9th.—*Poeonia corallina* flowers in the garden.
- 10th.—*Convallaria majalis* the Lily of the Valley.
- 11th.—*Aquilegia vulgaris* the Columbine.
- 12th.—*Hirundo urbica* the Martlet first seen by me—very late this year!
- 14th.—*Iris lurida*.
Scabiosa atropurpurea the Musk Flower.
Haemerocallis flava the Yellow Day Lily.
Asphodelus luteus the Asphodel.
- 16th.—A small Poemony in flower, which I take to be the *Poeonia peregrina*.
Doronicum Plantagineum.
Ornithogalum umbellatum.
- 17th.—*Chrysanthemum Leucanthemum* the Midsummer Daisy in flower to-day.
- 18th.—*Hypochaeris radicata* the Cat's Ear.
- 19th.—*Tragopogon pratensis* the Meadow Goat's Beard.
- 20th.—*Tragopogon porrifolius* the Purple Goat's Beard.
Hieracium murorum.
- 24th.—NATALIS LINNAEI.—*Linum perenne* in blow.
- 25th.—*Iris Pseudacorus* the Yellow Flag.
- 26th.—*Convolvulus tricolor* the minor Garden Bindweed.
Campanula Speculum Veneris the Venus' Looking Glass.
- 27th.—*Lychnis Flos Cuculi* the Ragged Robbin, abundant in the meadow grass.
- 29th.—*Lychnis dioica* near Lindfield.
Papaver Rhaeas near Brighton.
- 31st.—The above plant flowered in my garden.
- JUNE 1st.—*Gladiolus communis* the Sword Lily.
Tropocolum majus, one or two flowers.
- 4th.—A Poppy which stood the winter in flower.

Campanula Medium, with very pale flowers.

Potensilla Anserina.

7th.—*Mimulus luteus* the Monkey Flower.

9th.—The Red Poppy and the Canterbury Bells begin to flower abundantly.

14th.—*Lychnis Chalcoedonica* the Scarlet Lychnis just coming into flower: the flowering of this plant is everywhere a sure mark of the approaching Summer Solstice. It may be called the King of the SOLSTITIAL FLORA.

Hemerocallis fulva the Copper Day Lily flowers.

15th.—A pink coloured variety of the *Papaver Rhæas* in flower.

Papaver somniferum in blow. I noticed the large White Official Variety in my garden.

17th.—*Hieracium sylvaticum* in flower.

Malva sylvestris also out.

18th.—The Monkey Flower now in full blow. *Dalias* in flower.

19th.—The Musk Flower *Sabiosa atropurpurea*.

20th.—*Verbascum Virgatum* and *V. Lychnitis* flower in my garden.

Oenothera biennis flowers in all the gardens. The Canterbury Bells begin to decline and fade away.

26th.—*Lillium Pomponicum* in blow.

Lillium candidum just in blow.

JULY 2d.—*Convolvulus sepium* flowering.

4th.—*Nicotiana Tabacum* just out.

Senecio Montanus.

8th.—*Sonchus Palustris* in blow. Cherries very plentiful, but so numerous were the devouring Sparrows on the trees, that three Cherry Clacks would not keep the fruit from their attacks.

13th.—*Inula Helenicum*.

16th.—I noticed the great abundance of White Hedge Bindweed all the way to Canterbury and Dover.

17th.—Crossed to Calais with a light breeze in a steam vessel. Travelling along this afternoon to Boulogne, we noticed the immense quantity of Butterflies covering whole fields for miles together.

18th.—Violent Storm of Thunder and Lightning this evening at Amiens.

19th.—In travelling through Beauvais and St. Dennis to Paris, I noticed the great abundance of *Cychorium Intybus* which grew by the road sides, and afterwards noticed this to be the case over a great part of the Continent.

20th.—St. Margaret's Day. I noticed that the luxuriance of the flowers in the Jardin des Plants had been diminished by the late hot weather.

