



3 2044 107 266 892

Library  
Arnold Arboretum



of  
Harvard University



*trans to  
Arnold*

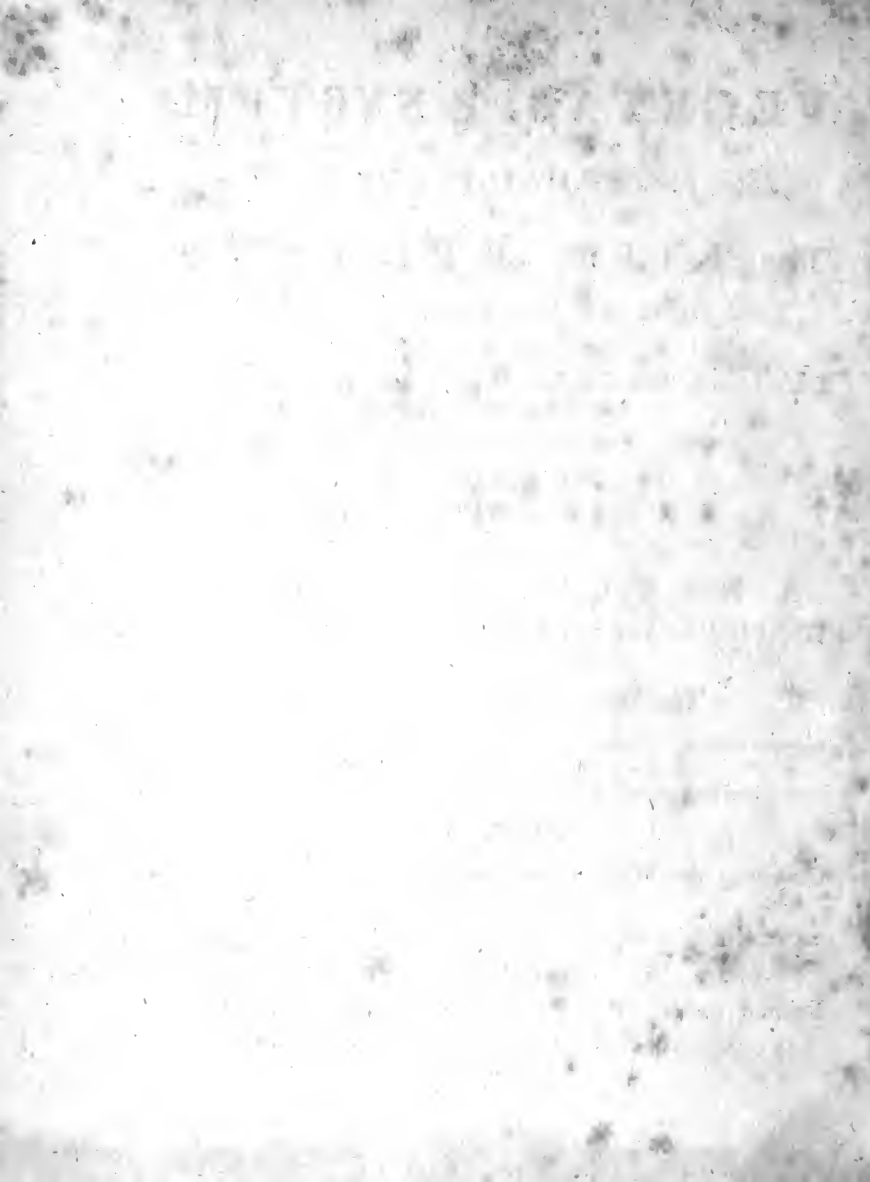
*Arboretum*

Digitized by the Internet Archive  
in 2017 with funding from  
BHL-SIL-FEDLINK

[https://archive.org/details/vegetablesystemohill\\_1](https://archive.org/details/vegetablesystemohill_1)







THE  
**VEGETABLE SYSTEM:**

OR,

The INTERNAL STRUCTURE,

AND

The LIFE of PLANTS;

Their PARTS and NOURISHMENT Explained ;

THEIR

CLASSES, ORDERS, GENERA, and SPECIES  
Ascertained and Described,

In a METHOD altogether NEW:

COMPREHENDING

AN ARTIFICIAL INDEX,

AND

A NATURAL SYSTEM.

With FIGURES of all the PLANTS; Designed and Engraved  
by the AUTHOR.

The WHOLE from NATURE only.

---

BY JOHN HILL, M.D.

---

VOL. IV. *V z*

Containing the Whole CLASS of ASSOCIATES OF CAPITATE  
PLANTS.

---

---

*Jr*  
LONDON:

Printed at the EXPENCE of the AUTHOR,  
And Sold by R. BALDWIN, in Pater-Noster-Row.

MDCCLXII.





## H E R B S,

With many FLOWERS assembled in a Common Cup.

## S E R I E S THE SECOND.

Those which have the CHIVES DISTINCT.

## C L A S S I.

## A S S O C I A T E S.

Character of the C L A S S.

Plants with many TUBULAR FLORETS assembled together in one Common Cup; and with the Chives distinct.

**I**N the Plants of this Class one common Cup contains a great number of Florets, constituting what is called the Flower; and in each Floret there are five long Chives, growing upon short threads. Thus far the associates agree with the whole first series, the Radiates, Florets, and semiflorets: and with the two first of those classes they agree also in some respect in the construction of the Florets. These, like those which constitute the second class, and those which form the Disk in the first, are made of a single piece, tubular at the base, swelling in the body, and cut into five segments at the rim; but in the Florets of the Associates, the tubular base is long, and the segments are also long, slender and thrown forward; whereas in the others, of both kinds, they are short, broad and turned back. This difference will be obvious on comparing the second figure in the annexed plate 1. with the first figure of plate 14, Vol. II.

THE great and essential distinction is not in the body of the Floret but in the Chives. These in all the Plants of the first series, whether radiate, naked, or ligulated, unite together at their sides, and form a regular tube, as at fig. 4. Pl. 14. before mentioned; whereas in the associates they stand distinct; tho' they rise parallel with one another: they are altogether loose at their points, and are free of each other in every other part; being only held together in a columnar or tubular form, resembling that wherein the others grow, by a membrane which surrounds them at the bottom; as represented at fig. 5. in the annexed plate. 1.

THIS will be best understood, in a general way, by comparing the above cited figures of the two classical plates: and it is the more necessary to be distinctly known, because the absolute separation of the Capitate or Associate from the Radiate, naked, and ligulate Plants, depends upon it; and former authors, even the most exact of them, have supposed the Chives in these Plants also to cohere. the Associates have therefore been ranged with those other Genera, in one class; and inexplicable difficulties have followed.

As the largest Flowers among the associate kind shew the parts most distinct, I have chosen for explaining the general structure, those of the Chardoon the several views and sections of which, are the subjects of the eight first figures of the annexed plate.

A compleat Floret of the Chardoon growing to the seed, and furnished with its style as well as filaments, is represented at plate 1. fig. 1. *a* is the Seed, from the summit of which the Floret rises: *b* is the down of that seed, naturally covering the tubular Base of the Floret: *c* is the upper part of the base of the Floret: *d* is the swelling body of the Floret in which are contained the Chives, growing on their short threads: *e* are the five segments of the Floret: *f* shews the five Chives: and *g* the long style of the Floret, which they surround.

AT fig. 2. is represented the Floret alone, separated from the seed and its down without, and cleared of the Chives and style from within.

AT fig 3. is given a Floret cut open to shew the origin and disposition of the Chives and their threads. The style is removed in this and the succeeding figures except 6. as it would disturb the view. Here *a* is the tubular base of the Floret; *b* its swelling body, within which are shewn the five distinct Chives *c*, and their supporting threads *d*: *ee* are the segments of the Floret.

AT fig. 4. is represented the body of the Floret, disincumbered of its tubular base; cut open, and a little enlarged; as it would appear if viewed

viewed with a common reading glass. Here the absolutely separate edges of the Chives are shewn, *a a*, and the thin membrane *b*, which keeps them together at the bottom.

FIG. 5. shews the Chives, with their threads, separated from the body of the Floret, where their points *c*, gape more, as being at liberty from the pressure of the Floret, and their bases are kept together by the membrane *b*.

FIG. 6. shews the Chives and style taken together out of the body of the Floret. *a* is the pale base of the style, which runs thro' the whole Floret.

AT fig. 7. are represented two views of the body of the Chives cut open thro' the base; and spread flat, to shew their natural loose and free state, and the course of the membrane which holds them together at the bottom. *a* is a view of the inside, and *b* of the outside, on which part the membrane is placed.

FIG. 8. represents one filament alone, with a portion of the membrane behind it.

THE Character of the class being thus understood, we may proceed to its subdivisions.

## O F

## The SUBDIVISIONS of this CLASS.

THE Class of Associates comprehends the THISTLES, BLUE-BOTTLES and KNAPWEEDS; and all that are usually called *Capitate*, or *beaded* Plants.

THESE amount to a very considerable number; and the knowledge of them has been accounted difficult, because they have been arranged under a very short detail of Genera: this makes the species extremely numerous under each genus; and in the *Centaurea*, in particular, according to the most received method they are no less than *fifty*.

NATURE has not allowed indeed to the Associates those plain and obvious marks of distinction which we find among the *Radiated*, *tubulated*, and *ligulated* kinds; in which some have the Cup *entire*, some *simple*, others *double*; and only a certain number *tiled*; for in these Plants, all have the Cup *TIL'D*: But there are other marks, perhaps as evident when pointed out; certainly as distinct as those; whereby the numbers

bers which compose this hitherto perplexed class, may be reduced to method, under the greater divisions first of *Tribes and Orders*; and then to certain Genera: knowing these, all the difficulties will vanish: for whosoever will examine the objects with due care, will find, in th's, as in all other instances, that these deplor'd perplexities have their foundation in art only; not in Nature.

## C L A S S I.

The Associates may be distinctly arranged under two general TRIBES.

## T R I B E I.

Those which have the Scales of the Cup formed by a degradation of the Leaves.

## T R I B E II.

Those which have the Scales of the Cup, original, and altogether distinct.

## A S S O C I A T E S.

## T R I B E I.

With DEGRADATING SCALES.

## O R D E R I.

In which the degradating Leaves form *Scales only*, as in Saff-flower.

Plate 1. Fig. 9.

## O R D E R II.

In which the lower range of degradating Leaves becomes *filmy*, as in Blessed Thistle.

Plate 1. Fig. 10.

## O R D E R III.

In which the upper Range of degradating Leaves becomes *membranaceous*, as in Carline Thistle.

Plate 1. Fig. 11.

## A S S O C I A T E S.

## T R I B E II.

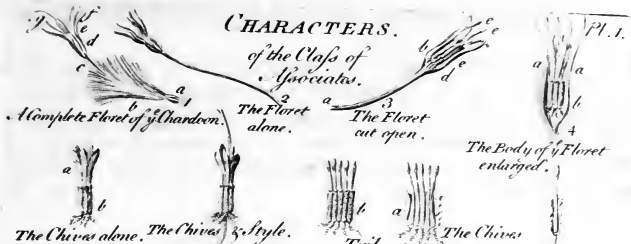
With ORIGINAL and DISTINCT SCALES.

THE Associates of this Tribe which are very numerous, admit an intermediate distinction, into three separate FAMILIES, according to the Nature of their Scales; before we descend to the Subdivision into Orders.

T R I B E

CHARACTERS.

of the Class of  
Asciates.



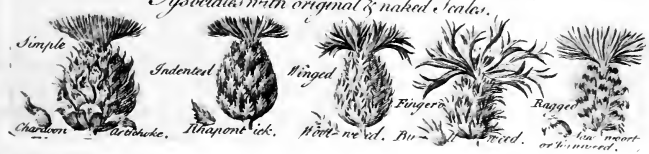
The Chivas alone. The Chivas & Style. Tribe 1. The Chivas cut open. One Chive or Filament separated.



Asciates with degradative Scales. Asciates with original & armed Scales. Tribe 2. Family 1. with hair'd scales. with naked scales. Cotton Thistle. Carduus Thistle. Sweet Sultan.



Asciates with original & hair'd scales. Family 3. Simple Eye-lashed. Soft Thistle. Blue Beetle. White-head. Sepule Centaury. Phrygian Insipid. Roman Insipid or Plumbe. Serrated. Feathery. Palmated. Wort.



Chardoon. Ardoake. Thapontick. Wort-weed. Bu. Seed. low mount at Kinswood.



TRIBE II.

FAMILY THE FIRST.

With *arm'd* Scales ; each Scale terminating in a robust hard Thorn :  
as in Cotton Thistle.

Plate I. Fig. 12.

FAMILY THE SECOND.

With *hair'd* Scales ; each terminating in a weak soft and pointless hair,  
as in Gentle Thistle.

Plate I. Fig. 13.

FAMILY THE THIRD.

With *naked* Scales ; each Scale terminating simply without Thorn  
or hair, as in Sweet Sultan.

Plate I. Fig. 14.

ASSOCIATES. TRIBE II. FAMILY I.

With *original* and *armed* Scales.

ORDER I.

With the Scales.

Arm'd only at the extremity or point ; as in Spear Thistle.

Plate I. Fig. 15.

ORDER II.

Arm'd both at the point and along the sides ; as in Lady's Thistle.

Plate I. Fig. 16.

ORDER III.

Ramose or divided into arm'd branches ; as in Solstitial Thistle.

Plate I. Fig. 17.

ASSOCIATES. TRIBE II. FAMILY II.

With *original* and *hair'd* Scales.

ORDER I.

With the Scales.

Simple, and only terminated by a single hair ; as in Soft Thistle.

Plate I. Fig. 18.

ORDER II.

Eyelash'd, or edg'd all round with hairs, as in Blue-bottle.

Plate I. Fig. 19.

## 6 THE VEGETABLE SYSTEM.

### ORDER III.

Serrated, or notched, and hairy on the edges, as in Whitehead.

Plate I. Fig. 20.

### ORDER IV.

Pinnatifid, or cut deep like a winged Leaf, and hair'd; as Sessile Centaury.

Plate I. Fig. 21.

### ORDER V.

Feathery, or divided into plumose hairy parts; as in Phrygian Knapweed.

Plate I. Fig. 22.

### ORDER VI.

Palmated, or divided like a hand, and hairy; as Roman Matfellow.

Plate I. Fig. 23.

## ASSOCIATES. Tribe II. FAMILY III.

With Original and Naked Scales.

### ORDER I.

With the Scales.

Simple; or naked and altogether undivided as in Chardoon.

Plate I. Fig. 24.

### ORDER II.

Indented, or cut into teeth along the edges, as in Rhapontic.

Plate I. Fig. 25.

### ORDER III.

Winged, or cut into deep divisions, like winged Leaves, as in Woollweed.

Plate I. Fig. 26.

### ORDER IV.

Finger'd, or cut into deep divisions at the Base, like Fingers; as in Harp'd Bullweed.

Plate I. Fig. 26.

### ORDER V.

Ragged, or subdivided into a multitude of loose Segments, as in Ragged Saw-wort.

Plate I. Fig. 27.

H E R B S



H E R B S.

With many FLOWERS affembled in a Common Cup.

S E R I E S II.

With the CHIVES DISTINCT.

C L A S S IV.

A S S O C I A T E S.

T R I B E I.

With Degradating Scales.

O R D E R I.

With the Cup composed entirely of Scales formed of Degradating Leaves.

G E N U S I.

D I S T A F F - T H I S T L E.  
P H O N U S.\*

Character of the Genus.

The Leaves of the Plant form the Scales of the Cup ; de-

\* This is the proper *Atractylis* of the antients : but custom has now given that name, in compliãnce with the dictates of Linnæus, to the Carline. I have therefore given this, and the others of this kind, Gesner's name *Phonus*, which yet remains distinctive.

generating gradually as they rise along it. 1. Those at the Base are perfect, pinnatifid, green Leaves; 2. The series above these are dry and scaly, but are still pinnatifid; retaining their form, only pointed and edged, with perfect Thorns; 3. The inner series deposit wholly their leafy form, and nature; becoming simple, undivided Scales, arm'd only with a crimson thorn at the Point.

Plate 2. *o a b c.*

### 1. COTTONY DISTAFF THISTLE.

Plate 2.

Character of the Species.

*Carthamus lanatus.*

The Tops of the Branches, are covered with a Cottony matter.

Plate 2. *a b.*

**T**HIS is an Annual, native of France and Italy, an upright, and not unhandsome Plant, of two foot high. The Leaves are of a yellowish green, but they have high red ribs: the flowers are large and of a bright yellow. The whole Plant abounds with a blood-coloured Juice, which runs out, wherever it is cut or broken.

### 2. DWARF DISTAFF THISTLE.

Plate 3. Fig. 2.

Character of the Species.

*Carthamus Mitissimus.*

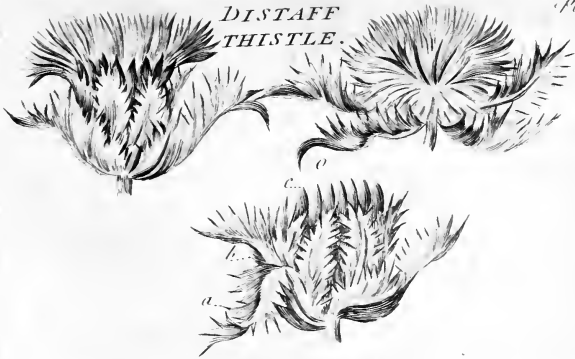
The Radical Leaves are lanc'd and dented; these on the Stalk are pinnatifid, and edged with slight and weak Thorns.

Fig. 2. *a b c.*

**T**HIS is a Perennial, native of the South of France: a low, and very singular Plant, flowering in July and August. The Root creeps under the surface, and pushes up in distant spots little clusters of dark green Leaves edged with weak Thorns. The Stalk is but two or three inches high, the Leaves are of a deep green, and the Flower of a very bright blue.

*DISTAFF  
THISTLE.*

*Pl. 2.*



*Generic Character.*



*Cottony  
Distaff Thistle.*





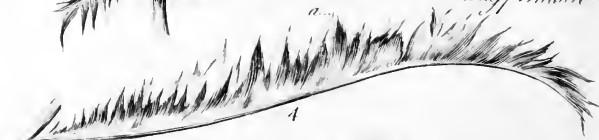
DISTAFF-THISTLE.

Pl. 3.



2  
*Dwarf Distaff Thistle.*

3  
*Shrubby Distaff Thistle.*



4  
*Elegant Distaff Thistle.*

3. SHRUBBY DISTAFF THISTLE.

Plate 3. Fig. 3.

Character the of Species.

