



ផ្លែ នៅ កម្ពុជា

លរ	ព្រឹក	ចំនួនប្រភេទ	តំលៃពាណិជ្ជកម្ម
1	<i>Calamus</i>	12	គុណភាពល្អណាស់-មិនសូវល្អ
2	<i>Daemonorops</i>	1	គុណភាពល្អ
3	<i>Korthalsia</i>	1	គុណភាពល្អ
4	<i>Myrialepis</i>	1	មធ្យម
5	<i>Plectocomia</i>	3	គុណភាពមិនសូវល្អ
6	<i>Plectocomiopsis</i>	2	គុណភាពមិនសូវល្អ

Rattan

1 Taxonomy

2 Botany

3 Collection and description

Taxonomical classification

- Kingdom: Plant
- Division/Phyllum: Higher plant
- Class: Liliatae
- Order: Arecales
- Family: Palmae/Arecaceae
- Sub family: Calamoideae
- Tribe: Calameae
- Genus: 13 genera
- Species: 600 species

Taxonomical classification cont...

Tribe Calameae with 5 sub-tribes

1- Ancistrophyllinae: Laccosperma & Eremospatha

2- Metroxylinae: Korthalsia

3- Calaminae: Daemonorops, Calamus, Calospatha, Pogonotium, Ceratolobus & Retispatha.

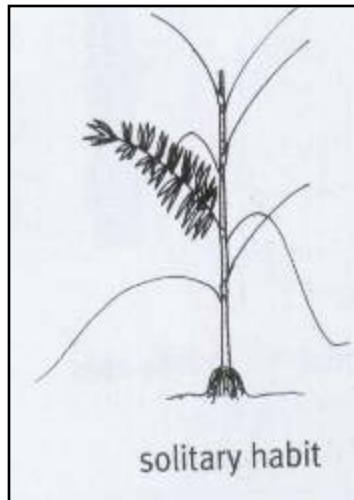
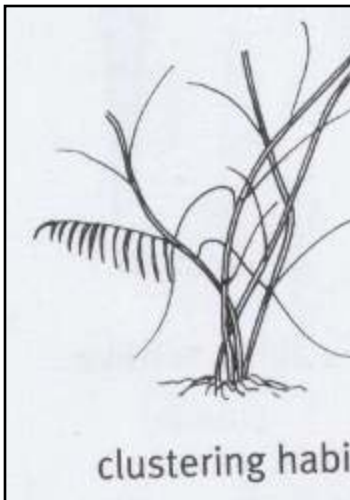
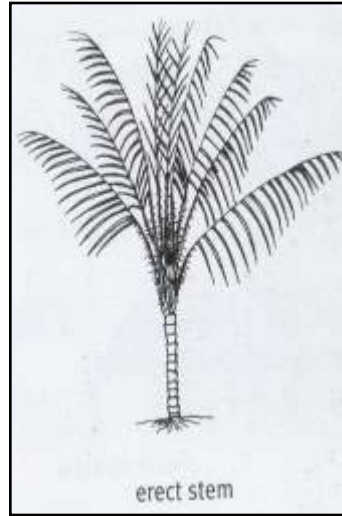
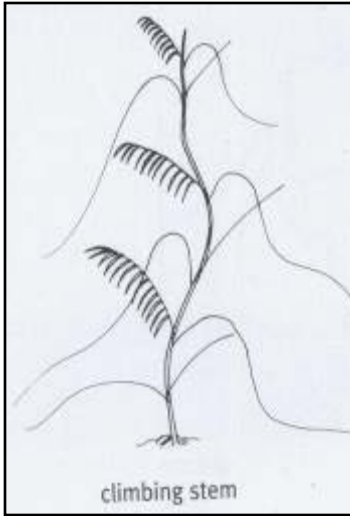
4- Plectocomiinae: Myrialepis, Plectocomia & Plectocomiopsis