24th.—We proceeded to Melun, where I noticed that the atmosphere was warmer than at Paris. Rambling about the environs in the evening, I was struck with the great quantity of Apricots, Plums, and other fruits. The disease in the Trachea, commonly called the Croop, was very prevalent here, and had swept off a considerable number of children. The verdure was much faded with the late hot weather, and I could distinguish a yellow autumnal cast round the leaves of the *Populus Italicus*, which grows round the public walks of the town.

25th.—Breakfasted at Chatelet, a village in a flat open country; and, having dined at Sens, we arrived in the evening at Auxerre. The atmosphere clouded over at night, and we experienced a heavy Storm, which was followed by Rain.

26th.—Leaving Auxerre early we rested at Lucy-le-bois, and proceeded by Avallon and Rouvray to Pont-y-Pani, where we passed the night in the back kitchen on a wretched matress, the house being full. The room swarmed so of

Flies, that in some places the wall was quite black with their settling on it. Thunder, Lightning, and some Rain occurred during night.

27th.—On arriving to breakfast at Dijon we were struck with the neatness of the town, and the pure and healthy atmosphere. The day became remarkably fine as we proceeded to Dôle, in approaching which through an extensive plane we saw the Jura Chain of Mountains, forming a bold and striking back ground to the landscape. At Dôle the air was clear, and though the Sky was freer from vapour than either at London or Paris, yet I saw none of the deep azure which is spoken of as the colour of the welkin in the more Southern parts of France. The gilded cupolas, or rounded tops of the steeples, in all this part of the country have a fanciful appearance at a distance, when viewed through this clear air of an evening. I noticed abundance of Plums in the large garden of the inn, and some Apricots. They speak of having had such terrible heat during last month in Burgundy, that the greatest part of the fruits are burnt up.

28th.—This afternoon we ascended the Jura and slept at Champagnole, prettily situated amid mountain scenery and forests of Spruce Firs, and a few Pines. I found most of our common syngenesious plants by the road sides.

29th.—We continued our route to-day over the Jura, and passed some beautiful scenes and romantique precipices in going by way of Les Rousses to Gex in Swizzerland. In descending from the mountain to the latter place, the most magnificent view of Mount Blanc and the mountains of Savoy presents itself across the Lake of Geneva. This grand scene was, however, soon changed for obscurity, and a violent Thunderstorm fell just as we got in. We afterwards proceeded to Nyon on the Lake, during another of those violent Storms, which in this country as well as in Wales come on

very suddenly. I forbear to fill up this paper with the detail of many atmospheric phaenomena observed here, as they have been so accurately described by Sassure in his *Voyages des Alpes*.

30th.—Fine morning, but the mountains were cloudcapped. Violent Storms returned, and at night at Vevay a soaking Rain came on.

31st.—Proceeded from Vevai to Moudon and Payerne, through a pleasant subalpine country. At this place the costume and the manners of the Paysannes begin to change.

AUG. 1st.—The costume of the Canton of Tribourg was conspicuous in the market place of Payerne early this morning. At breakfast I met with a Swiss gentleman who had been cured of the goitre by the application of Iodine. We proceeded to Morat on the Lake, a very old town under arcades and surrounded by a high wall and towers, whose lofty roofs were yet standing. I noticed that some Apples on a tree near one of the gates were nearly ripe. We arrived at Berne to dinner, and were struck with the neatness and magnificence of the town, in which are many beautiful fountains, and the Alpine views from the walls are extremely grand. By the road side I gathered seeds of various syngeneicious plants, particularly Apargias and Leontodons, but all were likewise common plants in England and France; and I found but few Alpine novelties in Swizzerland.

2d.—We proceeded to Thun, on the Lake of the same name: it is a romantic and beautiful place, and the prospect of the Jungfrau and other lofty Mountains from the Lake on which we sailed is particularly striking. After a clear day, Rain came on. At night the air in this country is certainly dryer than in England. The roofs of the clock towers in the towns were rarely covered with Moss, though many of them were very old.

3d.—Passing through a great part of the Canton of Berne, we noticed the peculiar neatness of the large and commodious wooden cottages, inhabited by the Paysans of this Canton. We arrived at Soleure in the evening: the climate here is sensibly cooler than at Geneva. At night, rambling round the town walls, it became quite cool.

