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The Terrestrial Flora of South Padre Island, Texas

by Robert I. Leonard and Frank W. Judd

*An indexed field guide with
key and illustrated glossary*

NUMBER 6

MISCELLANEOUS PAPERS

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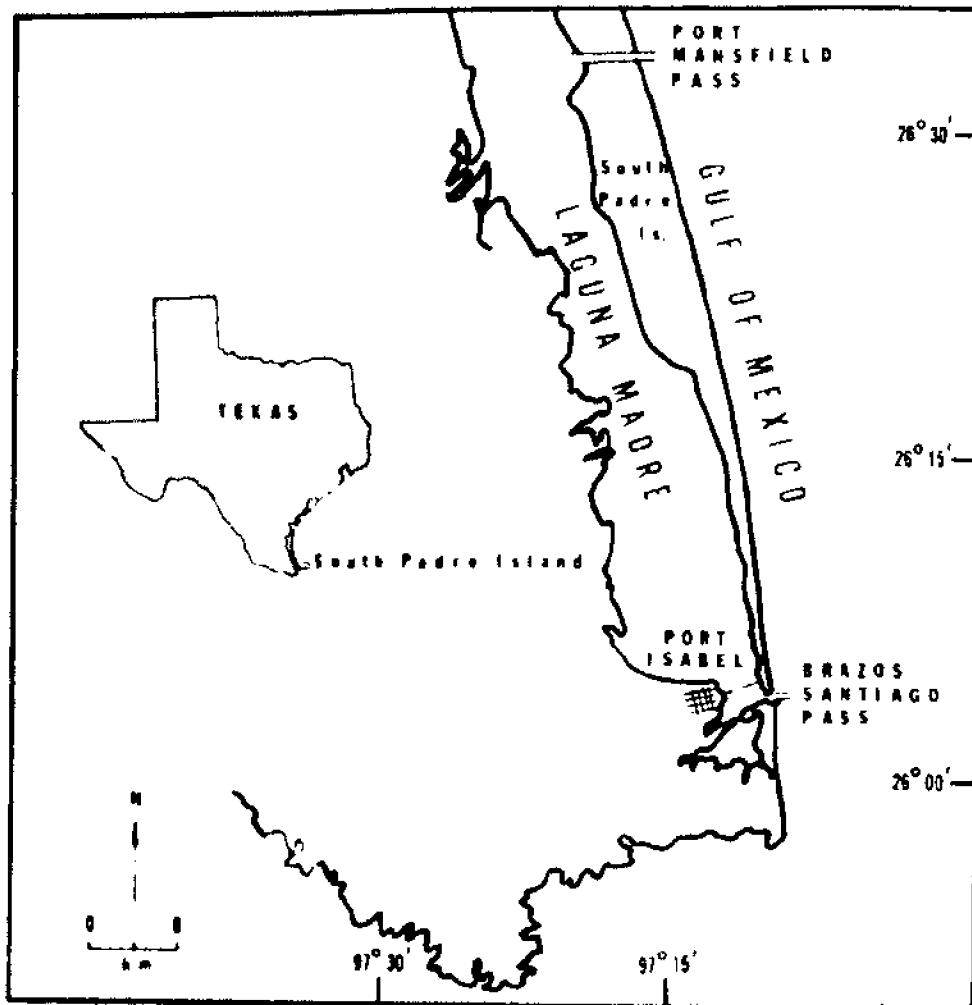


Fig. 1. Map showing South Padre Island, Texas, and surrounding area

Introduction

The predominant land form along the Gulf Coast of Texas consists of a series of barrier islands enclosing several shallow bays (Fotheringham and Brunenmeister, 1975). The longest of these barrier islands is Padre Island, extending approximately 182 kilometers from Corpus Christi on the north to the Brazos-Santiago Pass at Port Isabel on the south. The width of the island varies from about 467 meters to 4.8 kilometers. It is separated from the mainland by the Laguna Madre, a shallow bay with a maximum width of about 16 kilometers. South Padre Island is separated from the northern two-thirds of the island by the Mansfield Channel; thus, "South Padre Island" is a geographical description as well as the name of a newly incorporated town located near the southern end of the island (Fig. 1).

Similar barrier islands occur in the Gulf of Mexico north as far as Galveston Bay and south of Padre Island to Altamira, Tamaulipas, Mexico, 402 kilometers south of Brownsville. These islands provide an avenue of northward dispersal for numerous organisms that reach the northward limits of their distribution in southern Texas.

Study of the flora and vegetation of the Texas-Mexico barrier island system is limited. Studies relating to Mustang Island and North Padre Island are those of Jones et al. (1961), Whitehouse (1962), Gould and Box (1965), Jones (1975), Rabalais (1975), and Gillespie (1976). Papers devoted to studies of the flora and vegetation of the barrier island system from the Port Mansfield Channel to the mouth of the Rio Grande are those of Clover (1937), Dahl et al. (1974), Judd

et al. (1977), and Lonard et al. (1978). Selander et al. (1962), Poggie (1963), and Gonzalez-Medrano (1972) have provided information for the barrier islands of the Mexican Gulf Coast.

The flora and vegetation of South Padre Island are relatively well known compared to those of other areas of the barrier island chain. Judd et al. (1977) studied the vegetation patterns in relation to topography and reported that the vegetation occurs in distinct zones that correspond closely to topographic facets. *Schizachyrium scoparium*, seacoast blue-stem, was the dominant species. Lonard et al. (1978) reported that the vascular flora consisted of 207 species in 47 families. Three families, Compositae, Gramineae, and Leguminosae, contained large shares of the total number of species. They suggested that much of the floral diversity is due to the presence of a large number of species that are represented by small populations.

The primary aim of this work is to enable the user to identify the flowering plants of South Padre Island; however, it should be useful for identification of plants on other Texas barrier islands and on the Mexican barrier islands. We hope that the keys will aid teachers, students, coastal zone managers, and individuals conducting environmental impact assessments.

These keys are based on collections deposited in the Pan American University Herbarium (PAUH). Cultivated plants are included if they appear to be spreading from cultivated sites. Nomenclature follows Correll and Johnston (1970) or Gould (1975), with few exceptions. The keys are intended solely to facilitate the identification of plants; therefore they do not present a botanical synopsis of the families.

A general key separates dicotyledons and monocotyledons. Keys A, B, and C within the dicotyledons are divided on the basis of growth habit or major floral characteristics. The larger and more variable families may be reached by more than one route. Keys to families within the monocotyledons are not

subdivided. However, the genera within the Gramineae are divided into sections based on spikelet and glume characteristics. Families and genera within families are arranged alphabetically. Each species is entered under its scientific name. The English common name follows, if one is available; and this is followed by the Spanish common name, if known. Then there is an indication of abundance followed by an abbreviation giving the plant's distribution in the topographic zones recognized by Judd et al. (1977) and Lonard et al. (1978). These are:

- FS – foreshore
- BS – backshore
- PD – primary dunes
- SDVF – secondary dunes and vegetated flats
- TF – tidal flats
- WO – washovers
- DS – disturbed sites

An illustrated glossary of technical terms and an index of generic and common names of plants follow the keys.

A preliminary version of the keys was printed in 1978 for limited distribution. Use at Pan American University and elsewhere has helped to remove errors and inconsistencies. The authors would appreciate notification about errors that remain.

GENERAL KEY TO THE FLORA

- I. Leaves reticulate-veined or with palmate or pinnate venation patterns; floral parts usually in twos, fours, fives, or in multiples of these numbers; taproot usually present (Dicotyledons) KEY 1, p. 1
- I.¹ Leaves usually with parallel venation patterns; floral parts usually in threes or multiples of three; root system fibrous (Monocotyledons). KEY 2, p. 36

KEY 1: DICOTYLEDONS

- 1. Plants woody or moderately to heavily lignified; subshrubs, shrubs or trees, or succulent and bearing spines KEY 1A, p. 3
- 1.¹ Plants herbaceous, or only slightly woody near the base 2
- 2. Fruit a legume; usually with 5 sepals and 5 petals LEGUMINOSAE, p. 20
- 2.¹ Fruit not a legume. 3
- 3. Ovary inferior, or perianth and stamens borne on a floral cup (perigynous), or ovary raised above the corolla by a stalk . . KEY 1B, p. 5
- 3.¹ Ovary superior. 4
- 4. Plants with tendrils RANUNCULACEAE, p. 30
- 4.¹ Plants lacking tendrils 5
- 5. Perianth not differentiated into sepals and petals, perianth parts all similar and arranged in one or more rows KEY 1C, p. 6
- 5.¹ Perianth differentiated into sepals and petals 6

2 Key to Dicotyledons

- 6. Petals all separate, not united at the base7
- 6! Petals all united, at least near the base.13
- 7. Leaves pinnately compound; fruit
with stout, spreading spines
on each section ZYGOPHYLLACEAE, p. 35
- 7! Leaves simple; fruit not spiny8
- 8. Corolla zygomorphic, white;
inflorescence a spikePOLYGALACEAE, p. 29
- 8! Corolla actinomorphic; inflorescence
not as above9
- 9. Functional stamens 2, 4, or 610
- 9! Functional stamens 7 to numerous12
- 10. Sepals apparently 2PORTULACACEAE, p. 30
- 10! Sepals 4 or 511
- 11. Sepals 5; fruit with more than 2 locules;
corolla yellow or orange, readily
dehiscent from the receptacle LINACEAE, p. 25
- 11! Sepals 4; fruit, in cross section,
with a central septum and
2 loculesCRUCIFERAE, p. 17
- 12. Plants bearing yellow latex; leaves and stems
spiny; stamens distinctPAPAVERACEAE, p. 29
- 12! Plants lacking latex; leaves and
stems not spiny; stamens
monadelphous. MALVACEAE, p. 26
- 13. Milky latex present; fruit a
follicle. ASCLEPIADACEAE, p. 9
- 13! Milky latex absent; fruit not as above14
- 14. Stamens 515
- 14! Stamens 1-4 (not including rudimentary
stamens)20
- 15. Styles or style branches 5; corolla
blue; basal rosette usually present;
inflorescence diffusePLUMBAGINACEAE, p. 29
- 15! Style 1, simple.16
- 16. Sepals distinct, not fused above the base.17
- 16! Sepals united above the base18

- 17. Inflorescence a scorpioid cyme;
fruit of 4 bony nutlets. BORAGINACEAE, p. 9
- 17! Inflorescence not as above; fruit
a capsule; flowers large and
showy; vines rooting at
the nodes. CONVULVULACEAE, p. 17
- 18. Leaves opposite. GENTIANACEAE, p. 19
- 18! Leaves alternate or with a basal rosette
and alternate above. 19
- 19. Corolla rotate, white or pink, the
lobes rounded at the apex; a basal
rosette present. PRIMULACEAE, p. 30
- 19! Corolla not as above; basal rosette
usually not present SOLANACEAE, p. 32
- 20. Leaves all basal; inflorescence a
spike PLANTAGINACEAE, p. 29
- 20! Leaves not all basal 21
- 21. Leaves opposite and connected by united
stipules; flowers white. LOGANIACEAE, p. 26
- 21! Leaves opposite or alternate but not
connected by stipules 22
- 22. Plants parasitic or lacking chlorophyll;
fleshy; petals light purple . . OROBANCHACEAE, p. 28
- 22! Plants not parasitic, containing
chlorophyll 23
- 23. Fruit separating into several one-seeded
segments VERBENACEAE, p. 34
- 23! Fruit usually a many-seeded
capsule SCROPHULARIACEAE, p. 31

KEY 1A: WOODY AND SUCCULENT-SPINY DICOTS

- 1. Plants succulent; jointed stems,
leafless, spiny CACTACEAE, p. 9
- 1! Plants woody; subshrubs, shrubs, or trees 2
- 2. Shrubs or subshrubs; usually in heavy clays. 3
- 2! Shrubs, subshrubs, or trees; in deep sands. 6

4 Key to Dicotyledons

- 3. Shrubs subject to tidal flooding; flowers white, actinomorphic; fruit a fleshy capsule; aerial roots present AVICENNIACEAE, p. 9
- 3! Shrubs or subshrubs usually not subject to tidal flooding; flowers and fruits not as above; aerial roots absent 4
- 4. Subshrubs spineless or thornless; receptacle bearing persistent, spiny chaff COMPOSITAE, p. 11
(*Borrchia*)
- 4! Subshrubs bearing spines or thorns 5
- 5. Flowers purple; fruit a red, fleshy berry SOLANACEAE, p. 32
(*Lycium*)
- 5! Flowers golden-yellow; inflorescence a spherical head; fruit a tightly coiled legume. LEGUMINOSAE, p. 20
(*Prosopis reptans*)
- 6. Flowers subtended by red or orange bracts NYCTAGINACEAE, p. 27
(*Bougainvillea*)
- 6! Flowers not subtended by bracts. 7
- 7. Leaves reduced to scales; flowers pink; inflorescence a panicle TAMARICACEAE, p. 34
- 7! Leaves not scale-like; flowers variously colored. 8
- 8. Leaves simple 9
- 8! Leaves compound 10
- 9. Flowers yellow; ovary inferior. ONAGRACEAE, p. 27
(*Calylophus*)
- 9! Flowers not yellow; ovary superior. APOCYNACEAE, p. 8
- 10. Fruit a small, red drupe. ANACARDIACEAE, p. 8
- 10! Fruit a legume. LEGUMINOSAE, p. 20