5- Oncocalaminae: Oncocalamus

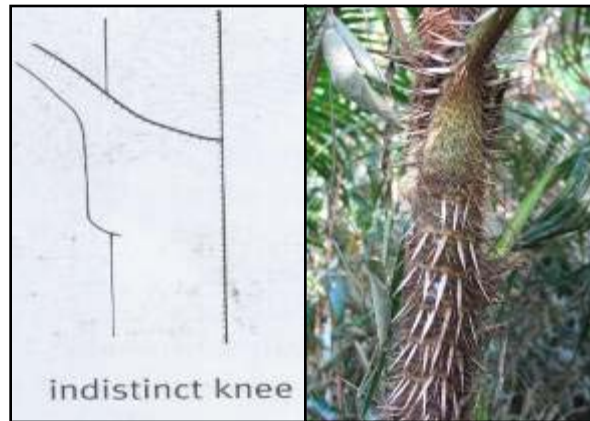
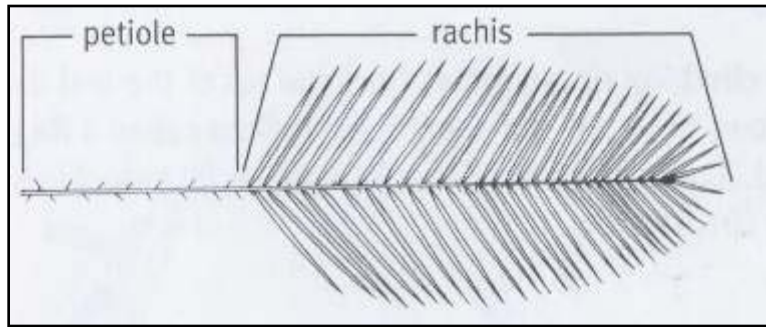
Botany/morphology

- 1- Life form/habit
- 2- Stem: sheath, knee, Ocrea and spine
- 3- Climbing organ: cirrus and flagellum.
- 4- Leaves: leaflet arrangement, cuticle and indumentums.
- 5- Inflorescence: mode of inflo., bracts, branching.
- 6- Fruits: shape and size of fruit, color when ripen, stigma, scales.

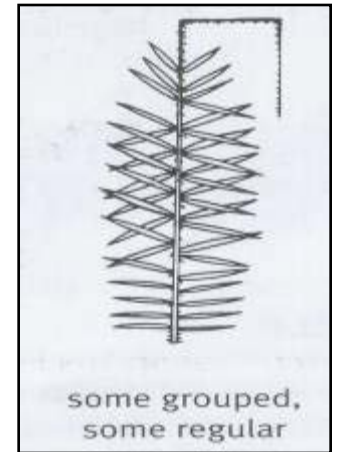
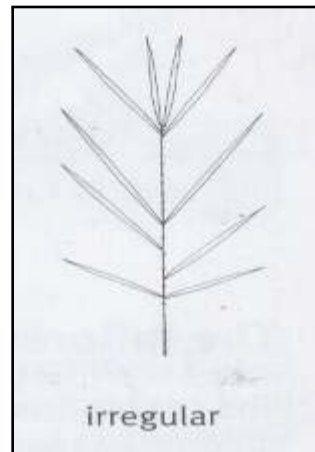
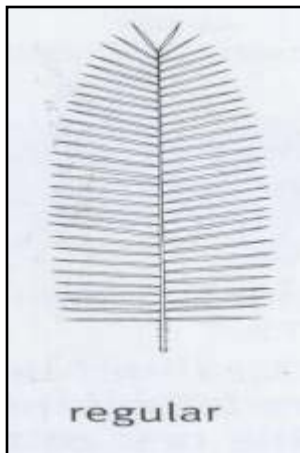
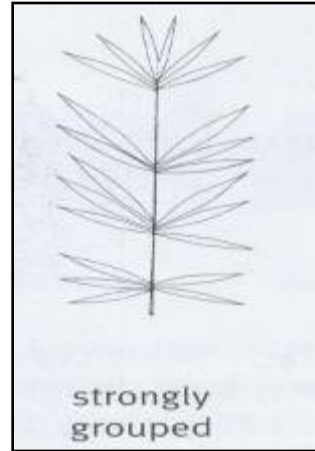
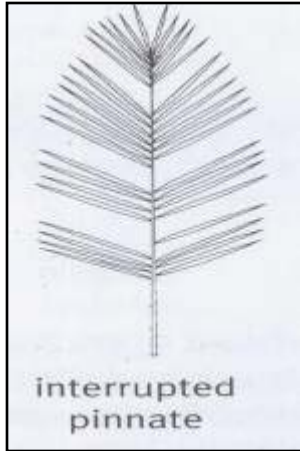
Characters of rattans



