

COMMON GRASSES

OF THE CARIBOO FOREST REGION

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Range Section

Illustrated by

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INTRODUCTION

Of all the world's flowering plants, the grasses, the POACEAE Family, are undoubtedly the most important to humans. They are the source of the principal foods of people and domestic animals. Despite this fact, we usually know very little about this group of plants.

This is possibly because the Grass Family is one of the largest of all families of plants in number of species, and some magnification is often needed to see the features which distinguish them.

The purpose of this field guide is to present the Grasses of the Cariboo Region in a simplified manner in the hope that it will be helpful to a wide range of potential users.

In sections One and Two the features which separate the various Grass Tribes and Genera have been illustrated, as well as the principal terms used in describing parts of a grass. The characteristics used can be seen with the naked eye or with ten times magnification. Vegetative or floral features are used, according to which is the most useful.

Section Three has a list of the 125 grass species which have been collected to date in the Cariboo Forest Region, arranged alphabetically according to genus. The most recent nomenclature is used, giving synonyms and common names.

Brief descriptive keys are given for the major species. For a more complete description of each species, reference should be made to the recognized grass keys listed in the bibliography.

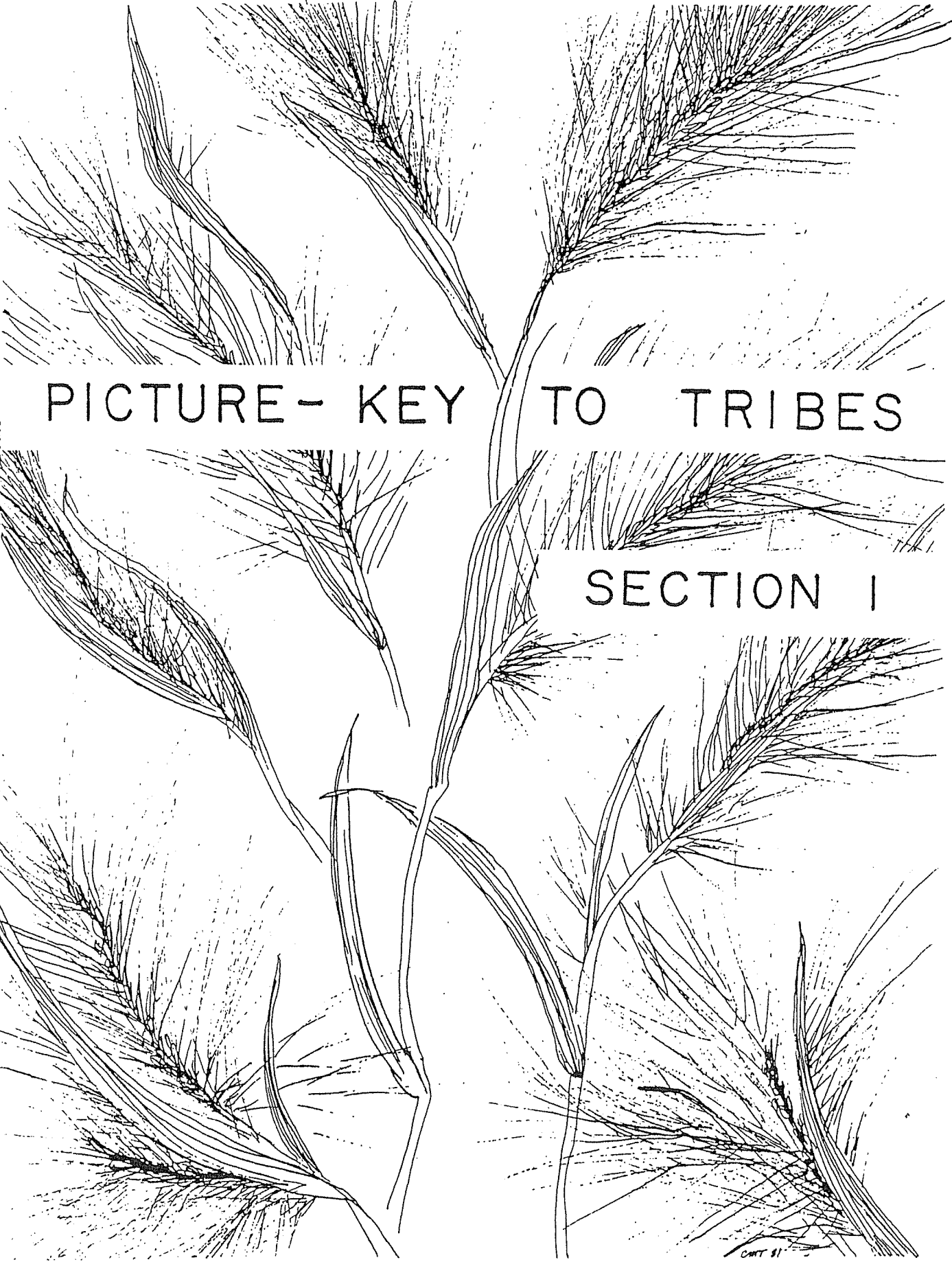
Under "Comments" an indication is given as to the abundance and distribution of each grass. Definitions of the zone and subzone boundaries can be found on a map of the Biogeoclimatic Zones of the Cariboo Forest Region.

The illustrations are original drawings by Carole M. Thompson (Research Section) using specimens from the Cariboo Region Herbarium.

It is hoped that this field guide to Grasses in the Cariboo will help field workers to differentiate grasses; and that it will provide a base to which further information can be added.

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PICTURE - KEY TO TRIBES

SECTION I


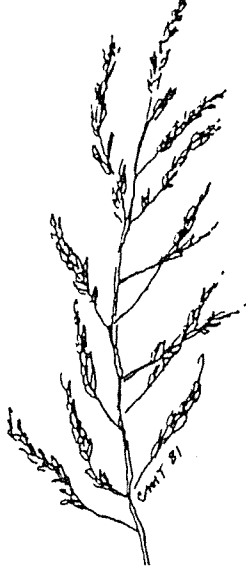
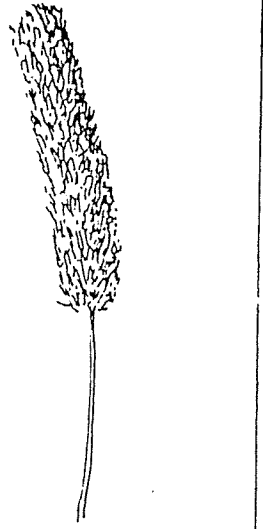
CHIT 91

The grasses form such a large family that it is useful to divide it into subdivisions. These subdivisions are called TRIBES. The common Cariboo Grasses divide up into six of these Grass TRIBES.

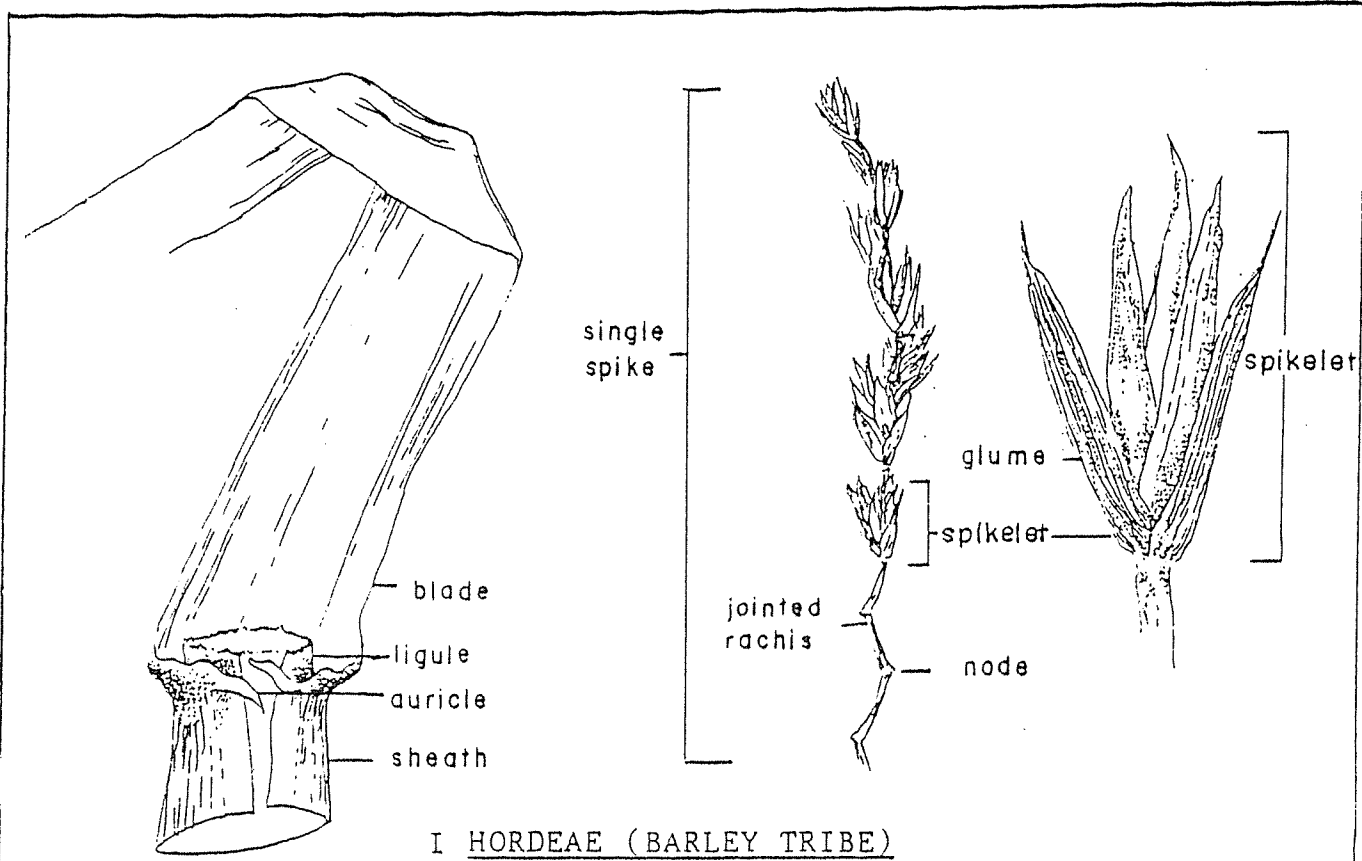
The six TRIBES are first separated according to whether the inflorescence (flowering-head) is a SPIKE or a PANICLE.

The SPIKE type of inflorescence has spikelets which are sessile (attached directly) on the rachis, and may be in the form of a single spike or a multiple spike.

The PANICLE type of inflorescence has spikelets at the end of branches. In some grasses such as timothy, the branches are so short that the inflorescence forms a closed panicle.