**KEY 1B: OVARY INFERIOR, PERIGYNOUS, OR
OVARY ELEVATED ON A STALK**

1. Floral parts perigynous or ovary slightly elevated on a stalk. 2
- 1! Floral parts epigynous (inferior ovary) 6
2. Ovary elevated on a stalk; corolla with a fringed crown; bracts with glandular-tipped hairs PASSIFLORACEAE, p. 29
- 2! Floral parts perigynous 3
3. Fruit a berry; plants malodorous; tendrils present VITACEAE, p. 35
- 3! Fruit a capsule; plants not malodorous; tendrils absent. 4
4. Perianth not differentiated into sepals and petals; plants usually succulent. AIZOACEAE, p. 7
- 4! Perianth of sepals and petals; plants not succulent. 5
5. Leaves in a basal rosette; corolla white or pink. PRIMULACEAE, p. 30
- 5! Leaves not as above; corolla pink-purple LYTHRACEAE, p. 26
6. Fruit an achene, ray flowers and/or disc flowers present COMPOSITAE, p. 11
- 6! Fruit a capsule or composed of 2 dry, one-seeded segments 7
7. Inflorescence an umbel; fruit of 2 dry, one-seeded segments. UMBELLIFERAE, p. 34
- 7! Inflorescence not as above; fruit a capsule. 8
8. Leaves opposite or whorled. RUBIACEAE, p. 30
- 8! Leaves alternate; flowers usually large and showy. ONAGRACEAE, p. 27

**KEY 1C: PERIANTH NOT DIFFERENTIATED INTO
SEPALS AND PETALS**

1. Ovary with a single locule and bearing
only one seed2
- 1' Ovary with more than one locule
or ovary developing into a many-
seeded capsule.....5
2. Perianth segments fused above the
base into a tubular or rotate structure.....3
- 2' Perianth segments distinct (not fused).....4
3. Perianth corolla-like, white,
pink, rose, or red.....NYCTAGINACEAE, p. 27
- 3' Perianth not corolla-like,
green or drab.....CHENOPODIACEAE, p. 10
4. Plants with a stipular ocrea and
usually swollen nodes.....POLYGONACEAE, p. 29
- 4' Plants lacking an ocrea or
swollen nodes.....AMARANTHACEAE, p. 7
5. Flowers bisexual; perianth
lavender-purple.....AIZOACEAE, p. 7
- 5' Flowers unisexual; perianth not as above.....6
6. Leaves thick and succulent; flowers
in cone-like spikes.....BATIDACEAE, p. 9
- 6' Leaves not thick and succulent;
flowers not in cone-like
spikes.....EUPHORBIACEAE, p. 7
7. Milky latex present; flowers minute,
in cup-like structures that bear
glands, glands often bearing
petaloid lobes.....EUPHORBIACEAE, p. 18
(*Euphorbia*)
- 7' Milky latex absent; flowers
not as above.....EUPHORBIACEAE, p. 18
(*Croton*)

AIZOACEAE

Sesuvium

Stems rooting at the nodes, flowers pedicelled;
stems and leaves succulent. *S. portulacastrum*

Stems not rooting at the nodes; flowers sessile
or subsessile; stems and leaves not conspicuously
succulent. *S. erectum*

Sesuvium erectum Correll

Sea purslane. Infrequent; DS. Along roadsides.

Sesuvium portulacastrum L.

Sea purslane, cenicilla. Abundant; BS and WO. An important pioneer species.

AMARANTHACEAE

- 1. Leaves alternate; flowers unisexual *Amaranthus*
- 1! Leaves opposite; flowers bisexual 2
- 2. Leaves broad; flowers in the axils of
whitish leaves; stems usually erect. *Tidestromia*
- 2! Leaves linear; inflorescence spicate;
stems prostrate *Philoxerus*

Amaranthus

Leaves leathery; stems erect but usually sprawling
near the base *A. greggii*

Leaves membranous; stems erect. *A. palmeri*

Amaranthus greggii Wats.

Pigweed. Infrequent; DS. Near the Pan American University Marine Laboratory.

Amaranthus palmeri Wats.

Palmer amaranth. Infrequent; DS. Near the Pan American University Marine Laboratory.

Philoxerus

Philoxerus vermicularis (L.) R. Br.

Silverhead. Occasional; SDVF and TF. Around margins of shallow pools.

Tidestromia

Tidestromia lanuginosa (Nutt.) Standl.

Woolly tidestromia, espanta vaqueros. Infrequent; DS. In dunes near Brazos-Santiago Pass.

ANACARDIACEAE

Schinus

Schinus terebinthifolius Raddi

Brazilian pepper. Rare, but appears to be escaping from cultivation. Flowers white, actinomorphic.

APOCYNACEAE

Leaves whorled, lanceolate; fruit a follicle;

translucent latex present *Nerium*

Leaves opposite, ovate; stems with stout,

branching thorns; milky latex present *Carissa*

Carissa

Carissa macrocarpa (Eckl.) A. DC.

Natal plum. Rare, cultivated but persisting around vacant buildings.

Nerium

Nerium oleander L.

Common oleander, laurel rosa. Rare, cultivated, but persisting along roadsides and around buildings. Extremely poisonous.

ASCLEPIADACEAE

Asclepias

Asclepias oenotheroides Cham. and Schlecht.

Green milkweed, hierba de zizotes. Infrequent; DS and SDVF.

AVICENNIACEAE

Avicennia

Avicennia germinans (L.) L.

Black mangrove, mangle blanco. Locally abundant in tidal flats near the Queen Isabella Causeway.

BATIDACEAE

Batis

Batis maritima L.

Saltwort, vidrillos. Occasional to locally abundant; WO and TF.

BORAGINACEAE

Heliotropium

Heliotropium curassavicum L.

Seaside heliotrope, cola de mico. Infrequent; DS. Near Brazos-Santiago Pass.

CACTACEAE

Opuntia

Spines rounded in cross section. *O. macrorhiza*

Spines flattened in cross section at base of spine *O. lindheimeri* var. *lehmannii*

Opuntia lindheimeri Engelm. var. *lehmannii* L. Benson
Texas prickly pear, nopal. Occasional in SDVF.

Opuntia macrorhiza Engelm.
Plains prickly pear. Occasional in SDVF.

CHENOPODIACEAE

1. Stems apparently leafless; flowers sunken in depression in the axis *Salicornia*
- 1.' Stems leafy; inflorescence not as above. 2
2. Flowers bisexual; foliage green and glabrous *Suaeda*
- 2.' Flowers unisexual; foliage grayish or pubescent *Atriplex*

Atriplex

1. Leaves opposite, sessile, grayish or drab; plants dioecious. *A. matamorensis*
- 1.' Leaves alternate, petiolate, pubescent; plants monoecious. 2
2. Leaf margins entire *A. arenaria*
- 2.' Leaf margins irregularly toothed *A. pentandra*

Atriplex arenaria Nutt.

Saltbush, quelite. Infrequent; DS. Near roadsides.

Atriplex matamorensis A. Nelson

Infrequent; DS and TF. Near Queen Isabella Causeway.

Atriplex pentandra (Jacq.) Standley

Common; DS. Along roadsides.

Salicornia

- Plants perennial; prostrate or erect and usually forming dense clumps *S. virginica*
- Plants annual; erect. *S. bigelovii*

Salicornia bigelovii Torr.

Glasswort, saladilla. Locally abundant; TF and WO.

Salicornia virginica L.

Glasswort, saladilla. Locally abundant; TF and WO.

Suaeda

- 1. Plants pubescent at maturity and woody at the base *S. tampicensis*
- 1.' Plants glabrous at maturity and woody or herbaceous at the base. 2
- 2. Plants woody-based; sepals thickest at the apex *S. torreyana*
- 2.' Plants herbaceous at the base; sepals narrow at the apex *S. linearis*

Suaeda linearis (Ell.) Moq.

Southern sea-blite. Common in TF and WO.

Suaeda tampicensis (Standley) Standley

Sea-blite. Rare in DS.

Suaeda torreyana Wats.

Torrey sea-blite. Rare in TF. Near the Queen Isabella Causeway.

COMPOSITAE

- 1. Disc flowers absent, only ray flowers present; milky latex present 2
- 1.' Disc flowers present; milky latex absent 3
- 2. Leaves spiny-margined, auricles present at the base of the leaves. *Sonchus*
- 2.' Leaves not spiny-margined, auricles absent *Pyrrhopappus*
- 3. Stems woody above the base; foliage grayish-green; persistent chaff on the spiny receptacle. *Borrichia*
- 3.' Stems not conspicuously woody above the base; foliage and chaff not as above. 4

12 *Compositae*

- 4. Leaves and phyllaries strongly spine-tipped. . . . *Cirsium*
- 4.† Leaves and phyllaries usually not spine-tipped5
- 5. Florets greenish and inconspicuous; foliage with
a strong, unpleasant odor6
- 5.† Florets variously colored but not green.7
- 6. Heads with both male and female florets. *Iva*
- 6.† Heads with unisexual florets, male florets above
the bur-like female florets. *Ambrosia*
- 7. Pappus of disc florets with conspicuous hairs or
soft bristles8
- 7.† Pappus of scales, a scaly crown, spines, teeth, or
pappus absent18
- 8. Ray florets yellow.9
- 8.† Ray florets white, rose, or rays absent.13
- 9. Leaves linear, succulent, nearly cylindrical in
cross section *Clappia*
- 9.† Leaves not as above.10
- 10. Plants strongly aromatic with a camphor-like odor . . .11
- 10.† Plants not aromatic12
- 11. Leaves with 5-8 pairs of prominent teeth;
usually an annual; plants usually in wet
depressions *Machaeranthera*
- 11.† Leaves entire or serrate; perennial; plants usually
in drier sites. *Heterotheca*
- 12. Plants annual, prostrate, with resinous exudate on
the foliage *Croptilon*
- 12.† Plants perennial, erect, exudate absent *Solidago*
- 13. Ray flowers present.14
- 13.† Ray flowers absent16
- 14. Disc flowers white. *Conyza*
- 14.† Disc flowers yellow15
- 15. Plants annual, erect; leaves reduced or linear above;
weedy *Aster*
- 15.† Plants perennial, prostrate; leaves basal,
spatulate *Erigeron*

16. Leaves opposite; stems often rooting at the nodes;
disc flowers blue or blue-purple. *Eupatorium*
- 16.† Leaves alternate; stems not rooting at the nodes. 17
17. Leaves gray or white pubescent below; stems
usually less than 30 cm tall *Gnaphalium*
- 17.† Leaves not as above; stems up to 1.2 m tall. *Pluchea*
18. Ray flowers absent or apparently so 19
- 18.† Ray flowers present. 22
19. Disc flowers yellow; pappus absent *Flaveria*
- 19.† Disc flowers not yellow; pappus present 20
20. Disc flowers pink or rose. *Palafoxia*
- 20.† Disc flowers white. 21
21. Basal leaves forming a rosette; minute ray
flowers visible with magnification. *Parthenium*
- 21.† Basal leaves not forming a rosette; ray flowers
absent *Florestina*
22. Ray flowers white; pappus a scaly
crown *Aphanostephus*
- 22.† Ray flowers yellow, brownish red, or orange. 23
23. Receptacle columnar and cone-like. *Ratibida*
- 23.† Receptacle slightly elevated or flattened. 24
24. Ray flowers red-tipped and yellow at the base;
chaff absent from the receptacle. *Gaillardia*
- 24.† Ray flowers yellow throughout or with
brownish red spots at the base; chaff present 25
25. Achenes lacking lateral wings; leaves rough,
hispid *Helianthus*
- 25.† Achenes with lateral wings; leaves pubescent
but not rough, hispid. 26
26. Ray flowers yellow throughout; foliage grayish
green pubescent. *Verbesina*
- 26.† Ray flowers with brownish red spots at the
base; foliage green. *Coreopsis*

Ambrosia

Ambrosia psilostachya DC.

Western ragweed. Occasional; DS and SDVF. Perennial.