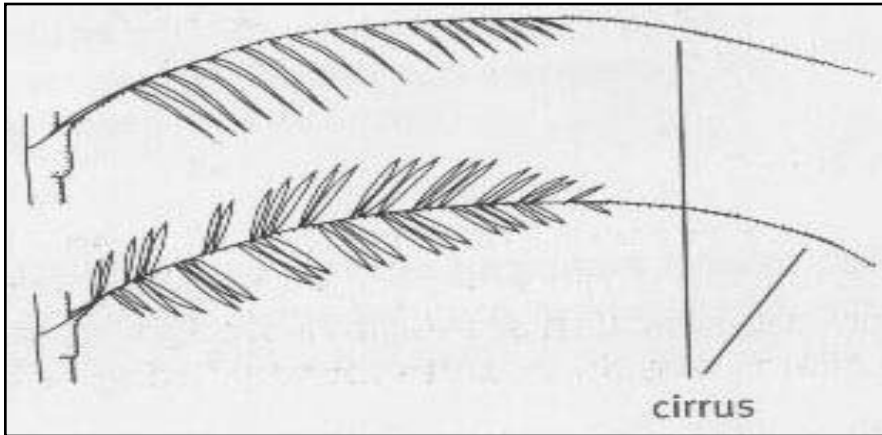
Characters of rattan (cont..)



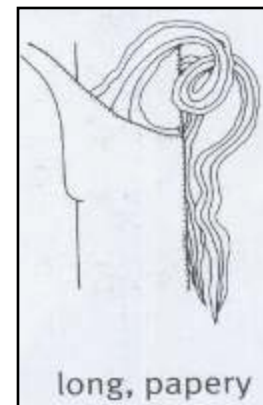
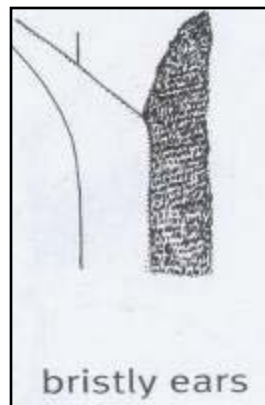
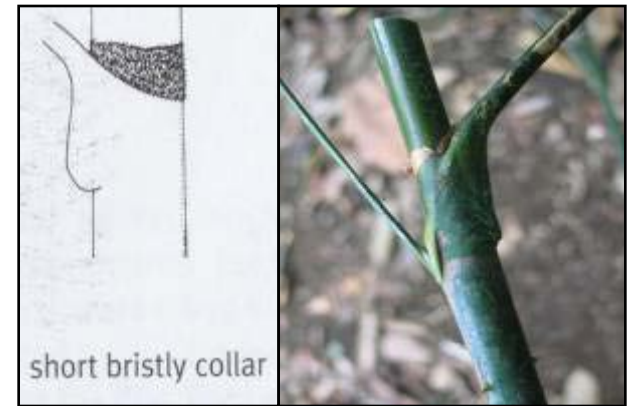
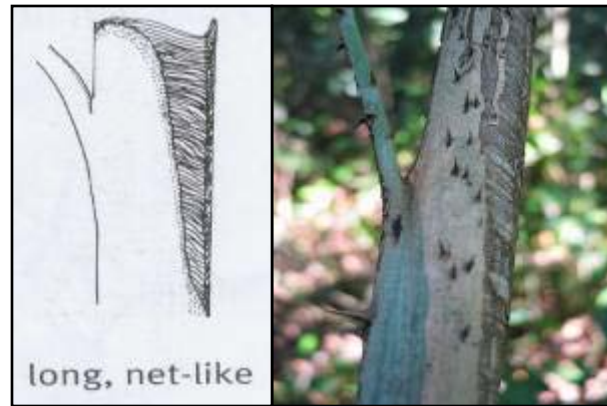
Characters of rattan (cont....)



Characters of rattan (cont....)



Characters of rattan (cont...)



Characters of rattan (cont...)

Others have them quite loosely fitting or inflated.