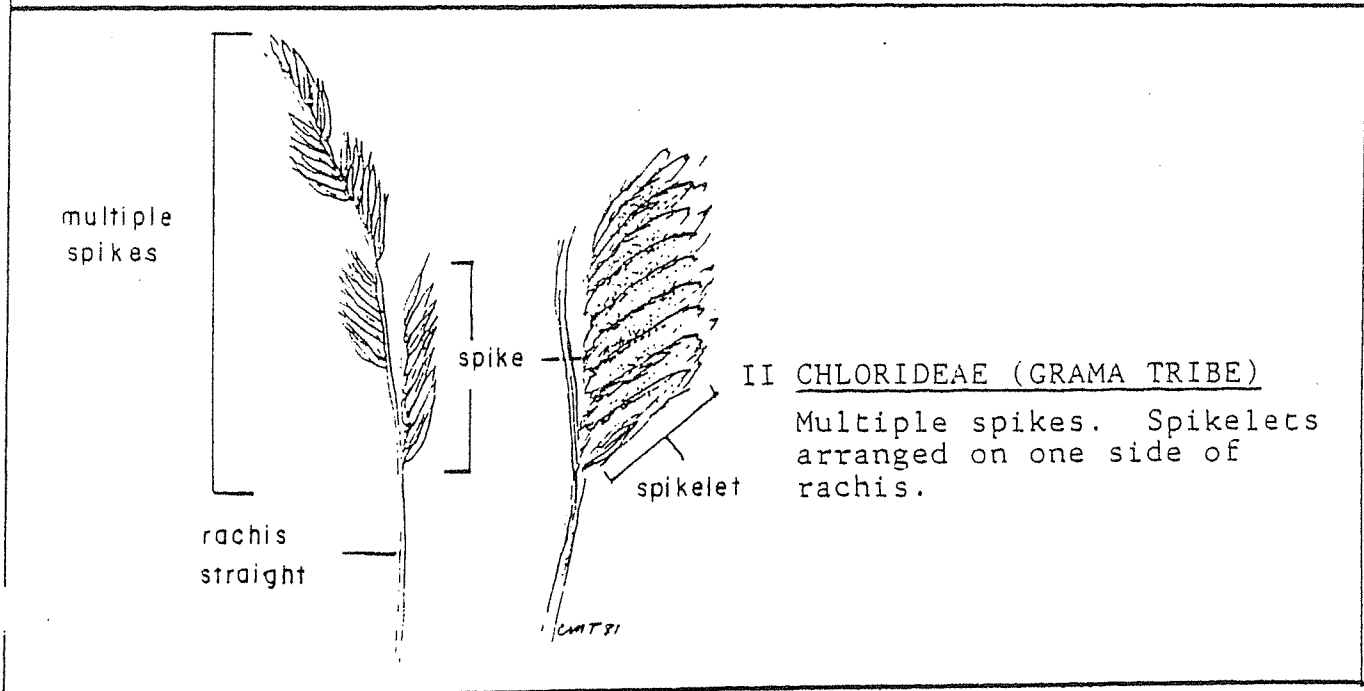
Type of inflorescence - SPIKE	Type of inflorescence - PANICLE	
		
<p>single spike multiple spike</p>	<p>panicle open</p>	<p>panicle closed</p>
<p>I <u>HORDEAE (BARLEY TRIBE)</u> II <u>CHLORIDEAE (GRAMA TRIBE)</u></p>	<p>III <u>AGROSTIDEAE (TIMOTHY TRIBE)</u> IV <u>FESTUCEAE (FESCUE TRIBE)</u> V <u>AVENEAE (OAT TRIBE)</u> VI <u>PHALARIDEAE (CANARY GRASS TRIBE)</u></p>	

Type of inflorescence - SPIKE



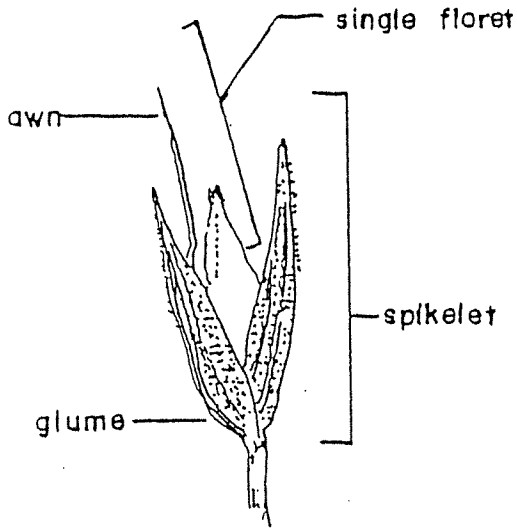
I HORDEAE (BARLEY TRIBE)

Single spike. Spikelets sessile on opposite sides of rachis.



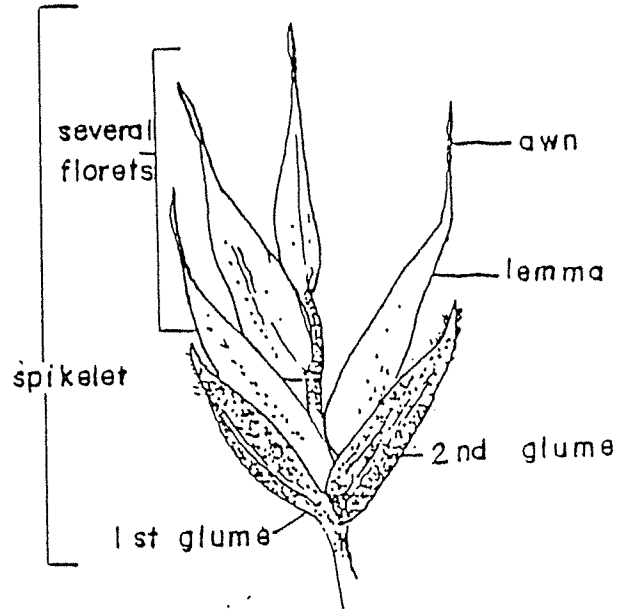
II CHLORIDEAE (GRAMA TRIBE)

Multiple spikes. Spikelets arranged on one side of rachis.



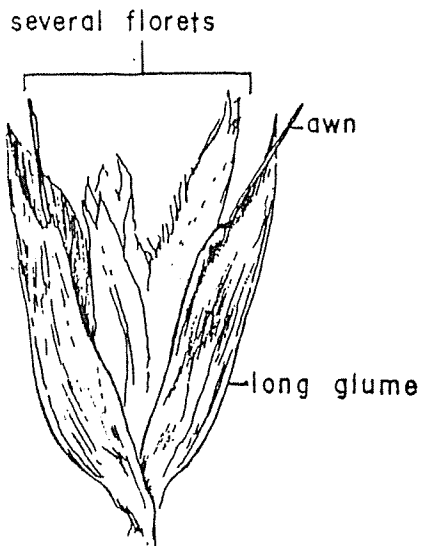
III AGROSTIDEAE (TIMOTHY TRIBE)

Single floret to the spikelet. Glumes small.



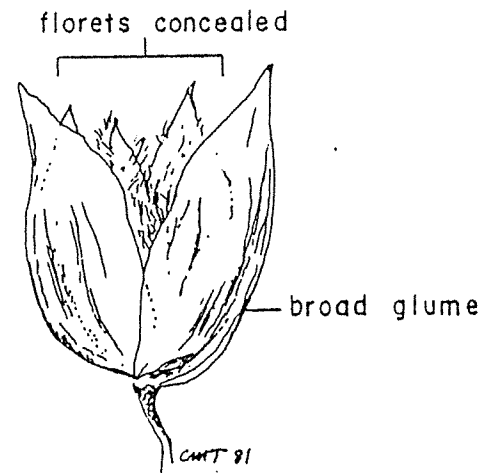
IV FESTUCEAE (FESCUE TRIBE)

More than one floret to the spikelet. Glumes shorter than first floret. Glumes small.



V AVENEAE (OAT TRIBE)

More than one floret to the spikelet. Glumes large, as long or longer than first floret. Lemmas awned from the back, or awnless.



VI PHALARIDEAE (CANARY GRASS TRIBE)

More than one floret to the spikelet. Glumes broad, boat-shaped, concealing the floret.

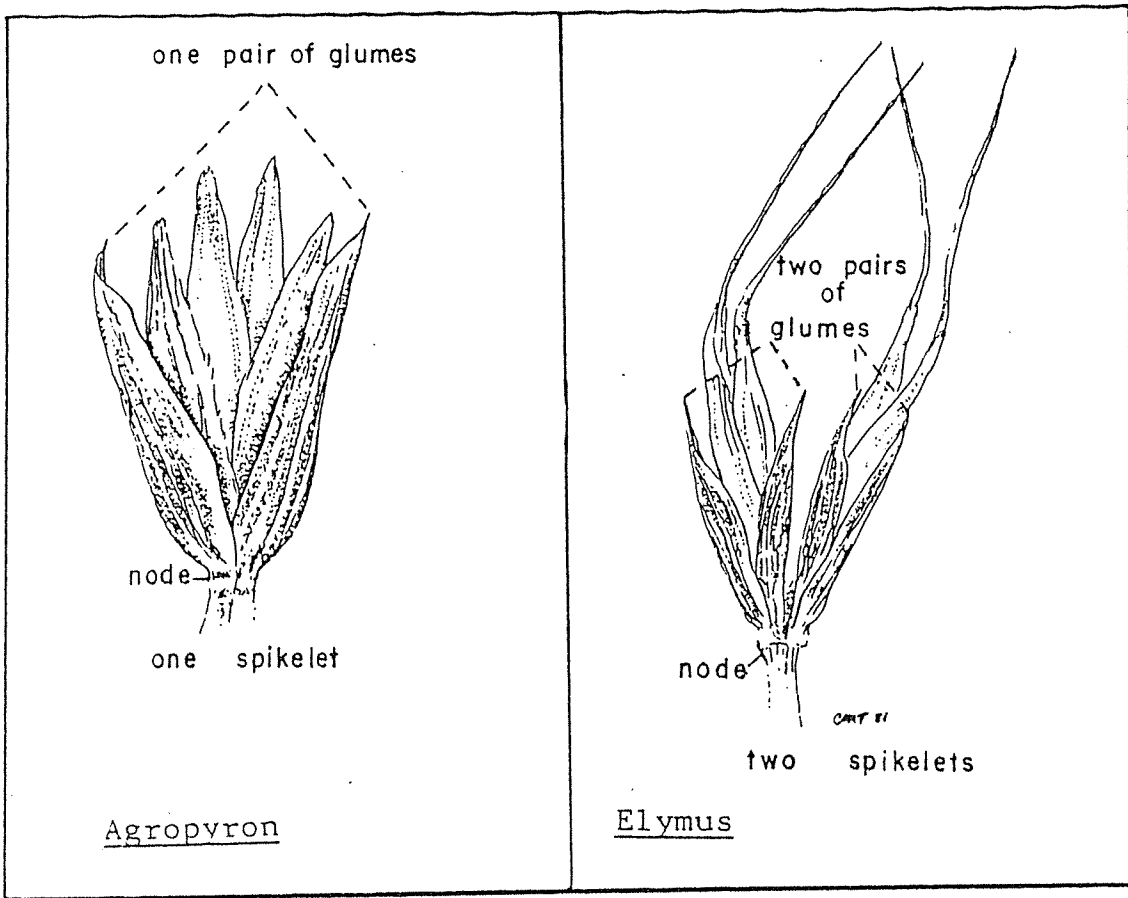


PICTURE - KEY TO GENERA

SECTION 2

I HORDEAE (BARLEY TRIBE)