*Carthamus arborefcens.*

The Stem is woody, and the Leaves are of the form of a flaming fword.

Fig. 3. *a b.*

THIS is a native of Spain, a woody Plant of five foot high, and flowers in June. The Leaves are of a bluiſh green, the Stalk is brown toward the Baſe, but the young ſhoots are tender. The Flowers are large and of a perfect gold yellow. It lives thro' common winters in the open air with us, but perishes in hard seasons, unlets sheltered.

4. ELEGANT DISTAFF THISTLE.

Plate 3. Fig. 4.

Character of the Species.

*Carthamus Carduncellus.*

The Leaves are deeply pinnatifid, and arm'd with hard Thorns.

Fig. 4. *a.*

THIS is a Perennial, native of Spain and Italy, and flowers in August; a very elegant and ſingular Plant. It is not more than ſix inches high. The Leaves are cut in a beautiful manner, and arm'd at all the diviſions with brown Thorns. The Flower is large and of a deep ſhining blue.

# TO THE VEGETABLE SYSTEM.

## G E N U S II.

### S A F F - F L O W E R.

#### C A R T H A M U S.

Character of the Genus.

The Leaves of the Plant form the Scales of the Cup which continue leafy even to the innermost Range.

#### 1. O V A L - L E A V E D S A F F - F L O W E R.

Plate 4. Fig. 1.

Character of the Species.

*Carthamus Tinctorius.*

The Leaves are oval and undivided, but arm'd with Thorns along the Edge.

Fig. 1. a b.

THIS is a native of the East; an Annual of two foot high, flowering in August. The Stalk is of a deep green, often tinged with brown. The Leaves are of a paler, but not very elegant, green; and the thorns along their edge are whitish. The Flowers are large; and of a strong yellow, approaching to orange colour; so beautiful that they emulate the colour of Saffron; and have been named thence Bastard Saffron. The colour is lasting, and the Flowers are used in vast quantities in dying.

#### 2. A Z U R E S A F F - F L O W E R.

Plate 4. Fig. 2.

Character of the Species.

*Carthamus Coeruleus.*

The Leaves are lanced, and cut in deeply at the edges.

Fig. 2. a b.

THIS is a Perennial, native of Spain and Italy, a weed among their corn, as troublesome as the Thistles to our farmers. The Stalk is simple, and two foot high. The Leaves are of a pleasant green; and the Flower is of a very delicate blue, somewhat paler than our great Bluebottle, but much more delicate, and brighter. It blows in August.

O R D E R





Generic  
Character.



Oval leaf'd  
Saff. Flower.



Lance  
Saff. Flower.

THE HISTORY OF THE

REIGN OF

THE GREAT BRITAIN

IN

THE YEAR 1714

BY

JOHN HANCOCK

O R D E R II.

With the Cup composed of Scales form'd of degradating Leaves; and with the outer Range of the Scales filmy.

G E N U S I.

B L E S S E D T H I S T L E.

C N I C U S.

Character of the Genus.

The Cup is oval, and has a leafy Circlet at the Base. The inner Ranges of Scales terminate in hard and branched Thorns.

Plate 5. *o a b.*

1. SPREADING BLESSED THISTLE.

Plate 5. Fig. 1. *CARDUUS BENEDICTUS.*

Character of the Species.

*Cnicus Benedictus.*

The Leaves are irregularly sinuated; the Stalk divides into many spreading Branches.

Fig. 1. *a b.*

THIS is an Annual, native of the East, and of the warmer parts of Europe; the islands of the Archipelago are not more over-run with it than the plough'd lands of Spain. It is two foot high. The Stalk divides into a number of long Branches, which spread out wide; the Leaves are of a strong green with some cast of yellowish; and the Flowers are of a pale yellow. The whole Plant has a strong, but not disagreeable, scent. It flowers in August.

## 2. VARIOUS LEAV'D BLESSED THISTLE.

Plate 5. Fig. 2.

Character of the Species.

Cnicus Oleraceus.

The lower Leaves are deeply cut and jagged, the upper ones are undivided, and stand hollow.

Fig. 2. *a b*.

THIS is a Perennial, native of Germany, and other parts of Europe, but not of England. It flowers in June. The Stalk is near a yard high. The Leaves are of a strong but somewhat brownish green. The Flowers are of a pale, but not disagreeable yellow.

## G E N U S II.

## E G G - T H I S T L E .

## C R E P U L A .

Character of the Genus.

The Cup is egg-shaped, and has a leafy Circlet at the Base; the inner ranges of Scales terminate in soft and simple spines.

Plate 6. *a b c*.

## 1. S H A R P E G G - T H I S T L E .

Plate 6. Fig. 1.

Character of the Species.

Cnicus Spinosissimus.

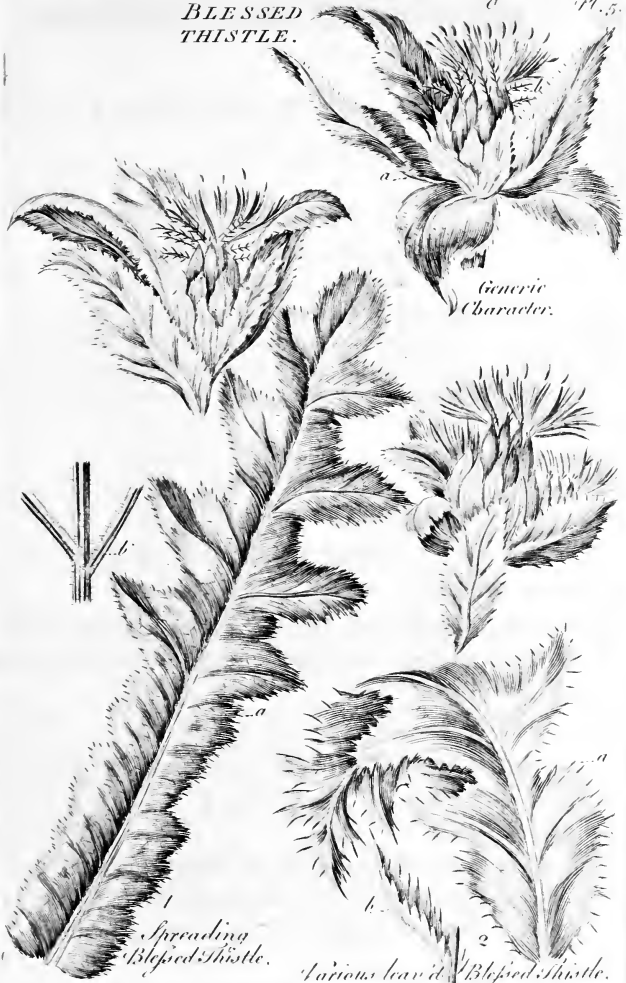
The Leaves are deep cut in an irregular pinnatifid manner; and are arm'd with numerous strong Thorns: the Flowers stand close among the Leaves.

Fig. 1. *a b*.

THIS

*BLESSED  
THISTLE.*

*Pl. 5.*



*Generic  
Character.*

*1  
Spreading  
Blessed Thistle.*

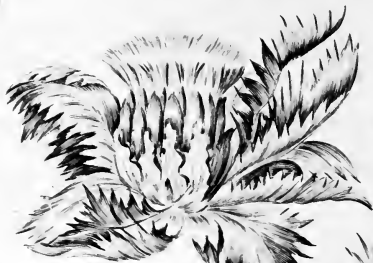
*2  
Various leaf'd Blessed Thistle.*





EGG THISTLE.

Pl. 6.



Generic Character.



Sharp Egg Thistle?

Unarm'd Egg Thistle.

Siberian Egg Thistle.



## THE VEGETABLE SYSTEM. 13

THIS is a Biennial, native of Germany and Swifferland, and flowers in August. The Stalk is simple, and about a foot high; pale and hard. The Leaves are of a faint, but not unpleasing green. The flowers are whitish, with a dash of yellow; as are also the Scales of the Cup, and the Circlet, at its Base.

LET none wonder that I have separated the three plants of this plate from the two of the preceding, under a new Genus: the distinction in the Cups is great and obvious; and to the want of such separate arrangements is to be attributed the confusion hitherto complained of in the Thistle Clafs.

### 2. UNARMED EGG - THISTLE.

Plate 6. Fig. 2.

Character of the Species.

Cnicus Centauroides.

The Leaves are doubly pinnatifid, and they are destitute of Thorns.

Fig. 2. a b.

THIS is a Perennial; native of the Pyrenæan mountains, a Plant of four foot high, with elegantly divided Leaves, and large flowers. The Stalk is pale, and not much branched: the Leaves are of a faint green on the upper side, and whitish underneath. The Flowers are crimson; and they blow in August.

### 3. SIBERIAN EGG - THISTLE.

Plate 6. Fig. 3.

Character of the Species

Cnicus Cernuus.

The Flowers droop; the Leaves are lanc'd and hearted at the Base, curl'd at the Edge, and prickly.

Fig. 3. a b c.

THIS is a Biennial, native of Siberia; a Plant of a foot and an half high, flowering in August. The Stalk is brownish: the Leaves are of a fine green: the Flowers droop a little, and are of a delicate crimson. The Cups are a little jagged towards the top, but the Thorns are soft and simple.

THIS is the Plant, which in the order of nature connects the present and preceding Genus.

## O R D E R III.

With the Cup form'd of degradating Leaves; the inner Range of which are hard, dry, and scaly.

# 14 THE VEGETABLE SYSTEM.

## G E N U S I. CARLINE THISTLE. CARLINA.

Character of the Genus.

The inner row of Scales in the Cup spread, and shine ;  
and emulate the rays of radiated Flowers.

### 1. HUMBLE CARLINE THISTLE.

Plate 7. *a a b.*

Plate 7. Fig. 1.

Character of the Species.

*Carlina acaulos.*

The Stalk is so short, that the Flower seems to rest upon  
the ground.

Fig. 1. *a.*

THIS is a Perennial, native of Italy, Germany, and other Parts  
of Europe : a low but specious Plant, flowering in July. The Leaves  
lie spread upon the ground, and are naturally of a deep green ; but  
tinged and blotted as it were with red and white, and blue, and other  
colours. The Flower rests in the center of the tuft having a Stalk  
too short for sight. It is very conspicuous ; the inner range of Scales,  
which have the appearance of Rays, being pearly white.

### 2. CRIMSON CARLINE THISTLE.

Plate 7. Fig. 2.

Character of the Species.

*Carlina lanata.*

The Leaves are covered with a Cottony Down.

Fig. 2. *a.*

THIS is an Annual, common on the waste grounds of Italy, and  
the South of France ; and flowers in July. The Stalk is simple,  
and a foot and a half high, whitish and downy. It is usually forked  
at the top ; one Flower crowning the natural summit, and two  
others rising on shoots, one from each side of the first. The Leaves  
are white, and the Flowers are of a delicate crimson.

### 3. CLUSTERY CARLINE THISTLE.

Plate 7. Fig. 3.

Character of the Species.

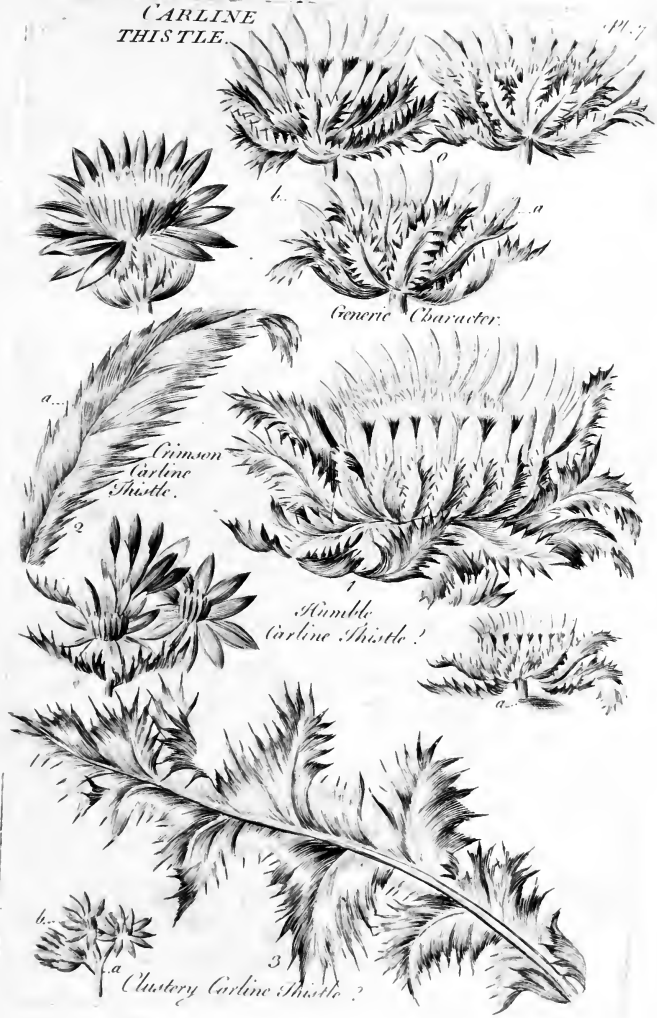
*Carlina vulgaris.*

The Stalk breaks into several short and compact divisions  
at the top, and the Flowers stand close upon the heads  
of these, without other Footstalks.

Fig. 3. *a b.*  
THIS

CARLINE  
THISTLE.

117



Generic Character.

Crimson  
Carlina  
Thistle.

Humble  
Carlina Thistle?

Clustery  
Carlina Thistle?





CARLINE-THISTLE.

2

1798



Branchy Carline Thistle.



Side flowering Carline Thistle.



White Carline Thistle.

THIS is an Annual, native of Italy and Spain; and flowers in August. It rises to two foot in height; the Stalk is yellowish; the Leaves are of a yellowish green, and the Flowers are yellow.

BRANCHY CARLINE THISTLE.

Plate 8. Fig. 4.

WILD CARLINE THISTLE.

Character of the Species.

*Carlina Corymbosa*

The Stalk divides at the head into many spreading Branches, and the Flowers have Footstalks.

Plate 4. *a b.*

THIS is an Annual, native of our dry upland pastures, and flowers in July. 'Tis two foot high. The Leaves are of a faint green, edg'd with sharp brown thorns: the Flowers are yellow, the Colour is not fine, but they are very lasting.

5. SIDE FLOWERING CARLINE THISTLE.

Plate 8. Fig. 5.

Character of the Species.

*Carlina Racemosa.*

The Flowers are few, and grow close in the bosoms of the Leaves up the Sides of the Stalk.

Fig. 5. *a.*

THIS is an Annual, native of the dry waste grounds in Spain; and flowers in August. The Stalk is simple, yellowish, and a about a foot high: the Leaves are of a yellowish green, and have large, but not strong, thorns, along their Edge; the Flowers are yellow.

6. WHITE CARLINE THISTLE.

Plate 8. Fig. 6.

Character of the Species.

*Carlina Pyreanica.*

The Leaves run down the Stalk in prickly welts. The Flowers stand close upon the summit.

Fig. 6. *a b.*

THIS is a Biennial, native of the Pyrenæan mountains, on the side of Spain; and flowers in August. The Stalk is white welted, very prickly, and a little more than a foot in height: the Leaves are cut deep in the winged manner, and are of a whitish green: the Flowers stand in a compact rising head at the top of the Stalk, and are of a glossy white.

TRIBE II.

With original and distinct Scales.

16 THE VEGETABLE SYSTEM.

FAMILY THE FIRST.

The Scales being arm'd, or terminated by a hard thorn.

ORDER I.

Arm'd only at the Point.

GENUS I.

MAY THISTLE.

POLYCANTHA.

Character of the Genus.

The Cups are cylindric, and their Scales are linear.

Plate 9. *a a b.*

1. DOWNY MAY THISTLE.

Plate 9. Fig. 1.

Character of the Species.

*Carduus Acanthoides.*

The Cups are covered with a hairy down, and droop a little.

Fig. 1. *a.*

THIS is an Annual, native of our ditch-banks, and waste ground by roads; but not very common; a plant of two foot high, flowering in the beginning of May, and soon after fading. The Leaves are hairy, and of a faint whitish green: the Flowers are of a bright crimson.

2. MARSHY MAY THISTLE.

Plate 9. Fig. 2.

MARSH THISTLE.

Character of the Species.

*Carduus Palustris.*

The Cups are naked and erect, and the Leaves are pinnatifid.

Fig. 2. *a b.*

THIS is a Biennial, native of our wet grounds, and flowers at the latter end of May; a tall and specious Plant. The Stalk is purplish, and is six foot high: the Leaves are of a deep brownish green: the Flowers are of a full crimson.

3. CURL'D MAY THISTLE.

Plate 9. Fig. 3.

Character of the Species.

*Carduus Crispus.*

The Flowers are clustered, and the Cups are naked, and the Leaves are waved.

Fig. 3. *a. b.*

THIS is an Annual, native of our ditch-banks, and flowers in May. The Stalk is four Foot high: the Leaves are of a dusky green, and the flowers pale crimson.

GENUS



MAY THISTLE.

Fl. a.



Generic Character.



Downy May Thistle.