Types of inflorescence bract



tight



inflated
+ entire



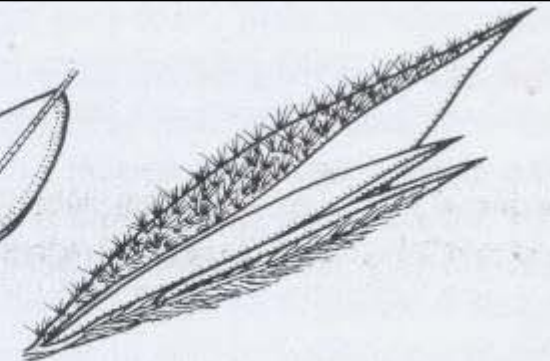
slightly
tattered



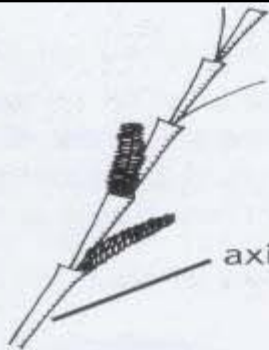
lacerate



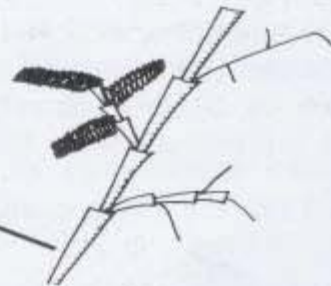
flat limb



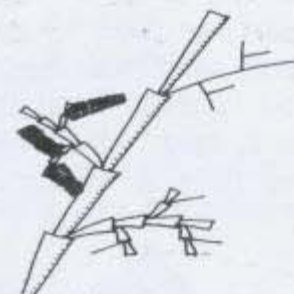
cover the whole
inflorescence



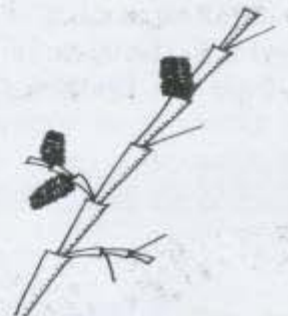
1-branched



2-branched

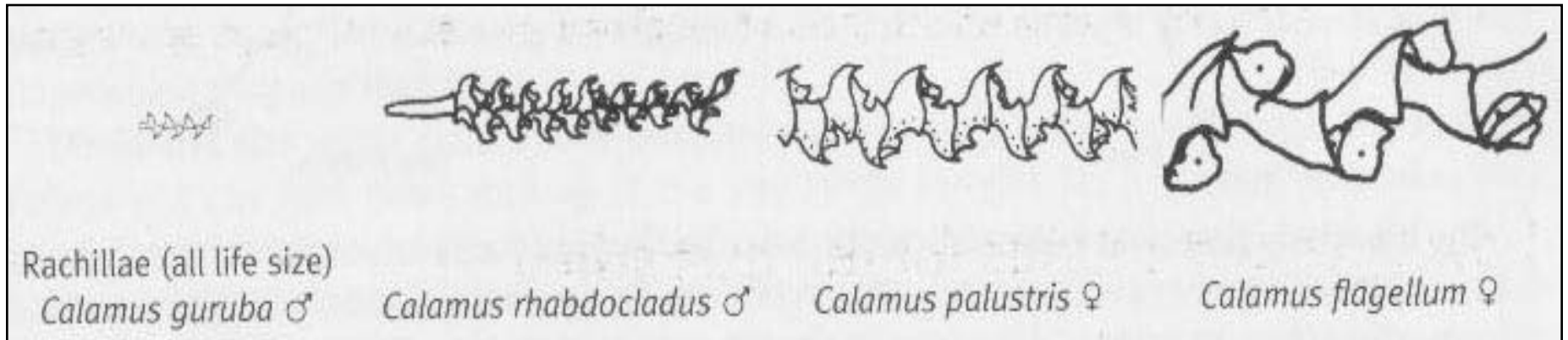
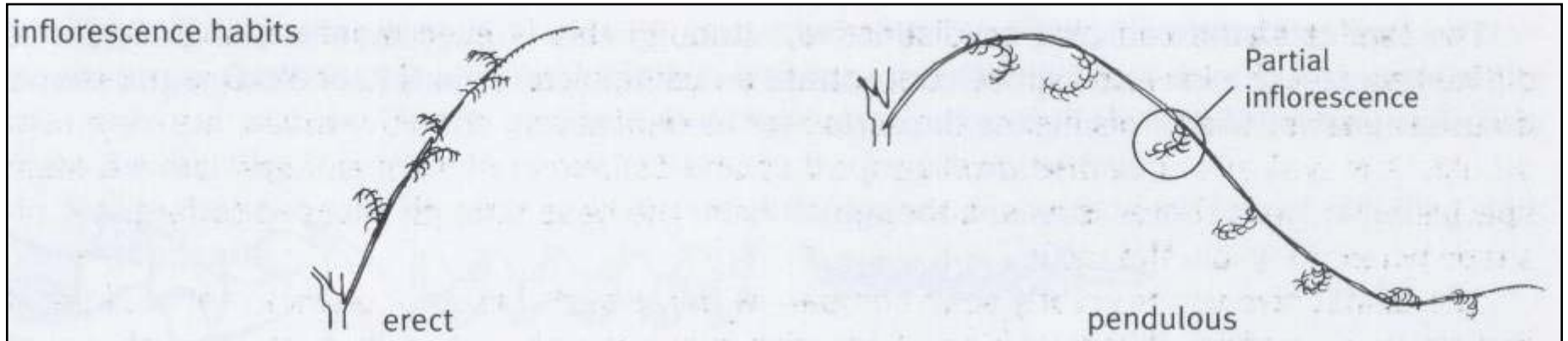