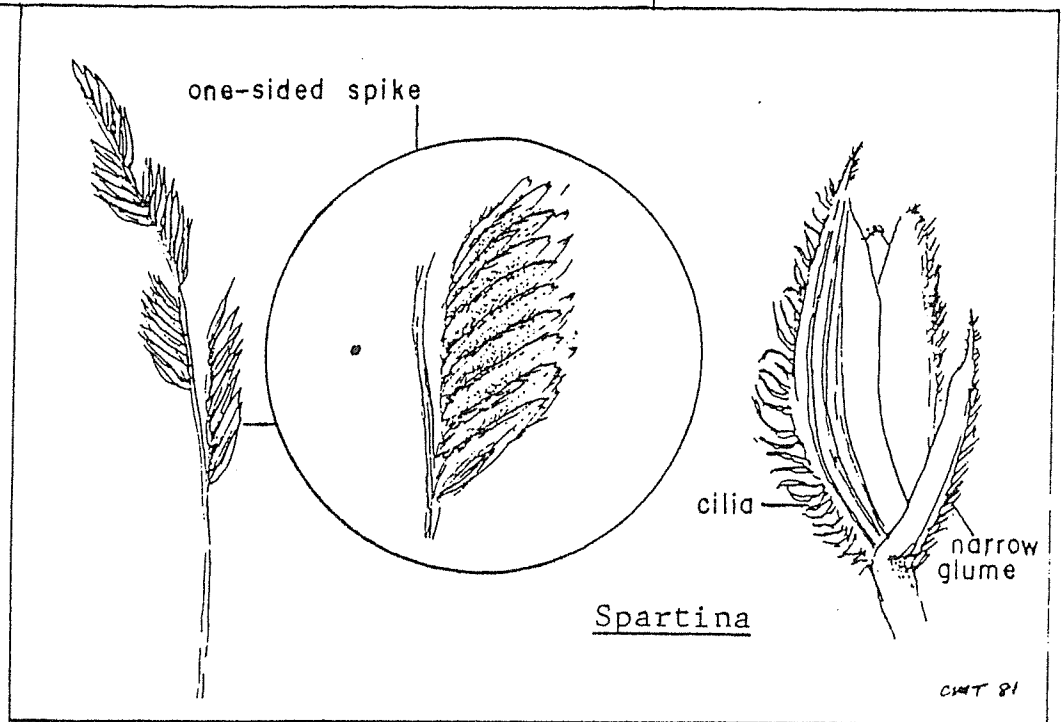
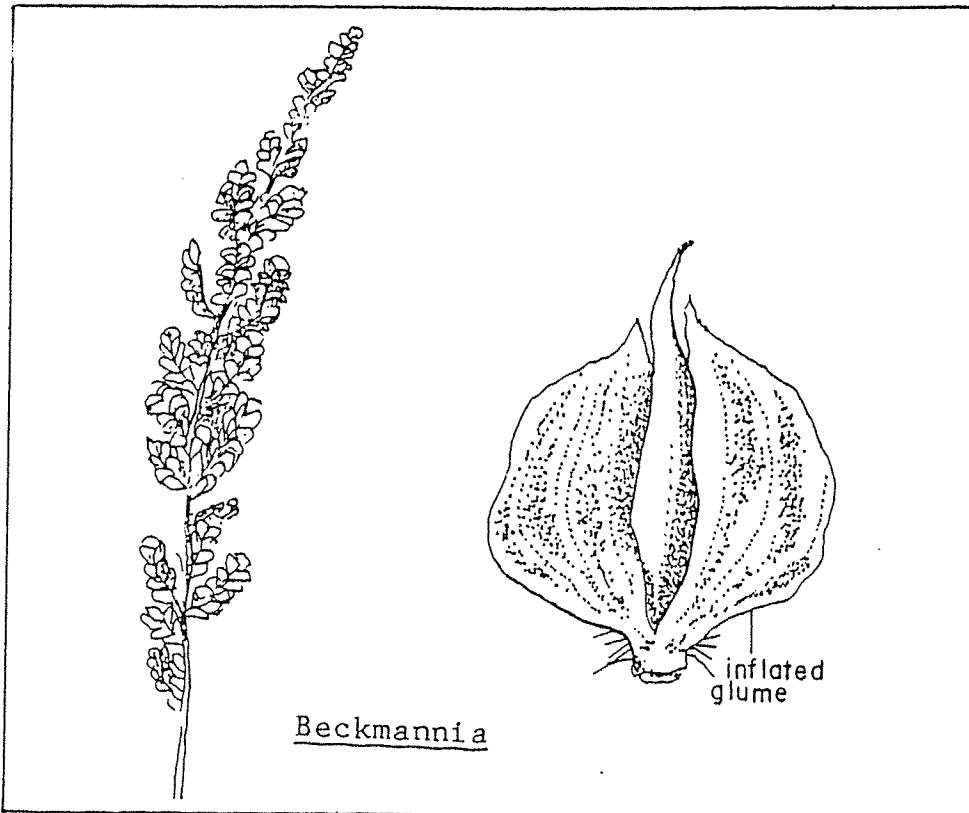
Single spike.



- 1. Single spikelet to a node. Agropyron
- 2. Two spikelets to a node, alike. Elymus
- 3. Two or three spikelets to a node,
glumes extending into long awns. Sitanion
- 4. Three spikelets to a node, lateral
pair pediceled. Hordeum

Agropyron
Pseudopyron
Thriopyron
Pastopyron
Leymus

Multiple spike.



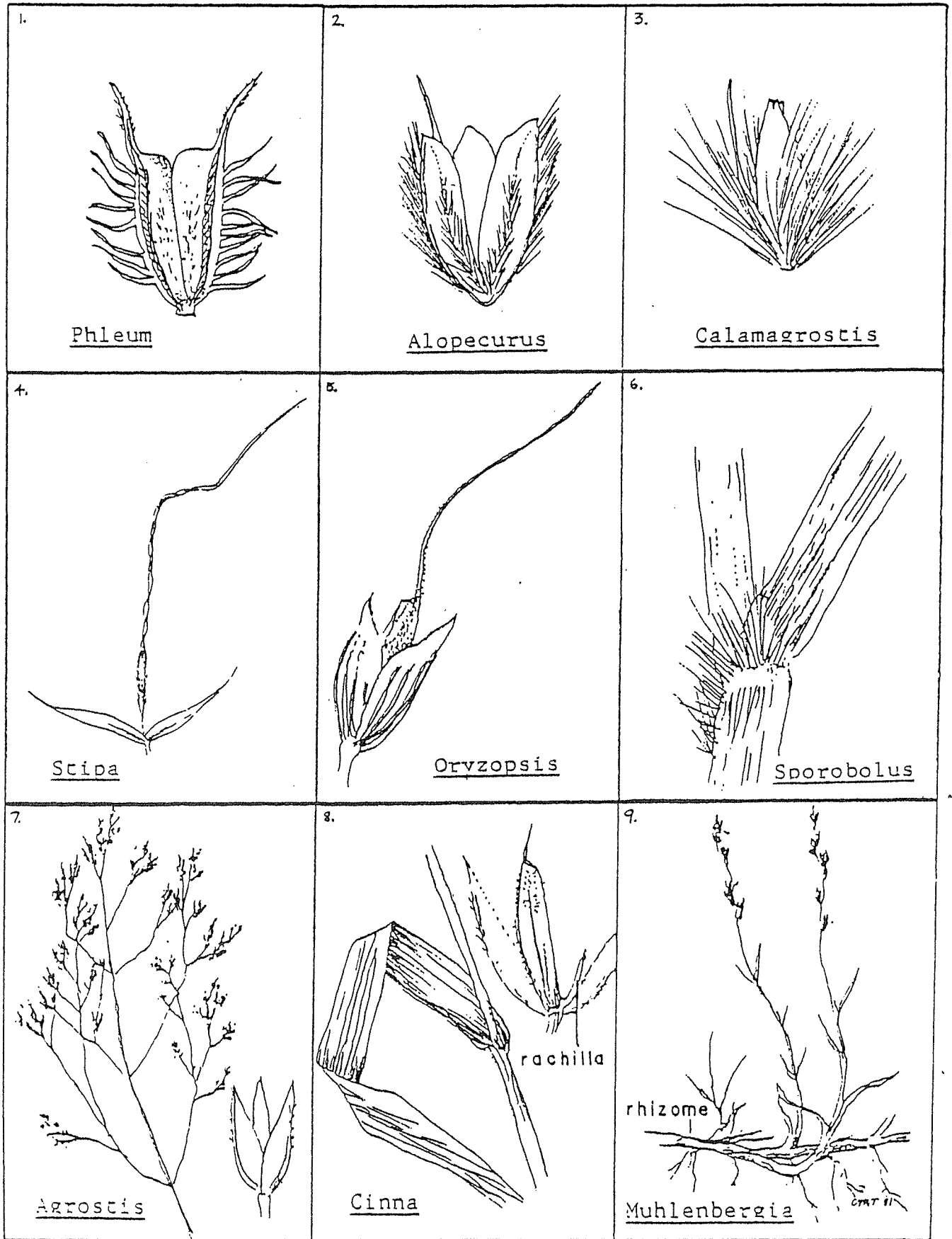
1. Several 1-sided spikes; glumes inflated, semi-circular ...
... Beckmannia syzigachne
2. Several 1-sided spikes; glumes narrow, long ciliate on keel ...
... Spartina gracilis
3. One to three 1-sided spikes; glumes ciliate on the keel ...
... Bouteloua gracilis

III AGROSTIDEAE (TIMOTHY TRIBE)

Single floret to the spikelet.
Glumes small.

1. Spikelike cylindrical panicle; only glumes awned ... Phleum
2. Spikelike cylindrical panicle; only lemmas awned ... Alopecurus
3. Spikelets small; tuft of hair at base of lemma Calamagrostis ✓
4. Lemma with terminal awn twisted and bent, much longer than the firm body Stipa ✓
5. Spikelets large; lemma plump, awned Oryzopsis ✓
6. Panicle open; base of leaves with a dense ring of hairs Sporobolus ✓
7. Spikelets very small; lemma thin and delicate; panicle usually open Agrostis ✓
8. Panicle drooping; lemma usually short-awned; the rachilla prolonged as a bristle; leaves broad; plants usually tall Cinna
9. Panicle close, slender; low rhizomatous plants; usually in moist areas Muhlenbergia