Aphanostephus

Aphanostephus skirrhobasis (DC.) Trel. var. *thalassius* Shinnery

Infrequent; DS and SDVF.

Aster

Aster subulatus Michx. var. *ligulatus* Shinnery

Aster, hierba del marrano. Infrequent; DS and SDVF.

Borrichia

Borrichia frutescens (L.) DC.

Sea ox-eye daisy. Locally abundant; SDVF and TF. On heavy clay.

Cirsium

Cirsium texanum Buckl.

Thistle. Rare; DS. In the spring.

Clappia

Clappia suaedaefolia Gray

Rare; DS. On heavy clay.

Conyza

Conyza canadensis (L.) Cronq. var. *glabrata* (Gray) Cronq.

Horseweed. Occasional; DS.

Coreopsis

Coreopsis nucensis Heller

Tickseed. Rare; DS. Near roads.

Croptilon

Croptilon divaricatum (Nutt.) Raf. var. *hirtellum* (Shinnery)

Scratch daisy. Infrequent; DS. Near roads.

Erigeron

Erigeron myrionactis Small

Corpus Christi fleabane. Occasional; DS and SDVF.

Eupatorium

Eupatorium betonicifolium Mill.

Mist flower. Occasional; SDVF. On the margins of wet depressions.

Flaveria

Flaveria brownii A. M. Powell

Longleaf flaveria. Infrequent; SDVF. In late autumn.

Florestina

Florestina tripteris DC.

Infrequent; DS. In parks.

Gaillardia

Gaillardia pulchella Foug. var. *picta* (Sweet) Gray

Indian blanket. Frequent to locally abundant; DS and SDVF. Often cultivated elsewhere.

Gnaphalium

Gnaphalium pensilvanicum Willd.

Cudweed. Rare; DS. In trailer-park lawns. Late winter or early spring annual.

Helianthus

Helianthus annuus L. subsp. *texanus* Heiser

Common sunflower, mirasol. Infrequent; DS.

Heterotheca

Heterotheca subaxillaris (Lam.) Britt. and Rusby

Camphor weed. Locally abundant; DS and SDVF.

Iva

Iva angustifolia DC.

Marsh elder. Infrequent; DS and SDVF. In wet depressions.

Machaeranthera

Machaeranthera phyllocephala (DC.) Shinnery

Camphor daisy. Locally abundant; SDVF and TF. In wet depressions.

Palafoxia

Palafoxia texana DC. var. *ambigua* Shinnery

Occasional; DS.

Parthenium

Parthenium hysterophorus L.

False ragweed, cicutilla. Occasional; DS.

Pluchea

Pluchea purpurascens (Sw.) DC.

Canela. Rare; wet depressions.

Pyrrhopappus

Pyrrhopappus multicaulis DC.

False dandelion. Occasional; DS near the Coast Guard Station.

Ratibida

Leaves mostly crowded near the base of the stem *R. peduncularis*

Leaves present over most of the stem *R. columnaris*

Ratibida columnaris (Sims) D. Don

Mexican hat. Rare; DS. On the margins of roadsides.

Ratibida peduncularis (T. and G.) Barnh.

Mexican hat. Infrequent; SDVF.

Solidago

Solidago sempervirens L. var. *mexicana* (L.) Fern.
Goldenrod. Frequent; SDVF.

Sonchus

Sonchus asper (L.) Hill.
Sowthistle, achicoria dulce. Rare; DS.

Verbesina

Verbesina encelioides (Cav.) Gray
Cowpen daisy. Infrequent; DS.

CONVOLVULACEAE

Ipomoea

Corolla rose or purple *I. pes-caprae*
Corolla white with a yellow throat *I. stolonifera*

Ipomoea pes-caprae (L.) Sweet var. *emarginata* Hallier f.
Railroad vine. Occasional; BS and PD.

Ipomoea stolonifera (Cyr.) Gmel.
Beach morning glory. A dominant taxon; BS and PD.

CRUCIFERAE

- 1. Flowers yellow; fruit globose, inflated *Lesquerella*
- 1! Flowers white, fruit linear or rounded. 2
- 2. Fruit longer than broad; plant fleshy-succulent. . . *Cakile*
- 2! Fruit about as long as broad; elliptical or rounded;
plants not fleshy-succulent *Lepidium*

Cakile

Fruit with eight surface ridges; fruiting inflores-
cence in a zig-zag configuration. *C. geniculata*

Fruit with four surface ridges; fruiting
inflorescence not in a zig-zag configuration. . . . *C. fusiformis*

Cakile fusiformis Greene

Sea rocket. Rare; BS and DS.

Cakile geniculata (Robins.) Millsp.

Sea rocket. Rare; BS and DS.

Lepidium

Inflorescence usually glabrous. *L. virginicum*

Inflorescence usually sparsely pubescent; plants
hispid *L. austrinum*

Lepidium austrinum Small

Peppergrass. Rare; DS.

Lepidium virginicum L. var. *medium* (Greene) C. L. Hitchc.

Peppergrass, lentejilla. Rare; DS.

Lesquerella

Lesquerella lasiocarpa (Gray) Wats. var. *berlandieri* (Gray)

Pays.

Bladderpod. Rare; DS. Edge of roadside near Brazos-
Santiago Pass.

EUPHORBIACEAE

Milky latex present; flowers minute, in cup-like
structures that bear glands; glands often bearing
petaloid lobes *Euphorbia*

Milky latex absent; flowers not as above *Croton*

Croton

1. Plants perennial; flowers usually
dioecious. *C. punctatus*
- 1.† Plants annual; flowers usually monoecious 2
2. Leaf margins entire *C. capitatus*
- 2.† Leaf margins serrated *C. glandulosus*

- Croton capitatus* Michx. var. *lindheimeri* (Engelm. and Gray)
Muell. Arg.
Woolly croton. Rare; DS.
- Croton glandulosus* L.
Croton. Rare; DS.
- Croton punctatus* Jacq.
Beach tea, hierba del jabali. Frequent; PD, WO.

Euphorbia

- 1. Stems usually erect2
- 1' Stems usually prostrate3
- 2. Uppermost leaves usually with a red spot
near the base*E. heterophylla*
- 2' Uppermost leaves lacking a spot near the
base*E. hypericifolia*
- 3. Leaves more than twice as long as broad;
seeds usually smooth and plump*E. ammannioides*
- 3' Leaves less than twice as long as broad;
seeds wrinkled or smooth, but not plump*E. cordifolia*

Euphorbia ammannioides H.B.K.
Spurge. Infrequent; SDVF.

Euphorbia cordifolia Ell.
Spurge. Infrequent; SDVF.

Euphorbia heterophylla L.
Wild poinsettia. Rare; DS. Probably escaped from culti-
vation near Brazos-Santiago Pass.

Euphorbia hypericifolia L.
Spurge. Rare; DS.

GENTIANACEAE

- Corolla rose or white, lobes to about 8 mm
long*Sabatia*
- Corolla blue, lavender, or occasionally white,
lobes to about 25 mm long*Eustoma*

Eustoma

Eustoma exaltatum (L.) G. Don
 Infrequent; SDVF. In damp sand.

Sabatia

Sabatia arenicola Greenm.
 Rare; SDVF. In damp sand.

LEGUMINOSAE

- 1. Plants woody.2
- 1! Plants herbaceous6
- 2. Fruit a tightly-coiled legume; flowers golden-yellow; inflorescence a spherical head *Prosopis*
- 2! Fruit not as above.3
- 3. Leaves pinnately compound; flowers yellow, zygomorphic; inflorescence a raceme; legume constricted between the seeds. *Sophora*
- 3! Leaves bipinnately compound; flowers actinomorphic; inflorescence a spherical head or a cylindrical spicate raceme4
- 4. Plants spineless or thornless. *Leucaena*
- 4! Plants bearing spines or thorns5
- 5. Leaves long-petioled, rachis divided into two pairs of pinnate segments; flowers yellowish green; inflorescence a cylindrical, spicate raceme; fruit 10–22.5 cm long. *Prosopis*
- 5! Leaves short-petioled, rachis divided into numerous pinnate segments; flowers gold; inflorescence a spherical head; fruit 3–8 cm long. *Acacia*
- 6. Leaves simple *Rhynchosia*
- 6! Leaves compound7
- 7. Leaves bipinnately compound.8
- 7! Leaves pinnately compound or trifoliolate10

8. Stems not armed with prickles or bristles;
flowers white. *Desmanthus*
- 8! Stems armed with recurved prickles or bristles;
flowers pink 9
9. Fruit linear, invested with prickles; stems armed
with recurved prickles. *Schrunkia*
- 9! Fruit oblong, with one or several joints; stems
covered with bristles *Mimosa*
10. Flowers slightly zygomorphic; sepals distinct;
stamens ten, distinct *Cassia*
- 10! Flowers usually strongly zygomorphic; sepals
united into a calyx tube 11
11. Inflorescence a dense, tightly-compacted, spicate
head *Dalea*
- 11! Inflorescence not as above. 12
12. Leaves with four or more leaflets 13
- 12! Leaves with three leaflets 15
13. Flowers brick-red; plants trailing; perennial. . . *Indigofera*
- 13! Flowers not as above; annuals; erect or prostrate . . . 14
14. Flowers yellow; legumes 10-20 cm long; leaves
with as many as 70 leaflets; plants erect *Sesbania*
- 14! Flowers blue or purple, often fading to white;
legumes usually less than 2 cm long; leaves
usually with five leaflets; a prostrate winter
annual *Astragalus*
15. Stems usually erect or spreading above the base 16
- 15! Stems usually prostrate or trailing. 20
16. Flowers white *Melilotus*
- 16! Flowers yellow 17
17. Legume spirally coiled with two rows of
flexible prickles. *Medicago*
- 17! Legume not as above. 18
18. Legume 3-5 cm long and 1.5-2.5 cm broad, with
a prominent beak *Baptisia*
- 18! Legume lacking a prominent beak. 19
19. Fruits pubescent, 2.5-3.5 cm long. *Crotalaria*
- 19! Fruits glabrous, 1.5-2.5 cm long. *Melilotus*
20. Legume spirally coiled with two rows of flexible
prickles *Medicago*

22 *Leguminosae*

- 20.¹ Legume not as above. 21
21. Flowers red or lavender. 22
21.¹ Flowers yellow 23
22. Legumes up to 15 cm long and 2.5 cm
broad. *Canavalia*
22.¹ Legumes 8–11 mm long. *Psoralea*
23. Legumes 3–7 cm long, linear. *Vigna*
23.¹ Legumes 1.2–2 cm long, elliptically
curved *Rhynchosia*

Acacia

Acacia smallii Isley

Huisache. Very rare; a small tree or shrub in Isla Blanca Park.

Astragalus

Astragalus nuttallianus DC.

Milkvetch. Rare; in lawns near Brazos-Santiago Pass.

Baptisia

Baptisia leucophaea Nutt. var. *laevicaulis* Canby

Wild indigo. Occasional; SDVF. Flowering in the spring. Flowers cream-colored; inflorescence a raceme.

Canavalia

Canavalia maritima (Aubl.) Thou.

Swordbean. Infrequent; SDVF and DS. In Isla Blanca Park. Stems stoloniferous.

Cassia

Cassia fasciculata Michx. var. *ferrisiae* (Britt.) Turner

Partridge pea. Frequent; PD and SDVF. Annual; an important source of food for wildlife.

Crotalaria

Crotalaria incana L.
Chipilin. Very rare; SDVF.

Dalea

Leaflets pubescent. *D. lanata*
Leaflets glabrous *D. emarginata*
Dalea emarginata (T. and G.) Shinnery
Occasional; DS near roads.
Dalea lanata Spreng.
Woolly dalea. Rare; SDVF.

Desmanthus

Desmanthus virgatus (L.) Willd. var. *depressus* (Willd.) B. L.
Turner
Infrequent; DS. Near the Pan American University
Marine Laboratory; flowers white.

Indigofera

Indigofera miniata Ort.
Indigo. Occasional; DS.

Leucaena

Leaflets usually 8–12 mm long, 1.5–4 mm
broad. *L. leucocephala*
Leaflets usually 8 mm long or less, 1 mm
broad. *L. pulverulenta*
Leucaena leucocephala (Lam.) de Wit.
Popinac. Rare; DS. Near Brazos-Santiago Pass. A weedy
taxon, introduced from the tropics.
Leucaena pulverulenta (Schlecht.) Benth.
Tepeguaje. Rare; DS. Cultivated in trailer parks. A rare
and threatened species.

Medicago

Medicago polymorpha L. var. *vulgaris* (Benth.) Shinnery
Bur-clover. Occasional; DS. In lawns in Isla Blanca Park.