3-branched

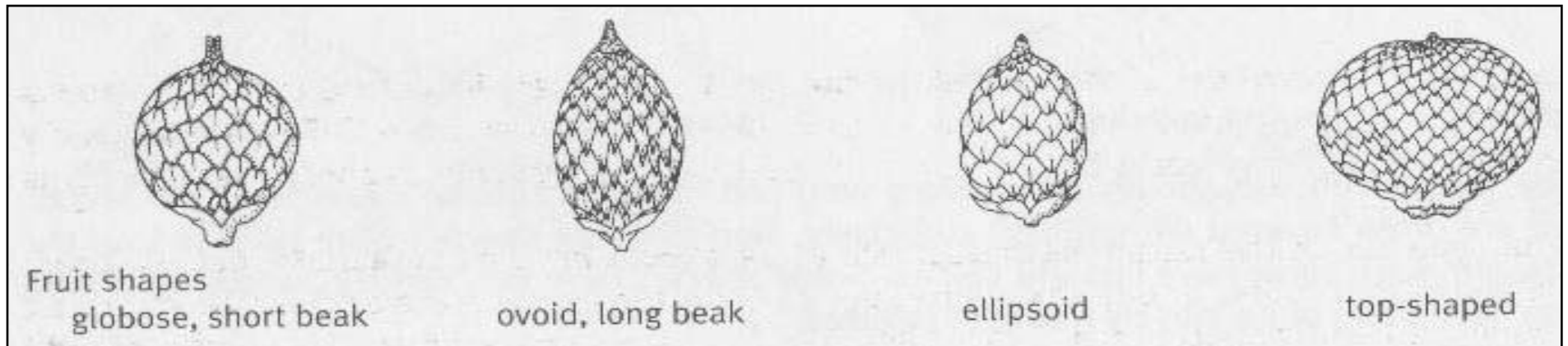
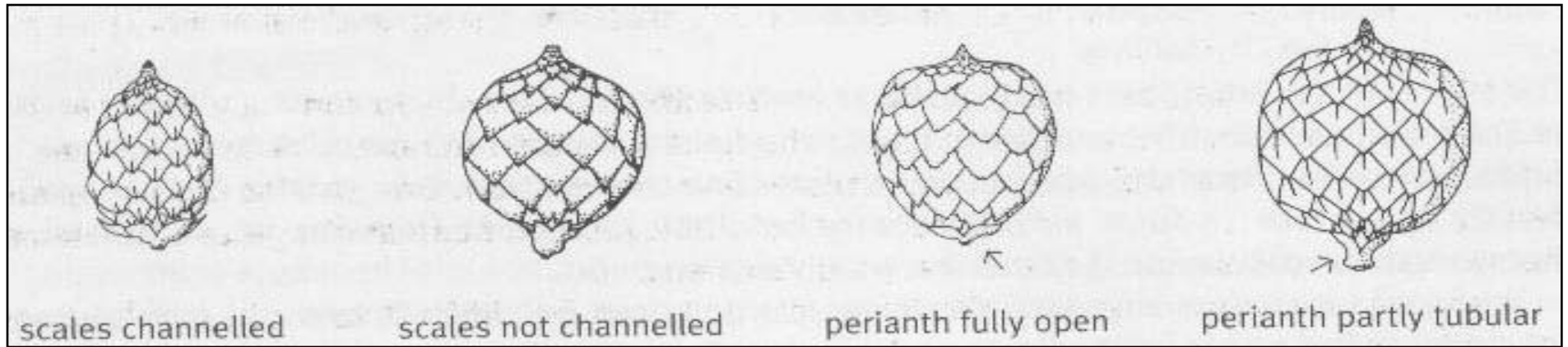


1-2 branched

Characters of rattan (cont...)



Characters of rattan (cont...)