4th.—A beautiful ride to Basle, where however the weather became wet and gloomy, to which the sombre though neat appearance of the town with its cathedral of red stone contributed. I noticed Swallows and Martins flying over the Rhine; these birds, however, are in general very scarce this year.

5th.—Weather fine. Grapes and Melons, with abundance of fine Pears and Peaches. I slept at Colmar in Alsace: in travelling over the extensive planes of which, we saw several Storks on the wing, and some other large unknown birds. We noticed also the immense number of small Field Mice by the road sides.

6th.—A cool East Wind blew strong all the way to Strasbourg, and contributed to a tooth ache with which I was suffering. The air was very clear, and the steeple of the cathedral was very conspicuous a long way off.

7th.—Crossed the bridge of boats over the Rhine, and slept at Bischoffsheim.

8th.—Went early to Baden, a beautiful watering place in a romantic country.

Travelling along a sandy road to Baden, I noticed the effect of the late hot weather in destroying vegetation.

9th.—Showers returned with Thunderstorms, and a cooler air, travelled by way of Corlesruhe to Manheim. Walnuts already plentiful in the markets; and Plums and Prunes growing in abundance by the road sides, seemed well coloured and nearly ripe. Peaches and Nectarines abundant.

- 10th.—Proceeded to Mayntz. Weather warm and clouded.
- 11th.—Proceeded to Coblentz, where we arrived late. Weather cooler again.
- 12th.—Travelled along the Rhine, whose banks here are covered with ruins of ancient castles and other buildings. Slept at Cologne. Garden flowers much cultivated here, on the outside of the town's walls.
- 13th.—*Cycorium intybus* still common by the road side in going to Geldern.
- 14th.—Crossed the water into Holland at Nimwegen, and went to Ardringen, along the top of the Dyke, to sleep.
- 15th.—The road to Uterecht lay through a flat country, with rows of trees on each side; as we approached Amsterdam the road run by the side of ornamental canals and rich luxuriant gardens of flowers belonging to *maisons de plaisance*, the residence of rich retired merchants.
- 16th.—*Senecio paludosus* very common by the sides of the Dutch Marsh Ditches. Dined at Haerlem and slept at the Hague. *Butomus umbellatus* also flowered in the same places.
- 17th.—At the Hague weather cooler.
- 18th.—Arrived at Breda this evening, by way of Rotterdam and Dortrecht.
- 19th.—Weather warm and clear again at Antwerp. Slept at Bruxelles.
- 20th.—At Ghent. Weather warm and close.
- 21st.—Hot day at Bruges. Signs of Thunderstorms in the evening. I mounted the Belfrey of the Town House, and noticed that the Bells of the Carillon had no rust on them, which would not have been the case in a damp climate.
- 22d.—Proceeded to Calais.
- 23d.—Crossed in the steam packet to Dover. Wind strong from the North. *Convolvulus sepium* still abundant.

24th.—At Hartwell. Weather cooler, and with some Rain at night.

* 1823. JAN. 1st.—Calm but cold weather. *Tussilago fragrans* still in blow, but not so fragrant as when it first came into flower on the 10th of November last.

8th.—Mottled red clouds at Sunrise, then gilded like gold. N. E. Winds prevail.

14th.—The Wind howls as if Snow was coming.

15th.—It snowed all the day.

18th.—Very cold, the Thermometer fell to 10°. Snow on the ground.

25th.—St. Paul's Day is cloudy this year, with some Snow and Sleet falling, and E. Wind.

FEB. 2d.—A damp wetting Candlemas Day. There were no Snowdrops in flower this year in my garden, as is usual on the Feast of the Purification; but a few were just opening in a warmer situation at Hartfield Parsonage, where the Star Anemone was in flower.

3d.—*Vinca minor* in flower at Hartwell and at Withyham.

4th.—*Galantha nivalis* in flower at Hartfield Parsonage to-day, as I saw myself, abundantly.