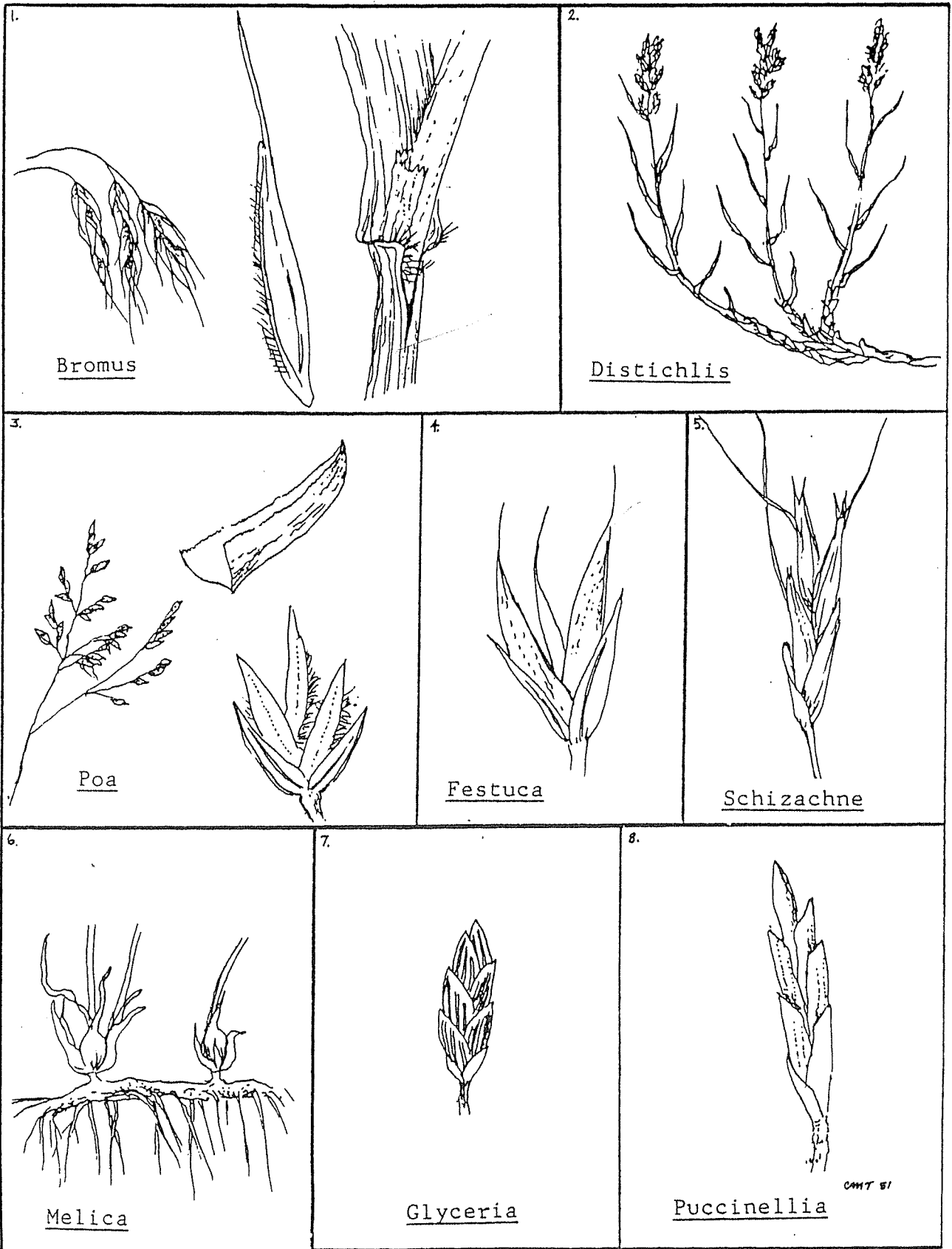
III AGROSTIDEAE (TIMOTHY TRIBE)



IV FESTUCEAE (FESCUE TRIBE)

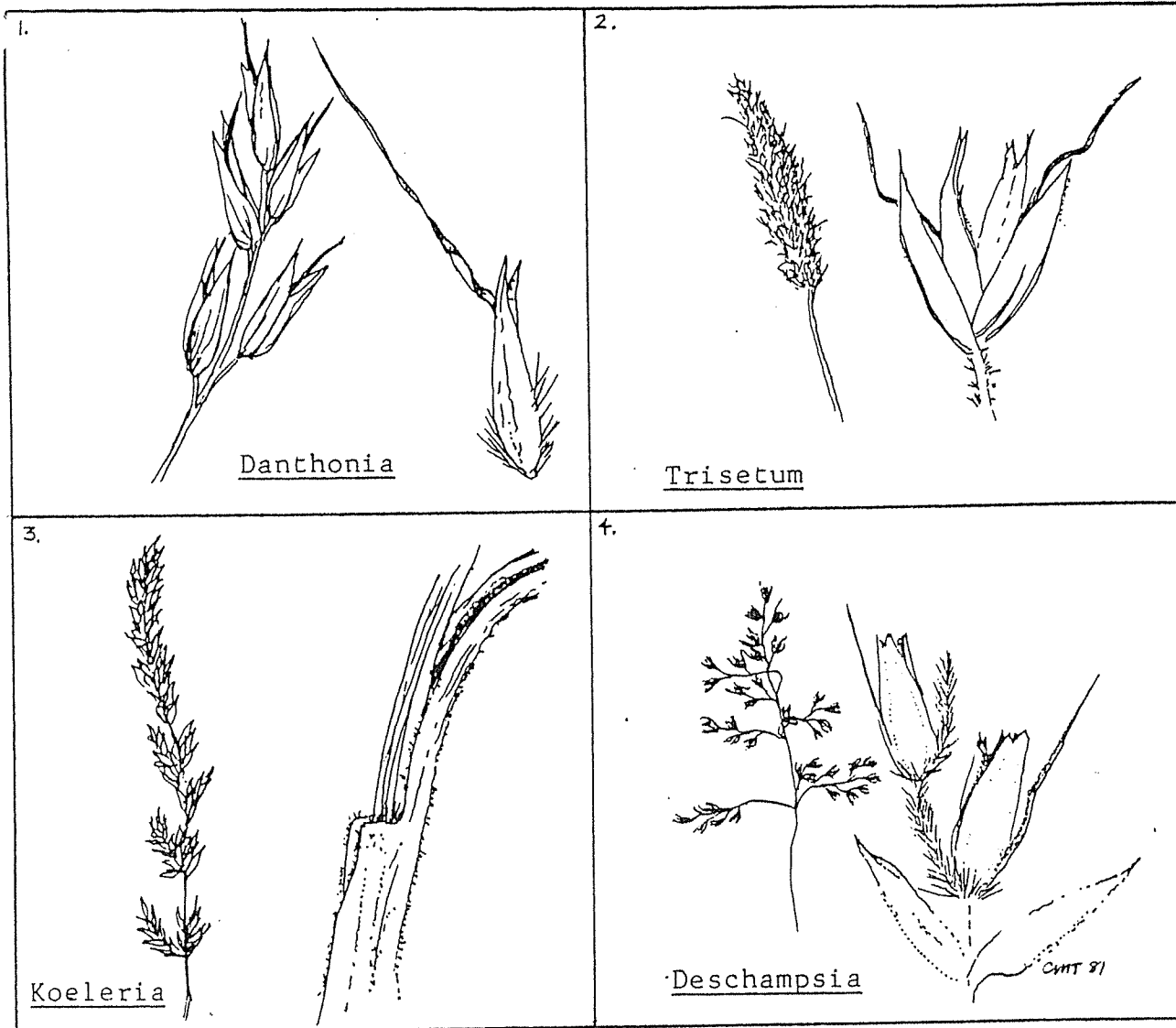
More than one floret to the
spikelet. Glumes shorter
than first floret; small.

1. Spikelets large; lemmas awned from minutely bifid
apex; sheaths closed; leaves flat, broad Bromus
2. Low plants with extensive creeping rhizomes;
alkali areas Distichlis
3. Spikelets small; lemmas awnless; leaf tip boat-shaped . Poa
4. Spikelets small; lemmas awned; leaves narrow Festuca
5. Spikelets long, slender; lemmas awned; glumes usually
purplish; panicle drooping Schizachne
6. Spikelets slender; awnless; culm bulbous based Melica
7. Open panicle; lemmas striated; wet areas Glyceria
8. Open panicle; lemmas not striated, alkali areas Puccinellia



V AVENEAE (OAT TRIBE)

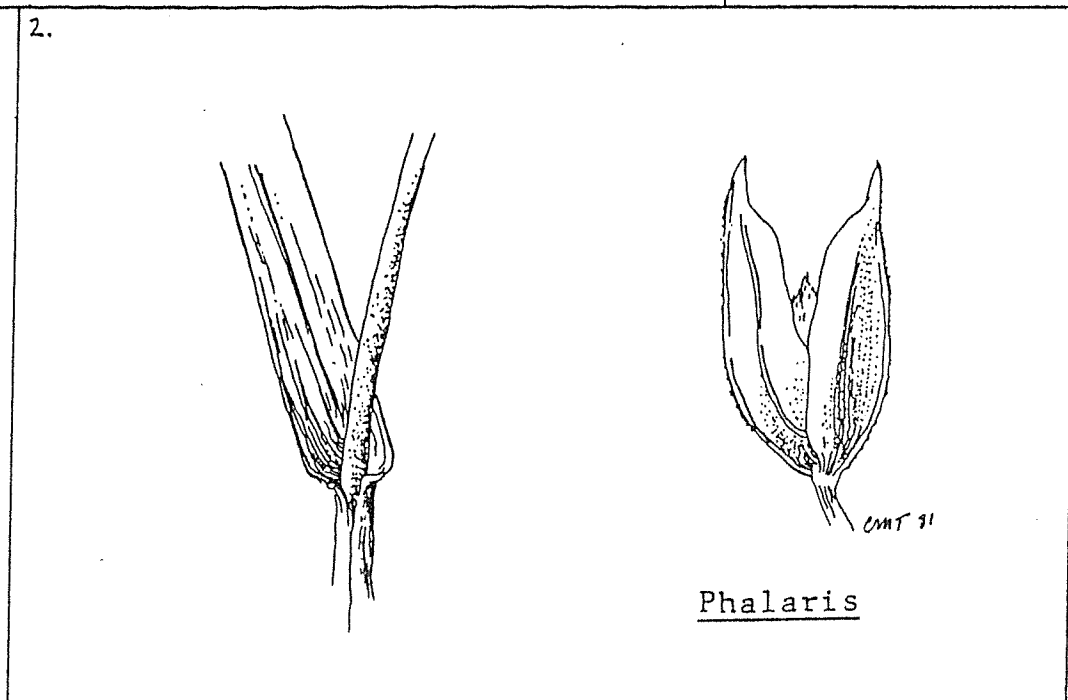
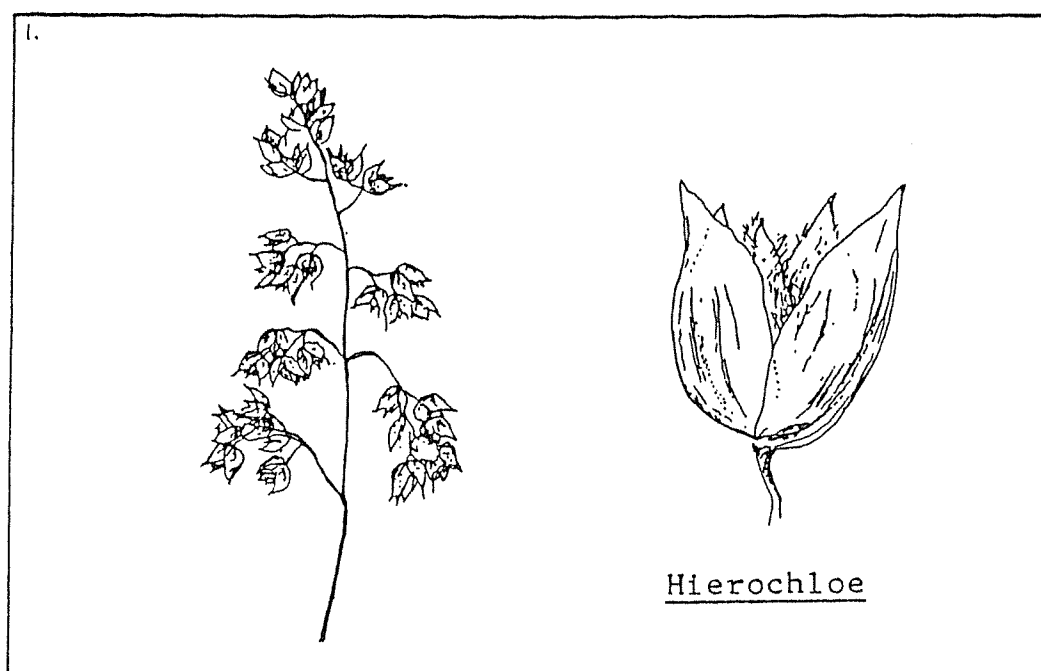
More than one floret to the spikelet.
Glumes large, as long or longer than
first floret.