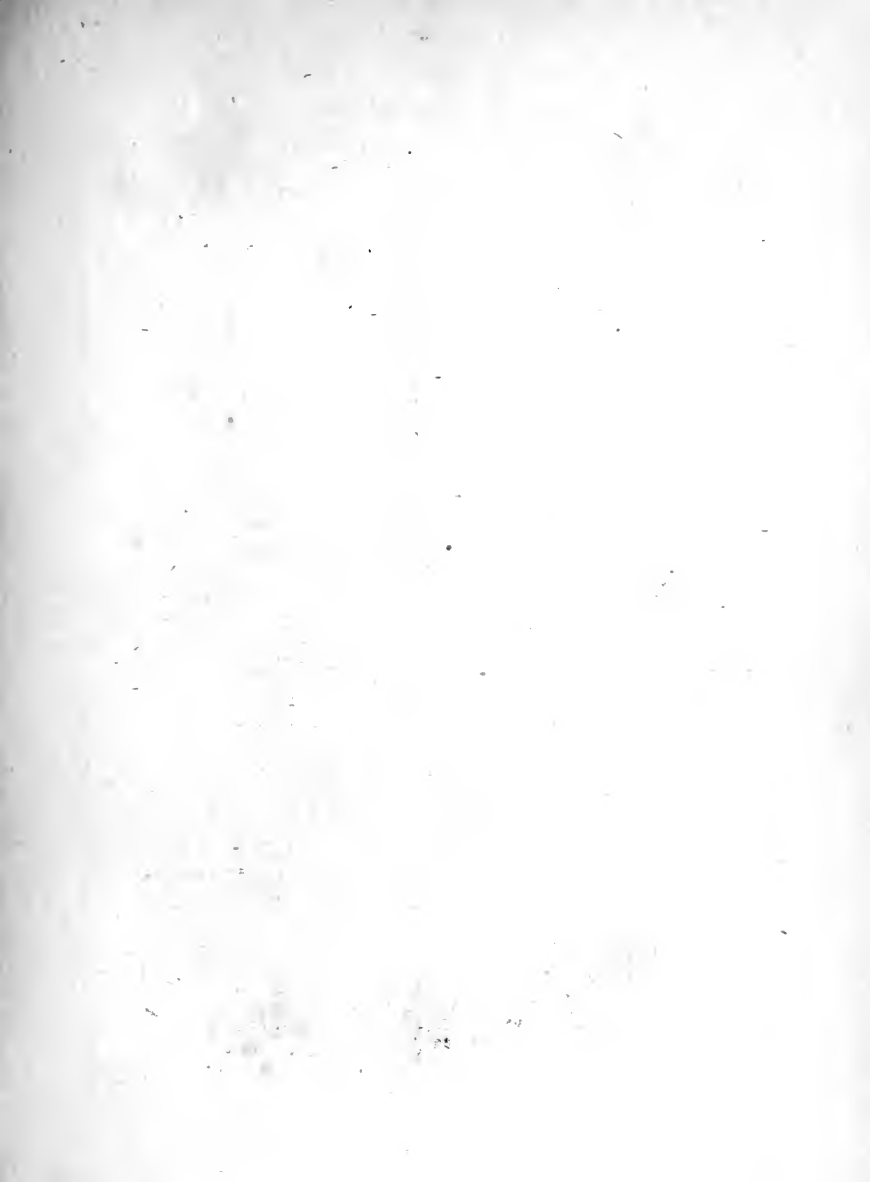


Curled May Thistle.



Marshy May Thistle.





FISH-THISTLE.

Pl. 10.



Generic Character.

Double thorned Fish Thistle.



Marbled Fish Thistle.

Quinary Fish Thistle.



## G E N U S II.

## F I S H - T H I S T L E .

## A C A R N A .

Character of the Genus.

The Cups are elliptick; their Scales are broad, and terminated by short and slight Thorns.

Plate 10. *a o b.*

## I. DOUBLE - THORNED FISH - THISTLE.

Plate 10. Fig. 1.

Character of the Species.

*Carduus Acarna.*

The Leaves are lanced, waved, and armed with double Thorns.

Fig. 1. *a b c.*

THIS is a Biennial, native of Spain, and flowers in August. 'Tis a robust, upright Plant of four Foot high. The Stalk is brownish, the Leaves are of a faint green, and the Flowers are crimson.

SOME confound this with the Cafabon Thistle, Plate 14. both having been called *Acarna*, by earlier Writers; this has caused the error: The Plants are abundantly distinguished by their natural characters.

## 2. MARBLED FISH - THISTLE:

Plate 10. Fig. 2.

Character of the Species.

*Carduus Leucographus.*

The Leaves are pinnatifid, the Flowers stand singly on long foot-stalks, and droop.

Fig. 2. *a b.*

THIS is a Biennial, native of Italy, and flowers in August. The Plant is near a Yard high. The Leaves are of a deep green, beauti-

fully streaked and spotted with white, like veins in the Egyptian marble; the Thorns are numerous and robust; the Flowers are crimson.

### 3. CLUSTERY FISH-THISTLE.

Plate 10. Fig. 2.

Character of the Species.

*Cardus Onopyxos* Authorum.

The Leaves are doubly pinnatifid, and the Flowers stand erect and clustered.

THIS is an Annual, native of Germany, a Plant of two Foot and a half high, and flowers late in September. The Stalk is pale, the Leaves are of a strong green, and armed with very sharp though short spines; the Flowers are of a bright crimson. It is the most leafy of all Thistles.

## G E N U S III.

### BANK-THISTLE.

#### A S C A L E A.

Character of the Genus.

The Cups are bloated: their Scales are long, slender, and bend back.

Plate 11. *a b*.

### 1. DROOPING BANK-THISTLE.

Plate 11. Fig. 1.

Character of the Species.

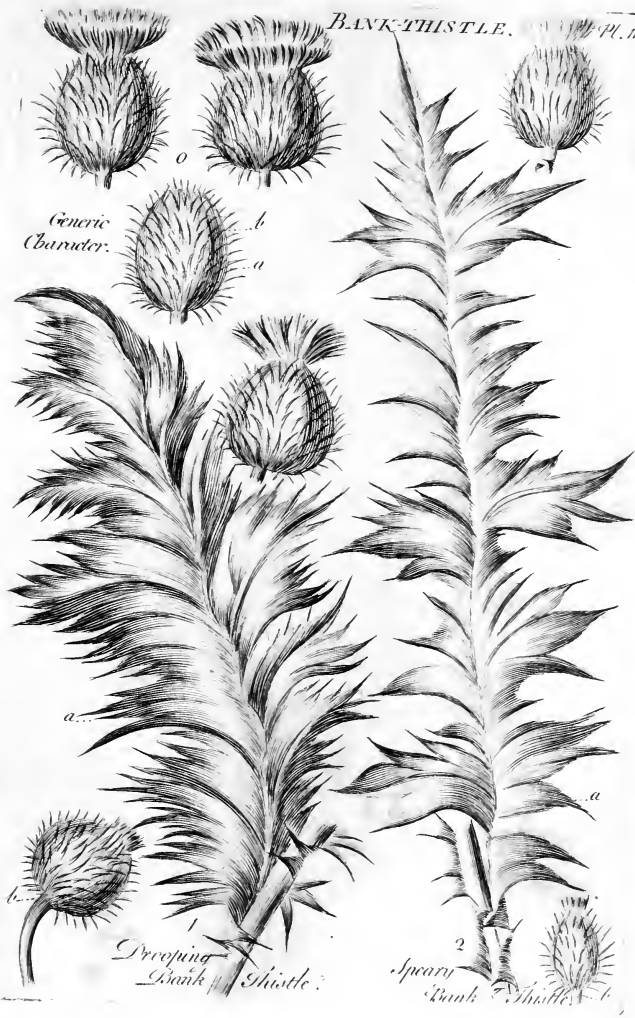
*Cardus Nutans*.

The Leaves are deep cut, and the Flowers stand drooping.

Fig. 1. *a b*.

THIS is a Biennial, native of our damp waste grounds, and flowers in August. The Plant is five Foot high. The Leaves are of a fine deep green, and the Flowers are crimson. In the evening they have a musky

BANK-THISTLE. PL. II.



Generic  
Character.



a

a

1  
Drooping  
Bank Thistle?

2  
Spearly  
Bank Thistle?





musky scent, not unlike that of the Sweet Sultan, but lighter and more delicate. They have it most in ground that has least wet. This Autumn 1761, I saw a quantity of it in a waste ground near Sir Roger Hill's park at Denham, that perfumed the air to some distance.

## 2. SPEARY BANK-THISTLE.

Plate 11. Fig. 2.

Character of the Species.

*Carduus Lanceatus.*

The Leaves are divided and sub-divided into long speary points with very firm Thorns. The Flowers stand erect.

Fig. 2. *a b.*

THIS is the commonest of all our Thistles, a tall, forbidding Plant, armed with strong Thorns, and covered at the top with crimson Flowers. It is an Annual of six Foot high. The Stalk is pale, the Leaves are of a faint and dull green: the Flowers are of a bright crimson. It covers our dry banks and waste grounds all the latter part of Summer.

## G E N U S IV.

## COTTON-THISTLE.

## ONOPORDUM.

Character of the Genus.

The Cup is egg-shaped, and the Points of its Scales stand outwards.

Plate 12. *o a b.*

## 1. BROAD-

## 1. BROAD-LEAVED COTTON-THISTLE.

Plate 12. Fig. 1.

Character of the Species.

Onopordum Acanthium.

The Leaves are lanced, waved and dented; the Scales of the Cups are ragged at the Base.

Fig. 1. *a b.*

THIS is a Biennial, native of our clayey ditch banks, and flowers in July. The whole Plant is white and cottony, except that the Flowers are crimson. Its broad radical Leaves cover the ground for a great space in Spring; in June the Stem rises, which grows to four Foot high, and is finely edged and weted; the Thorns are yellowish and hard.

## 2. NARROW-LEAVED COTTON-THISTLE.

Plate 12. Fig. 2.

Character of the Species.

Onopordum Illyricum.

The Leaves are linear, pinnatifid, and deep cut along the Segments. The Spines of the Cup spread wide asunder.

Fig. 2. *a b.*

THIS is a very elegant Thistle, a Biennial, native of Italy and Spain; a Plant of three Foot high, very upright and very thorny. It flowers in August. The Leaves are white and downy; the Flowers are of a fine crimson.

## 3. GREAT-HEADED COTTON-THISTLE.

Plate 12. Fig. 3.

Character of the Species.

Onopordum Arabicum.

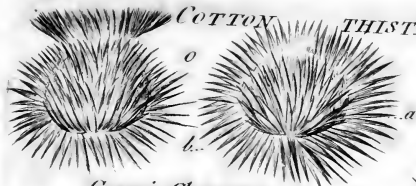
The Leaves are lanced and pinnatifid; the Spines of the Cup are short.

Fig. 3. *a b.*

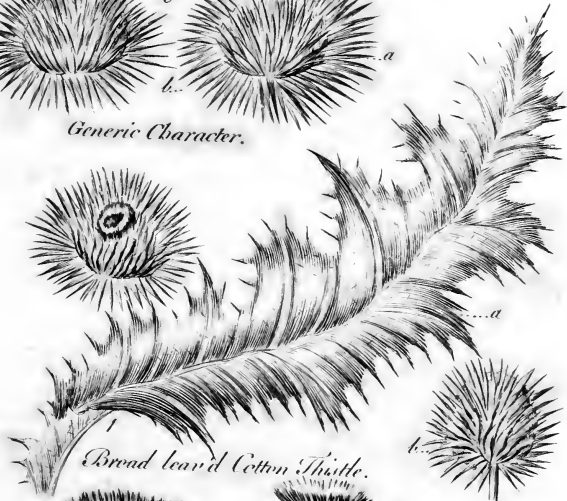
THIS is a Biennial, native of Spain and Portugal, and of the South of France; a very handsome Thistle, flowering in July and August.

COTTON THISTLE.

1712.



Generic Character.



Broad leav'd Cotton Thistle.



Narrow leav'd Cotton Thistle.

Great headed Cotton Thistle.







FAIR - THISTLE.

Pl. 13.



Generic Character.



One flower'd Fair Thistle.



Many flower'd Fair Thistle.

August. It grows to a great height; the Leaves are cottony; the Cup is tinged with brown, and the Flowers are of a very strong and fine crimson.

## G E N U S V.

## FAIR THISTLE.

## P T E R N I X.

Character of the Genus.

The Cup is oblong; its Scales stand loose, and their Points harden into flattish Thorns.

Plate 13. *a a b.*

## 1. ONE-FLOWERED FAIR THISTLE.

Plate 13. Fig. 1.

Character of the Species.

*Carduus Mollis.*

The Leaves are linear and pinnatifid; the Stalk supports only a single Flower.

Fig 1. *a b.*

THIS is an Annual, native of the Pyrenæan Mountains, and flowers in July and August. The Stalk is weak; it leans and bends, and scarce rises to more than a Foot high. The Leaves are of a good, but not strong green; the Flower is of a very delicate crimson, and there is a redish brown often diffused over the Cup, which gives some beauty.

## 2. MANY-FLOWERED FAIR THISTLE.

Plate 13. Fig. 2.

Character of the Species,

*Carduus Defloratus.*

The Leaves are lanced and ferrated, the Flowers are upright while in their bloom; but when they fade they droop.

Fig. 2. *a b.*

THIS is a Biennial, a Plant of two Foot high, native of the high grounds in Germany, and flowers late in Autumn. The Leaves

are of a fine green. The Stalk is often brown; the Flowers are of a very delicate crimfon..

THE Thistles hitherto described have all welted Stalks: There follow many which have them naked. The One-flowered Fair Thistle naturally leads to these, for the weltings of its Stalk are slight and inconsiderable.

## G E N U S VI.

## P I N - T H I S T L E .

## I X I N E .

Character of the Genus.

The Cups are cylindric, and their Scales are broad, but terminate in fine Spines, like the Points of the smallest Pins.

Pl. 14. *a a b.*

## I. WAY-SIDE PIN-THISTLE.

Plate 14. Fig. 1.

COMMON-WAY THISTLE

Character of the Species.

*Cardus Arvensis.*

The Leaves are linear, waved, and deeply pinnatifid.

THIS is a Perennial, a weed very hateful to our farmers, common among corn, as well as on waste grounds by way-sides; and flowers in August. Its creeping root renders it difficult to be destroyed, and its light downy Seeds spread it almost univerfally. It grows to a yard high; leafy, and full of thorns. The Leaves are of a good green. The Stalk is often redish, and there usually is a ruddy tinct upon the Cups. The Flowers are crimfon.

## 2. THISTLE -



PIN-THISTLE.

Pl. 14.



Generic Character.



a.

2

Three  
Thorn'd  
Pin Thistle?



Way side  
Pin Thistle.



Lanc'd Pin Thistle.



## 2. THREE-THORNED PIN-THISTLE.

Plate 14. Fig. 2.

Character of the Species.

*Cardus Casabonæ.*

The Leaves are lanced and waved, and the Thorns stand in Threes.

Fig. 2. a.

THIS is a Perennial, native of Spain; a singular and very handsome Plant, flowering in August. The Leaves are of a yellowish green on the upper side, and white underneath. Their Spines are yellow: the Stalk rises to five Foot in height, and its Flowers are of a pale orange colour.

## 3. LANCED PIN-THISTLE.

Plate 4. Fig. 3.

Character of the Species.

*Cardus Tuberosus.*

The Leaves are lanced and slightly pinnatifid.

Fig. 3. a.—

THIS is a Perennial, native of France and Germany, a low weak Plant, flowering in July and August. The Leaves of a deep unpleasing green: the Stalk is tender, and two Foot high. The Flowers are of a pale but pleasing crimson.

## G E N U S VII.

## BRISTLY THISTLE.

## T E T R A L I X.

Character of the Genus.

The Cups are cylindric with a bloated base, the Spines of their Scales resemble bristles rather than thorns.

Pl. 15. a a b.

1. LANCED

## 1. LANCED BRISTLY THISTLE.

Plate 15. Fig. 1.

Character of the Genus.

*Carduus Flavescens.*

The Leaves are lanced, dented, and sessile.

Fig. 1. a b.

THIS is a Biennial, native of Spain, and flowers in July. The Stalk is brown, and two Foot high : the Leaves are of a strong but yellowish green : the Flowers are of a pale straw colour : often absolutely white.

## 2. AMPLEXICAUL BRISTLY THISTLE.

Plate 15. Fig. 2.

Character of the Species.

*Carduus Tartaricus.*

The Leaves are ferrated and embrace the Stalk : the Cup has a Cirlet of three Leaves at its base.

Fig. 1. a b.

THIS is a Perennial, native of Russia, and flowers in September. The Stalk is three Foot high ; the Leaves are of a strong, but not pleasing green ; and have a very little downy matter underneath : the Flowers are snow white. The Thorns both of the Leaves and Cup are firm, but not very acute.

## 3. WOOLLY HEADED BRISTLY THISTLE.

Plate 15. Fig. 3.

Character of the Species.

WOOLLY-HEADED THISTLE.

*Carduus Eriophorus.*

The Leaves are doubly pinnatifid, with raised segments ; and the Cups have a downy matter about their scales.

Fig. 3. a b.

THIS is a Biennial, native of our high grounds, and flowers in August. It is an erect, robust, and very handsome Plant. The Stalk is

BRISTLY THISTLE.



Generic Character.



Lance'd Bristly Thistle.



Amplexicaul Bristly Thistle.



Woolly-headed Bristly Thistle.





MILK THISTLE.

Pl. 16.



Generic Character.

Marbled Milk Thistle.



is of a brownish red; the Leaves are not of a very strong, but an extremely delicate green. The Flowers are of a bright crimson. It has less the air of a native Plant of our country, than most others, and is far from being universal among us. By what I have seen, it is found only in the midland counties, Northamptonshire, and the three or four adjacent.

## O R D E R II.

With the Scales of the Cup, armed both at the point and along the side with thorns.

## G E N U S II.

## M I L K T H I S T L E.

## M A R I A N A.

Character of the Genus.

The Scales of the Cup have side spines continued all their length.

Pl. 16. *a a b.*

Of this Genus we know only one Species.

## I. MARBLED MILK THISTLE,

MILK THISTLE.

Character of the Species.

Carduus Marianus.

The Leaves embrace the Stalk, and are lightly pinnatifid.

Fig. 1. *a b.*

THIS is a Biennial, native of our waste grounds, a tall and stately Plant, flowering in August. Only its being common, makes us overlook its extreme beauty: In my garden at Bayswater, where every thing has its proper place, and where this Plant stands out of the

way of dust and accidents, many persons have stopped to look at it with wonder; and have thought, as all others would have thought if it had been brought from abroad, that it was one of the first in beauty of the Exotics.

THE Leaves are of a deep green, veined and blotched with a pure milk white, in the manner of the finest marbles. They are of a vast size; the Stalk in the midst is as thick as a child's arm; the Flowers which crown it in vast multitudes, are very large, and of a fine strong crimson. Their Cups are green, and formed with an uncommon greatness and elegance, very far exceeding all other Thistles.

'Tis said the Seeds of this Plant will cure Cancers; and great names authorize the account: but I have tried, and found them ineffectual. This is not a place for disquisitions on the virtues of Plants, we are concerned here only with their forms; in the succeeding natural method their qualities are to be examined; but matters of great importance should not be passed over here: and 'tis next to recommending a useful medicine, to caution against a dependance on such as will deceive.

G E N U S II.  
S T A R T H I S T L E.  
I. C A L C I T R A P A.

The Scales of the Cup have side spines only near their base.

V A R I O U S L E A V E D S T A R T H I S T L E.

Plate 17: Fig. 1.

Character of the Species.

STAR THISTLE.

*Centaurea Calcitrapa.*

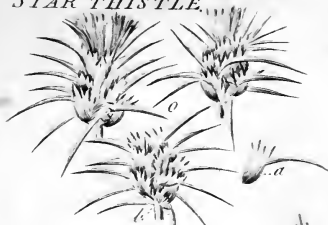
The lower Leaves are pinnatifid, and the upper only ferrated.