12th.—The Winter Hellebore, the Snowdrop, and the Spring Crocus, are just in flower in my garden; the two former are prodigiously late this season, and have probably been retarded by the severe frost of January.

19th.—*Tussilago alba* in flower in the garden. *Tussilago fragrans* is also still in blow, but fading.

23d.—*Crocus vernus* now in full blow.

24th.—The Star Anemone *A. hortensis*, the Primrose *Primula verna*, and the Daisy *Bellis perennis*, came into flower in my garden, though very sparingly and badly.

27th.—I noticed the Starlings feeding in the meadows.

MARCH 1st.—The Snowdrop and Winter Hellebore in flower in M. Edward Forster's garden, at Hale End House, Walthamstow. Very late spring.

4th.—The White Striped Crocus is now in blow. The common Yellow Crocus and the Snowdrop abundantly.

6th.—Zephyrs again breathe, but the spring is very backward, and the PRIMAVERAL FLORA makes no show yet. The Snow still lies in particular cold places on the hills.

11th.—Hyacinths and Narcissi in flower in the house, in pots, where also the Van Thol Tulip is beginning to blow.

13th.—Wavy Waneclouds forebode a change.

14th.—*Daphne Mezereon* in flower.

20th.—*Narcissus pseudonarcissus* the early Daffodil just coming into blow.

21st.—*Narcissus lactus* begins to blow. Primroses begin to be common, as well as the garden varieties of Polyanthus.

22d.—I observed the Blue Crocus to-day; this is the latest sort to flower, the other kinds have been abundant a long time past.

Tussilago farfara in flower.

28th.—*Hyocyamus Scopolia* said to be in flower in M. Thomas F. Forster's garden at Clapton. As I returned from London to-day, I observed that there was no appearance of spring, not the least budding of leaves.

30th.—Beautiful morning, with great variety of the modifications of clouds.

31st.—*Viola odorata* and *V. alba* in flower.

APRIL 1st.—Warmer air. This evening the Bat, the Dor Beetle *Scarabaeus fimetarius*, and Toads abound.

2d.—*Doronicum Pardalianches* the Great Leopard's Bane in flower.

3d.—*Motacilla alba* the Wagtail seen.

4th.—*Ficaria verna* the Pilewort in flower.

6th.—*Fritillaria Imperialis* the Crown Imperial.

9th.—*Hyacinthus Orientalis* out in the garden. Clarimond and Van Thol Tulips coming into blow.

13th.—*Narcissus incomparabilis* in flower. A Swallow seen to-day.

19th.—Quite a spring day, with a hard shower of Hail before noon. The banks begin to be beautifully covered with Primroses and Violets, and here and there bespangled with Pilewort.

20th.—The Crown Imperial, both the yellow and the red variety, in full blow in my garden and elsewhere.

22d.—*Cardamine pratensis* Our Lady's Smock common.

23d.—Showery and wet again with Wind. The Cuckoo heard.

27th.—*Caltha palustris* in the moist meadows.

29th.—*Narcissus bicolor* in my garden; also a variety of *N. orientalis*, with very large flowers of white petals and yellow large nectariums. A few Swallows seen about. Cowslips abundant.

MAY 1st.—*Gentiana acaulis*. A very backward appearance for May Day. I noticed Cowslips, Primroses, Dandelions, Our Lady's Smocks, Polyanthuses, Daisies, and other plants, in the garlands which the girls brought about to-day.

The Peach trees are in beautiful blossom, and the Apple trees coming out rapidly, with also Cherries; but in general these trees are much later than last year, and are always a week later here than they are near London.

This spring has been hitherto remarkably unwholesome, and particularly fatal to persons advanced in years.

2nd.—*Narcissus biflorus* came into flower among the numerous bulbous plants in my garden in the orchard.

3d.—*Orchis mascula* called Ram's Horns in flower.

Ranunculus bulbosus came into blow. Martins seen.

4th.—*Tulipa Gesneriana* first in flower to-day. The earliest of these common Tulips that blow are the yellow and brown called Golden Eagles, the varieties of red and white are a few days later.