General field description of plant

LOCATION DATA

Province:..... District:.....
Commune:..... Village:.....
Locality:.....
UTM: Long..... Lat: Alt.:.....m
Geology/Soil:.....
General Habitat:.....
Specimen Habitat:.....

SPECIMEN DATA

Collection date:..... Collection no:.....Photo no.....
Collector (with):.....
Vernacular name:..... Family:.....
Field det:..... No of duplicates:.....
Description (Habit and leaf fall, Height, Cir, Bark, leaves, Flowers,
Fruits....).....
.....
.....
Note: Rare Abundant Common Or:.....
Flowering:..... Fruiting:.....
Use:.....

Rattan collection and field description

Collection

- Stems: sheath (about 25-30 cm long with knee and flagellum. Don't break spines and ocrea.
- Leaves:
 - + Short leaves: collect the whole.
 - + Long leaves: collect three section – petiole to first leaflet, middle part and tip to cirrus
- + Inflorescence:
 - + Small inflo.: collect the whole
 - + Large inflo.: collection first and end parts
 - + fruits: the same as flower collection

Description

- Habit of rattan growth
- Color of spine, knee & ocrea.
- Number of leaflet groups & number of leaves in a row. Measure length of flagellum and describe cuticle or not
- Branching of rattan and color of fruits when ripen.

ផ្លែឆ្ការចម្រើន

Calamus guruba



1-Phdao Ach Moan: *Calamus guruba_9*

Characters of Phdao Ach Moan

Habit: clustering, climbing, up to ca. 30 m long

Leaves: petiole 29 cm long, rachis 110 cm long

Leaflet regular

Flagellum: 150-160 cm long

Knee present, distinct, green

Ocrea long, brown

Spine: dense, rise up, light brown, black at tip.

Observation: Koh Kong, Samlot (Battambang)

Note:

Morphologically, this species is similar to *C. siamensis*, but the lengths of rachis and flagella are longer. In addition, there are many spines on the knee. Cane extraction for trade is not reported.

ផ្លែអាចេ: *C. bousigonii*



2- Phdao Arech: *Calamus bousigonii* _10

Characters of *C. bousigonii*

- Habit: clustering, climbing, up to 15-20 m long
- Knee present, distinct
- Leaves: petiole 6 cm long, rachis 66 cm long
 - Flagellum 166 cm long
 - Leaflet alternate pinnate, rhomboid-shaped
 - Ocrea dark gray
 - Spine green below, black from about halfway up to the tip.

Observation: Bokor-Kampot and Keo Seima-Mondulkiri.



ផ្លែបន្លាតិច: *Calamus* sp.

3- Phdao Banla Tech: *Calamus* sp._11

Characters of *Calamus* sp.

Habit: Solitary stem, climbing

Leaves: petiole 12.5 cm long, rachis 60 cm long.

Flagellum: 200 cm long

Sheath: green with black dots

Knee: present

Ocrea: tiny, brown

Spines absent on sheath

Observation: Mondulkiri

Note

Found only in Seima Biodiversity Conservation Area, Mondulkiri province.

ផ្លែចង្ការ: *Plectocomia pierreana*



4-5 Phdao Chang O: *Plectocomia* sp.

Characters of Phdao Chang O

Habit: clustering, climbing, up to 50-60 m long

Leaves: petiole 6 cm long, rachis 69 cm long, cirrus 42 cm long.

Leaflet in groups of 5-6. cuticle underneath.

Knee absent

Ocrea tiny, brown

Spines light green at base, light brown upward to tip.

Observation: Koh Kong.

Note:

General morphology of this species is similar to Phdao Tain Or but its leaf arrangement is different. There is no information on commercial trade of its cane.

ផ្កាឈូក/ក្បង : *Calamus sp (cf. C. palustris)*



5-4 Phdao Chhveang: *Calamus sp* (cf. *C. palustris*)

Characters of *C. palustris*

Habit: clustering, climbing, up to ca. 20 m long.

Leaves: petiole 20 cm long, rachis 110 cm long, cirrus 58 cm long.