Melilotus

Flowers white *M. albus*
Flowers yellow *M. indicus*

Melilotus albus Lam.
White sweetclover, hubam. Occasional; DS. In lawns in Isla Blanca Park.

Melilotus indicus (L.) All.
Sourclover, alfalfilla. Occasional; DS.

Mimosa

Mimosa strigillosa T. and G.
Powderpuff, vergonzosa. Infrequent; DS. In packed sands and lawns. Leaves are sensitive to the touch.

Prosopis

Flowers golden-yellow; inflorescence a spherical head; fruit a tightly-coiled legume; subshrub *P. reptans*
Flowers yellow-green; inflorescence a cylindrical spicate raceme; fruit not tightly coiled; tree . . . *P. glandulosa*

Prosopis glandulosa Torr.
Honey mesquite. Rare; DS. In Isla Blanca Park.

Prosopis reptans Benth. var. *cinerascens* (Gray) Burkart
Screwbean, tornillo. Occasional; TF. In heavy clays.

Psoralea

Psoralea rhombifolia T. and G.
Rare; DS. In Isla Blanca Park.

Rhynchosia

- Leaves simple *R. americana*
Leaves trifoliolate *R. minima*

Rhynchosia americana (Mill.) Metz
Snoutbean. Common in SDVF.

Rhynchosia minima (L.) DC.
Snoutbean. Common in SDVF.

Schrankia

Schrankia latidens (Small) K. Schum.
Sensitive brier. Rare; DS and SDVF.

Sesbania

Sesbania macrocarpa Muhl.
Bequilla. Rare; DS. In heavy clay near the Queen
Isabella Causeway.

Sophora

Sophora tomentosa L.
Eve's necklace, yellow sophora. Infrequent; SDVF. One
of the few native woody taxa on South Padre Island.

Vigna

Vigna luteola (Jacq.) Benth.
Rare; SDVF. Near Port Mansfield Pass and Isla Blanca
Park.

LINACEAE

Linum alatum (Small) Winkler
Wild flax. Infrequent; SDVF.

LOGANIACEAE

Polypremum

Polypremum procumbens L.
Infrequent; SDVF.

LYTHRACEAE

Lythrum

Leaves usually sessile or clasping the stem. . . . *L. californicum*
Leaves usually with a short petiole *L. alatum* var.
lanceolatum

Lythrum alatum Pursh var. *lanceolatum* (Ell.) T. and G. ex
Rothrock
Loosestrife. Infrequent; SDVF. In wet depressions.

Lythrum californicum T. and G.
Hierba del cancer. Infrequent; SDVF. In wet depressions.

MALVACEAE

Flowers white or purplish, petals less than 5 mm long;
a winter annual *Malva*
Flowers yellow; petals more than 5 mm long;
perennial *Malvastrum*

Malva

Malva parviflora L.
Cheeseweed. Rare; DS. On the edges of roadsides and
sidewalks.

Malvastrum

Malvastrum americanum (L.) Torrey
Malva loca. Very rare; DS. Near the Pan American Uni-
versity Marine Laboratory.

NYCTAGINACEAE

- 1. Plants woody shrubs; perianth subtended by red or orange bracts; thorns or spines present *Bougainvillea*
- 1' Plants herbaceous; thorns or spines absent 2
- 2. Stems usually prostrate; foliage gummy-pubescent; perianth red. *Boerhaavia*
- 2' Stems erect; foliage not gummy-pubescent; perianth white, pink, or rose *Mirabilis*

Boerhaavia

Boerhaavia coccinea Mill.

Scarlet spiderling. Infrequent; DS. On the edges of sidewalks and roadsides.

Bougainvillea

Bougainvillea glabra Choisy

Bougainvillea. Rare; DS. Often persisting around vacant buildings.

Mirabilis

Mirabilis albida (Walt.) Heimerl. var. *lata* Shinnars

Four-o'clock. Rare; DS. In packed sand near Brazos-Santiago Pass.

ONAGRACEAE

- Stigma lobed into four segments *Oenothera*
- Stigma not lobed *Calylophus*

Calylophus

Stigma elevated above the anthers; petals 1-2.5 cm long. *C. drummondianus*

Stigma shorter than the anthers; petals 0.8-1.2 cm long. *C. australis*

Calylophus australis Towner and Raven

Evening primrose. Infrequent; SDVF.

Calylophus drummondianus Spach. subsp. *berlandieri* (Spach.)

Towner and Raven

Infrequent; SDVF.

Oenothera

- 1. Petals yellow 2
- 1! Petals rose-purple, pink, or white 3
- 2. Petals 2-3.5 cm long, attractive. *O. drummondii*
- 2! Petals 0.5-1.8 cm long. *O. laciniata*
- 3. Petals 2.5-4 cm long; perennial *O. speciosa*
- 3! Petals 1-1.5 cm long; annual. *O. engelmannii*

Oenothera drummondii Hook.

Beach evening primrose. Occasional; SDVF, PD, and DS.
Flowers opening at dusk.

Oenothera engelmannii (Small) Munz

Evening primrose. Rare; DS.

Oenothera laciniata Hill.

Cut-leaved evening primrose. Rare; DS. Edges of roadsides and sidewalks.

Oenothera speciosa Nutt.

Showy primrose, amapola del campo. Rare; DS.
Attractive.

OROBANCHACEAE

Orobanche

Orobanche multiflora Nutt.

Broomrape. Rare; SDVF. Parasitic on roots of *Heterotheca subaxillaris*.

PAPAVERACEAE

- Argemone albiflora* Hornem. subsp. *texana* G. Ownbey
White prickly poppy. Rare; DS. In packed sand near
Brazos-Santiago Pass.

PASSIFLORACEAE

- Passiflora foetida* L. var. *gossypifolia* (Hamilt.) Mast.
Passion flower, corona de Cristo. Rare; DS. Not seen in
recent years.

PLANTAGINACEAE

- Plantago rhodosperma* Dcne.
Plantain. Rare; DS. In packed sand near Brazos-Santiago
Pass.

PLUMBAGINACEAE

Limonium

- Limonium nashii* Small
Sea lavender. Occasional; TF and WO.

POLYGALACEAE

Polygala

- Polygala alba* Nutt.
Milkwort. Occasional; TF and WO.

POLYGONACEAE

Rumex

- Rumex chrysocarpus* Moris
Dock, amamastla. Rare; DS.

PORTULACACEAE

Portulaca

- 1. Leaves linear, with woolly-kinky hairs in the axils; petals rose-purple *P. mundula*
- 1! Leaves usually oblong-lanceolate, glabrous 2
- 2. Capsule with a wing below the rim of dehiscence; corolla orange, partially red or yellow *P. umbraticola*
- 2! Capsule lacking a wing below the rim of dehiscence; corolla yellow *P. oleracea*

Portulaca mundula I. M. Johnst.
Chisme. Rare; DS.

Portulaca oleracea L.
Purslane, verdolaga. Rare; DS.

Portulaca umbraticola H.B.K.
Purslane. Rare; DS.

PRIMULACEAE

Samolus

Samolus ebracteatus H.B.K.
Brookweed. Occasional; SDVF. On margins of pools.

RANUNCULACEAE

Clematis drummondii T. and G.
Old man's beard, barbas de chivato. Rare; DS. On fences and around vacant buildings.

RUBIACEAE

- 1. Leaves broadly ovate or elliptic; plants heavily pubescent and prostrate *Richardia*
- 1! Leaves linear or linear-lanceolate; plants usually glabrous. 2

- 2. Petals about 2 mm long, white; seeds roughly 4-angled. *Oldenlandia*
- 2! Petals about 4 mm long, variously colored; seeds subglobose. *Houstonia*

Houstonia

Houstonia nigricans (Lam.) Fern.
Bluet. Fairly common; SDVF.

Oldenlandia

Oldenlandia boscii (DC.) Chapm.
Bluet. Fairly common; SDVF.

Richardia

Richardia brasiliensis Gomes
Rare; DS. In packed sands near roadsides and sidewalks.

SCROPHULARIACEAE

- 1. Stems prostrate, rooting at the nodes 2
- 1! Stems usually erect 3
- 2. Plants glabrous; flowers white or bluish-tinged; usually in wet sites *Bacopa*
- 2! Plants white pubescent; flowers deep blue or purple; usually in dry sites. *Stemodia*
- 3. Floral bracts bright red at the tip *Castilleja*
- 3! Floral bracts absent or not brightly colored 4
- 4. Flowers opposite in a terminal spike; flowers blue. *Buchnera*
- 4! Flowers and inflorescence not as above; flowers pink or rose. *Agalinus*

Agalinus

- 1. Pedicels usually less than 3 mm long; corolla 2.5-3.0 cm long. *A. heterophylla*
- 1! Pedicels usually more than 4 mm long; corolla 1.2-2.5 cm long. 2

32 *Scrophulariaceae*

- 2. Leaves thick and fleshy; corolla 1.2-2.0
cm long. *A. maritima*
- 2' Leaves usually thin; corolla 2.0-2.5
cm long. *A. strictifolia*

Agalinus heterophylla (Nutt.) Small
Prairie agalinus. Infrequent; SDVF.

Agalinus maritima (Raf.) Raf.
Infrequent; SDVF.

Agalinus strictifolia (Benth.) Penn.
Occasional; SDVF.

Bacopa

Bacopa monneri (L.) Wettst.
Water hyssop. Rare; SDVF. On the margins of pools.

Buchnera

Buchnera floridana Gand.
Bluehearts. Rare; SDVF.

Castilleja

Castilleja indivisa Engelm.
Indian paintbrush. Very rare; DS. In a swale near the
Coast Guard Station.

Stemodia

Stemodia tomentosa (Mill.) Greenm. and Thomps.
Woolly stemodia. Occasional; SDVF.

SOLANACEAE

- 1. Corolla funnelform or trumpet-shaped, opening
during the evening or on cloudy days; fruit
a capsule *Nicotiana*
- 1' Corolla characteristics not as above; fruit a berry 2

- 2. Plants woody and bearing spines or thorns; flowers purple *Lycium*
- 2! Plants herbaceous or only slightly woody below, spineless; flowers variously colored but not purple 3
- 3. Mature calyx not expanding and enclosing the berry *Solanum*
- 3! Mature calyx expanding and enclosing the berry 4
- 4. Foliage stellate pubescent; corolla dilated distally *Physalis*
- 4! Foliage nearly glabrous; corolla dilated at base and contracted distally *Margaranthus*

Lycium

Lycium carolinianum Walt. var. *quadrifidum* (Dun.) C.L. Hitchc.
Wolfberry. Rare; TF and DS. In heavy clay near the Queen Isabella Causeway.

Margaranthus

Margaranthus solanaceus Schlecht.
Rare; DS.

Nicotiana

Nicotiana repanda Willd.
Fiddle-leaf tobacco. Rare; DS. In shaded sites near buildings.

Physalis

Physalis viscosa L. var. *spathulifolia* (Torr.) Gray
Ground cherry. Infrequent to occasional; DS and SDVF.

Solanum

Prickles present; plant pubescent; corolla violet or rarely white; berry yellow and turning black *S. elaeagnifolium*

Prickles absent; plant glabrous; corolla usually white or bluish-tinged; berry red at maturity *S. triquetrum*

Solanum elaeagnifolium Cav.

Silver-leaf nightshade, trompillo. Infrequent; DS.

Solanum triquetrum Cav.

Texas nightshade, hierba mora. Rare; DS.

TAMARICACEAE

Tamarix

Tamarix aphylla Karst.

Athel tamarisk. Rare; DS. Persisting around vacant buildings.

UMBELLIFERAE

Plants annual; leaves parsley-like or dissected into linear segments. *Apium*

Plants perennial; leaves orbicular and peltate. . . . *Hydrocotyle*

Apium

Apium leptophyllum (Pers.) F. V. Muell.

Rare; DS. In shaded sites in lawns. An annual appearing in late winter and spring.

Hydrocotyle

Hydrocotyle bonariensis Lam.

Water pennywort, sombreroillo. DS and SDVF. Several colonies in wet depressions in Andy Bowie Park, also in lawns.

VERBENACEAE

Flowers in heads or spikes at the apex of leafy stems or branches *Verbena*

Flowers in heads or spikes at the apex of a leafless
axillary branch *Phyla*

Phyla

Leaves with 4–8 teeth per leaf. *P. incisa*

Leaves with 10 or more teeth per leaf. *P. nodiflora*

Phyla incisa Small

Texas frog-fruit. Rare; DS.

Phyla nodiflora (L.) Greene var. *reptans* (H.B.K.) Moldenke

Common frog-fruit. Rare; DS. On the edges of side-
walks and roadsides.

Verbena

Stems usually prostrate and rooting at the
nodes. *V. bipinnatifida*

Stems erect *V. halei*

Verbena bipinnatifida Nutt.