Cheiranthus Cheiri the Wallflower common, though not full out yet.

Stellaria holostea.

5th.—*Stellaria graminea*.

6th.—*Narcissus poeticus* in flower.

Senecio squalidus. Warm weather; the fields here white with Daisies, there gilded with Dandelions.

7th.—*Calendula officinalis* an old plant of the Marigold.

The sounds of Waterfowl and other noises heard afar off, sure to portend Rain.

8th.—*Poconia tenuifolia* blowed to-day in the garden.

Symphetum tuberosum and *S. asperimum*, with another hybrid variety, just opening. The signs of Rain exhibited all yesterday and to-day at length have been followed by a rainy and windy night.

9th.—By the following list of plants now in blow, it will be seen how large a proportion belong to the PRIMAVERAL FLORA and how few to the VERNAL FLORA:—

PLANTS FLOWER.—The Double Early Daffodil, scarcely faded away.

Great Scented Tonquil, still remaining in flower.

Peerless Daffodil.

Oriental Narcissus, several varieties fading.

- Great Daffodil.
Great Leopard's Bane.
Oriental Hyacinth, three varieties.
Star Anemone or Windflower, the blue, the purple, and
the red varieties.
Polyanthus, many varieties.
Primroses, every where on the banks.
Cowslip, abundant in the meadows.
Oxelip, several wild among Primroses.
Pilewort, still bestarring the shady places in numbers.
Periwinkle, both greater and less.
Sweet Violet.
Dog's Violet.
Forster's Tunbridge Violet.
White Violet, just fading, in gardens.
Heartsease, in the garden.
Wallflower, abundant since the third.
Yellow Bachelor's Buttons, being a Double Crowsfoot.
Dandelion, bespangling the meadows with gold.
Daisy, numerous in some places.
Harebell, in flower about a week, the ground blue with
it in some places.
Scented Chervil.
Gentianella, in my garden.
Tulips, scarcely in blow, many not yet.
Bulbous Crowsfoot.
Twoflowered Narcissus.
Poetic Narcissus.
Narrowleaved Poenony.
Venus' Navelwort.
Germander Speedwell.

9th.—The Swift *Hirundo apus* first appeared to-day. This bird arrived at nearly the same time last year. I observe a good many of the Bulbous Crowsfoot in flower; also the double garden variety of the Meadow Crowsfoot, called Bachelor'sButtons. Wallflowers plentiful.

Borago officinalis in flower, though the plant is as yet small.
Glechoma hederacea also flowering.

10th.—*Asphodelus luteus* just coming into flower to-day. This appears to be the sort of Asphodel cultivated by the Romans.* The Air is soft and the Sky cloudy, with a few very gentle showers in large and distant drops: a beautiful day for observing the colours of flowers, which, excepting certain red ones, are not seen so well in Sunshine. I first observed to-day the *Bellis perennis* to be so numerous in my fields, that they may be called *Meadoms Trim with Daisies' Pride*. The Dandelion and Bulbous Crowsfoot are plentiful, nor has the Pilewort ceased yet to ornament the grassy and shaded banks with its gilded stars. The beds of Tulips are scarcely in full blow yet, though nearly so: they make a splendid appearance in this sort of weather. One remarkable *lusus* has occurred, viz. a Tulip whose stalk bears several smaller flowering stalks, so that, by thus branching out, one root bears five flowers.

11th.—*Senecio squalidus* in full flower.

Calendula officinalis the Marigold

Campanula speculum a single selfsown plant or two.

Aethusa cynapium.

Scandix odorata.

The Narcissus tribe are now fading away, except the poetic and the bilflorate, which are called May Lilies here, just as the early sort are called Lent Lilies.

* See Phillips on Cultivated Vegetables, article Asphodel.

12th.—*Ranunculus acris* the Upright Meadow Crowsfoot coming into flower in the fields.

13th.—*Ranunculus repens* the Creeping Crowsfoot just flowering in the garden. The above two species are here in general about a fortnight later than the Bulbous Crowsfoot already noticed.

Trollius Europaens the Globe Flower in blow at Eaden Bridge and elsewhere.