Leaflet in group of 2-4

Knee present

Ocrea long, green turning to brown

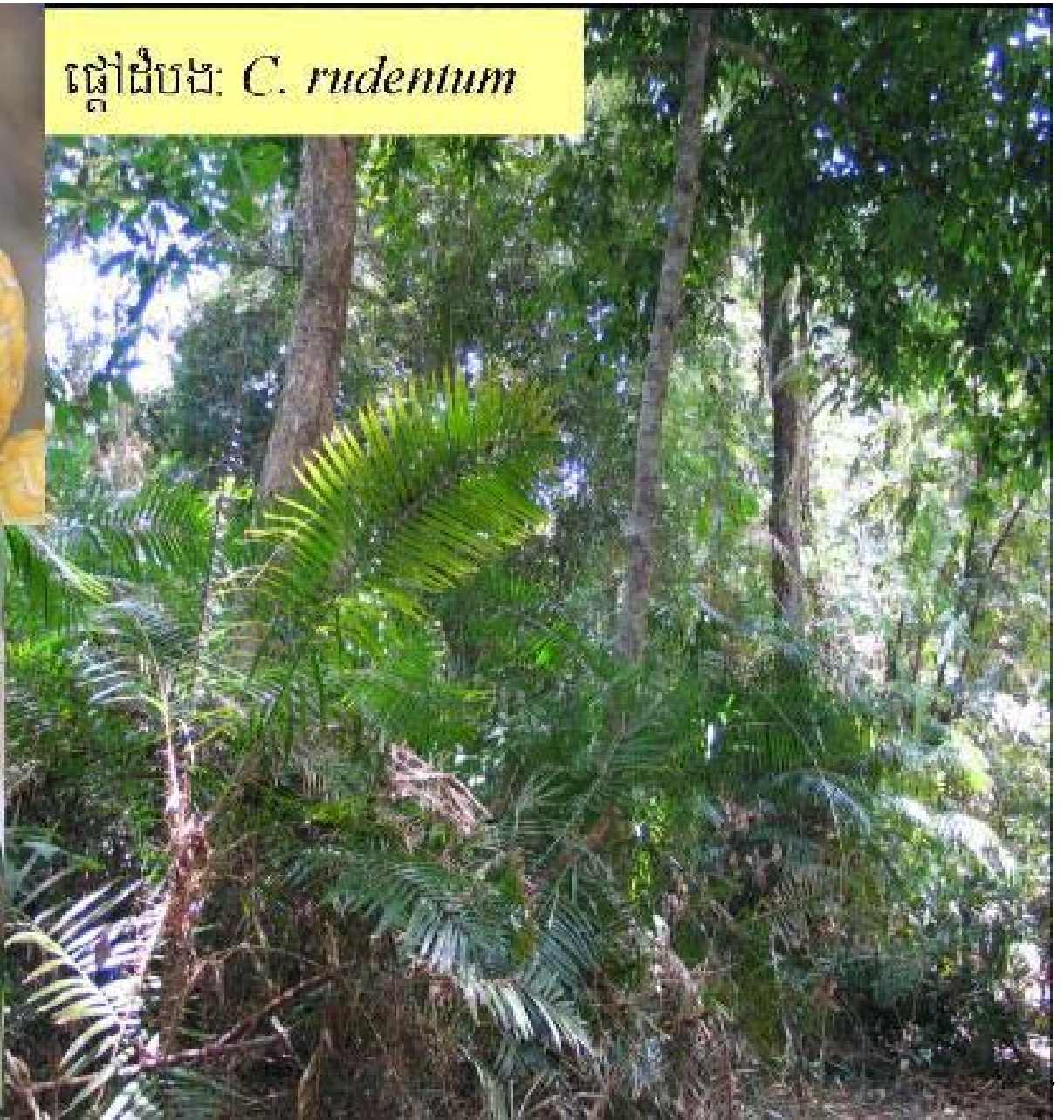
Spine green-brown at base, brown above, black at tip.

Observation: Koh Kong, Kampot, kralie, Stoeng Treng, Ratanakiri, Mondulkiri.

Note:

This species is distributed across the country. It usually grows in semi-evergreen or evergreen forest. Its cane is valuable for furniture.

ផ្លែដំបូង: *C. rudentum*



6-Phdao Dambang: *Calamus rudentum*

Characters of *C. rudentum*

Habit: clustering, climbing, up to 30-40 m long

Leaves: petiole 12-22 cm long, rachis 160-180 cm long.

Leaflet regular

Flagellum: 2.95-5m long

Knee present, indistinct

Ocrea tiny, not clear

Spine gray, rarely brown, tip black.

Note:

Found only in lowland areas of seasonally flooded or evergreen forest.
The most expensive rattan in Cambodia.