Small-flowered verbena. Rare; DS. In packed sand in
Isla Blanca Park.

Verbena halei Small

Texas vervain. Rare; DS.

VITACEAE

Cissus incisa (Nutt.) Des Moul.

Cow-itch. Rare; DS. On fences in trailer-park sites.

ZYGOPHYLLACEAE

Tribulus

Tribulus terrestris L.

Goathead, cadillo. Rare; DS. Packed sand and lawns.

KEY 2: MONOCOTYLEDONS

- 1. Plants with freely-branching stems; submerged
aquatics in brackish or fresh-water
pools RUPPIACEAE, p. 52
- 1! Plants usually with simple stems or stems
branching at or near the base; plants on dry
or muddy soil 2
- 2. Perianth absent or consisting of bristles, scales,
or hairs 3
- 2! Perianth present, herbaceous or corolla-like 5
- 3. Inflorescence a dense, cylindrical spike;
flowers unisexual with staminate flowers
above the pistillate flowers on the same
axis TYPHACEAE, p. 52
- 3! Inflorescence not as above. 4
- 4. Stems jointed; leaves 2-ranked; fruit usually
a caryopsis or grain GRAMINEAE, p. 39
- 4! Stems not jointed; leaves 3-ranked; fruit an
achene. CYPERACEAE, p. 37
- 5. Ovary superior. 6
- 5! Ovary inferior or partly so. 7
- 6. Sepals green; petals blue, the third petal
reduced; inflorescence enclosed in a folded,
leafy bract. COMMELINACEAE, p. 37
- 6! Sepals and petals white; perianth parts
similar in size; plants bearing bulbs at
the base. LILIACEAE, p. 52
- 7. Stamens 1 or 2; flowers highly irregular;
white. ORCHIDACEAE, p. 52
- 7! Stamens 3 or 6; flowers regular or nearly so 8
- 8. Stamens 6; tepals white; plants with bulbs
at the base. AMARYLLIDACEAE, p. 37
- 8! Stamens 3; tepals blue; bulbs
absent IRIDACEAE, p. 51

AMARYLLIDACEAE

Cooperia

Cooperia drummondii Herb.

Rain lily. Rare; DS. In Isla Blanca Park.

COMMELINACEAE

Commelina

Commelina erecta L. var. *angustifolia* (Michx.) Fern.

Dayflower, hierba del pollo. Infrequent; SDVF.

CYPERACEAE

1. Inflorescence bracts white at the base and green at the apex *Dichromena*
- 1! Inflorescence bracts green throughout. 2
2. Plants 1.0–2.5 m tall; leaf margins stoutly serrated *Cladium*
- 2! Plants usually less than 1.5 m tall; leaf margins not serrated 3
3. Glumes 2-ranked *Cyperus*
- 3! Glumes spirally imbricated 4
4. Inflorescence a terminal, solitary spikelet; leaf blades absent *Eleocharis*
- 4! Inflorescence not as above; leaf blades present 5
5. Spikelets arranged in an umbellate or cymose inflorescence; plants densely tufted *Fimbristylis*
- 5! Spikelets solitary or in glomerules. 6
6. Glumes pubescent; awns 2–3 mm long; leaf sheaths hirsute *Fuirena*
- 6! Glumes glabrous, awnless; leaf sheaths glabrous. *Scirpus*

Cladium

Cladium jamaicense Crantz

Saw-grass. Very rare; SDVF. One small stand in a wet depression.

Cyperus

- 1. Achenes lenticular. *C. polystachyos*
- 1! Achenes trigonous. 2
- 2. Inflorescence of several nearly spherical heads. *C. ovularis*
- 2! Inflorescence of flattened spikelets. 3
- 3. Spikelets somewhat reflexed with 1-4 florets *C. uniflorus*
- 3! Spikelets usually erect with 4 or more florets *C. rotundus*

Cyperus ovularis (Michx.) Torr.

Infrequent; DS. Near the Pan American University Marine Laboratory.

Cyperus polystachyos Rottb. var. *texensis* (Torr.) Fern.

Rare; DS.

Cyperus rotundus L.

Nut-grass, tulillo. Infrequent; DS.

Cyperus uniflorus T. and G.

Rare; DS.

Dichromena

Dichromena colorata (L.) Hitchc.

White-topped umbrella sedge. Locally abundant; SDVF.

Eleocharis

- Plants perennial; rhizomes present. *E. montevidensis*
- Plants annual. *E. obtusa*

Eleocharis montevidensis Kunth

Spike-sedge. Infrequent; SDVF.

Eleocharis obtusa (Willd.) Schult.
Spikesedge. Infrequent; SDVF.

Fimbristylis

Fimbristylis castanea (Michx.) Vahl
Esparto mulato. Locally abundant; WO and SDVF.

Fuirena

Fuirena simplex Vahl
Umbrella grass. Frequent; SDVF. In wet depressions.

Scirpus

Scirpus americanus Pers. var. *longispicatus* Britt.
Three-square bulrush. Infrequent to locally abundant;
SDVF and TF.

GRAMINEAE

- 1. Plants usually 2 m or more tall, reed- or bamboo-like, inflorescence a plume-like panicle. 2
- 1! Plants rarely more than 1.5 m tall, stems not reed- or bamboo-like. 3
- 2. Lemmas with long, silky hairs; rachilla glabrous; cultivated *Arundo*, p. 43
- 2! Lemmas glabrous; rachilla densely pubescent; in marshes *Phragmites*, p. 49
- 3. Leaves usually less than 1 cm long; spikelets in leaf axils and inconspicuous *Monanthochloe*, p. 47
- 3! Leaves longer than 1 cm; spikelets usually conspicuous. 4
- 4. Spikelets disarticulating above the glumes. KEY 2A, p. 40
- 4! Spikelets disarticulating below the glumes. 5
- 5. Spikelets dorsally compressed or appearing round or elliptical in cross section. KEY 2B, p. 41
- 5! Spikelets laterally compressed or appearing roughly triangular in cross section. 6

6. Spikelets bearing numerous florets *Uniola*, p. 51
 6! Spikelets bearing a single floret 7
 7. Glumes equal in length; plants
 annual *Polypogon*, p. 49
 7! Glumes unequal in length; the second
 glume much longer than the first; plants
 perennial *Spartina*, p. 49

KEY 2A: SPIKELETS DISARTICULATING ABOVE THE GLUMES

1. Spikelets sessile on one side of the rachis;
 inflorescence branches digitate or racemose 2
 1! Spikelets not sessile on one side of the rachis;
 inflorescence usually a panicle or raceme 9
 2. Spikelets with only one fertile floret 3
 2! Spikelets with more than one fertile floret 5
 3. Spikelets lacking sterile florets *Cynodon*, p. 45
 3! Spikelets with sterile florets 4
 4. Lemma of the fertile floret 3-awned *Chloris*, p. 44
 4! Lemma of the fertile floret with a single
 awn *Chloris*, p. 44
 5. Spikelets with 2 fertile florets; lemma
 of the fertile floret 3-awned *Chloris*, p. 44
 5! Spikelets with 3 or more fertile florets 6
 6. Inflorescence branches numerous and
 racemose 7
 6! Inflorescence branches few, digitate or
 nearly so 8
 7. Glumes less than 5 mm long;
 perennial *Leptochloa*, p. 47
 7! Glumes about 1 cm long; annual *Trichoneura*, p. 51
 8. Rachis of the inflorescence extended
 as a sharp point beyond the
 spikelets *Dactyloctenium*, p. 45
 8! Rachis not extended beyond the
 spikelets *Eleusine*, p. 46

9. Spikelets bearing 2 or more fertile florets10
 9! Spikelets bearing 1 fertile floret13
 10. Plants dioecious. *Distichlis*, p. 46
 10! Plants with bisexual florets11
 11. Lemmas 5- to many-nerved or
 sometimes nerves obscure *Vaseyochloa*, p. 51
 11! Lemmas 3-nerved, nerves glabrous or
 pubescent12
 12. Nerves of the lemma pubescent;
 annuals *Triplasis*, p. 51
 12! Nerves of the lemma glabrous;
 perennials *Eragrostis*, p. 47
 13. Lemma with 3 long awns; base of the
 floret sharp-pointed. *Aristida*, p. 43
 13! Lemma awnless; base of the floret not
 sharp-pointed *Sporobolus*, p. 50

KEY 2B: SPIKELETS DORSALLY COMPRESSED

1. Spikelets subtended by bristles or enclosed
 in a spiny involucre2
 1! Spikelets not as above3
 2. Bristles fused at the base to form a bur;
 one or more spikelets disarticulating with
 the bur *Cenchrus*, p. 44
 2! Bristles not fused to form a bur;
 bristles usually not disarticulating
 with a spikelet. *Setaria*, p. 49
 3. First glume small, not enclosing the
 fertile floret; spikelets usually not paired
 (Tribe: Paniceae). KEY 2BB, p. 42
 3! First glume large, hard and enclosing the
 perfect floret; spikelets usually paired
 with one sessile and one pedicellate
 (Tribe: Andropogoneae).4

- 4. Plants strongly stoloniferous; nodes usually with a dense ring of white hairs *Dichanthium*, p. 45
- 4! Plants tufted or rhizomatous; nodes usually not as above 5
- 5. Plants with an extensive rhizome system; awns readily deciduous; weedy *Sorghum*, p. 49
- 5! Plants tufted or with short rhizomes; awns not readily deciduous 6
- 6. Leafy bracts absent in the inflorescence *Bothriochloa*, p. 43
- 6! Leafy bracts present in the inflorescence. 7
- 7. Inflorescence branches two or more above a leafy bract *Andropogon*, p. 43
- 7! Inflorescence branches one above a leafy bract *Schizachyrium*, p. 49

KEY 2BB: FIRST GLUME SMALL, NOT ENCLOSING THE FERTILE FLORET

- 1. Spikelets sessile or subsessile, borne in depressions of a fleshy rachis; cultivated *Stenotaphrum*, p. 51
- 1! Spikelets not as above 2
- 2. Spikelets awn-tipped *Eriochloa*, p. 47
- 2! Spikelets awnless. 3
- 3. Plants bearing two distinct vegetative growth phases; a winter-spring basal rosette with broad leaves and reduced inflorescence branches and a summer-fall phase with a diffuse panicle and narrow uppermost leaves; basal rosette leaves brown but persisting in the summer-fall phase. *Dichantherium*, p. 45
- 3! Plants not producing two distinct growth phases 4

4. Lemma of the fertile floret not clasping
nor partially enclosing the palea at its
margins *Digitaria*, p. 46
- 4! Lemma of the fertile floret clasping
or partially enclosing the palea at its
margins 5
5. Ligule absent; plants annual *Echinochloa*, p. 46
- 5! Ligule present but often minute; plants
annual or perennial 6
6. Inflorescence an open panicle or a
contracted panicle with erect, appressed
branches *Panicum*, p. 47
- 6! Inflorescence of one or several spicate
branches; spikelets usually arranged on
one side of the rachis. 7
7. Plants annual. *Brachiaria*, p. 44
- 7! Plants perennial. *Paspalum*, p. 48

Andropogon

Andropogon glomeratus (Walt.) B.S.P.
Bushy bluestem. Locally abundant; SDVF.

Aristida

Aristida longespica Poir.
Slimspike three-awn. Rare; DS. Near roads.

Arundo

Arundo donax L.
Giant reed, carrizo. Cultivated near Brazos-Santiago Pass.

Bothriochloa

Bothriochloa saccharoides (Sw.) Rydb. var. *longipaniculata*
(Gould) Gould
Longspike silver bluestem. Infrequent; DS. On the mar-
gins of roadsides.

Brachiaria

Brachiaria reptans (L.) Gard. and C.E. Hubb. (*Panicum reptans* L.).

Infrequent; DS.

Cenchrus

- 1. Plants strongly perennial; burs lacking stout spines *C. ciliaris*
- 1! Plants usually annual; burs with stout spines 2
- 2. Involucre with a ring of slender bristles at the base; burs usually crowded in the inflorescence *C. echinatus*
- 2! Involucre without a ring of slender bristles at the base; burs usually not crowded in the inflorescence *C. incertus*

Cenchrus ciliaris L.

Buffel grass. Infrequent; DS.

Cenchrus echinatus L.

Southern sandbur, cadillo. Infrequent; DS.

Cenchrus incertus M. A. Curtis

Common sandbur. Infrequent; DS.