Scilla campanulata already common in some gardens: it came into blow to-day in mine.

15th.—Returning home from London to-day, we had occasion to notice the great abundance of the Harebell *Hyacinthus non scriptus* this year: an extensive piece of rising ground at Limpsfield Park was quite blue with it. The Apple trees showed a great quantity of blossoms. The Upright Crowsfoot begins to be common.

16th.—*Veronica Gentianoides* just in flower; also the Pike Geranium. The Tulips begin to fade.

17th.—*Iris Germanica pallida* in blow: it is merely a white variety.

18th.—*Poeonia officinalis* coming into blow.

19th.—The Meadows yesterday and to-day have produced an abundant crop of Dandelions in seed.

20th.—*Papaver Cambricum* in flower on a broken stone wall, in a shady situation in the garden.

Lychnis dioica under the hedges beyond Chailey.

Iris Germanica at Brighton and elsewhere.

21st.—*Trollius Asiaticus* in a garden at Uckfield, where I also noticed abundance of Tulips and Gentianellas. Anemones begin to go off.

24th.—The VERNAL FLORA is backward this year: the Chesnut trees now make a beautiful figure.

25th.—*Aquilegia vulgaris* the Columbine in flower to-day. The fields begin to be now yellowed with the Crowsfoots, to which have just yielded Dandelions and Daisies. The Yellow Azalea in blow to-day.

26th.—*Hypochaeris radicata* in blow to-day.

Hieracium murorum just open.

27th.—*Hesperis inodora* in flower.

Allium luteum also open.

28th.—*Papaver orientale* called Monkey Poppy came into flower this morning in my garden, and its brilliant red colour had a very showey appearance.

Paeonia corallina, with deep crimson flowers, in blow to-day in my garden.

Tragopogon porrifolius also first flowered.

Paeonia humilis in blow; this is a smaller species than the common Peony, and the colour of the flower is of a more purplish crimson.

29th.—The Garden Blue Bottle *Centaurea montana* flowered, as well as a variety with straw coloured flowers.

Papaver dubium the Doubtful Poppy flowered to-day, which I considered very early, particularly as the season is in most respects very late for other tribes of plants.

30th.—A warm day followed a morning stratus.

Doronicum plantagineum still in full blow: this plant flowers about the same time as the Great Leopard's Bane *Doronicum Pardalianches*.

Dodecatheon Medea in flower at Withyham.

Rosa micrantha in flower at Hartwell.

31st.—Columbines of many varieties are become numerous. Crowsfoots are now numerous in the meadows richly gilded with their yellow flowers.

JUNE 1st.—*Papaver Rhæas* flowered this morning in my garden ; but it was only a flower or two which opened: just as *P. dubium* flowered a few days ago. The great mass of Poppies of both the above sorts do not flower till about the Solstice. The Yellow Goat's Beard is just out, and the Purple Goat's Beard already common. The Foxglove is also just opening. Warm and dry days and cool nights, however, still retard the vegetation of young plants of all kinds.

2d.—The following plants flowered this morning:—

Iris pseudacorus the Yellow Flag.

Hemerocallis flava Yellow Day Lily.

Digitalis purpurea Fox Glove just opened.

Gladiolus communis opened a few flowers.

Dianthus deltoides the Deptford Pink.

Lychnis flos cuculi the Ragged Robin.

The day was fair, but the clouds and signs of a change increased, and a fine Rain came on at night.

3d.—*Hieracium pilosella* the Mouse Ear is abundantly in flower every where, and has been out for two or three days: this plant is certainly later than usual, but many of the later plants came to their time, and some are even early. The Cat's Ear is very common already. Blue as well as White Valerian now common.

Ranunculus flammula Spearwort in flower to-day in moist places.

4th.—Roses begin to be common, though they are late this year.

5th.—A small yellowish single flowered Turk's Cap Lily is now in full blow in my garden, which I take to be a small specimen of the *Lillium pomponium flavum*. The weather continues showery.