1. Spikelets large, few in number, lemma rounded on back, bifid at the apex. Danthonia
2. Panicle compact, lemma deeply cleft at the apex with a conspicuous bent awn. Trisetum
3. Panicle compact, lemma awnless or very short-awned, sheath often pubescent. Koeleria
4. Spikelets glisten in sunlight, lemma rounded on back, 3-4 toothed at the apex. Moist areas. Deschampsia

VI PHALARIDEAE (CANARY GRASS TRIBE)

More than one floret to the spikelet.
Glumes broad, boat-shaped, concealing
the florets.



1. Sweet-smelling grass with broad, shining, bronze-coloured spikelets; lemmas three, pubescent Hierochloa
2. Tall, broad-leaved grass of wet places; one lemma prominent, shining; two others much reduced Phalaris



KEY TO SPECIES

SECTION 3

SpeciesAGOPYRONA. x brevifolium Scribn.Synonym
A. caninum (L.) Beauv. var. andinum
(Scribn. & Smith) Hitchc.Common Name
WheatgrassComments
UncommonA. pectiniforme Roemer & SchultesA. cristatum (L.) Gaertn.

Crested Wheatgrass

Introduced for forage pur

A. dasystachyum (Hook.) Scribn.

Thick Spike Wheatgrass

Uncommon; native

A. repens (L.) Beauv.

Quackgrass

Introduced weed; widespre

A. spicatum (Pursh) Scribn. & Smith

Bluehunch Wheatgrass

Common; grassland; IDF, P
SBSaA. trachycaulum (Link) Malte

Slender Wheatgrass

Common; grassland to open
forest; IDF, PPBG, SBS, Evar. majus (Vasey) Fern.A. caninum (L.) Beauv. ssp. majus
var. majusA. pauciflorum (Schwein.) Hitchc.
var. pauciflorumvar. novae-angliae (Scribn.) Fern.A. pauciflorum (Schwein.) Hitchc.
var. novae-angliae (Scribn.)
Taylor & MacBrydevar. trachycaulumA. pauciflorum (Schwein.) Hitchc.var. unilaterale (Cassidy) MalteA. caninum (L.) Beauv. var.
unilaterale (Vasey) Hitchc.A. pauciflorum (Schwein.) Hitchc.
var. unilaterale (Vasey) Taylor
& MacBrydeA. violaceum (Hornem.) LangeA. caninum (L.) Beauv. var.
latiglume (Scribn. & Smith)
Hitchc.Broad-glumed Wheatgrass Common; mid elevation to
alpine; SBSa, ESSFG, AT

1a. Plants not bunchgrasses; rhizomes well developed

2a. Lemmas glabrous; blades lax, flat.

2b. Lemmas pubescent; blades firm, stiff.

A. repensA. dasystachyum

- 1b. Plants bunchgrasses; rhizomes lacking or poorly developed
- 3a. Spikelets crowded, some 4 times as long as the internodes, strongly divergent; glumes and lemmas with awns 2-4 mm..... A. pectiniforme
- 3b. Spikelets rather distant, usually shorter than the internodes; lemmas awnless to strongly awned; anther long, 4-6 mm..... A. spicatum
- 3c. Spikelets from less than 2-2.5 times as long as the internodes; spike relatively slender, 8-20 cm long; anthers short, 1-1.6 mm..... A. trachycaulum ,
var. unilateral
- 4a. Lemmas with long awns, 10-25 mm.....
- 4b. Lemmas unawned or with awns up to 5 mm
- 5a. Spikelets not crowded, the top one scarcely reaching the base of the next upper one on the same side; internodes of the rachis often 4-angled..... var. trachycaul
- 5b. Spikelets close, the tip of one overlapping the base of the next upper one on the same side; internodes of rachis mostly 2-angled
- 6a. Glume, excluding awn, 10-16 mm; spike 5-12 mm thick..... var. majus
- 6b. Glume 7-10 mm; spike 3-6 mm thick..... var. novae-angl
- 3d. Spikelets mostly 2.5-3 times as long as the internodes; spike proportionally broad, compact, 4-8 cm long
- 7a. Lemmas awnless or with an awn up to 5-6 mm; spikes often purplish..... A. violaceum
- 7b. Lemmas with relatively long awns, 8-20 mm..... A. x brevifolium

Other Species: A. elongatum (Host) Beauv. - introduced for forage purposes; also seeded on highway banks
A. intermedium (Host) Beauv. - used in seeding mixtures on dry range
A. riparium Scribn. & Smith - seeded for erosion control
A. smithii Rydb. - uncommon native
A. trichophorum (Link) Richt. - used in seeding mixtures in IDF

AGROSTIS

- A. scabra Willd. Hair Bentgrass Widespread, moist grassland wetlands
- A. stolonifera L. Creeping Bentgrass Moist grassland, stream b also seeded for forage
- 1a. Palea lacking; anthers < 1 mm; panicle generally purplish, diffuse, lower branches naked at base..... A. scabra
- 1b. Palea evident; more than half as long as lemma; anther > 1 mm; panicle branches stiff, spikelet bearing to the base; plant stoloniferous..... A. stolonifera
- Other Species: A. exarata Trin. - subalpine
A. thurberiana Hitchc. - subalpine to alpine
A. variabilis Rydb. - subalpine to alpine

Species

ALOPECURUS

A. aequalis Sobol

A. geniculatus L.

Tufted perennial with flat leaves, both surfaces and margins scabrous; cylindrical spikelike slender panicle; growing in wet places or partly submerged

- 1a. Awn arising from near the middle of the lemma, rarely as much as 1.5 mm longer than glumes; glumes 2-2.3 mm long..... A. aequalis
- 1b. Awn arising from the lower third of the lemma, exserted 2-3 mm beyond the glumes; glumes 2.5-3.5 mm..... A. geniculatus

Other Species: A. arundinaceus Poir.
A. pratensis L.

- Creeping Foxtail - seeded for forage purposes on wetlands
- Meadow Foxtail - seeded for forage purposes on wetlands

Common Name

Little Meadow Foxtail

Water Meadow Foxtail

Comments

Common; wetlands

Uncommon; wetlands

ARISTIDA

A. longisetata Steud.

Red Three-Awn

Dry grassland; PPBG; no limits

Tufted perennial, easily distinguished by the three long awns (6-8 cm) from each lemma..... A. longisetata

BECKMANNIA

B. syzigachne (Steud.) Fern.

American Sloughgrass

Wetlands

Stout annual with wide scabrous blades; inflorescence distinctive (see illustration in Section 2).. B. syzigachne

BOUTELOUA

B. gracilis (H.B.K.) Lag.

Blue Grama Grass

Grassland; PPBG; collected only one site near Big

Plants short, rhizomatous, forming dense, thick mats; inflorescence distinctive with 1-3 1-sided spikes..... B. gracilis

B. gracilis

BROMUS

B. anomalus Rupr.

Nodding Brome

Open forest; IDF, SBS

B. ciliatus L.

Fringed Brome

Widespread; shrub-carr, c forest

B. inermis Leys.

subsp. inermis

Smooth Brome

Introduced for forage pur

subsp. pumpellianus (Scribn.) var. pumpellianus

Pumpelly Brome

Native; dry grassland; c c in disturbed areas

B. tectorum L.

Downy Chess

Introduced annual, weedy disturbed areas

B. vulgaris (Hook) Shear.

Columbia Brome

Moist forest and opening: ESSFh, ICH, SBSb and c

1a. Annual, panicle open and loose; blades softly pubescent, to 12 cm long; awn 12-14 mm..... B. tectorum

1b. Perennial

2a. Creeping rhizomes present

3a. Lemmas glabrous..... B. inermis subsp. inermis

3b. Lemmas pubescent near the margins..... B. inermis subsp. pumpellianus var. pumpellianus

2b. Creeping rhizomes absent

4a. Lemmas pubescent unevenly

5a. Ligule prominent, 3-5 mm, awn often >5 mm..... B. vulgaris

5b. Ligule inconspicuous, 1 mm; awn 2-4 mm..... B. ciliatus

4b. Lemmas pubescent over entire surface; panicle drooping..... B. anomalus

Other Species: B. carinatus H. & A. - uncommon perennial, open woods, waste places

B. commutatus Schrad. - introduced annual, weedy

B. japonicus Thunb. - introduced annual, weedy

SpeciesCALAMAGROSTIS

C. canadensis (Michx.) Beauv.
ssp. canadensis var. canadensis

ssp. langsdorfii (Link) Hulten

C. inexpansa Gray

C. neglecta (Ehrh.) Gaertn.

C. purpurascens R.Br.

C. rubescens Buckl.

C. scribneri Beal

Synonym

C. canadensis (Michx.) Beauv.
 var. canadensis

C. canadensis (Michx.) Beauv.
 var. scabra (Kurth) Hitchc.

C. stricta (Timm.) Koeler
 var. stricta

C. canadensis (Michx.) Beauv.
 var. robusta Vasey

C. canadensis (Michx.) Beauv.
 var. acuminata Vasey

1a. Awn bent, longer than glumes

2a. Collar pubescent; glumes 4-5 mm

2b. Collar glabrous or scabridulous-pubescent; glumes 5-8 mm

1b. Awn straight, only slightly longer than glumes

3a. Panicle wide, mostly more than 2 cm broad when pressed; blades rather lax, to 10 mm wide; callus hairs almost as long as lemma

4a. Glumes 3.8-4.5 mm; collar hairy or glabrous

4b. Glume 3-3.5 mm, gradually acute

4c. Glumes 5-6 mm, rather strongly scabrous

3b. Panicle relatively congested, rarely over 2 cm broad when pressed; blades stiff, to 4 mm wide; callus hairs ½ to ¾ as long as lemma

5a. Ligule of upper culm leaves 2-4 mm; blades 1.5-3 mm

5b. Ligule of upper culm leaves 5-10 mm; blades 2-4 mm

Common Name

Bluejoint Reedgrass

Widespread, wetlands, open moist forest

Narrow-Spiked Reedgrass

Wetlands

Slimstem Reedgrass

Wetlands

Purple Reedgrass

Open forest to subalpine rocky slopes; ESSF, IDF, :

Pinegrass

Open dry forest; IDF, PPB(SBS, ESSF

Scribner Reedgrass

Wetlands; open moist forest

C. rubescens

C. purpurascens

C. scribneri

C. canadensis ssp. canader
 var. canadensis

C. canadensis var. langsdor

C. neglecta

C. inexpansa

Species

DISTICHLIS

D. stricta (Torr.) Rydb.

Low plants with extensive creeping rhizomes; plants dioecious; collar with tufts of long hairs..... D. stricta

ELYMUS

E. cinereus Scribn. & Merrill

E. glaucus Buckl.
var. glaucus

var. breviaristatus

E. hirsutus Presl

E. macounii Vasey
(SKE x Agrohordeum macounii)

1a. Plants forming large clumps up to 1 m broad, connected by short rhizome..... E. cinereus
1b. Plants tufted, without rhizomes

2a. Spike stiff and erect; lemmas glabrous to somewhat scabrid-pubescent..... E. glaucus
3a. Lemma with awn 1-2 cm..... var. glaucus

3b. Lemma awnless, or awn-tipped..... var. breviaristatus
2b. Spike rather flexuous; lemmas strongly ciliate-margined..... E. hirsutus

Species with Elymus-like characteristics: x Agrohordeum macounii - spike erect or somewhat nodding; rachis disjointing at maturity; glumes very narrow extending into slender awns

Other Species: E. innovatus Beal
E. canadensis L.