Chloris

- 1. Lemma of the fertile floret 3-awned *C. pluriflora*
- 1! Lemma of the fertile floret with a single awn 2
- 2. Sterile florets usually 2 or more; often stoloniferous *C. gayana*
- 2! Sterile floret 1; tufted perennials. 3
- 3. Awn of the fertile floret about 1 mm long. *C. cucullata*
- 3! Awn of the fertile floret 2-3 mm long. *C. subdolichostachya*

Chloris cucullata Bisch.

Hooded windmill grass. Infrequent; DS. On the margins of roadsides.

Chloris gayana Kunth

Rhodes grass. Rare; DS.

Chloris pluriflora (Fourn.) Clayton (*Trichloris pluriflora* Fourn.)

Four-flowered trichloris. Infrequent; DS.

Chloris subdolichostachya C. Muell.

Shortspike windmill grass. Infrequent; DS.

Cynodon*Cynodon dactylon* (L.) Pers.

Bermuda grass; pata de gallo. Infrequent; DS.

Dactyloctenium*Dactyloctenium aegyptium* (L.) Beauv.

Durban crowfoot. Infrequent; DS.

Dichantherium*Dichantherium angustifolium* (Ell.) Gould (Inc. *Panicum portoricense* Hamilt.)

Infrequent; SDVF.

Dichanthium

Inflorescence branches below spikelets

glabrous. *D. annulatum*

Inflorescence branches below spikelets

pubescent *D. aristatum*

Dichanthium annulatum Stapf

Kleberg bluestem. Infrequent; DS. On the margins of roadsides.

Dichanthium aristatum (Poir.) C. E. Hubb.

Angleton bluestem. Infrequent; DS. On the margins of roadsides.

Digitaria

1. Rachis of the inflorescence branches not winged. *D. texana*
- 1! Rachis of the inflorescence branches winged. 2
2. Lemma of one spikelet of a spikelet pair glabrous. *D. ciliaris*
- 2! Lemma of one spikelet of a spikelet pair silky pubescent on the margins *D. bicornis*

Digitaria bicornis (Lam.) R. and S.

Tropical crabgrass. Occasional; DS.

Digitaria ciliaris (Retz.) Koel.

Southern crabgrass. Occasional; DS.

Digitaria texana Hitchc.

Crabgrass. Occasional; DS.

Distichlis

Distichlis spicata (L.) Greene var. *spicata*

Seashore saltgrass. Infrequent; TF.

Echinochloa

Echinochloa colonum (L.) Link

Jungle rice. Infrequent; DS.

Eleusine

Eleusine indica (L.) Gaertn.

Goosegrass. Infrequent; DS.

Eragrostis

- 1. Inflorescence a contracted panicle; spikelets subsessile, reddish-brown. *E. oxylepis*
- 1' Inflorescence an open panicle; spikelets pedicellate 2
- 2. Panicle branches viscid; spikelets with 4-8 florets *E. silveana*
- 2' Panicle branches not viscid; spikelets with 7-11 florets. *E. spectabilis*

Eragrostis oxylepis (Torr.) Torr.
Red lovegrass. Occasional to frequent; SDVF and DS.

Eragrostis silveana Swall.
Silver lovegrass. Rare; SDVF and leeward slopes of PD.

Eragrostis spectabilis (Pursh) Steud.
Purple lovegrass. Infrequent; SDVF in depressions and on the leeward slopes of PD.

Eriochloa

Eriochloa punctata (L.) Desv.
Louisiana cupgrass. Infrequent; DS. In damp sand near roadsides.

Leptochloa

Leptochloa nealleyi Vasey
Neally sprangletop. Infrequent; DS. Clay sites near the Queen Isabella Causeway.

Monanthochloe

Monanthochloe littoralis Engelm.
Shoregrass. Locally abundant; TF and WO.

Panicum

- 1. Plants annual; spikelets 5-6 mm long *P. texanum*
- 1' Plants perennial. 2

- 2. Nodes hirsute; ligule 4-6 mm long. *P. maximum*
- 2! Nodes glabrous or slightly pubescent; ligule
0.2-0.5 mm long. 3
- 3. Plants with rhizomes; spikelets more than
4 mm long. *P. amarum*
- 3! Plants lacking rhizomes; spikelets less than
4 mm long. *P. hallii*

Panicum amarum Ell.

Bitter panicum. Occasional; BS and WO. In small stands
in foredunes and margins of washovers.

Panicum hallii Vasey

Hall's panicum. Infrequent; DS.

Panicum maximum Jacq.

Guinea grass. Infrequent; DS.

Panicum texanum Buckl.

Texas panicum. Infrequent; DS.

Paspalum

- 1. Plants tufted; spikelets less than 2 mm
long. *P. setaceum*
- 1! Plants not as above; spikelets more than
2 mm long. 2
- 2. Spikelets green at maturity; blades
usually more than 2 mm broad *P. vaginatum*
- 2! Spikelets brown at maturity; blades
involute and usually less than 2 mm
broad. *P. monostachyum*

Paspalum monostachyum Vasey

Gulfdune paspalum. Occasional to frequent; SDVF.

Paspalum setaceum Michx.

Thin paspalum. Infrequent; SDVF.

Paspalum vaginatum Swartz

Seashore paspalum. Infrequent; SDVF. On the margins
of shallow pools.

Phragmites***Phragmites australis* (Cav.) Trin. ex Steudel**

Common reed, canoto. Occasional in small stands; SDVF.

Polypogon***Polypogon monspeliensis* (L.) Desf.**

Rare; SDVF. On the margin of a shallow pool near Port Mansfield Pass.

Schizachyrium***Schizachyrium scoparium* (Michx.) Nash var. *littoralis* (Nash)**

Gould

Seacoast bluestem. The dominant taxon on South Padre Island; SDVF.

SetariaPlants annual; bristles readily adhering to skin
or clothing. *S. adhaerans*Plants perennial; bristles not adhering as above . . . *S. leucopila****Setaria adhaerans* (Forsk.) Choiv.**

Infrequent; DS.

***Setaria leucopila* (Scribn. and Merr.) K. Schum.**

Plains bristle grass. Infrequent; DS.

Sorghum***Sorghum halepense* (L.) Pers.**

Johnsongrass. Infrequent; DS.

Spartina1. Leaf blades usually flat, more than 5 mm
broad at the base. *S. alterniflora*1' Leaf blades involute, less than 5 mm broad
at the base. 2

- 2. Inflorescence branches dense, cylindrical;
rhizomes absent but plants
coarsely tufted *S. spartinae*
- 2! Inflorescence branches 4-8; rhizomes
present *S. patens*

Spartina alterniflora Lois.

Smooth cordgrass. Occasional in dense stands; TF near the Queen Isabella Causeway.

Spartina patens (Ait.) Muhl.

Marsh hay cordgrass. Frequent; TF and SDVF.

Spartina spartinae (Trin.) Hitchc.

Gulf cordgrass; sacahuista. Rare in depressions, but abundant on the mainland; SDVF.

Sporobolus

- 1. Lower panicle branches whorled *S. pyramidatus*
- 1! Lower panicle branches not whorled. 2
- 2. Plants with extensive, creeping
rhizomes *S. virginicus*
- 2! Plants lacking creeping rhizomes 3
- 3. Sheaths with a conspicuous tuft of
white hairs at the apex *S. cryptandrus*
- 3! Sheaths not as above 4
- 4. Panicle usually 10-30 cm broad *S. wrightii*
- 4! Panicle usually less than 10 cm broad *S. tharpü*

Sporobolus cryptandrus (Torr.) Gray

Sand dropseed. Infrequent; DS.

Sporobolus pyramidatus (Lam.) Hitchc.

Whorled dropseed. Occasional; DS. In packed sand and heavy clay.

Sporobolus tharpü Hitchc.

Padre Island dropseed. Occasional; SDVF.

Sporobolus virginicus (L.) Kunth

Coastal dropseed. Locally abundant; BS, TF, and WO.

Sporobolus wrightii Munro ex Scribn.
Big sacaton. Infrequent; SDVF.

Stenotaphrum

Stenotaphrum secundatum (Walt.) O. Ktze.
St. Augustine grass. DS. Cultivated lawn grass.

Trichoneura

Trichoneura elegans Swall.
Silveus grass. Rare; DS. In depression near Brazos-Santiago Pass.

Triplasis

Triplasis purpurea (Walt.) Chapm.
Purple sandgrass. Infrequent; SDVF.

Uniola

Uniola paniculata L.
Sea oats, espiga del mar. Widespread and locally dominant; BS, PD, SDVF, and WO.

Vaseyochloa

Vaseyochloa multinervosa (Vasey) Hitchc.
Texas grass. Rare; not seen by us but collected by Floyd Waller; SDVF.

IRIDACEAE

Sisyrinchium

Sisyrinchium biforme Bickn.
Blue-eyed grass. Infrequent; SDVF.

LILIACEAE

Nothoscordum

Nothoscordum bivalve (L.) Britt.

Crow poison. Rare; DS. In heavy clays in Isla Blanca Park.

ORCHIDACEAE

Spiranthes

Spiranthes vernalis Engelm. and Gray

Spring ladies tresses. Rare; SDVF.

RUPPIACEAE

Ruppia

Ruppia maritima L.

Widgeon grass. Rare; SDVF. In shallow, brackish pools near Port Mansfield Pass.

TYPHACEAE

Typha

Typha domingensis Pers.

Cat-tail, tule. Rare; SDVF. Wet sites in Andy Bowie and Isla Blanca Parks.

Glossary

Terms illustrated in the glossary are marked by the symbol □, indicating that an illustration will be found on the same or opposite page, or on the page with an italicized cross-reference.

achene. A small, dry, indehiscent, one-seeded fruit with a thin ovary wall free from the seed. □

actinomorphic. Of a flower: having regular or radial symmetry. □

alternate. Arrangement of leaves in which each is placed singly at a node. See *opposite*.

annual. A plant which completes its life cycle and dies in one year.

anther. The pollen-bearing part of a stamen, found at the apex of the stamen. See *flower*.

apex. The tip or the summit.

appressed. Closely pressed against an object.

auricle. An ear-shaped projection at the base of a leaf.

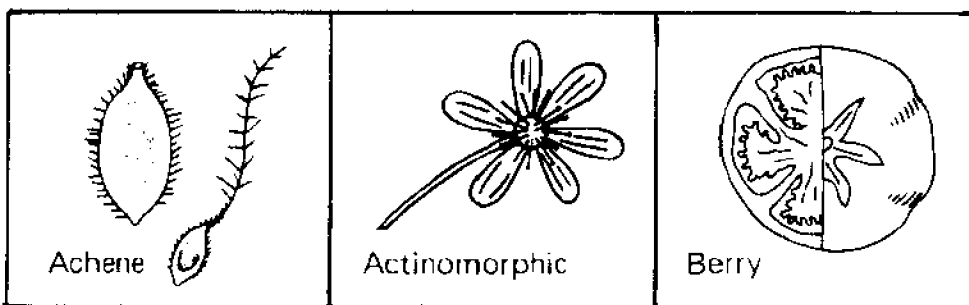
awn. A bristle-like appendage; an extension of a vascular bundle.

axil. The upper angle that a petiole makes with a stem.

beak. A long, prominent point; often applied to extensions of fruits and pistils.

berry. A fleshy fruit with more than one seed; seeds embedded in pulpy tissue as with grapes or tomatoes. □

bisexual. Of a flower; containing both stamen and pistil.



brackish. Mixed with salt; briny.

bract. A reduced or modified leaf often associated with an inflorescence.

bulb. A modified stem covered by scaly leaves. □

bur. A rough, prickly covering of certain grass spikelets.

calyx. Collectively, the sepals of a flower; the outermost series of floral parts. See *flower*.

capsule. A simple, dry fruit made up of more than one carpel and dehiscent at maturity; several- to many-seeded. □

carpel. Part of a pistil; modified leaf that unites its edges to form a closed receptacle for the ovules.

caryopsis. The fruit of a grass; seed-like; a grain. □

chaff. A thin, dry scale that arises from the receptacle in some members of the sunflower family. See also *involucre*. □

clasping. Of the leaf; partly or wholly surrounding the stem.
cm. Centimeter; 0.01 m.

corolla. Petals of the flower. See *flower*.

cyme. An inflorescence in which the central flower of the group is the most mature; a broad, usually flat-topped cluster of flowers. See *umbel*. □

cymose. Cyme-like.