Fig. 1. a b.

THIS is an Annual, native of our waste grounds and way-sides, and

STAR THISTLE.

Pl. 17.



Generic Character.



Various leav'd Star Thistle.



Lanc'd Star Thistle?



and flowers in August. It is not found in all parts of the kingdom, but of late has spread itself vastly in the neighbourhood of London: the road sides near Tyburn, and at Brooke-Green by Hammer-smith, are in many spots quite covered with it.

THE lower Leaves are of a pale green, those higher up are often brownish; the Stalk is hard and white; not more than two Foot high, but wonderfully spread into branches; these are covered for many weeks with the hard yellowish Starry Cups, seeming as Flowers before the crimson Flowers appear.

I had this year, 1761, two varieties of this Plant at Baywater; one with the Flowers snow white; the other with a broad and almost harped leaf. Rauwolf collected such a Plant as this; and Bobart was almost led to think it a new Species; but it rose certainly with me from Seeds of the common kind. Next year will shew whether its Seeds produce plants; for I entertain some suspicion that it might be a mongrel; the Farina of the Mariana, next to it, impregnating some seeds.

## 2. LANCED STAR THISTLE.

Plate 17. Fig. 2.

Character of the Species.

*Centaurea Calcitrapoides.*

The Leaves are lanced, and ferrated, and slightly embrace the Stalk.

Fig. 2. *ab.*

THIS is a Biennial, native of Spain, and flowers in July. The Stalk is firm, but not hard and woody as in the English kind: the Leaves are of a deep green; and the Flowers of a strong crimson. The Spines or starry matter of the Cup are of a deep brown, not whitish as in ours.

ORDER

## O R D E R III.

With the Scales of the Cup ramose, or divided into Branches.

## G E N U S I.

## S O L S T I T I A L T H I S T L E.

## S O L S T I T I A R I A.

Character of the Genus.

The Scales of the Cup have Spines edged all their length, with other Spines like Branches.

Plate 18. *a a b.*

## 1. H A R P E D S O L S T I T I A L T H I S T L E.

Plate 18. Fig. 1.

Character of the Species.

*Centaurea Solstitialis.*

The Leaves are pinnatifid with a large Lobe at the extremity.

Fig. 1. *a b.*

**T H I S** is an Annual, native of England, and most other parts of Europe; a Plant of two Foot and a half high, flowering at the end of June. The Leaves are of a whitish green, and they run down the Stalk in a very elegant manner. The Flowers are of a fine yellow, and the whole Plant has a very handsome aspect. In France it is so common as to be an offensive weed among the Corn; starving the Crop, and wounding the hands and legs of the Reapers. With us it is scarce: It has been found in Gloucestershire and Suffex.

2. C L U S-

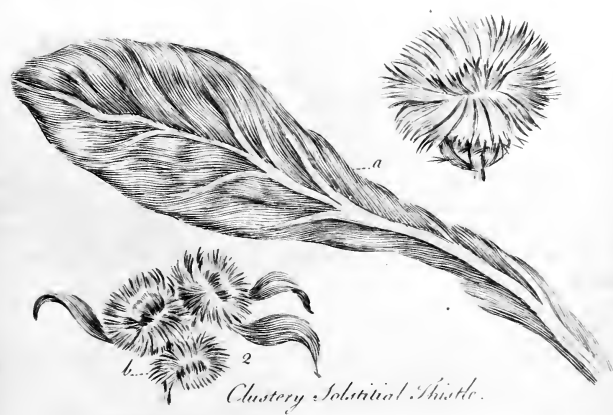
SOLSTITIAL  
THISTLE.



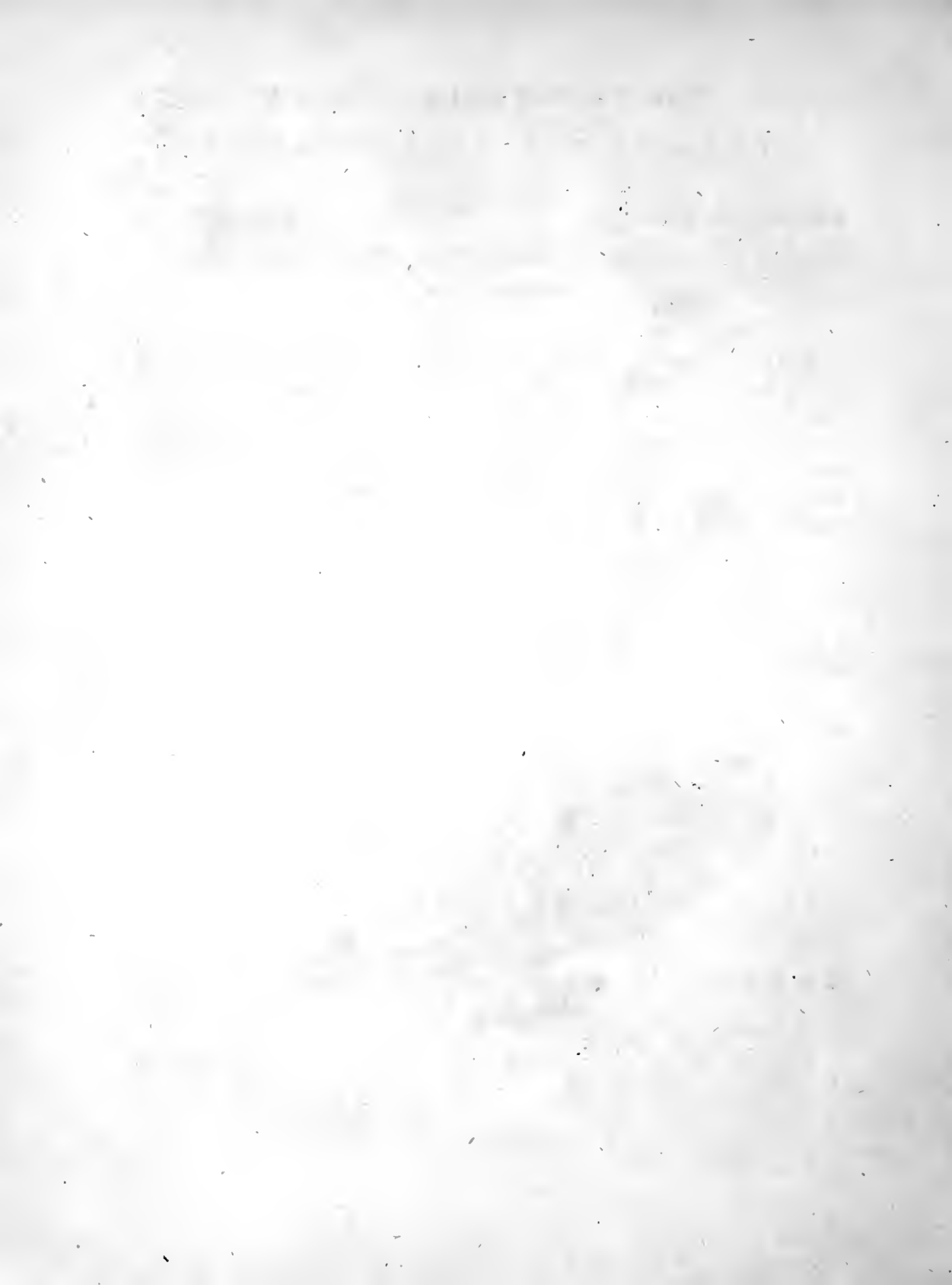
Generic Character.



Harpid Solstitial Thistle.



Clustery Solstitial Thistle.





## 2. CLUSTERY SOLSTITIAL THISTLE.

Plate 18. Fig. 2.

Character of the Species.

Centaurea Melitenfis.

The Leaves are lanced and waved, the Flowers stand in compact clusters.

Fig. 2. *a b.*

THIS is a native of the Greek Islands; an Annual of two Foot high, flowering in July. The Stalk is pale; the Leaves also are of a pale blueish green, and the Flowers are yellow.

AT certain Seasons, the Leaves and tops of the Stalks under the clusters of Flowers are covered with a viscous substance, which entangles Flies; but this is not constant: It is principally toward the time of flowering.

## F A M I L Y II.

With Original and haired Scales.

## O R D E R I.

With the Scales of the Cup simple, and only terminated by a single Hair.

## G E N U S I.

## S O F T T H I S T L E .

## C R O C C O D I L I U M .

Character of the Genus.

The Scales of the Cup are terminated by short and somewhat firm Hairs.

## 1. TWO-COLOURED SOFT THISTLE.

Plate 19. Fig. 1.

Character of the Species.

*Centaurea Muricata.*

The lower Leaves are doubly pinnatifid; the uppermost are simply waved. The Footstalks of the Flowers are long and naked.

Fig. 1. *ab.*

THIS is an Annual, native of Spain, a very beautiful and singular Plant, flowering in August. The Stalk is tender and whitish; the Leaves are of a very delicate whitish green: the Flowers are large, and have two colours, which is unusual in the Plants of this kind, the outer Florets being crimson, and the inner yellow, with a mixture of white.

## 2. GOLDEN SOFT THISTLE.

Plate 19. Fig. 2.

Character of the Species.

*Centaurea Peregrina.*

The Leaves are lanced and waved near the Base, and they have long naked Footstalks.

Fig. 2. *ab.*

THIS is a Biennial, native of Spain and Italy, a low Plant, but singular and beautiful, flowering in August. The Stalk is whitish, and scarce more than a Foot high: the Leaves are of a pale whitish green, soft and downy; the Flower is very noble in its size, and altogether yellow.

## 3. ROBUST SOFT THISTLE.

Plate 19. Fig. 3.

Character of the Species.

*Centaurea Crocodilium.*

The Leaves are long and pinnatifid, with a broad harpy end.

THIS is a Biennial, native of the East, a tall and firm Plant full of strong

SOFT THISTLE.

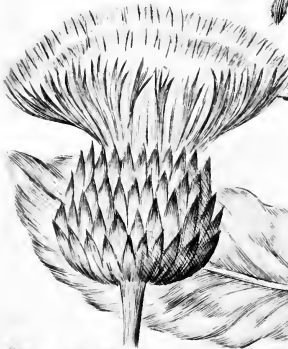
Pl. 10.



Generic  
Character.



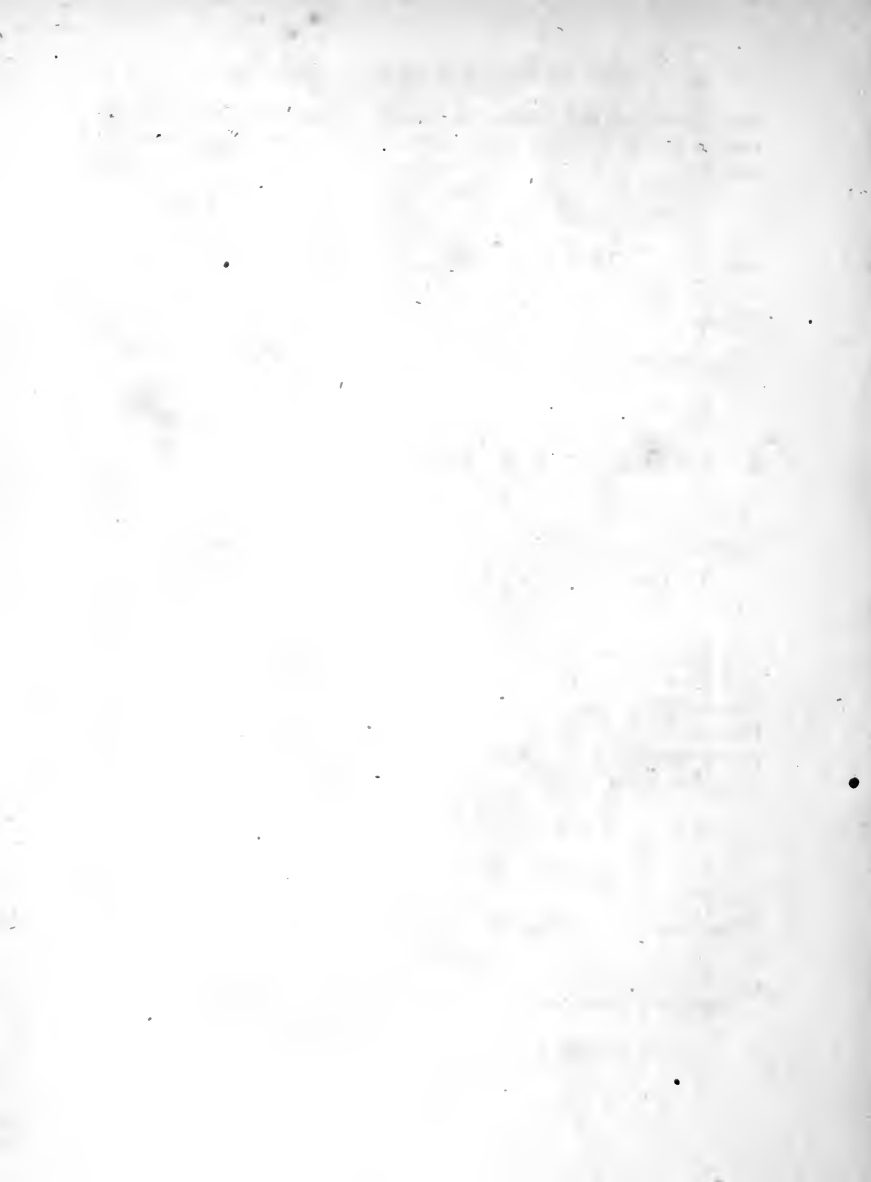
Two colour'd  
Soft Thistle?  
a



Golden Soft Thistle.



Robust Soft Thistle?



strong Branches, and flowers in August. The Stalk is brown; the Leaves are of a strong deep green, the Flowers are very large and crimson.

## G E N U S II.

## G E N T L E T H I S T L E .

## C I R S I U M .

Character of the Genus.

The Scales of the Cup end in long weak and strait Hairs.

Plate 19. *a a b.*

## 1. I N D E N T E D G E N T L E T H I S T L E .

Plate 20. Fig. 1.

Character of the Species.

GENTLE THISTLE.  
1 Cardus Diffectus.

The Leaves are indented, with weak thorny points.

Fig. 1. *a b.*

THIS is a Perennial, native of our clayey grounds, and flowers early in August. The Stalk rises to a yard in height. The Leaves are soft and pale. The Flowers are large and of a good crimson. The hairs of the Scales are also usually brown, and sometimes redish. It is not common with us: but at Buddon Wood in Leicestershire there is a great deal of it.

## 2. P I N N A T I F I D G E N T L E T H I S T L E .

Plate 20. Fig. 2.

Character of the Species.

Cardus Cyanoides.

The Leaves are pinnatifid, and their Segments simple and undivided.

Fig. 2. *a b.*

THIS is a Perennial, native of Siberia, and flowers in September.  
The

The Stalk is two Foot high. The Leaves are of a very dark green on the upper side, and white and downy underneath. The Flowers are of a strong crimson.

### 3. WAVY GENTLE THISTLE.

Plate 20. Fig. 3.

Character of the Species.

*Carduus Montspessulanus.*

The Leaves are lanced, and undivided, but waved and edged.

THIS is a native of France and Germany; a Perennial, flowering in July and August. The Leaves are of a deep but blueish green; the Stalk is two Foot high; the Flowers are of a deep crimson.

### 4. SUPERB GENTLE THISTLE.

Plate 21. Fig. 1.

Character of the Species.

*Carduus Altissimus.*

The Leaves are pinnatifid, and their Segments waved and indented.

Fig. 2. *a b.*

THIS is a Perennial, native of Carolina, and flowers late in Autumn. The Plant is twelve Foot high; the Stalk is robust, and branchy, and the Leaves of a pleasant but not strong green. The Flowers are large, and of a pale but beautiful crimson. The Cups are covered irregularly with a light cottony down.

### 5. ONE-FLOWERED GENTLE THISTLE.

Plate 21. Fig. 2.

Character of the Species.

*Carduus Virginianus.*

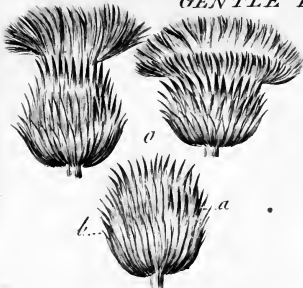
The Leaves are lanced and prickly, the Stalk supports only one Flower.

Fig. 2. *a b.*

THIS is a Perennial, native of Virginia, a low and weak Plant, flowering in September. The Leaves are of a strong green. The Stalk

GENTLE THISTLE.

Pl. 20.



Generic Character.



2 Pinnatifid Gentle Thistle.



1 Indented Gentle Thistle.



3 Wavy Gentle Thistle.







GENTLE THISTLE.  
2

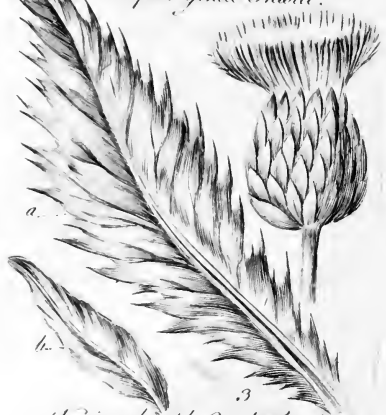
Pl. 21.



Superb Gentle Thistle. 1



One flower'd Gentle Thistle? 2



Various leav'd Gentle Thistle? 3

Stalk is a Foot and a half high and redish; the Flower is of a strong and elegant crimson.

## 6. VARIOUS LEAVED GENTLE THISTLE.

Plate 21. Fig. 3.

Character of the Species.

*Carduus Heterophyllus.*

The Leaves are lanced, and some are deeply cut, others undivided.

Fig. 3. *a b.*

THIS is a Perennial, native of France and Switzerland, a low Plant, flowering in August. The Leaves are of a pleasant green on the upper side, and downy underneath. The Stalk is pale; the Flowers are of a very bright and beautiful crimson. There are rarely more than two upon a Stalk, and often one of them imperfect.

## 7. AMPLEXICAUL GENTLE THISTLE.

Plate 22. Fig. 1.

Character of the Species.

*Carduus Helenoides.*

The Leaves are deeply dented and embrace the Stalk; the Scales of the Cup diverge.

Fig. 1. *a b.*

THIS is a native of Siberia, and many other of the northern parts of Europe, but I have not seen it in England. It is a Perennial, tall Plant, flowering in August. The Leaves are of a deep green on the upper side; and white and downy underneath. The Stalk is rib'd and green; the Flowers are of a strong crimson. There are but few on the Plant, usually only two on a Footstalk.

## 8. RED-STALKED GENTLE THISTLE.

Plate 22. Fig. 2.