Synonym

Common Name

Comments

Saltgrass

Common; saline flats in dry grassland; IDF, PPBG, SBSa

Giant Wildrye

Grassland to forest openings disturbed areas

Blue Wildrye

Widespread; wetlands, moist forest

E. virescens Piper

Uncommon; collected in ICH

Hairy Wildrye

Forest and openings; ESSF, IC

- uncommon; rocky slopes, open forest

- uncommon; PPBG; collected from sand dunes in the Chilcotin River canyon

CINNA

C. latifolia (Trevir.) Griseb.

Woodreed Grass
Widespread; moist forest

Blades flat, wide, 7-15 mm broad; panicle open, drooping; spikelets single flowered..... C. latifolia

DACTYLIS

D. glomerata L.

Orchard Grass
Used in seeding mixtures

Tufted in large tussocks; spikelets crowded in 1-sided clusters; lemmas 8 mm..... D. glomerata

DANTHONIA

D. intermedia Vasey

Timber Oatgrass
Widespread; grassland to forest to alpine

D. spicata (L.) Beauv.

Poverty Oatgrass
Uncommon

- 1a. Lemmas 7-14 mm long, glabrous on the back, bearded on the base and margins only..... D. intermedia
 - 1b. Lemmas 4-5 mm long, pilose on back and margins..... D. spicata
-

DESCHAMPSIA

D. atropurpurea (Wahlenb.) Schaefer

Vahlodea atropurpurea (Wahlenb.)
Fries
Mountain Hairgrass

Open forest; ESSF, SBSc

D. cespitosa (L.) Beauv.

Tufted Hairgrass

Widespread; moist grassland to subalpine; SRSa, IDF, ESSFg

- 1a. Blades flat, 3-6 mm; spikelets purplish; awns stout, scarcely 3 mm long..... D. atropurpurea
- 1b. Blades often folded, usually less than 3 mm broad; spikelets greenish or tawny; awns slender and over 3 mm long..... D. cespitosa

Other Species: D. elongata (Hook.) Munro

- uncommon

FESTUCA

F. altaica Trin.

Altai Fescue

Subalpine; ESSFg; southern limit

F. brachyphylla J.A. Schultes

F. ovina L. var. brevifolia
(R. Br.) Wats.

Alpine Fescue

Subalpine to alpine; ESSF, AT

F. occidentalis Hook.

Western Fescue

Widespread; open dry forest

F. rubra L.

Red Fescue

Several forms; used in seedling mixtures

F. saximontana Rydb.

F. ovina L. var. rydbergii St. Yves

Rocky Mountain Fescue

Common; grassland to open dry forest; IDF, PPBG, SBS

1a. Culms erect; tufted

2a. Panicle spike-like, compact; lemmas 3-5.5 mm with awn 1-3 mm

3a. Leaves scabrous; culms over 20 cm.

3b. Leaves smooth; culms under 20 cm.

2b. Panicle loose, open;

4a. Plants slender; lemmas less than 7 mm with slender flexuous awn 4-12 mm long.

4b. Plants tall, coarse; lemmas more than 7 mm, short awned.

1b. Culms decumbent at base; stoloniferous; lower sheaths reddish.

F. saximontana

F. brachyphylla

F. occidentalis

F. altaica

F. rubra

Other Species:

F. arundinacea Schreb.

F. baffinensis Polunin

F. hallii (Vasey) Piper

var. major (Vasey) Pavlick in ed.

F. pratensis Hudson

F. saximontana Rydb.

var. purpuriana (St. Yves) Pavlick in ed. - subalpine to alpine

- introduced; moist forest openings

- alpine

- IDFa; northern limit

- introduced; moist forest openings

- subalpine to alpine

Species

GLYCERIA

Synonym

Common Name

Comments

G. borealis (Nash) Hatch.

Northern Mannagrass

Wetlands

G. elata (Nash) Jones

Tall Mannagrass

Widespread; wetlands, moist forest

G. grandis Wats.

Reed Mannagrass

Wetlands

G. pulchella (Nash) K. Schum

Uncommon; wetlands

G. striata (Lam.) Hitchc.

Fowl Mannagrass

Widespread; wetlands, moist forest

G. pauciflora Presl

(SEE Torreyochloa pauciflora)

1a. Spikelets cylindrical, mostly well over 1 m long; panicle narrow, erect..... G. borealis

1b. Spikelets mostly flattened, rarely more than 5 mm long; panicle lax

2a. First glume 1-1.5 mm long

3a. Plant stout, often more than 1 m high, with a very large and compound panicle..... G. grandis

3b. Plant slender, rarely more than 5 dm high; panicle less than 2 cm long, few-flowered..... G. pulchella

2b. First glume less than 1 mm long

4a. Blades 2-5 (6) mm wide; ligules usually closed in front; plant 3-8 dm; lemmas barely 2 mm long..... G. striata

4b. Blades 6-12 mm wide; ligules open in front; plants 10-15 dm; lemmas mostly 2-2.2 mm long..... G. elata

Species with Glyceria-like characteristics:

Torreyochloa pauciflora - panicle open; sheaths open; blades flat, 3-12 mm wide; lemmas 2.2-2.6 mm long with prominent nerves, usually with a purplish band just below membranous margin of the blunt tip.

HIEROCHLOE

H. alpina

Alpine Sweetgrass

Alpine meadows

H. odorata

Sweetgrass

Widespread; moist grassland to subalpine

1a. Culms densely tufted; staminate lemmas with long, geniculate and twisted awn..... H. alpina

1b. Culms solitary from a creeping rhizome; staminate lemmas awnless or nearly so..... H. odorata

HORDEUM

H. brachyantherum Nevski

Meadow Barley Uncommon; wetlands

H. jubatum L.

Foxtail Barley

Common; weedy species, usua where alkaline

1a. Glumes awnlike, 2-6 cm long; the spike usually nearly as thick as long..... H. jubatum

1b. Glumes often broadened at base, never so much as 2 cm long; the spike much longer than thick.. H. brachyantherum

KOELERIA

K. macrantha (Ledeb.) Schultes

Junegrass

Common; PPBG, IDF, SBSa

Densely tufted, panicle erect, spike-like; lower sheaths pubescent..... K. macrantha

LOLIUM

L. perenne L.

Perennial Ryegrass

Used in seeding mixtures in

Solitary spike with spikelets placed edgewise to the rachis..... L. perenne

MELICA

M. subulata (Griseb.) Scribn.

Oniongrass

Uncommon; ICH, SBSc

Culms bulbous-based; lemmas unarmed; sheaths usually closed to the top..... M. subulata

MUHELENBERGIA

M. glomerata (Willd.) Trin.

Marsh Muhlenbergia

Uncommon; fens, IDF

M. richardsonis (Trin.) Rydb.

Mat Muhlenbergia

Common; dry to moist grass-land; IDF, PPBG, SBSa

1a. Leaves broad and flat; glumes awl-shaped..... M. glomerata

1b. Leaves involute; glumes ovate, obtuse..... M. richardsonis

<u>Species</u>	<u>Synonym</u>	<u>Common Name</u>	<u>Comments</u>
<u>ORYZOPSIS</u>			
<u>O. asperifolia</u> Michx.		Rough-Leaved Ricegrass	Widespread; open forest
<u>O. hymenoides</u> (Roem. & Schult.) Ricker	<u>Stipa hymenoides</u> Roemer & Schultes	Indian Ricegrass	Grassland; PPBG
<u>O. micrantha</u> (Trin. & Rupr.) Thurb.		Littleseed Ricegrass	Uncommon; rocky slopes; IDF, PPBG
<u>O. pungens</u> (Torr.) Hitchc.		Short-Awned Ricegrass	Common; open dry forest; IDF, PPBG, SBS, ESSF
1a. Lemma smooth.....			<u>O. micrantha</u>
1b. Lemma pubescent			<u>O. hymenoides</u>
2a. Pubescence on lemma long and silky; panicle open.....			<u>O. asperifolia</u>
2b. Pubescence on lemma short			<u>O. pungens</u>
3a. Leaves flat, 3-6 mm wide; spikelets 6-8 mm long.....			
3b. Leaves involute, less than 2 mm wide; spikelets 3-4 mm long.....			
Other Species: <u>O. exigua</u> Thurb.			- uncommon; open dry forest

<u>PHALARIS</u>			
<u>P. arundinacea</u> L.		Reed Canary Grass	Moist grassland, stream banks
Coarse, rhizomatose perennial with elongated panicle 8-20 cm long.....			<u>P. arundinacea</u>
Other Species: <u>P. canariensis</u> L.			- uncommon, introduced annual

<u>PHLEUM</u>			
<u>P. alpinum</u> L.		Mountain Timothy	Common native; subalpine to alpine
<u>P. pratense</u> L.		Timothy	Introduced for forage purposes
1a. Panicle cylindrical, several times longer than wide.....			<u>P. pratense</u>
1b. Panicle oblong, usually not more than twice as long as wide.....			<u>P. alpinum</u>

PHRAGMITES

P. communis (L.) Trin.

Common Reed

Uncommon; marshes, edge of sheltered bays

Very large perennial marsh grass with broad leaves; plant 2-4 m tall..... P. communis

<u>Species</u>	<u>Common Name</u>	<u>Comments</u>
<u>P. canbyi</u> (Scribn.) Howell	Canby's Bluegrass	Dry grassland to subalpine forest
<u>P. cusickii</u> Vasey	Cusick's Bluegrass	Grassland to alpine meadow
<u>P. fendleriana</u> (Steudel) Vasey	Mutton Grass	Dry grassland to subalpine; IDF, ESSFg
<u>P. glauca</u> Vahl	Glaucous Bluegrass	Dry grassland to open forest; IDF, PPBG, ESSFg
<u>P. interior</u> Rydb.	Inland Bluegrass	Widespread; grassland to open forest
<u>P. juncifolia</u> Scribn.	Alkali Bluegrass	Common; IDF, PPBG, SBSa, ESSFg
<u>P. nervosa</u> (Hook) Vasey	Wheeler's Bluegrass	Open forest; IDF, PPBG, SBSa, ESSF
<u>P. palustris</u> L.	Fowl Bluegrass	Widespread; wetlands to open moist forest
<u>P. pratensis</u> L.	Kentucky Bluegrass	Widespread; introduced range grass
<u>P. sandbergii</u> Vasey	Sandberg's Bluegrass	Common; dry grassland; IDF, PPBG, AT
1a. Plants with creeping rhizomes or stolons		
2a. Lemmas webbed at base		
3a. Panicle more or less pyramidal, 3-10 cm; lemma about 3.5 mm.....		<u>P. pratensis</u>
3b. Panicle elongate 10-30 cm; lemmas about 2.6 mm; culms decumbent, stolonous.....		<u>P. palustris</u>
2b. Lemmas not webbed		
3c. Lower blades rather lax; ligule thickened, pubescent (a distinctive feature of this species).....		<u>P. nervosa</u>
1b. Plants tufted, without rhizomes		
4a. Spikelets compressed, usually less than twice as long as broad; glumes and lemmas keeled		
5a. Lemmas webbed at base		
6a. Panicle usually pyramidal, the branches rather stiffly spreading-ascending....		<u>P. interior</u>
5b. Lemmas not webbed		
6b. Panicle narrow; lemmas villous on keel and marginal nerves		
7a. Basal leaves flat; uppermost leaf near middle of stem; spikelets with distinct lustre.....		<u>P. glauca</u>
7b. Blades stiff, usually involute; uppermost leaf greatly reduced; panicle often purplish.....		<u>P. fendleriana</u>
6c. Panicle compact, often ovoid, usually 1-2 cm broad; lemmas minutely scabrous or occasionally pilose on keel.....		<u>P. cusickii</u>