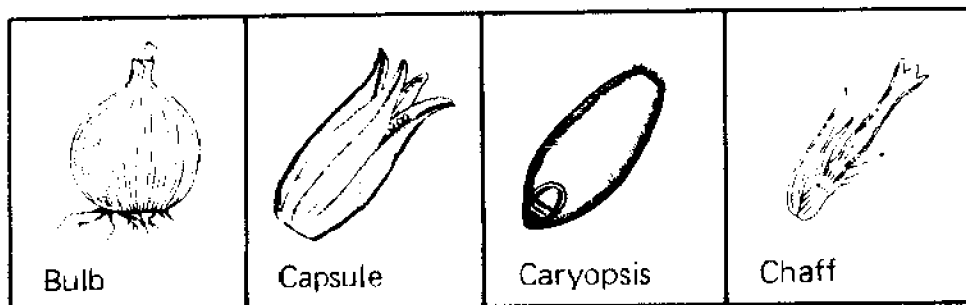
deciduous. Falling off at the end of the growing season.

dehiscent. Splitting open at maturity.

digitate. Compound with members arising from one point.

dilate. Swollen.

dioecious. Of a species; having staminate and pistillate flowers on separate plants.



disarticulation. Separation at a joint.

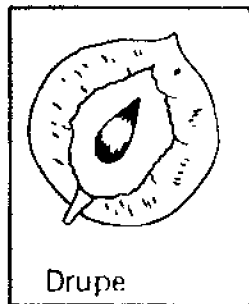
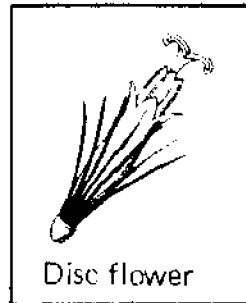
disc flower. A tubular flower belonging to the Compositae. See also *involucre*. □

distal. Terminal.

distinct. Separate; not united with parts in the same series.

dorsal. Back; the outer surface of a part.

drupe. A stone fruit; a fleshy fruit with a single seed enclosed in a bony endocarp or pit, as a plum, olive, or peach. □



elliptic. In the form of an ellipse; longer than wide and rounded at both ends.

entire. Possessing an even margin: without teeth or indentations.

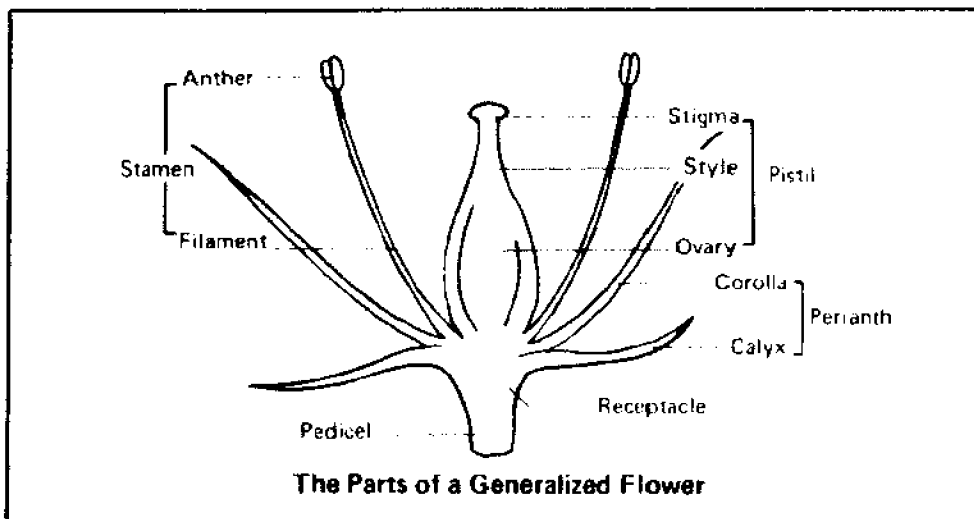
epigynous. Borne on the ovary; an inferior ovary. See *hypogynous*.

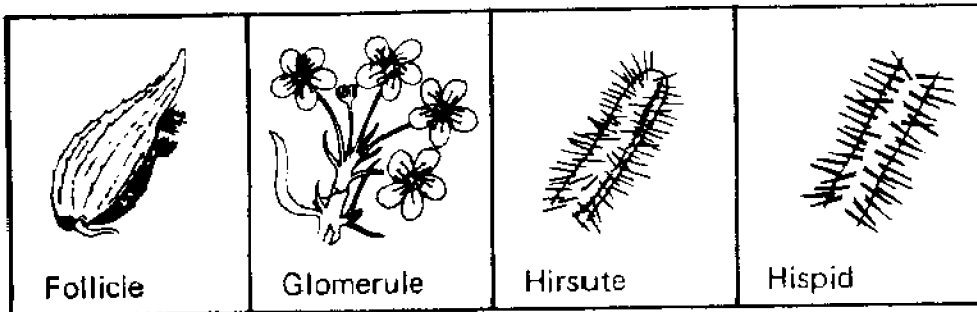
exudate. A discharge; drops from pores.

fibrous roots. Roots numerous and similar in diameter, forming a meshwork.

floret. A small individual flower in grasses or in the Compositae. See *spikelet*.

flower. That part of a seed plant which bears reproductive organs. □





follicle. A dry fruit of one carpel splitting open along a single, ventral seam at maturity. □

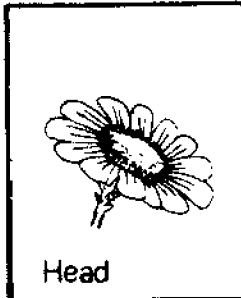
glabrous. Without hairs, smooth.

gland. A depressed area or an appendage which secretes a fluid.

globose. Rounded; like a ball.

glomerule. A dense cluster. □

glume. One of two empty bracts at the base of a grass spikelet.
See *spikelet*. □

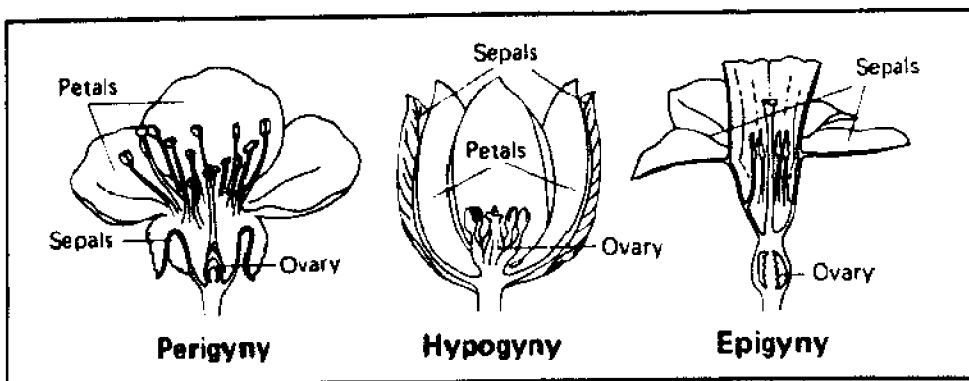


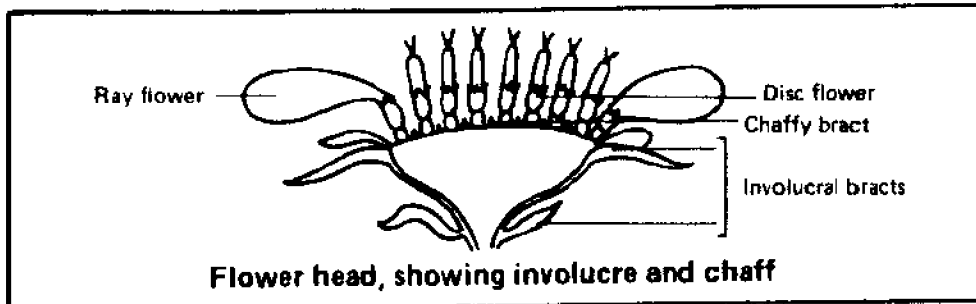
head. Usually a dense inflorescence of sessile or nearly sessile flowers on a short or broadened axis. □

hirsute. Rough with rather stiff or coarse hairs. □

hispid. Having stiff or bristly hairs. □

hypogynous. Having petals and stamens on the receptacle beneath the ovary and unattached to the ovary or calyx. □





imbricate. Overlapped; like shingles on a roof.

inferior ovary. Ovary positioned below the calyx. See *epigynous*.

inflorescence. A flower cluster.

involucre. A series of bracts surrounding a single flower or inflorescence. □

involute. Rolled inward.

lanceolate. Of a leaf; lance-shaped, much longer than broad; edges curved along the broad portion and sharply angled at both ends. □

legume. A dry, dehiscent fruit of one carpel and two valves; seeds attached along a ventral suture; fruit of the family Leguminosae. □

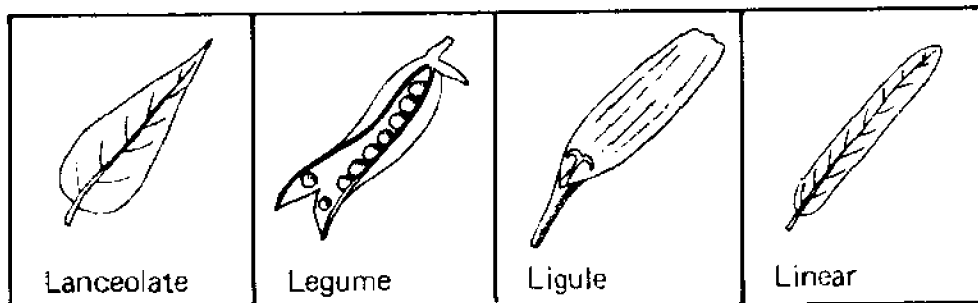
lemma. The lower and larger bract of the spikelet that encloses a grass flower. See *spikelet*. □

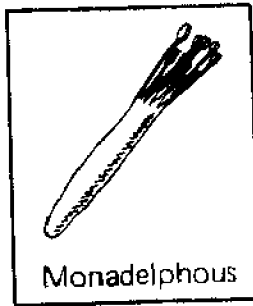
lenticular. Lens-shaped.

lignified. Woody.

ligule. A strap-shaped body. □

linear. Of a leaf; long and narrow with more or less parallel sides; like a blade of grass. □





locule. A cell or cavity within an ovary.

m. Meter; 100 cm.

malodorous. Foul smelling.

margin. The edge of a leaf.

mm. Millimeter; 10 mm = 1 cm.

monadelphous. Of stamens; those that are united into one group by their filaments;

common in the family Malvaceae. □

monoecious. Of a species; having separate staminate and pistillate flowers on the same plant.

nerve. A vascular bundle.

node. A joint where a leaf is borne on a stem.

oblong. Elongated with roughly parallel sides;

length about two or three times the width.

ocrea. A nodal sheath in the Polygonaceae. □

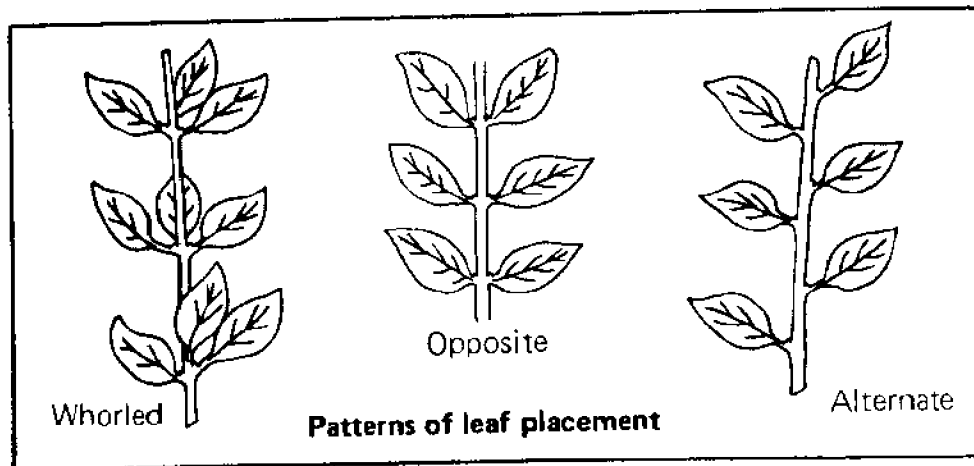
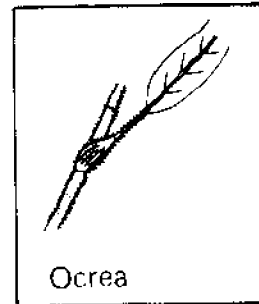
opposite. Arrangement of leaves in which they are placed in pairs, one at either side of a node. □

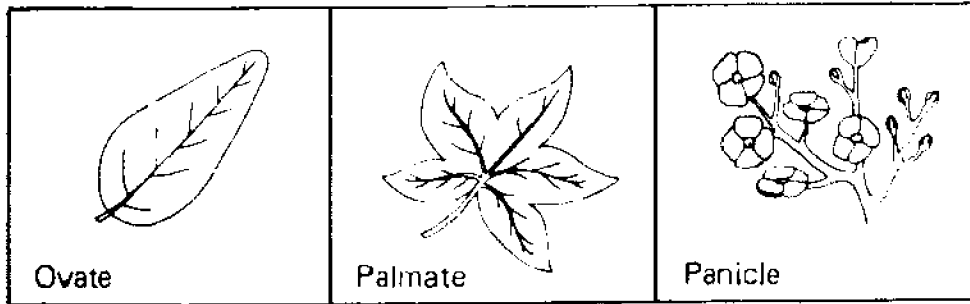
orbicular. Circular or dish-shaped.