Character of the Species.

*Carduus Serratuloides.*

The Leaves are lanced and hard at the edge; the Footstalk supports only one Flower; the Scales of the Cup stand close.

Fig. 2. *a b.*

THIS is a Perennial, native of Switzerland, and other of the northern parts of Europe; and flowers in August. It grows to two Foot and a half high. The Stalk is crimson; the Leaves are of a very fine bright green on the upper side, and whitish underneath: they grow to the Stalk by a broad base, but do not embrace it: the Flowers are very large and crimson, and only one crowns each Footstalk.

## 9. YELLOW GENTLE THISTLE.

Plate 22. Fig. 3.

Character of the Species.

*Carduus Flavescens.*

The Leaves are lanced and indented, the Flowers are numerous on each Footstalk.

Fig. 3. *a b.*

THIS is a very singular and elegant Plant, a Biennial, native of Spain, and flowers in August. The Stem is two Foot and half high: the Leaves are of a fine fresh green, and the Flowers are of a whitish yellow.

## 10. FEW-LEAVED GENTLE THISTLE.

Plate 23. Fig. 1.

Character of the Species.

*Centaurea Nudicaulis.*

The Stalk is almost naked, and supports only one Flower.

Fig. 1. *a b.*

THIS is a Biennial, native of Spain, and flowers in September; a low and little Plant. The radical Leaves are of a faint green, and un-

GENTLE THISTLE.

Pl. 22.

3



a.



*Amplexicaul  
Gentle Thistle.*



a.



*Yellow  
Gentle Thistle.*

3



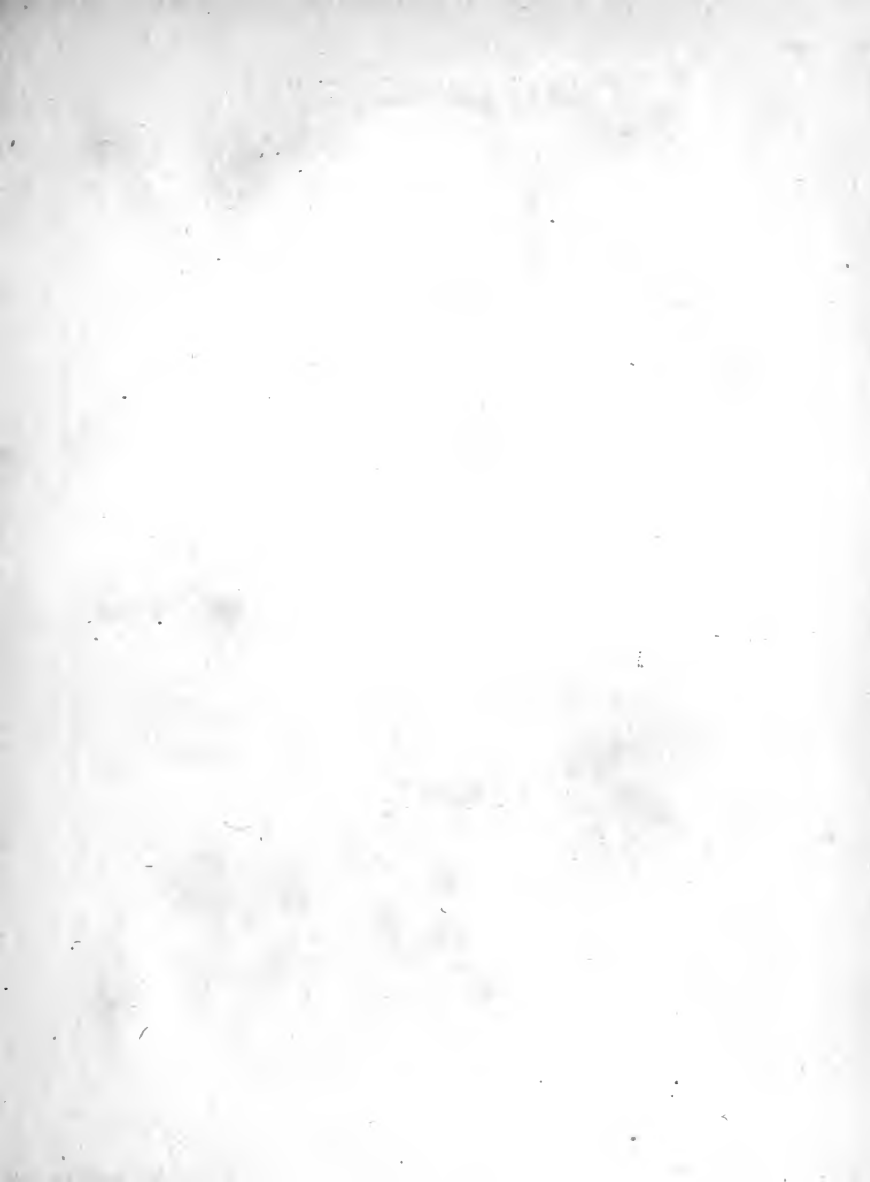
a.



*Red Stalk'd  
Gentle Thistle?*

2





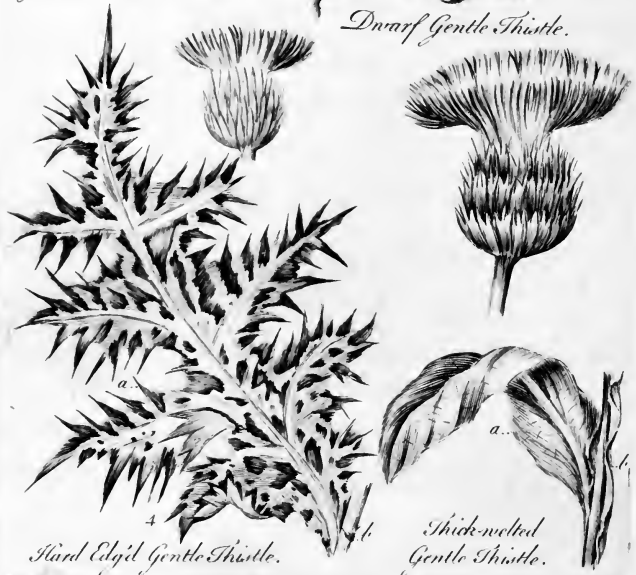
GENTLE THISTLE

4



*Fox-leav'd Gentle Thistle. 1*

*Dwarf Gentle Thistle. 2*



*Hard Edged Gentle Thistle. 3*

*Thick-mottled Gentle Thistle. 4*



undivided; the others very pale and waved or dented. The Stalk is also pale, and the Flower is of a bright crimson.

### 11. DWARF GENTLE THISTLE.

Plate 23. Fig. 2.

Character of the Species.

*Centaurea Pumilio.*

The Flower rests upon the ground, the Leaves are slightly pinnatifid.

Fig. 2. *a b.*

THIS is a Biennial, native of Savoy, and flowers in August and September. The Leaves are pale and downy; the Flower is of a strong crimson. It rests upon the ground almost without a Stalk.

### 12. THICK-WELTED GENTLE THISTLE.

Plate 23. Fig. 3.

Character of the Species.

*Centaurea Verutum.*

The Leaves are lanced, simple and undivided; the Stalk is beautifully welted with thick Films from their Base.

Fig. 3. *a b.*

THIS is a Biennial, native of Germany, and flowers in September. The Stalk is firm and brown; the Leaves are of a strong but not very pleafant green. The Flowers are crimson.

### 13. HARD-EDGED GENTLE THISTLE.

Plate 23. Fig. 4.

Character of the Species.

*Centaurea Galactites.*

The Leaves are waved and hard, and almost prickly at their edges; the Stalk is lightly welted.

Fig. 4. *a b.*

THIS is an Annual, native of Germany, and flowers in August. The Stalk is pale; the Leaves are of a fresh green, marbled with white, and the Flowers are crimson.

### 14. BRANCHY

## 14. BRANCHY GENTLE THISTLE.

Plate 24. Fig. 1.

Character of the Species.

*Centaurea Cichoracea.*

The Leaves are sawed, and the Points of their indentings very hard; the Stalk divides into many Branches.

Fig. 1. *a b.*

THIS is a Biennial, native of Spain, and flowers in July. The Stalk is firm, and tinged with brown; the Leaves are of a fine fresh green; the Flowers are of a strong crimson.

## 15. SMALL-SCALED GENTLE THISTLE.

Plate 24. Fig. 2.

Character of the Species.

*Centaurea Salamantica.*

The Scales of the Cup are minute and compact, and their Hairs bend back; the Leaves are pinnatifid and dented.

Fig. 2. *a b.*

THIS is a Biennial, native of Spain, Sicily, and the south of France, and flowers in August. The Leaves are downy, soft and whitish. The Stalk is rib'd, and two Foot high; the Flowers are of a delicate crimson; which has a beautiful effect with the whiteness of the Plant.

## 16. BROAD-CUT GENTLE THISTLE.

Plate 24. Fig. 3.

Character of the Species.

*Crifum Hallerianum.*

The radical Leaves are cut in the winged Manner, with a few broad Segments; the Scales of the Cup are long, and their Hairs curl back.

Fig. 3. *a b.*

THIS is a Biennial, native of Switzerland, a tall and stately Plant, flowering

GENTLE THISTLE.

5

24

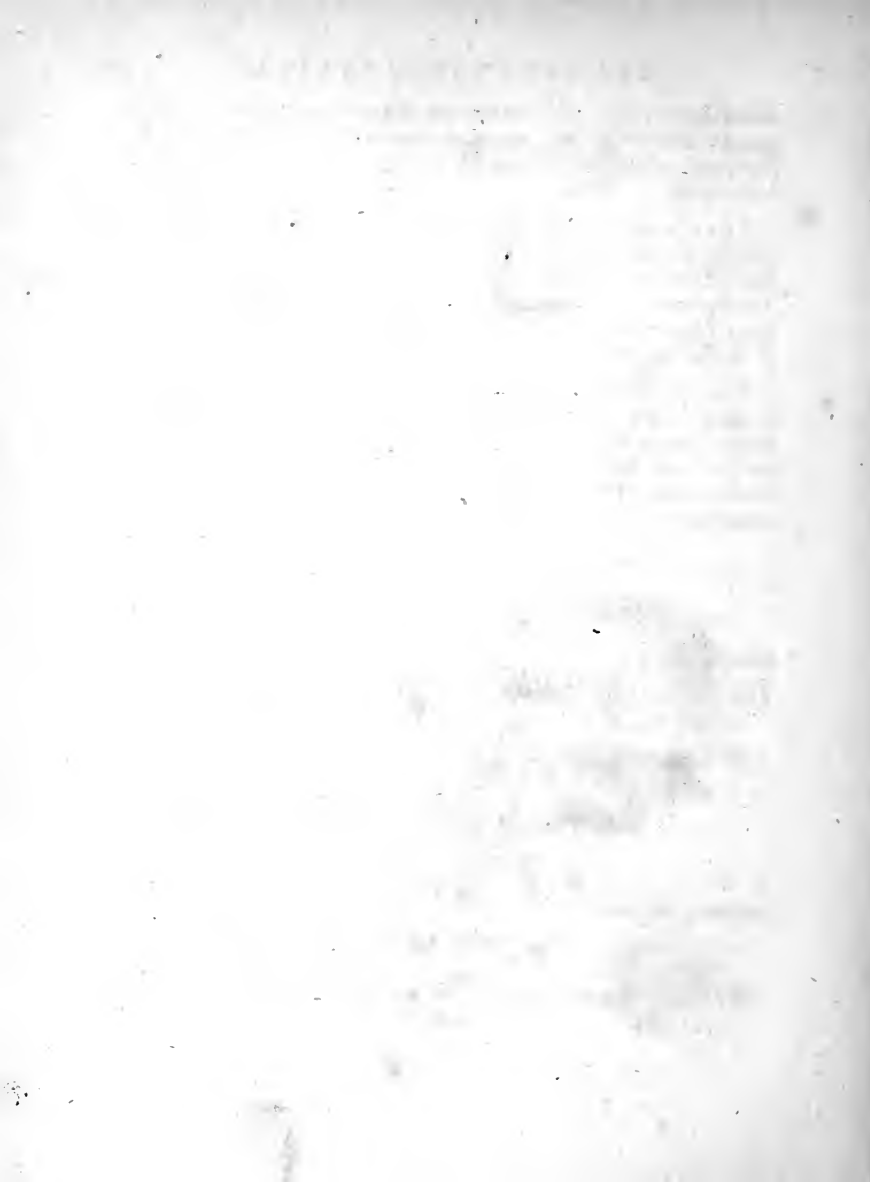


*Branchy Gentle Thistle.*



*Broad cut Gentle Thistle.*

*Small scal'd Gentle Thistle.*



flowering in July. The Leaves are of a very deep green on the upper side, and white and woolly underneath; the Stalk is seven Foot high, and redish; the Flowers are crimson: the Hairs of the Cup curl backwards.

THIS is the Frontier Plant between the present and succeeding Genus; partaking almost equally of the Characters of Gentle Thistle and of Burdock. Its general Form and Habit are truly of the Gentle Thistle kind; but its Cups approach so nearly to the Burdock, that if the Hairs where they curl were only bent firmly down, they would be Burdock Heads.

THE Gentle Thistle and Burdock are evidently distinct Genera in Nature; but this is an intermediate Plant, properly of neither Genus, but partaking of both; and in the Scale of Nature leading gently down from one to the other; filling the imagined Gap between them. The preceding Species begins, this compleats the gradation.

## G E N U S II.

BURDOCK.

BARDANA.

Character of the Genus.

The Scales of the Cup are terminated by firm Hairs, which bend back at their Points, and form a kind of Hooks.

Pl. 25. *a a b*.

## I. ROUND-HEADED BURDOCK.

Plate 25. Fig. 1.

COMMON BURDOCK.  
Lappa Vulgaris.

Character of the Species.

The Cups are round and even at the Base.

Fig. 1. *a b*.

THIS is a Biennial, native of our way-sides, and flowers in August.

VOL. III.

L

The

The Leaves are of a strong green ; the Stalk is two Foot high ; the Cups are round and green ; the Flowers are of a bright crimson.

## 2. OVAL-HEADED BURDOCK.

Plate 25. Fig. 2.

Character of the Species.

WOOLLY-HEADED BURDOCK.  
Lappa Arctium.

The Cups are oval, and dented in at the Base.

Fig. 2. a b.

THIS is a Biennial, common by our way-sides, and flowers in August. The Leaves are vast, and of a strong green ; the Stalk is tinged with red, and the Flowers are crimson. The Cups are red, but covered with a white downy matter : The Plant is a Yard high, and vastly branched.

## 3. OBLONG-HEADED BURDOCK.

Plate 25. Fig. 3.

Character of the Species.

Lappa Minor.

The Heads are oblong, and smallest at the Ends.

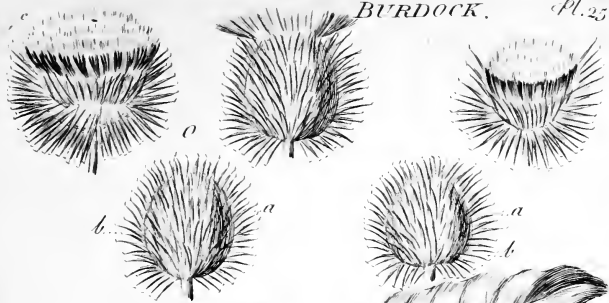
Fig. 3. a-

THIS is a Biennial, native of our dry waste grounds, and flowers in August. The Leaves are of a dark green ; the Stalks are red, and the Flowers are small and of a pale crimson.

LINNÆUS makes these three only varieties of one Species, and he adds the preceding Gentle Thistle to the same Genus ; but Nature contradicts this decision. These are distinct ; and that is not of the Genus ; but the connecting Plant.

THE second Species is the Bardana, eminent against the Gout and Rheumatism. The inner Bark of the Root contains its principal Virtue.

ORDER



Generic Character.



Round headed Burdock.



Oval headed Burdock.



Oblong headed Burdock.







BLUE BOTTLE.

Pl. 26.



Generic Character.



White Blue Bottle.



Hairy Blue Bottle.



Grofy Blue Bottle. 3

## O R D E R II.

With the Scales of the Cup eye-lashed, or edged all round with Hairs.

## G E N U S I.

## B L U E - B O T T L E .

## C Y A N U S .

Character of the Genus.

The Scales of the Cup are egg-shaped, and edged with short firm Hairs.

Plate 26. *o a b.*

## 1. W E L T E D B L U E - B O T T L E .

Plate 26. Fig. 1.

GREAT BLUE-BOTTLE.  
Centaurea Montana.

Character of the Species.

The Leaves are lanced and smooth, and they run down the Stalk.

Fig. 1. *a.*

THIS is a Perennial, native of Switzerland, and of the mountainous parts of many other kingdoms; it grows to a Foot and a half high, and flowers in August. The Leaves are of a strong shining green; the Stalk also is green; the Hairs of the Cup are perfectly black; and the Flowers are of a very beautiful blue.

## [2. H O A R Y B L U E - B O T T L E .

Plate 26. Fig. 2.

Character of the Species.

Centaurea Montana.

The Leaves are oval and hoary, and run a little down the Stalk.

Fig. 2. *a b.*

THIS is a Perennial, native of the Pyrenees, and flowers in August.  
The

The Plant grows to two Foot high ; the Leaves are covered with a downy matter ; the Flowers are of a very delicate blue.

### 3. GRASSY BLUE - BOTTLE.

Plate 26. Fig. 3.

Character of the Species.

CORN BLUE-BOTTLE.  
Centaurea Cyanus.

The Leaves are grassy, and have high Ribs.

Fig. 3. a.

THIS is an Annual, native of our Corn-fields, and flowers in August. The Stalk is tough, rib'd, and two Foot and a half high ; the Leaves are of a dead faint green : The Flowers are blue. In the South of France the Flowers are larger than in our fields ; and have usually the outer range of Florets of a different colour from those within : In our Gardens, it grows to the same state and with great variety.

THERE is scarce any vegetable substance in which the Colour is so fixed and permanent as in our Corn Blue-Bottle. It may probably afford a good dye.

## G E N U S II.

### S C U R F - W O R T.

#### P S O R A.

Character of the Genus.

The Scales of the Cup grow membranaceous at the top, and their Hairs are considerably long and hard.

Plate 27. o a b.

### 1. BRANCHY SCURF-WORT.

Plate 27. Fig. 1.

Character of the Species.

Centaurea Orientalis.

The Leaves are doubly pinnatifid.

Fig. 1. a.

THIS is a Perennial, native of the Greek Islands, and found also in

SCURF - WORT



Generic Character.