4b. Spikelets only slightly compressed, over twice as long as broad; lemmas rounded on the back
 8a. Lemmas pubescent over lower half

- 9a. Culms stout, over 3 dm tall; sheaths somewhat scabrous..... P. canbyi
 9b. Culms slender, rarely over 3 dm tall; leaves short, involute; sheaths smooth.... P. sandbergii
 8b. Lemmas minutely scabrous; culms 5-8 dm; sheaths smooth..... P. juncifolia

Other species:

- P. alpina L. - alpine
P. ampla Merrill - seeded in range grass mixture
P. annua L. - introduced; weedy annual
P. arctica R. Brown - subalpine to alpine
P. compressa L. - introduced for forage on poor soil
P. gracillima Buck. - rocky slopes; open dry forest
P. laxiflora Buck. - shrub-carrs; moist forest
P. leptocoma Trin. - subalpine to alpine
P. lettermanii Vasey - alpine
P. nemoralis L. - uncommon; open forest
P. nevadensis Vasey - uncommon; moist meadows
P. occidentalis Vasey - uncommon; moist meadows, open woods
P. rupicola Nash - subalpine to alpine
P. scabrella (Thurb.) Benth - dry grassland

PUCCINELLIA

- P. distans (L.) Parl Weeping Alkali Grass Introduced; moist alkaline meadows
P. nuttalliana (Schult.) Hitchc. Nuttall's Alkali Grass Native; wetlands, usually where alkaline; IDF, PPBG, SBSa
P. pauciflora (Presl) Munz
 (StE Torreyochloa pauciflora)
 1a. Shorter plant, 1-4 dm tall; lemmas less than 2 mm long, semi-truncate at the tip..... P. distans
 1b. Taller plant, 4-8 dm tall; lemmas more than 2 mm long, narrowed at the tip..... P. nuttalliana

SCHIZACHNE

- S. purpurascens (Torr.) Swallen False Melic Widespread; open forest
 Loosely tufted plant with slender culms exceeding the flat leaves; panicle drooping in age; lemmas with a 1 cm long awn..... S. purpurascens

<u>Species</u>	<u>Common Name</u>	<u>Comments</u>
<u>SCOLOCHLOA</u>		
<u>S. festucacea</u> (Willd.) Link	Sprangle-Top	Uncommon; marshes
Stout plants 1-1.5 m tall, from extensively creeping rhizomes; leaf blades flat and wide; panicle open, 20 cm long..... <u>S. festucacea</u>		
<u>SETARIA</u>		
<u>S. viridis</u> (L.) Beauv.	Green Bristle Grass	Weedy; roadsides
Annual with bushy, cylindrical panicle, spikelets subtended by long bristles..... <u>S. viridis</u>		
<u>SITANION</u>		
<u>S. hystrix</u> (Nutt.) Smith	Squirrel-Tail	Open dry forest; IDF, SBSa
Tufted perennial with large spikes which readily break up into segments; glumes very narrow, extending into scabrous awns..... <u>S. hystrix</u>		
<u>SPARTINA</u>		
<u>S. gracilis</u> Trin.	Alkali Cordgrass	Alkaline meadows; IDF, PPBG, SBSa
Inflorescence of several 1-sided spikes; culms solitary; leaf blades narrow..... <u>S. gracilis</u>		
<u>SPOROBOLUS</u>		
<u>S. cryptandrus</u> (Torr.) Gray	Sand Dropseed	Dry grassland; PPBG, IDF
Panicle moderately open, or partially included in the sheath, the branches stiffly ascending; sheaths with a conspicuous tuft of long white hairs at the summit..... <u>S. cryptandrus</u>		

STIPA

<u>S. comata</u> Trin. & Rupr.	Needle-and-Thread Grass	Common; dry grassland; IDF, PPBG, SBSa
<u>S. occidentalis</u> Thurb.	Small Needlegrass	Common; grassland to open dry forest; IDF, PPBG, SBSa
<u>S. richardsonii</u> Link	Richardson's Needlegrass	Common; grassland to forest edge; IDF, PPBG, SBSa
<u>S. spartea</u> Trin.	Porcupine Grass	Common; grassland; IDF, PPBG, SBSa
<u>S. viridula</u> Trin.	Green Needlegrass	Uncommon; grassland; IDF, PPBG
<u>S. hymenoides</u> Romer & Schultes (<u>SEE Oryzopsis hymenoides</u>)		
1a. Glumes more than 15 mm long		
2a. Lemma pubescent only along the margin, 20-25 mm long; awn short and straight above the bend, 12-20 cm long.....		<u>S. spartea</u>
2b. Lemma pubescent all over, 8-12 mm long; awn slender and curled above the bend, 10-15 cm long.....		<u>S. comata</u>
1b. Glumes less than 15 mm long		
3a. Panicle open, the branches spreading; awn less than 25 mm long.....		<u>S. richardsonii</u>
3b. Panicle narrow, the branches ascending to erect;		
4a. Palea glabrous, less than half as long as the lemma; awn 25-35 mm; sheath villose at throat.....		<u>S. viridula</u>
4b. Palea either hairy or over half as long as the lemma; awn 15-50 mm; sheath glabrous at throat.....		<u>S. occidentalis</u>

<u>Species</u>	<u>Synonym</u>	<u>Common Name</u>	<u>Comments</u>
<u>ORREYOCHLOA</u>			
<u>T. pauciflora</u> (Presl) Church	<u>Glyceria pauciflora</u> Presl	Weak False Manna	Uncommon; wetlands
	<u>Puccinellia pauciflora</u> Presl (Munz)		
<p>Panicle open; sheath open; blades flat, 3-12 mm wide; lemmas 2.2-2.6 mm long, with prominent nerves, usually with a purplish band just below membranous margin of the blunt tip..... <u>T. pauciflora</u></p> <hr/>			
<u>TRisetum</u>			
<u>T. cernuum</u> Trin.		Nodding Trisetum	Moist forest, ICH, SBSb and c, ESSF
<u>T. spicatum</u> (L.) Richt.		Spike Trisetum	Widespread; open forest, often weedy
1a. Panicle dense, spike-like; plants densely tufted, somewhat pubescent.....			<u>T. spicatum</u>
1b. Panicle open, the branches spreading to drooping, relatively few-flowered; plants in small tufts or solitary.....			<u>T. cernuum</u>
<p>Other Species: <u>T. canescens</u> Buckl. - uncommon</p> <hr/>			
<u>X AGROHORDEUM</u>			
<u>X Agrohordeum macounii</u> (Vasey) Lepage	<u>Elymus macounii</u> Vasey	Macoun Wildrye	Hybrid; grassland, IDF, PPBG
<p>Spike erect or somewhat nodding; rachis disjuncting at maturity; glumes very narrow extending into slender awns..... x <u>A. macounii</u></p> <hr/>			

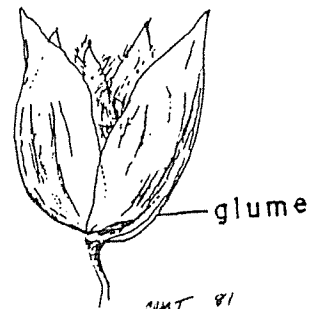
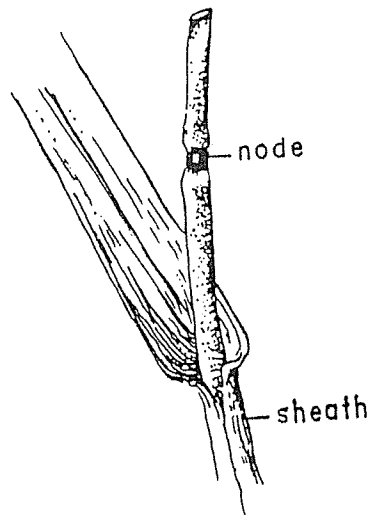
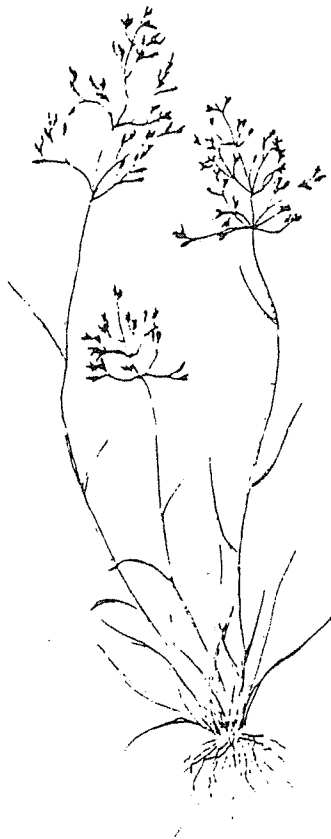
NOTES

THE DIFFERENCE BETWEEN GRASSES, SEDGES AND RUSHES

There is sometimes confusion in distinguishing the Grass family from grass-like plants belonging to the Sedge family and the Rush family. The following illustrated points might help to separate these three families.

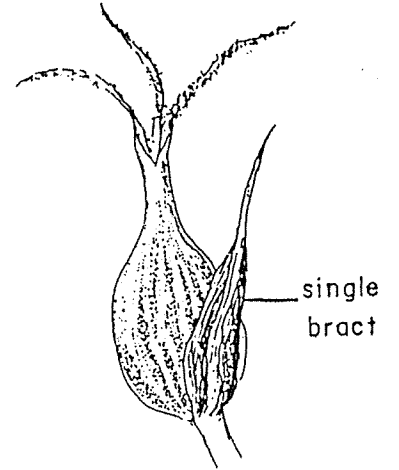
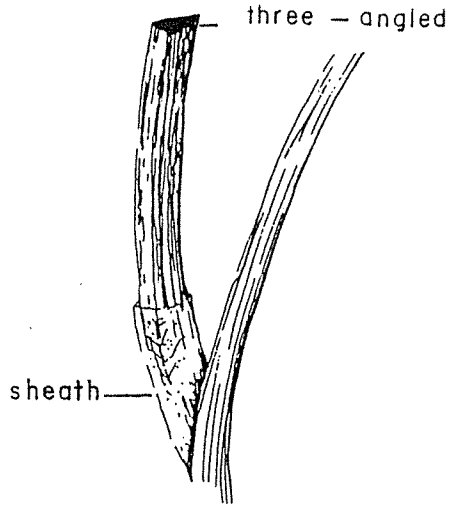
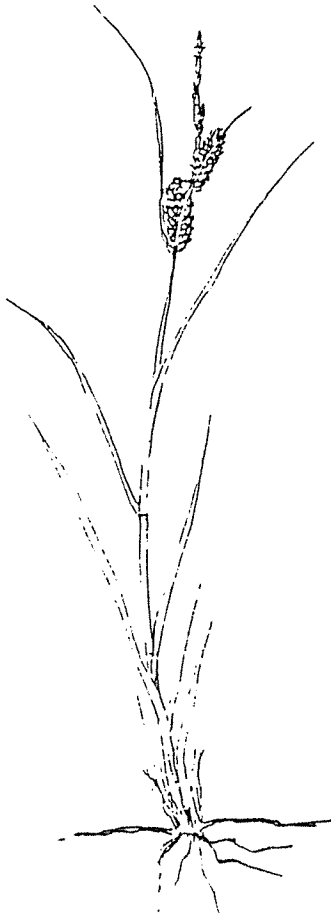
Poaceae (Grass Family)

Stems round or flattened, hollow, jointed at the solid nodes; leaves alternate, arranged in two longitudinal rows; leaf sheath enclosing the stem and usually open on one side; inflorescence a series of spikelets, each flower contained between two glumes; fruit with a single seed.