6th.—*Papaver somniferum* came into flower in my garden; and there are several specimens of *P. dubium*, and *P. Rhæas* with its garden varieties. There are several Foxgloves already in blow, as are several varieties of *Hesperis*.

8th.—*Mimulus luteus* the Monkey Flower in blow.

9th.—A calm clouded growing day. Poppies of all sorts begin to blow abundantly, and will be numerous by the Festival of St. Barnabus, the time of year when they usually first appear, so that this cold and backward spring, which retarded the Primaveral and Vernal flowers, is early with respect to the Solstitial plants. I have already noticed a flower or two on the Sweet Williams, but this plant can hardly be reported yet as blowing.

Allium flavum is in full blow. Peonies and Leopard's Bane going out. Roses are become common. All the fruit blossoms, which were late this year, are already over.

11th.—St. Barnabas.—*Sonchus coeruleus* of T. F. Forster, the Blue Sowthistle in flower. Mild weather and much cloud; the FLORA advances rapidly, and vegetation is luxuriant. I conceive it may be adviseable to give a list of all the plants in blow in the garden on certain stated days, in order to convey to persons in distant climates a more correct idea of the climate and seasons here, than can be done by the Floral Calendar alone. The VERNAL FLORA may be said now to have passed its culmination and the SOLSTITIAL to commence; consequently I indicate the state of the blossoms of each plant now in blow.

Great Leopard's Bane, just going off.

Peony, all the sorts begin to shed their flowers and to decay away.

Garden Poppy. This plant in its several varieties begins to be plentiful.

Corn Rose or Red Poppy, frequent in the garden, but not common in fields yet.

Long Smoothheaded Poppy or Doubtful Poppy, in the garden and elsewhere frequent.

Welch Poppy, going off.

Hesperis, in full blow.

Monkey Flower.

Sword Lily, or Corn Flag, just out.

Rhododendron, in full blow.

Yellow Azalea, beginning to decline. The above two, however, make a fine and conspicuous figure.

Roses, of several sorts, beginning to blow plentifully.

Indian Pink, just blowing.

Fraxinella, just in flower.

Foxglove, beginning in gardens.

Monkey Poppy or Oriental Poppy, still in blow, and is to be considered late this year; but I observe some plants of this species flower a fortnight earlier than others.

Garden Pink, hardly come out yet.

Globe Flower, both European and Asiatic still blow.

Blue Bells or Harebells, nearly gone.

Blue Bottle, two varieties in full flower.

Purple Goat's Beard.

Yellow Goat's Beard.

Columbines, of many varieties.

Yellow Day Lily.

Yellow Allium.

Marigolds, which have stood the winter.

Valerian, both the blue and the white.

The German Iris, both blue and white.

Heartsease still abound.

Yellow Turk's Cap Lily.

All the Crowsfoots are now common, and the meadows are spangled with their yellow. Mouse Ear, Cat's Ear, Rough Dandelion, Wall Hawkweed, Red Campion, Meadow Lychnis, and various other plants blow.

18th.—*Campanula Medium* in flower to-day.

20th.—*Lychnis Chalcedonica* just coming into blow.

24th.—St. John Baptist's Day.—*Tropaeolum majus* just in flower on a warm dry bank here and there. The remainder of the Roses are come out, and the SOLSTITIAL FLORA advances. Orange Lilies blow near London.

25th.—*Hieracium Sylvaticum* in flower. Marigolds.

27th.—*Malva Sylvestris* here and there in flower.

28th.—*Convolvulus tricolor* flowers in the garden.

Lillium bulbiferum now in blow here. Also the Cockle *Agrostemma coronaria*.

JULY 2d.—*Crepis barbata*.

3d.—*Oenothera biennis*.

10th.—*Convolvulus sepium* begins to blow here and there.

13th.—*Lillium candidum* the White Lily in flower.

14th.—*Campanula rapunculoides* in flower at Hartwell.

This season has been unkindly for many particular tribes of plants. The China Asters in particular are all blighted, and will not grow.

THE Calendar must now close, and the Author apologizes for numerous imperfections, owing to his never intending the early part of it for publication.