1 Brandy Scurfwort?



2 Simple Scurfwort?



3 Humble Scurfwort?



in Siberia. It flowers in July and August. The Leaves are of a strong dark-green: the Stalk rises to two Foot and a half high, and is very branchy. The Flowers are of a pale yellow.

I imagine this Plant to be the Pſora of Aetius; hé might naturally enough be acquainted with it; and I have tried its virtues against cutaneous eruptions this year, not without some succés.

## 2. SIMPLE SCURF - WORT.

Plate 27. Fig. 2.

Character of the Species.

Centaurea Stœbe.

The Leaves are linear, and simply pinnatifid.

Fig. 2. *a b.*

THIS is a Biennial, native of Germany, and flowers in August; an upright but very inconsiderable Plant. The Leaves are of a somewhat blueish green. The Flowers are crimſon.

## 3. HUMBLE SCURF - WORT.

Plate 27. Fig. 3.

Character of the Species.

Centaurea Acaulis.

The Leaves are harped, and the Flower reſts almoſt upon the ground.

Fig. 3. *a b.*

THIS is a Biennial, native of Arabia, and flowers in June. The Leaves are ragged and of a blueish green. The Stalk is ſcarce an Inch high, ſo that the Flower ſeems to reſt upon the ground without any. It is large, and of a delicate yellow.

## G E N U S III.

## C R E S T - W O R T.

## C O L Y M B A D A.

Character of the Genus.

The Hairs of the Scales ſtand diſtant, are ſharp, and riſe  
VOL. III. M upon

upon them in manner of the bristly crest of the ancient helmets.

Plate 28. *o a b.*

### 1. VARIOUS LEAVED CREST-WORT.

Plate 28. Fig. 1.

Character of the Species.

*Centaurea Centauroides.*

The bottom Leaves are lanced, the upper ones are pinnatifid with a broad end.

Fig. 1. *a b.*

THIS is an Annual, native of Spain and Italy, a troublesome Plant among corn and in the vineyards; flowering in July. It grows to two Foot high. The Leaves are of a strong but not pleasant green; the Flowers are of a perfect gold-yellow; and the hard Hairs which form the Crest upon the Scales of the Cup have something of that colour.

### 2. HARP-LEAVED CREST-WORT.

Plate 28. Fig. 2.

Character of the Species.

*Centaurea Sicula.*

The Leaves are harped, and have only a few large Segments.

Fig. 2. *a.*

THIS is a Perennial, native of Sicily, and flowers in June. The Leaves are of a whitish green and soft to the touch. The Stalk grows to near a Yard in height; the Flowers are beautifully yellow, and the Hairs which crest the Scales of the Cup are so hard, they prick the hands.

### 3. PINNATIFID CREST-WORT.

Plate 28. Fig. 3.

Character of the Species.

*Centaurea Collina.*

The Leaves are pinnatifid, and the Segments are cut in again.

Fig. 3. *a b.*

THIS is a Biennial, native of Spain and Italy, a tall and upright Plant, flowering



CRESTWORT.

Pl. 28.



Generic Character.



Various leaved  
Crestwort?



Sharp-leaved  
Crestwort?



Pinnatifid Crestwort.





KNAP WEED.

Pl. 29.



Lance'd Knap-weed.

Generic Character.



Leafy-headed Knap-weed.



Serrated-leaf'd Knap-weed.

flowering in September. The Leaves are of a dusky green; the Stalk is two Foot and a half high, and has scarce any Branches. The Flowers are of a dull yellow.

## G E N U S IV.

## K N A P W E E D.

## J A C E A.

Character of the Genus.

The Scales of the Cup are oblong, and have long weak Hairs towards their top.

Plate 29. *a a b*.

## 1. LANCED KNAPWEED.

Plate 29. Fig. 1.

COMMON KNAPWEED.  
Centaurea Nigra.

Character of the Species.

The Leaves are sessile, lanced, and irregularly dented.

Fig. 1. *a b*.

THIS is a Perennial, common in our dry pastures, and flowers in July. The Leaves are of a strong green; they are very uncertainly divided at the edge, some deeply and some not at all on the same Plant. The Stalk is two Foot and a half high, of a dusky colour and firm substance. The Flowers are crimson, and the tips of the Scales of their Cups are of a deep dusky purple.

## 2. LEAFY-HEADED KNAPWEED.

Plate 29. Fig. 2.

Character of the Species.

Centaurea Pullata.

The Cup is surrounded with a leafy Cirlet at its Base.

Fig. 2. *a*.—

THIS is an Annual, native of Spain and of the South of France, a very diminutive Plant, flowering in August. The Leaves are of a dusky and unpleasant green. The Stalk seldom rises to more than two

or

or three Inches high ; the Flower is white ; the Hairs of the Cup are black.

### 3. SERRATED LEAVED KNAPWEED.

Plate 29. Fig. 3.

Character of the Species.

*Centaurea Scffiliflora.*

The Leaves are lanced and sharply ferrated, and they have Footstalks.

Fig. 3. *a b.*

THIS is a Biennial, native of France, and also of Sicily, and flowers in August. The Leaves are of a very strong green ; the Stalk is purplish. The Flowers are crimson, and the Tops and Hairs of the Cups are of the same colour, but duller.

## O R D E R III.

With the Scales of the Cup ferrated, and haired at the point and sides.

### G E N U S I.

#### W H I T E H E A D.

#### S T Æ B E.

Character of the Genus.

The Cups are oval, and the Hairs upon the Scales are soft.

Plate 30. *a a b.*

### 1. PINNATIFID WHITEHEAD.

Plate 30. Fig. 1.

Character of the Species.

*Centaurea Paniculata.*

The Leaves are pinnatifid with a few plain lanced Segments.

Fig. 1. *a b.*

THIS is an Annual, native of France and Germany, and common to many other parts of the world ; a Plant of two Foot and a half high ;

WHITEHEAD.

Pl. 30.



Generic Character.



1 Pinnatifid Whitehead.



2 Ragged Whitehead.



3 Smooth Whitehead?







high, flowering in August. The Leaves are of a pale but delicate green: the Flowers are of a very fine crimfon; the Cups are whitish, but not glossy.

## 2. RAGGED WHITEHEAD.

Plate 30. Fig. 2.

Character of the Species.

*Centaurea Diffusa.*

The Leaves are broad, lanced, and cut so deeply and irregularly, that they look ragged at the edge.

Fig. 2. *a b.*

THIS is a Biennial, native of Germany, and flowers in July. The Leaves are of a perfectly fine and bright green; the Stalk is firm and tinged with brown; the Cups are of a whitish green, and the Flowers of a very strong crimfon.

## 3. THORNY WHITEHEAD.

Plate 30. Fig. 3.

Character of the Species.

*Centaurea Spinosa.*

The Leaves are harped; the Branches terminate in hard Thorns.

THIS is a Biennial, native of Crete, and flowers in June. It is a low but very singular Plant. The Leaves are of a pale green; the Stalks are whitish, and the Thorns in which they terminate are brown or redish. The Cups are white, and the Flowers of a pale but very delicate crimfon.

## 4. WOOLLY WHITEHEAD.

Plate 31. Fig. 1.

Character of the Species.

*Centaurea Ragulina.*

The Leaves are pinnatifid, and their Lobes are rounded at the end.

Fig 1. a b.

THIS is a Perennial, native of Crete, and other parts of the East, a very elegant and singular Plant; the whole of it being as white as wool, only the Flower gold-yellow. It is a tall and bushy Plant; the Stalks are hard, but downy on the surface; and the Leaves are soft and velvety to the touch. It flowers in August.

## 5. ELEGANT WHITEHEAD.

Plate 31. Fig. 2.

Character of the Species.

*Centaurea Cineraria.*

The Leaves are doubly pinnatifid, and their Segments sharp-pointed.

Fig. 2. a b.

THIS is a Perennial, native of Italy, and flowers in July; a very elegant and beautiful Plant. The Stem is two Foot and a half high, whitish, thick and branchy. The Leaves are of a dusky or greyish white. The Flowers are of a beautiful crimfon.

## 6. WEDGE-LEAVED WHITEHEAD,

Plate 31. Fig. 3.

Character of the Species.

*Centaurea Argentea.*

The Leaves are wedge-shaped; and indented along the sides, and at the end.

THIS is a Perennial, native of Crete, and flowers in July and August. The Leaves are singular, not only in their form but colour; they are soft to the touch, and play about with great elegance and ease, and their colour is a pure cottony white. The little clumps of them scattered among the sands before the Stalk rises, give a very singular appearance to many barren spots of that dry country. The Stalk is two Foot or more in height; the Flowers are small and yellow. Their Cups in this as in the two preceding Species, are of a pure and perfect white.

GENUS

WHITEHEAD.

2



*Woolly Whitehead.*



*Elegant Whitehead.*



*Wedge leaf'd Whitehead.*





HARSH-WEED.

Pl. 32.



Various leav'd  
Harsh-weed!



Generic  
Character.



a...



Leav'd  
Harsh-weed.



Doubly Pinnatifid Harsh-weed.

G E N U S II.  
H A R S H - W E E D .  
S A G M E N .

Character of the Genus.

The Scales of the Cup have their points, and the tops of all the indentings crowned with long stiff and almost prickly Hairs.

Plate 32. *o a b*.

I. V A R I O U S L E A V E D H A R S H - W E E D .

Plate 32. Fig. 1.

Character of the Species.

Centaurea Sibirica.

The radical Leaves are some of them lanced and simple, and others pinnatifid; those on the Stalk are all simple and lanced.

Fig. 1. *a b*.

THIS is a Perennial, native of Siberia, a weak and low Plant, flowering last in August; but very conspicuous for its large and glowing Flower, which has more the aspect of one raised by garden culture, than a native of the bleak mountains of Siberia. The Leaves are of a whitish green and woolly; the Stalk is a Foot high, but weak; the Flower is of a glowing crimson.

2. L A N C E D H A R S H - W E E D .

Plate 32. Fig. 2.

Character of the Species.

Centaurea Sempervirens.

The Leaves are lanced and waved, and dented at the edges.

Fig. 2. *a b*.

THIS is a Perennial, native of Italy, Spain, and Portugal, and flowers in July. The Leaves are of a very strong and deep green, and of a firm substance; the Stalk is two Foot and a half high, full of Leaves, and very much branched: the Flowers are numerous, and  
of

of a bright and fine crimson. This appears to have been an herb of sacred estimation among the old Romans, and to have made a very material part of the furniture and ornament of their altars.

#### 4. DOUBLY PINNATIFID HARSH-WEED.

Plate 32. Fig. 3.

Character of the Species.

GREAT KNAPWEED.  
Centaurea Scabiosa.

The Leaves are doubly pinnatifid, and their Segments sharp-pointed.

Fig. 3. *a b.*

THIS is a Biennial, native of our dry pastures, a very handsome Plant, flowering in July. The Leaves are of a strong green; the Stalk is two Foot high, and very much branched. The Flowers are crimson.

### O R D E R IV.

With the Scales of the Cup pinnatifid, or cut deep in the manner of a pinnatifid Leaf, with Hairs at the points.

### G E N U S I.

W I R E - W E E D.

C I S T R U M.

Character of the Genus.

The Hairs of the Cup are slender, and tough like Wires.

Plate 33. *a a b.*

#### I. W A V Y W I R E - W E E D.

Plate 33. Fig. 1.

Character of the Species.

Centaurea Inwardi.

The Leaves are deeply waved, and have a broad indented end.

THIS



WIRE WEED.

Pl. 33



Generic Character.



Hairy Wire Weed



Matted Wire-weed.



Hard Wire-weed.



Fig. 1. *a b*.

THIS is a Perennial, native of Spain and Portugal, and flowers in July. The Leaves are of a dusky green; the Stalk is two Foot high, but weak and hairy; the Flowers are of a delicate crimson, and the Hairs of the Cup, which are very conspicuous, are of a yellowish brown.

## 2. WELTED WIRE - WEED.

Plate 33. Fig. 2.

Character of the Species.

*Centaurea Napifolia.*

The Leaves are harped and decurrent, so that the Stalk is welted.

Fig. 2. *a b*.

THIS is a Biennial, native of Crete, and flowers in June; a singular but unhandfome Plant, remarkable for a stiff and aukward disposition of its Branches. The Leaves are of a fresh and fine green. The Stalk divides into many branches, and the Flowers are of a high and fine crimson.

## 3. HARSH WIRE - WEED.

Plate 33. Fig. 3.

Character of the Species.

*Centaurea Aspera.*

The Leaves are simple, lanced, and deeply dented.

Fig. 3. *a b*.

THIS is a Biennial, native of Italy and the South of France, and flowers early in Autumn. The Leaves are of a deep unpleasent green, covered with harsh brown hairs. The Stalk is a Foot and a half high, weak and branchy; and the Flowers are crimson.

## O R D E R V.

With the Scales of the Cup feathery; or divided into a number of plumose hairy Parts.

## G E N U S I.

## P L U M E W O R T.

## H E R A C L E A.

Character of the Genus.

The Scales of the Cup are elliptic, and convex on the Surface.

Plate 34. *o a b.*

## 1. RED STALKED PLUMEWORT.

Plate 34. Fig. 1.

Character of the Species.

*Centaurea Phrygia.*

The Leaves are lanced, indented and sessile.

Fig. 1. *o a b.*

THIS is a Perennial, native of Italy, Germany, and Switzerland, a Plant of two Foot and a half high, crowned with Flowers in August. The Leaves are of a whitish green, soft to the touch, and downy; the Stalk is woody, rib'd and red. It is very troublesome to the Reapers among their corn, and has been a hated Plant for that cause from very early time. The Flowers are large, and of a good crimson. Their Cups, from the quantity of feathery Hairs, make a very singular appearance.

## 2. JAGGED PLUMEWORT.

Plate 34. Fig. 2.

Character of the Species.

*Centaurea Capillata.*

The Leaves are irregularly cut into many obtuse segments.

Fig. 2. *a b.*

THIS is a Biennial, native of Siberia, and flowers in July. The Plant is two Foot high, and very erect and firm. The Leaves are of a faint green; the Stalk is coarse, tough, and rib'd. The Flowers are crimson; and the Hairs of their Cups are black.

ORDER



Generic Character.

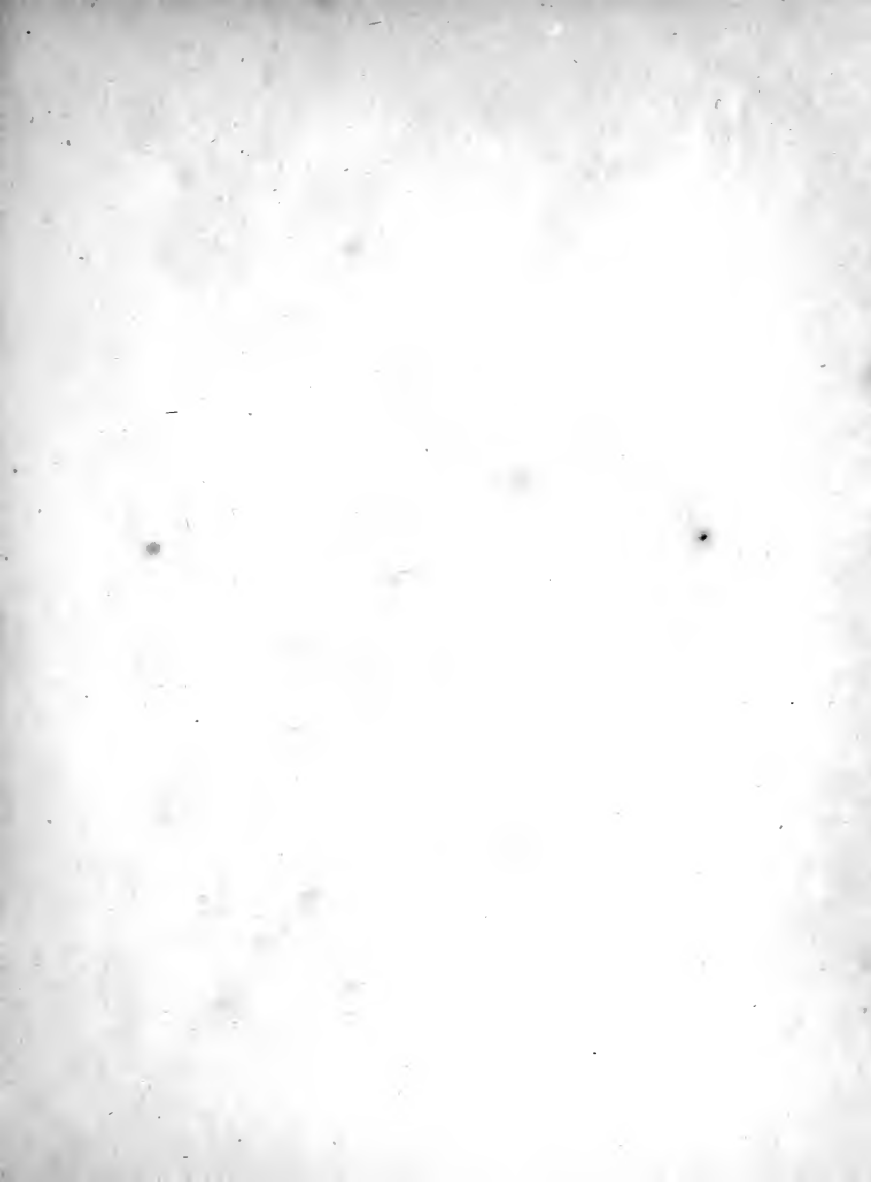


Red Stalk'd Plumewort?



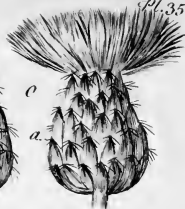
Yuccifl Plumewort?





PALM-WEED.

Pl. 35



Generic  
Character.



*Sauc'd Palm-weed?*



*Sharp'd  
Palm-weed!*



*Pinnatifid Palm-weed.*



## O R D E R VI.

With the Scales of the Cup terminated by palmated or fingered Hairs.

## G E N U S I.

## P A L M - W E E D .

## P Y C N O C O M U S .

The Scales of the Cup are egg-shaped, and their fingered Hairs rise only from the point.

Plate 35. *a a b.*

## 1. L A N C E D P A L M - W E E D .

Plate 35. Fig. 1.

Character of the Species.

*Centaurea Sanchifolia.*

The Leaves are lanced; and cut deeply but simply at the edge.