ovary. Ovule-bearing, basal portion of the pistil. See *flower*.

ovate. Egg-shaped; broadest below the middle. □

palea. The upper, smaller bract that encloses a grass flower.





palmate. Lobed or divided in a hand-like fashion. □

panicle. An indeterminately branching raceme; an inflorescence that is branched and rebranched. □

pappus. Modified, scale-like, or bristly calyx of the sunflower family. □

parallel. Of lines; extending in the same direction and, in the case of leaf venation, roughly the same distance apart.

pedicel. The stem of one flower. See *flower*.

peltate. Attached by the lower surface and not at the leaf margin. □

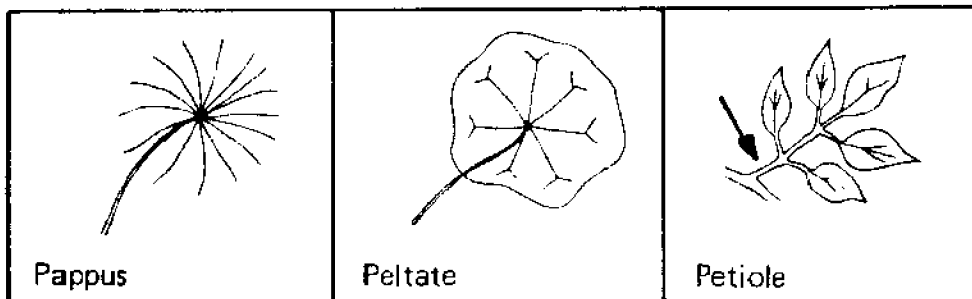
perennial. A plant that continues to live for a number of years.

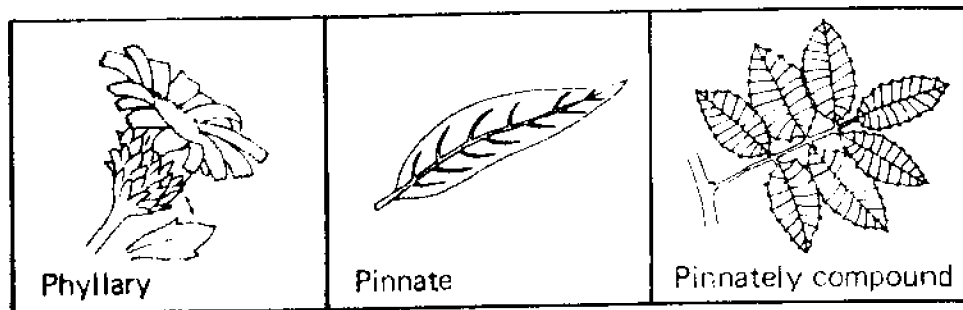
perianth. The floral envelope; consisting of the calyx and corolla. See *flower*.

perigynous. Borne around the ovary; the calyx, corolla, and stamens arising from the apex of a floral cup. See *hypogynous*. □

petal. One of the inner leaf-like parts of the flower; usually brightly colored.

petiole. Leaf stalk. □





phyllary. An involucre bract in the Compositae. □

pinnate. Branching on opposite sides of an axis. □

pinnately compound. Of a compound leaf; one in which leaflets arise on either side of a rachis; a feather-like compound leaf. □

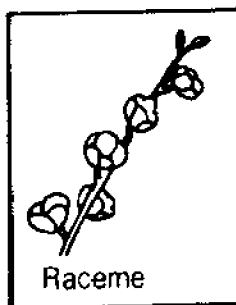
pistil. The ovule-bearing organ of a seed plant. See *flower*.

pistillate. Of a flower; possessing one or more pistils but no functional stamens; a female flower or plant.

prickle. Spine-like extension from the epidermis of a stem or leaf; borne at irregular locations. See *spine*. □

prostrate. Lying flat on the ground.

pubescent. Covered with soft hairs.



raceme. A simple, elongated inflorescence with stalked flowers; the order of flowering usually from the base to the apex. □

racemose. Like a raceme.

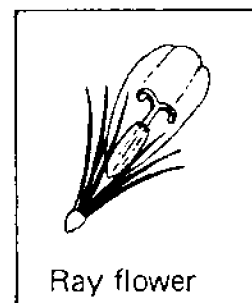
rachilla. The axis that bears the florets in a grass spikelet.

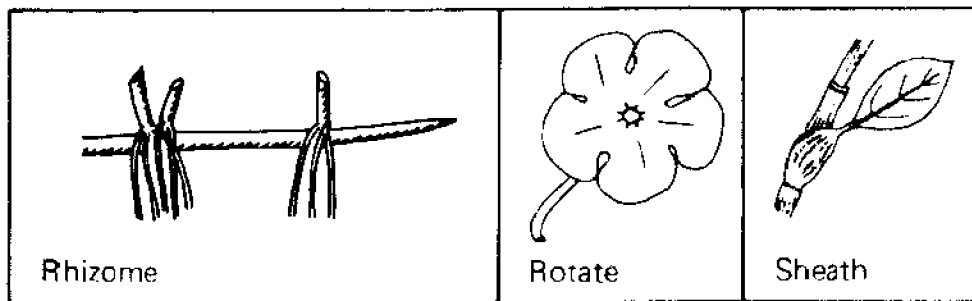
rachis. An axis that bears flowers, leaflets, or grass spikelets.

ray flower. A strap-shaped or ligulate flower in the Compositae. □

receptacle. The axis on which some or all the flower parts are borne. See *flower*.

recurved. Curved backward or downward.





reflexed. Abruptly bent downward or backward.

resin. An organic substance exuded from a plant.

reticulate. Resembling a net or network.

rhizome. A creeping, underground stem bearing scale-like leaves. □

rosette. An arrangement of leaves radiating from the center; usually close to the ground.

rotate. Wheel-shaped; with a short tube. □

scale. Small, dry, flattened bract.

sepal. One of the outer leaf-like parts of a flower; usually green but sometimes another color.

septum. A partition.

serrate. Of a leaf margin; a saw-toothed pattern.

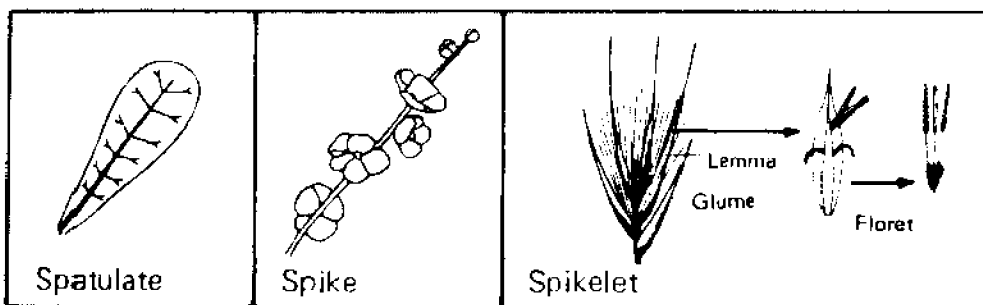
sessile. Not stalked.

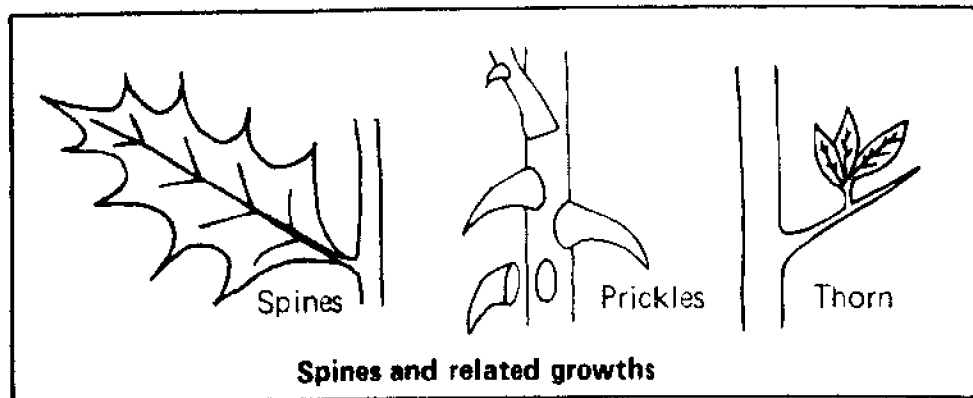
sheath. A tubular structure surrounding a part. □

spatulate. Oblong with an attenuated base. □

spike. An unbranched inflorescence with sessile flowers. □

spikelet. The basic unit of a grass or sedge inflorescence. □





spine. A strong, sharp-pointed body, distinguished from a thorn by absence of vascular tissue and from a prickle by its regularity of placement. □

stamen. Male reproductive structure of a flower; the filament and anther. See *flower*.

staminate. Bearing stamens; a male flower or a male plant.

stellate. Studded with star-shaped arrangements of hairs. □

stigma. Portion of a pistil that receives pollen. See *flower*.

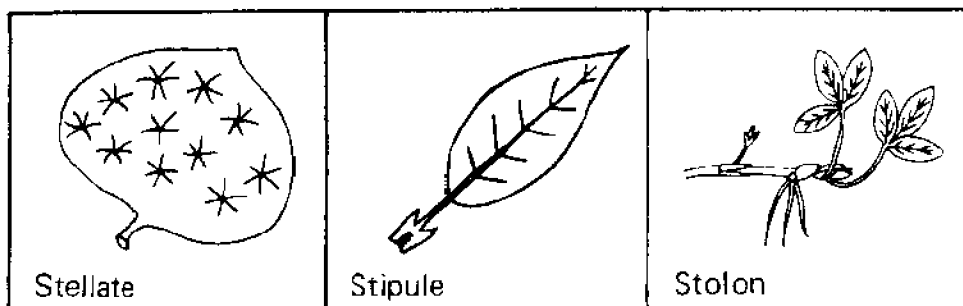
stipule. One of a pair of appendages that may be present at the point of attachment of the leaf to the stem. □

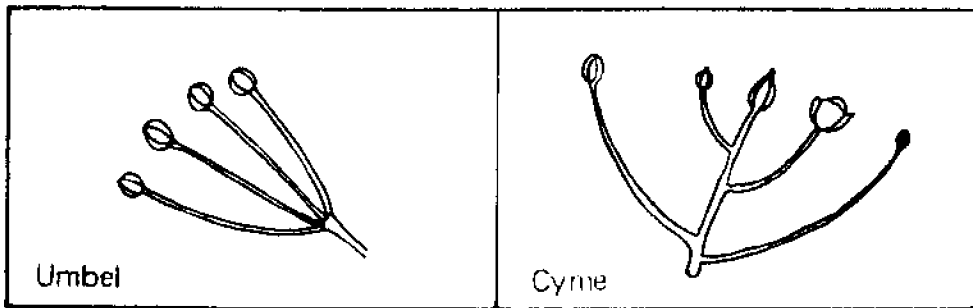
stolon. A horizontal, above-ground stem that roots at the nodes. □

style. Portion of a pistil between the stigma and ovary. See *flower*.

subsessile. Almost sessile; possessing a minute stalk.

subshrub. A plant woody at the base and herbaceous above it.





subtend. To be situated below or close to a bract at the base of a flower.

succulent. Possessing thick, juicy parts.

superior ovary. Ovary having the sepals, petals and stamens attached at or near its base. See *perigynous*.

taproot. An enlarged primary root.

tendril. A segment of a stem or leaf modified into a slender, twining holdfast.

tepals. Divisions of a perianth not clearly differentiated into sepals and petals.

thorn. A sharp-pointed branch. See *spine*. □

trigonus. Roughly triangular or three-sided.

trifoliolate. Of a compound leaf; bearing three leaflets.

umbel. A flat-topped inflorescence whose pedicels arise from a common point. □

umbellate. Resembling an umbel.

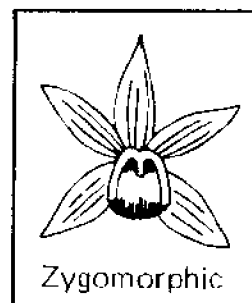
unisexual. Of one sex; pistillate or staminate only.

viscid. Sticky.

whorl. An arrangement of leaves in which three or more are placed at a node. See *opposite*. □

wing. A thin, dry, membranous expansion of an organ.

zygomorphic. Exhibiting irregular or bilateral symmetry. □



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