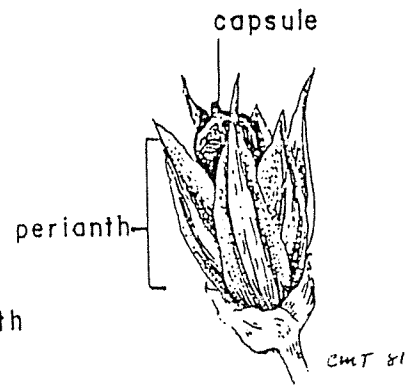
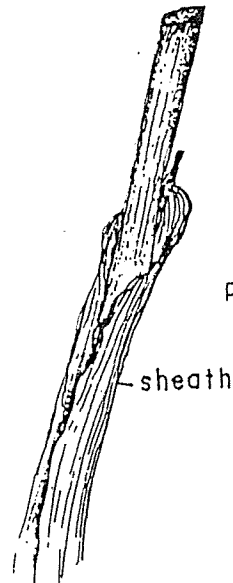
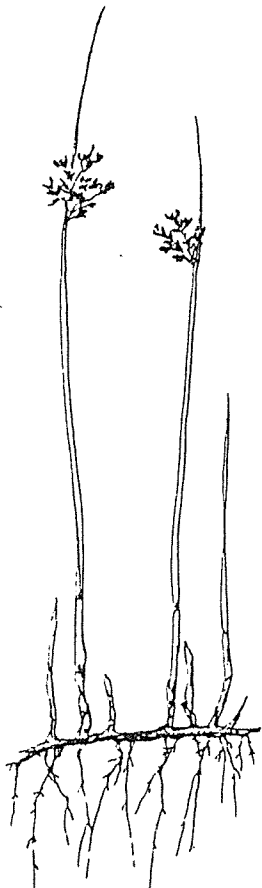
Cyperaceae (Sedge Family)

Stems usually three-angled, solid, never jointed; leaves narrow, arranged in three longitudinal rows; sheaths closed; flowers in spikes, each subtended by a single bract; fruit with a single seed.



Juncaceae (Rush Family)

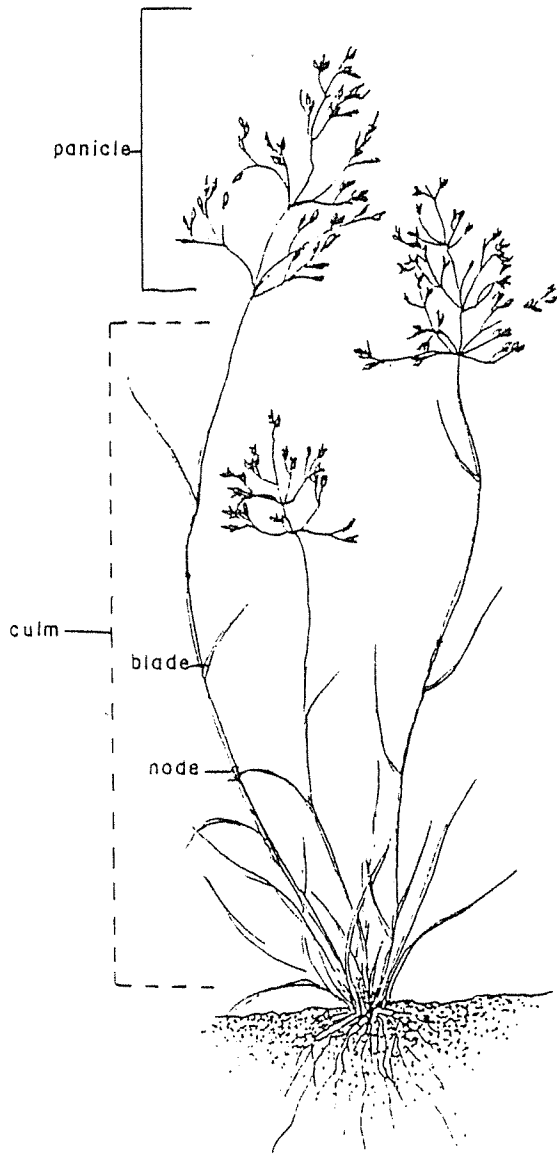
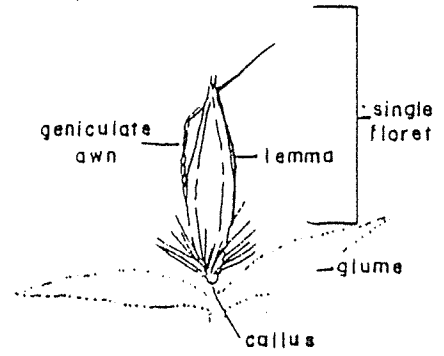
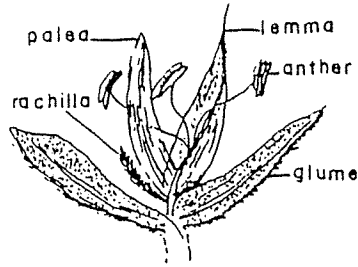
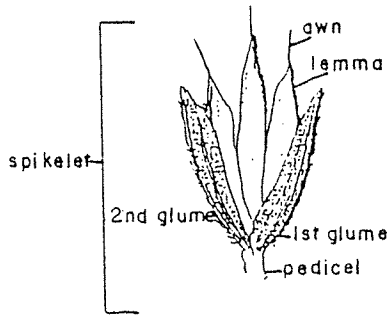
Stems usually round, hollow or spongy, never jointed; leaves alternate, sometimes reduced to mere sheaths; leaves with open or closed sheathing bases; inflorescence with perianth segments in two similar series of three each; fruit a many-seeded capsule.



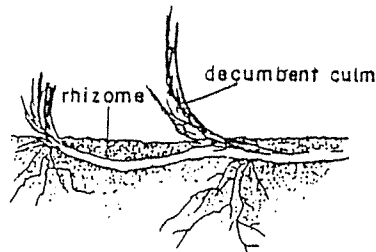
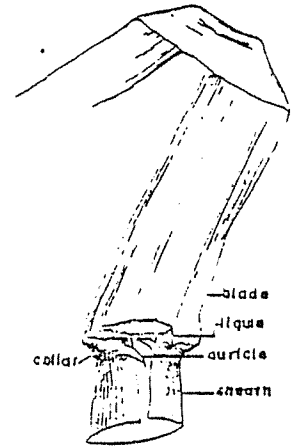
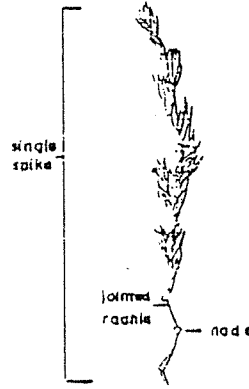
GLOSSARY

- Anther - the part of the stamen which contains the pollen.
Auricle - an ear; applied to ear-like lobes at the base of the blades.
Awn - a slender bristle; in grasses the awn is usually a continuation of the midnerve of the glumes or lemmas.
Bifid - two-cleft or two-lobed.
Blade - the part of the leaf above the sheath.
Bract - the reduced leaves of the inflorescence and upper part of a shoot.
Callus - the hardened downward extension of the mature lemma.
Capsule - a dry fruit that opens into more than one section.
Ciliate - fringed with hairs (like an eyelash).
Collar - the area on the outer side of a leaf at the junction of sheath and blade.
Culm - the jointed stem of grasses.
Decumbent - curved upward from a horizontal or inclined base.
Dioecious - the two kinds of flowers on separate plants.
Exserted - protruding.
Flexuous - zigzag, bent alternately in opposite directions.
Floret - the lemma and palea with included flower.
Geniculate - bent abruptly.
Glabrous - without hairs, usually smooth.
Glumes - the pair of bracts at the base of a spikelet.
Inflorescence - the flowering part of a plant.
Internode - the part of a stem between two successive nodes.
Involute - rolled inward from the edges.
Joint - the node of a grass culm.
Keel - the sharp fold at the back of a blade, glume, or lemma.
Lemma - the bracts arising from the rachilla of a spikelet above the glumes.
Ligule - the thin appendage on the inside of a leaf at the junction of sheath and blade.
Nerve - the vascular veins of the blades, glumes, and lemmas.
Node - the joint of a culm.
Obtuse - rounded at the apex; contrasted with acute.
Palea - the inner bract of a floret.
Panicle - an inflorescence with a main axis and subdivided branches.
Pedicel - the stalk of a spikelet.
Perianth - the sepals and petals of a flower collectively.
Pilose - pubescent with soft straight hairs.
Puberulent - covered with soft hairs.
Pubescence - a hairy covering.
Rachilla - a small rachis.
Rachis - the axis of a spike or raceme.
Rhizome - an underground stem, more or less elongated.
Scabrous - rough to the touch, covered with minute points or very short stiff hairs.
Sessile - without a pedicel or stalk.
Sheath - the lower part of a leaf that encloses the stem.
Spike - an unbranched inflorescence.
Spikelet - the unit of inflorescence in grasses, consisting of two glumes and one or more florets.
stolon - a horizontal above-ground stem that produces roots and shoots at the nodes.
Striate - marked with fine parallel lines or minute ridges.
Villous - pubescent with long soft hairs
Web - the cluster of slender soft hairs at the base of the floret in certain species of Poa.

ILLUSTRATED GLOSSARY

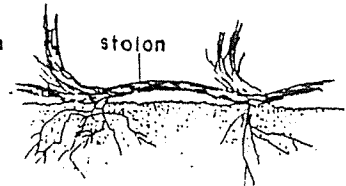


TUFTED ROOTS
annual or perennial



RHIZOMATOUS ROOTS

always perennial



STOLONIFEROUS ROOTS

BIOGEOCLIMATIC ZONES AND SUBZONES*

AT - Alpine Tundra Zone

ESSF - Engelmann Spruce-Subalpine Fir Zone

ESSFg - Engelmann Spruce-Subalpine Fir "Dry" Subzone

ESSFh - Engelmann Spruce-Subalpine Fir "Wet" Subzone

ICH - Interior Cedar-Hemlock Zone

SBS - Sub-boreal Spruce Zone

SBSa - Sub-boreal Spruce "Chilcotin Pine" Subzone

SBSb - Sub-boreal Spruce "White Spruce - Douglas-fir" Subzone

SBSc - Sub-boreal Spruce "White Spruce-Subalpine Fir" Subzone

IDF - Interior Douglas-fir Zone

IDFa - Interior Douglas-fir "Ponderosa Pine" Subzone

IDFb - Interior Douglas-fir "Douglae-fir - Pinegrass" Subzone

PPBG - Ponderosa Pine-Bunchgrass Zone

*Personal Communication - R. Coupé, Research Section, Cariboo Forest Region

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