Fig. 1. *a b.*

THIS is an Annual, native of the Levant Islands, and of Sicily, a tall and not unhandſome Plant, flowering in Auguſt. The Stalk is erect but tender, welted and green. The Leaves are of a very bright green. The Flowers of a deep crimſon.

## 2. H A R P E D P A L M - W E E D .

Plate 35. Fig. 2.

Character of the Species.

*Centaurea Seridis.*

The Leaves are harped with a few ſegments, and there is a circlet under the Flower.

Fig. 2. *a b.*

THIS is a Biennial, native of Spain, a very beautiful Plant, flowering in Auguſt and September. The Leaves are of a pale green, and rough. The Stalk is weak, rediſh, and about a Foot high. The Flowers

Flowers are of a pale crimson, and their Cups are very beautiful, having a ruddy glow, and the Hairs erect.

### 3. PINNATIFID PALM-WEED.

Plate 35. Fig. 3.

Character of the Species.

*Centaurea Romana.*

The Leaves are pinnatifid, with large indented segments.

Fig. 3. *a b.*

THIS is an Annual, native of Italy, a large Plant a Yard in height, with many branches, flowering in July. The Leaves are of a somewhat blueish green; the Flowers are crimson. Their Cups are of the same green with the Leaves, but the Hairs of them are redish.

## F A M I L Y III.

With original and naked Scales.

## O R D E R I.

With the Scales of the Cups simple, or naked and undivided.

## G E N U S I.

### A R T I C H O K E.

### C Y N A R A.

Character of the Genus.

The Scales of the Cup are oval; and have a thick fleshy Base.

Plate 36. *a a b.*

### I. PRICKLY ARTICHOKE.

Plate 36. Fig. 1.

Character of the Species.

THE ARTICHOKE THISTLE.

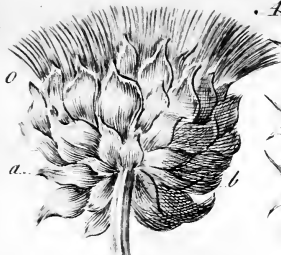
*Cynara Humilis.*

The tops of the Leaves and points of the Scales in the Cup are hard and thorny.

THIS

ARTICHOKE.

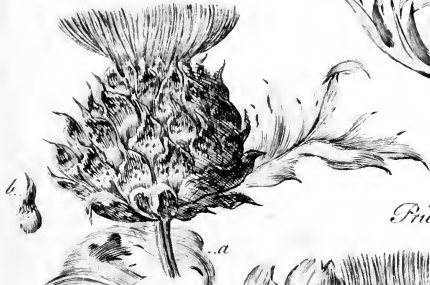
Pl. 36.



Generic Character.



Prickly Artichoke.



2  
Wither'd  
Artichoke?



3  
Fleshy Artichoke?

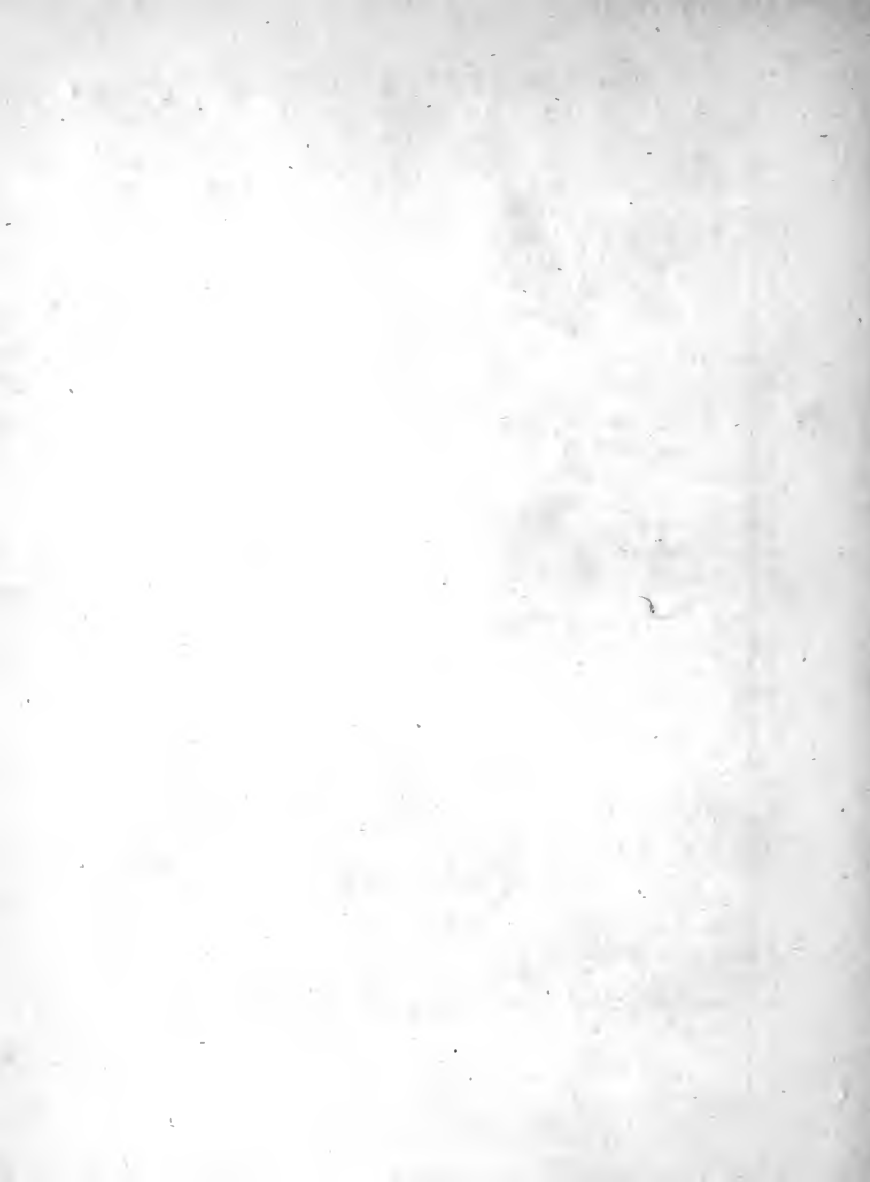


Fig. 1. *a b.*

THIS is a Perennial, native of the coasts of Spain and Africa, a low but very conspicuous Plant, flowering in June. The Stalk is half a Yard high, of a whitish green, rib'd, and somewhat downy. The Leaves are of a pale green on the upperfide, and downy underneath. The Cup is pale green, and the Flower is blue.

## 2. WITHERED ARTICHOKE.

Plate 36. Fig. 2.

Character of the Species.

THE CHARDOON.  
*Cynara Cardunculus.*

The tops of the Leaves and points of the Scales of the Cup are dry, withered, and membranaceous.

Fig. 2. *a b.*

THIS is a Perennial, native of the coast of Africa and of Crete, and other of the Greek islands, a Plant of high stature, flowering in August. The Leaves are vast and of a greyish green; the Stalk is eight Foot high. The Flowers are blue: The Cup is bigger than a goose-egg, and its Scales are spotted with red.

'Tis to be doubted, whether this has not risen first from the seeds of the former, and the succeeding from the seeds of this. Here the stature is increased, and the thorns fade; this may arise from a rich soil wild; for we know how easily it results from culture.

## 3. FLESHY ARTICHOKE.

Plate 36. Fig. 3.

Character of the Species.

COMMON ARTICHOKE.  
*Cynara Scolymus.*

The tops of the Leaves are naked, and the Points of the Scales of the Cup are split.

Fig. 3. *a b.*

THIS is our Garden Artichoke, but it is a wild Plant in less perfection in the fields of Sicily. It is a Perennial, a Yard in height, and flowers in August. The Leaves are of a whitish green: the Stalk is rib'd and strong; the Head is vast and fleshy, and the Flowers are blue.

## G E N U S II.

## S A W - W O R T .

## S E R R A T U L A .

Character of the Genus.

The Scales are oval, thin, and membranaceous throughout.

## 1. VARIOUS LEAVED SAW - W O R T .

Plate 37. Fig. 1.

Character of the Species.

COMMON SAW-WORT.  
*Serratula Tinctoria.*

The Leaves are some simple, others harped with a vast end, but all delicately ferrated on the edge.

Fig. 1. *a b.*

THIS is a Perennial, native of our thickets and waste grounds, and flowers in June; a very elegant Plant. The Stalk is slender, upright, firm, and near a Yard high. The Leaves are of a very fine green; the Flowers are crimfon: the Cups also have a tincture of the same colour.

## 2. LINEAR - LEAVED SAW - W O R T .

Plate 37. Fig. 2.

Character of the Species.

*Serratula Spicata*

The Leaves are linear, and the Flowers are placed in a long simple spike.

Fig. 2. *a b.*

THIS is a Perennial, native of North America, and flowers in July; a tall, stately, and very singular Plant. The Leaves are of a dull green; the Stalk is red, thick, and a Yard or more in height. The Flowers are crimfon.

## 3. GRASSY

*Saw-wort.*



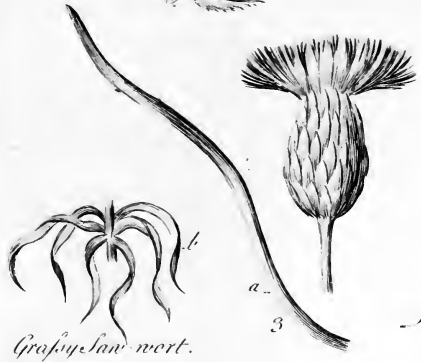
*Various  
leaves  
Saw-wort.*



*Generic Character.*



*Simar  
Saw wort.*



*Grofy Saw wort.*





## 3. GRASSY SAW-WORT.

Plate 37. Fig. 3.

Character of the Species.

Serratula Chamapeuce.

The Leaves are grassy and stand clustered, and bend down.

THIS is a Biennial, native of Crete, a very singular Plant, full of Leaves, and flowering in August. The Stalk is pale and woody; the Leaves are of a somewhat blueish green: the Flowers are crimson.

Fig. 3. a b.

## G E N U S III.

B E N.

B E H E N.

Character of the Genus.

The Scales of the Cup are thin, dry, chaffy, and obtuse.

Plate 38. o a b.

## 1. H A R P - L E A V E D B E N.

Plate 38. Fig. 1.

Character of the Species.

Centaurea Behen.

The lower Leaves are harped, the upper ones embrace the Stalk.

Fig. 1. a b.

THIS is a Perennial, native of Mount Libanus, and other parts of Asia Minor, and flowers in June. The Leaves are of a strong brownish green. The Stalk is usually also brown, it grows to two Foot high, and is firm and high rib'd. The Flowers are yellow, and their Cups having something of the brownness of the Stalk, serve as a happy foil to them.

## 2. L A N C E D B E N.

Plate 38. Fig. 2.

Character of the Species.

Centaurea Jacea.

The Leaves are lanced; the lower ones are deeply indented, the others plain.

THIS

THIS is a Perennial, native of Germany, and most of the northern parts of Europe; a Plant of two Foot or more in height, flowering in August. The Leaves are of a strong and dark green; the Stalks are tough and of a redish brown; the Flowers are crimson.

Fig. 2. a b.

## 3. PINNATIFID BEN.

Plate 38. Fig. 3.

Character of the Species.

Centaurea Alba.

The Leaves are linear, and dented so deep as to appear pinnatifid.

THIS is a Biennial, native of Spain, and flowers in July. The Stalk is redish, tough, brachy, and near a Yard high. The Leaves are of a pale whitish green. The Flowers are white, and the heads also are white and glossy.

Fig. 3. a b.

## 4. WOODY BEN.

Plate 38. Fig. 4.

Character of the Species.

Centaurea Fruticosa.

The Stem is woody; the Leaves are lanced and obtuse.

THIS is a Perennial, native of Spain, and flowers in July. The Stem is brown, but the young Branches are pale: The Leaves are of a light glossy green. The Flowers are pale crimson.

Fig. 4. a b.

## 5. SUBLINEAR BEN.

Plate 39. Fig. 1.

Character of the Species.

Serratula Salicifolia.

The Leaves are sessile, long, and narrow, but they swell a little in the middle.

THIS is a Biennial, native of Siberia, a handsome Plant, flowering in July and August. The Stalk is two Foot high and pale: The Leaves are of a bright green on the upper side, but white and downy underneath. The Flowers are of a pale, but not unelegant crimson.

Fig. 1. a b.

6. CLUS-



BEN.

Pl. 38.



Generic Character:



Sharp-leaved Ben.



Lance'd Ben.



Pinnatifid Ben.



Woody Ben.







*Sublinear Ben.*

*Clustery Ben.*

*Wilted Ben.*

*Drooping leaved Ben.*

## 6. CLUSTERY BEN.

Plate 39. Fig. 2.

Character of the Species.

*Serratula Multiflora.*

The Flowers stand in thick Clusters, and the Leaves are lanced.

Fig. 2. *ab.*

THIS is a Perennial, native of Siberia, and flowers in July. The Stalk is redish, and near a Yard high: The Leaves are of a strong green on the upper side, and white underneath. The Flowers are small and crimson.

## 7. DROOPING-LEAVED BEN.

Plate 39. Fig. 3.

Character of the Species.

*Serratula Noveboracensis.*

The Leaves are lanced, serrated, and hang drooping.

Fig. 3. *al.*

THIS is a Perennial, native of North America, and flowers in September. The Stalk is green, rib'd, and six Foot high. The Leaves are soft to the touch, and of a pale but pleasant green. The Flowers are crimson.

## 8. WELTED BEN.

Plate 39. Fig. 4.

Character of the Species.

*Serratula Babylonica.*

The lower Leaves are harped, the upper ones are indented and decurrent.

Fig. 4. *ab.*

THIS is a Perennial, native of the East, and flowers in June. The Stalk is pale; the Leaves are downy, and of a whitish green. The Flowers are crimson.

## 9. TOWERING BEN.

Plate 40. Fig. 1.

Character of the Species.

*Serratula Præalta.*

The Leaves are lanced and long, deeply cut like a Saw at the edges, and downy underneath; they stand horizontally.

Fig. 1. *a b c.*

THIS is a Perennial, native of North America, a Plant of five Foot high or more, flowering late in September. The Stalk is red; the Leaves are of a fresh and fine green, but white on the underside: The Flowers are red.

## 10. BLUE-GREEN BEN.

Plate 40. Fig. 2.

Character of the Species.

*Serratula Glauca.*

The Leaves are oval, and the Flowers stand in Clusters.

Fig. 2. *a b.*

THIS is a Perennial, native of Virginia and Carolina, a low Plant, flowering in August. The Stalk is tender and two Foot high: The Leaves are of a sea-green colour, and edged with Hairs: The Flowers are crimson.

## 11. RAGGED BEN.

Plate 40. Fig. 3.

Character of the Species.

*Serratula Centauroides.*

The Leaves are ragged, pinnatifid with sharp Segments, and smooth.

Fig. 3. *a b.*

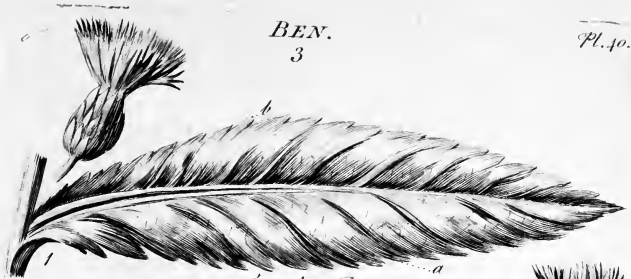
THIS is a Perennial, native of Siberia, and flowers in July. The Stalk seldom rises to more than a Foot in height, and has several branches. The Leaves are of a coarse green: The Flowers are purple.

## 12. ROUGH-



BEN.  
3

Pl. 40.



*Flowering Ben.*

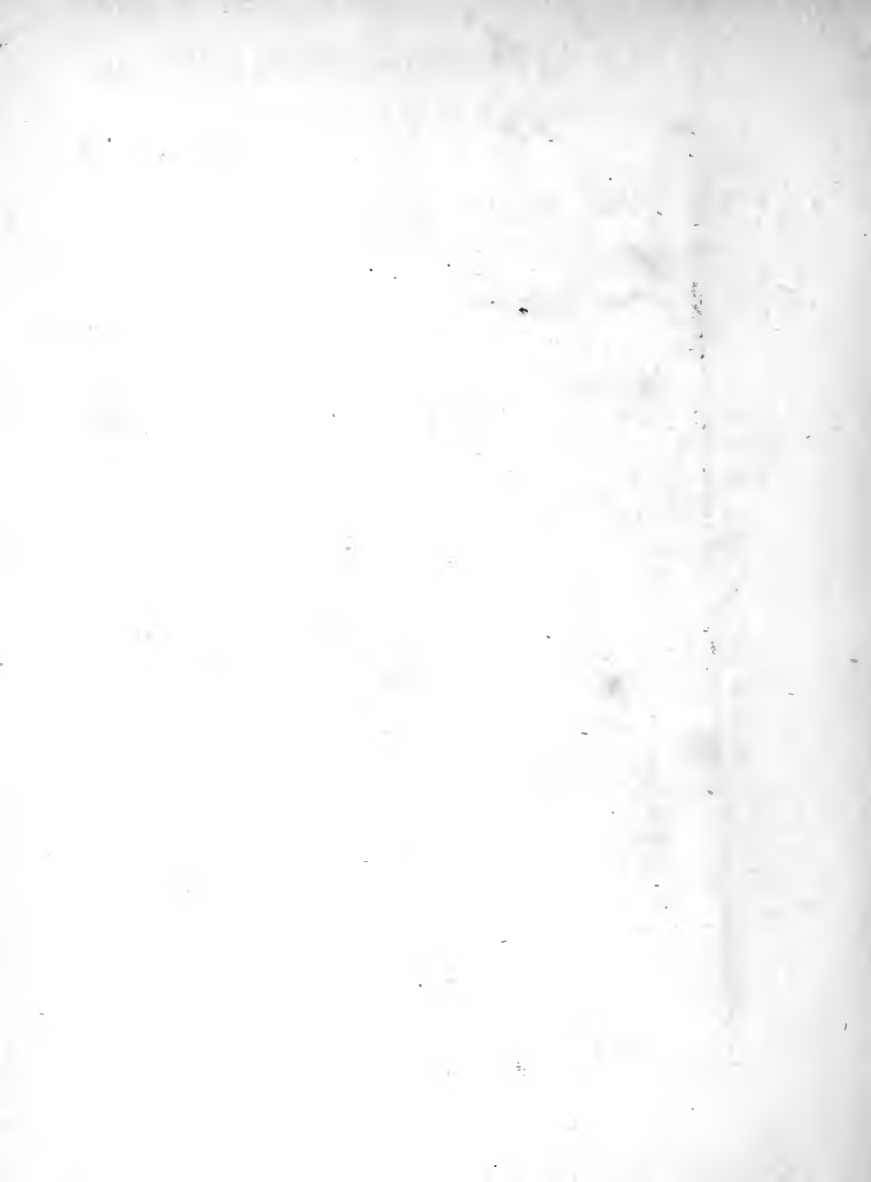


*Blue-green Ben.*



*Ragged Ben.*

*Rough edged Ben.*



## 12. ROUGH-EDGED BEN.

Plate 40. Fig. 4.

Character of the Species.

*Serratula Amara*,

The Leaves are lanced, and have a rugged Edge.

Fig. 4. *a*.

THIS also is a native of Siberia, a Perennial of a Foot and half high. The Stalk is slender, but tough, and redish. The Leaves are of a dusky green. The Flowers are of a bright crimson.

## G E N U S IV.

C E N T A U R Y.

C E N T A U R E A.

Character of the Genus.

The Scales of the Cup are oblong, convex toward the base, dry, thin, and flatted toward the top; and thin along the edge.

Plate 41. *a b c d*.

## 1. DELICATE CENTAURY.

Plate 41. Fig. 1.

Character of the Species.

*Centaurea Crupina*.

The Leaves are winged and ferrated; the Cups are oblong and slender.

Fig. 1. *a b*.

THIS is an Annual, native of Italy and the South of France, a tall, erect, and truly delicate Plant. The Stalk is pale; the Leaves are of a dark but not unpleasent green, paler as they run higher up the Stalk, and more delicately divided. The Plant is a Yard high; the Flowers are of a delicate crimson, and the Cups have a tinge also of the same colour. Even the Seeds are beautiful, they resemble Shuttlecocks.

## 2. MUSKY

## 2. MUSKY CENTAURY.

Plate 41. Fig. 2.

Character of the Species.

SWEET SULTAN.  
Centaurea Moschata.

The Leaves are waved; the Cups are oval and swollen.

Fig. 2. *a b*.

THIS is an Annual, native of Persia and some Part of Tartary, a beautiful Plant, distinguished by a perfumed smell in the Flower, and for that reason long since received into the gardens of the East, as well as of this part of the world. The Stalk is two Foot and a half high, firm, and divided into many branches: The Leaves are of a dark green, and the Flowers are crimson in all degrees fading even into white. It flowers in August. The outer range of Florets are usually large, the inner small; but it varies so as to have all large, and in colour becomes yellow.

## 3. LIGHT DENTED CENTAURY.

Plate 41. Fig. 3.

Character of the Species.

Centaurea Erucifolia.

The Leaves are lanced, lightly dented, and woolly.

Fig. 3. *a b*.

THIS is a Perennial, native of Italy, and flowers in August. The Leaves are whitish and downy; the Stalk is two Foot high: The Flowers are crimson.

## 4. PINNATIFID CENTAURY.

Plate 42. Fig. 1.

Character of the Species.

Centaurea Lippii.

The Leaves are pinnatifid with flight broad obtuse Segments.

Fig. 1. *a b*.

THIS is an Annual, native of Egypt, a Plant of two Foot, flowering in July and August. The Stalk is tinged lightly with brown; the Leaves are of a strong but somewhat blueish green; the Flowers are crimson, and their Cups are usually of an unstained green.

5. VA-

CENTAURY.

pl. 41.



Generic Character.



Delicate Centaury.

Musky Centaury.



Light dented Centaury.





CENTAURY.  
2

Pl. 42.



*Pinnatifid Centaury.*



*Wing'd Centaury.*



*Various leaved Centaury.*



## 5. VARIOUS LEAVED CENTAURY.

Plate 42. Fig. 2.

Character of the Species.

Centaurea Alpina.

The Leaves are lanced and toothed at the Base, the upper are pinnatifid with narrow undivided Segments, but a dented top.

Fig. 2. *a b c.*

THIS is a Biennial, native of Italy and Germany, and flowers in August. The Stalk is slender, green, and half a Yard high. The Leaves are of a delicate but somewhat yellowish-green. The Flowers are large and of a bright yellow.

## 6. WINGED CENTAURY.

Plate 42. Fig. 3.

Character of the Species.

COMMON GREAT CENTAURY:  
Centaurea Centaurea.

The Leaves are winged and ferrated, with a ferrated Film along the Rib.

Fig. 3. *a b.*

THIS is a Perennial, native of Germany, the Alps, and Pyrenees, and flowers in August: It has been long kept in our gardens, and celebrated for its virtues more than it deserves. Be careful of an error: this is not the Centaury used as a stomachick that is distinguished by the name of *Leffer*, and is altogether a different Plant. This has been considered as an astringent, and is such, but of slight efficacy; at least in England. It is a Yard high; the Stalk is brownish. The Leaves are of deep strong green; the Flowers are red.

## 7. BRIGHT-HEADED CENTAURY.

Plate 43. Fig. 1.

Character of the Species.

Centaurea Splendens.

The lower Leaves are doubly pinnatifid, the upper ones simply pinnatifid, but with indented Segments.

Fig. 1. *a b.*

THIS is a Biennial, native of Spain and Switzerland, and also of  
VOL. III. R Siberia.

Siberia, and flowers in July. The Stalk is pale-green, rough, with a few short hard Hairs, and more than two Foot high, with many Branches. The Leaves are of a pale but pleasing green, and the Flowers are crimson: The Scales of the Cup have a bright silvery gloss.

### 8. SIMPLE LEAVED CENTAURY.

Plate 43. Fig. 2.

Character of the Species.

*Centaurea Glaucofolia.*

The Leaves are lanced, perfectly undivided and decurrent.

Fig. 2. a b.

THIS is a Perennial, native of Siberia, and particularly of the lower Hills, it flowers in August. The Stalk is firm, upright, velvety, of a strong green, and near a Yard in height. The Leaves are of a strong but coarse green. The Flowers are of a delicate yellow.

### 9. PAINTED CENTAURY.

Plate 43. Fig. 3.

Character of the Species.

*Centaurea Conifera.*

The lower Leaves are lanced, the upper pinnatifid, and the Stalk is simple.

Fig. 3. a b c.

THIS is a Perennial, an elegant but low Plant, common about Montpellier, and also in the driest grounds of Spain; flowering in August. The Leaves are of a whitish green and woolly. The Stalk seldom rises to more than seven Inches high, often much less; the Flower is crimson; the Cup is large and white, only the Tips of all the Scales are tinged with crimson.

## O R D E R II.

With the Scales of the Cup naked, but notched or serrated along the edge.

GENUS

CENTAURY.

3

Pl. A.



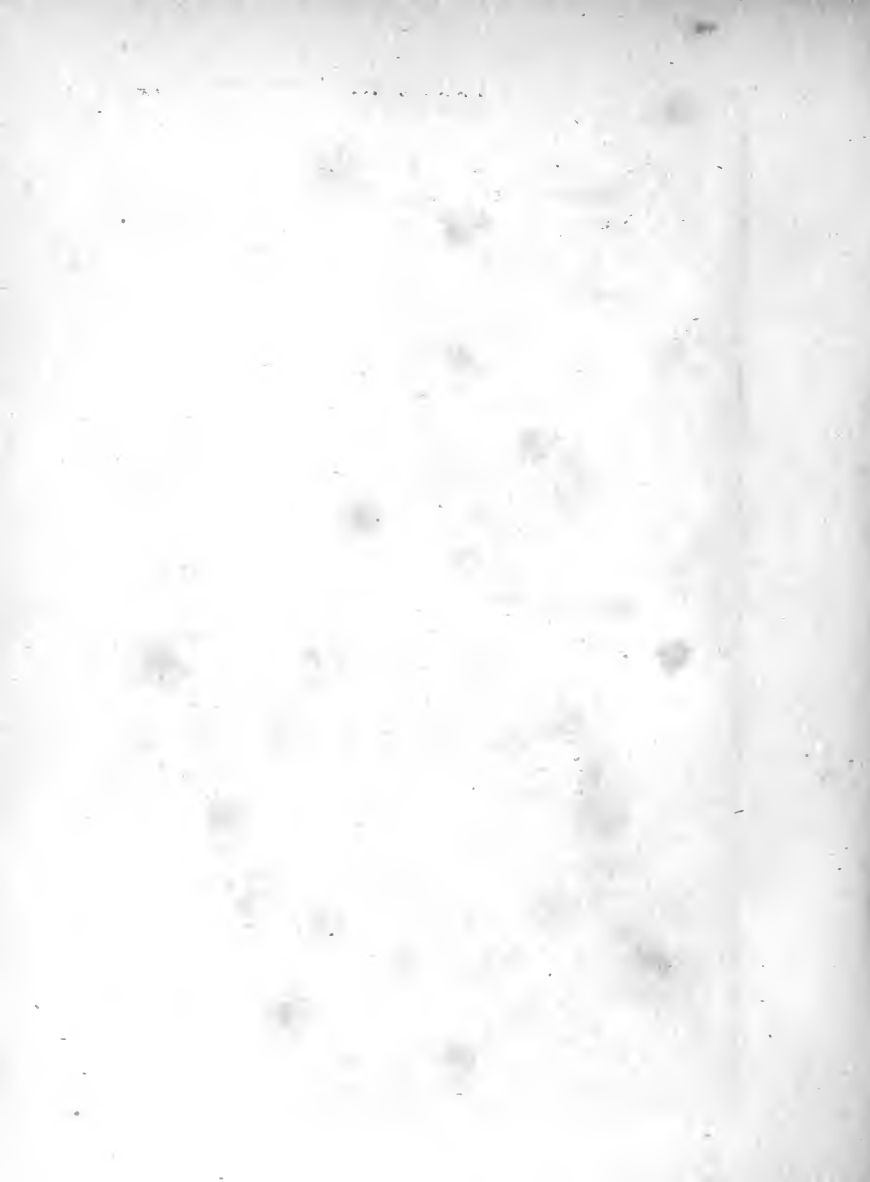
Bright-headed Centaury.



Simple leaved Centaury.



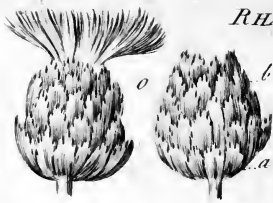
Painted Centaury.





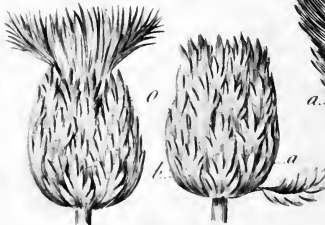
*RHAPHONTIC.*

Pl. 44.



*Generic Character.*

*WOOLL-WEED.*



*Egg leaf of Rhaphontic.*

*Generic Character.*



*Navy Wooll-weed.*

## G E N U S I.

R H A P O N T I C K.

R H A P O N T I C A.

Character of the Genus.

The Cup is elliptic, and its Scales are large.

Of this Genus we know only one species.

## 1. EGG-LEAVED RHAPONTICK.

Plate 44. *a a b.*

Plate 44. Fig. 1.

Character of the Species.

Centaurea Rhapsontica.

The Leaves are egg-shaped, indented, and placed on Footstalks.

Fig. 1. *a b c.*

THIS is a Perennial, native of Switzerland and Italy, found principally on the mountains, and flowering in July, or earlier. The Leaves are of a fresh green on the upper side, but woolly underneath; the Stalk is seldom more than a Foot high; the Flower is large and crimson. This is not the Plant whose Root is the Rhapsontick of the shops; that is a true and genuine kind of Rhubarb.

## O R D E R III.

With the Scales of the Cup naked, but winged or cut into deep and simple Divisions.

## G E N U S I.

W O O L - W E E D.

E R I O P H A.

Character of the Genus.

The Cup is egg-shaped, and its Scales are hard.

Plate 44. *a a b.*

Of this Genus also we know only one Species.

## 1. WAVY

## I. WAVY WOOL-WEED.

Plate 44. Fig. 2.

Character of the Species.

Centaurea Eriophora.

The Leaves are oblong and waved, and those lowest down are dented.

THIS is an Annual, native of Portugal, a very singular and beautiful Plant, flowering in July. The Stalk is whitish, wadded, and more than half a Yard high; the Leaves are soft and of a whitish green; the Flowers are yellow; and their Cups are white and woolly.

## O R D E R IV.

With the Scales of the Cup naked but fingered; or cut into deep Divisions like Fingers of a hand.

## G E N U S I.

## B U L L - W E E D .

## S P H Æ R O C E P H A L A .

Character of the Genus.

The Cup is oval, and its Scales stand loose.

Plate 45. *a b.*

OF this Genus we only know one Species.

## I. ROUGH BULL-WEED.

Plate 45. Fig. 1.

Character of the Species.

Centaurea Sphærocephala.

The Leaves are dented, rough at the edge, and embrace the Stalk,

Plate 45. *a b.*

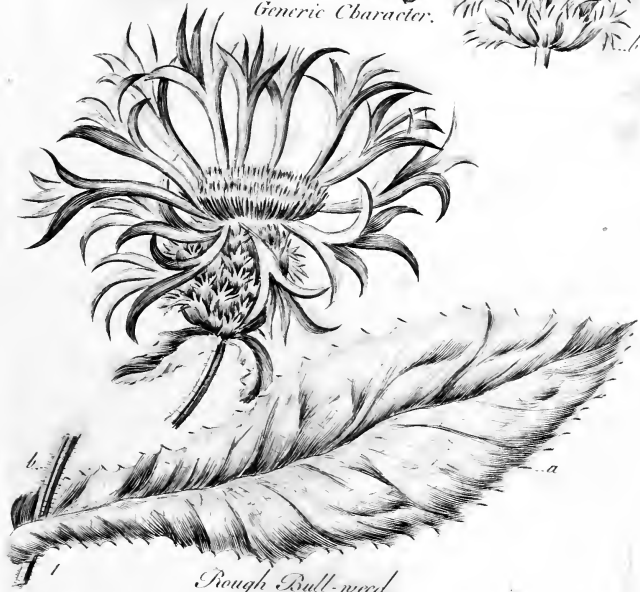
THIS is a Biennial, native of Africa, and frequent as our Thistles about Tangier, covering the burnt Sands with its crimson Flowers all the months of June, July, and August. The Stalk is weak, branched, and about a Foot high naturally, but the weight of the Flowers and its



BULL-WEED.



Generic Character.



Rough Bull-weed.





TORNWEED.



Generic Character.



a. *Spine headed Tornweed.*



*Footstalk of Tornweed?*

its own tenderness, make it usually lie almost on the ground. The Leaves are numerous and of a blueish green: The Flowers are very large and beautiful, they spread out every way so as to form a kind of globular Head; and their Colour is a strong scarlet, but little tending to crimson. Sometimes they are absolutely white, but it is when the Plant is sickly.

## O R D E R V.

With the Scales of the Cup torn as it were into irregular Segments at the end.

## G E N U S I.

T O R N - W E E D.

L A C I N A R I A.

Character of the Genus.

The Cups are elliptick, and their Scales are chaffy.

Plate 16. *a b*.

## 1. SESSILE-HEADED TORN-WEED.

Plate 46. Fig. 1.

Character of the Species.

*Serratula Squarrosa.*

The Cups stand in the Bosom of the Leaves without Footstalks, and the Stalk is welted.

Fig. 1. *a b*.

THIS is a Perennial, native of Virginia, a low but very singular Plant, flowering in September. The Root is tuberous, the Stalk is thick, red, welted, and about a Foot and half high; the Leaves are of a bright green, and a little downy. The Flowers are crimson, and their Cups are brown. In bad grounds the Flowers will be whitish and their Cups small, but this is accidental.

## 2. FOOTSTALKED TORN-WEED.

Plate 46. Fig. 1.

Character of the Species.

*Serratula Scariofa.*

The Flowers have Footstalks, and the Stalk is plain.

Fig. 2. *a b.*

THIS is a Perennial, native of Virginia, and flowers in September. The Stalk is of a brownish-red, and two Foot high; the Leaves are of a bright and glossy green; the Flowers are crimson; and their Cups are green tinged lightly with brown: They stand on leafy Footstalks. The Root is tuberous as in the other.

The END of the FOURTH VOLUME.

INDEX

# I N D E X

T O T H E

## F O U R T H V O L U M E.

A	Page.		Page.
<b>A</b> CANTHIUM, —	19	Centaurea, —	59
Acarna, —	17	Centaurea, —	29, 34, 40, 55, &c.
Arctium, —	37	Centaury, Great —	59, 61
Artichoke, —	53	Chardoon, —	53
Afcalea, —	18	Cirfium, —	31
Affociates, their Characters, —	1	Ciltrum, —	48
———— Claffes, Tribes, &c. —	4	Cnicus, —	11
		Colymbada, —	42
		Corn Flower, —	39
		Cotton Thistle, —	19
		Crepula, —	12
		Crest-Wort, —	42
		Cyanus, —	39
		Crocodylium, —	29
		Cynara, —	53
			D
			D
		DISTAFF-THISTLE, —	7
			E
			E
		EGG-THISTLE, —	12
		Eriopha, —	64
			F
			F
		FAIR-THISTLE, —	21
		Fifh-Thistle, —	17
			GEN-
			GEN-

I N D E X.

	G	Page.		Page.
GENTLE-THISTLE,	—	31	Polycantha,	— 15
			Pfiora,	— 41
	H		Pternix,	— 21
HARSH-WEED,	—	47	Pycnocomus,	— 51
Heraclea,	—	50	R	
	I		RHAPONTICK,	— 63
			Rhapontica,	— 63
JACEA,	—	43		
Ixine,	—	22	S	
	K		SAFF-FLOWER,	— 9
			Sagmen,	— 47
KNAP-WEED,	—	43	Saw-Wort,	— 54
			Scolymus	— 53
	L		Scurff-Wort,	— 41
LACINARIA,	—	65	Serratula,	— 54, &c.
Lappa,	—	37	Soft Thistle,	— 29
			Solfitiaria,	— 28
			Solfitial Thistle,	— 28
	M		Spærocephala,	— 64
MARIANA,	—	25	Star-Thistle,	— 26
May-Thistle,	—	15	Stæbe,	— 44
Milk-Thistle,	—	25	Sweet Sultan,	— 60
			T	
	N		TETRALIX,	— 23
ONOPORDUM,	—	19	Tiftle,	— 15, 16, 17, &c.
			Torn-Weed,	— 65
	P		W	
PALM-WEED,	—	51	WHITE-HEAD,	— 44
Phonus,	—	7	Wire-Weed,	— 48
Pin-Thistle,	—	22	Wool-Weed,	— 64
Plume-Wort,	—	50		