ផ្លូវកោន: *Calamus godefroyi*



7-Phdao Koh: *Calamus godefroyi* _12

Characters of *C. godefroyi*

Habit: clustering, climbing

Leaves: petiole sessile to 4.5 m long, rachis 55 cm long

Leaflet regular

Flagellum 185 cm long

Knee light green

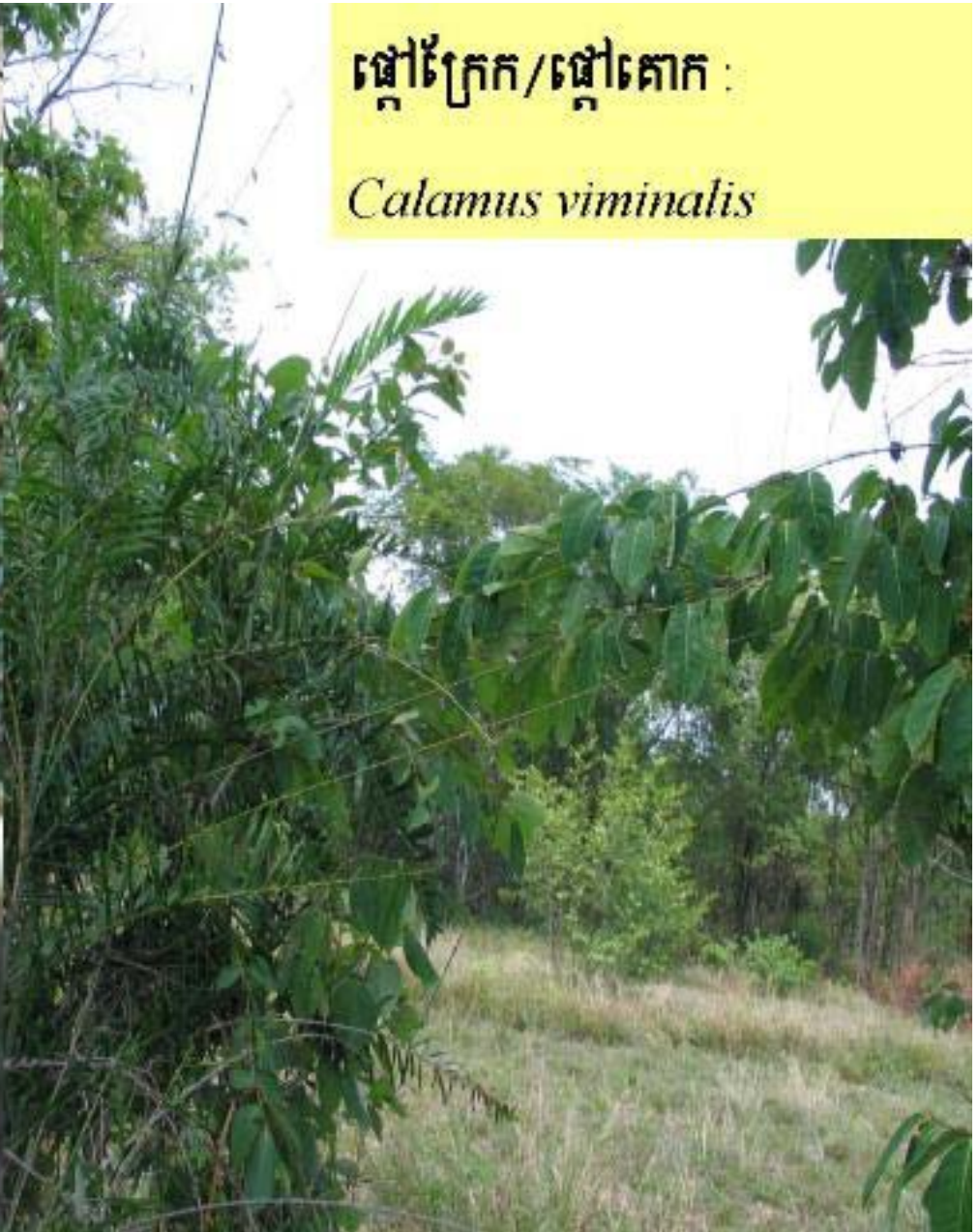
Ocrea tiny, brown

Spines broad and light green at base, then black to the tip.

Note: only a big clump on rattan island, along Mekong river, in Sambo district, Kratie province. People called the place rattan island, referring to this clump of rattan.

ផ្លែក្រូក/ផ្លែតោក :

Calamus viminalis



8-Phdao Krek: *Calamus viminalis* _3

Characters of *C. viminalis*

Habit: clustering, climbing, up to 20-30 m long.

Leaves: petiole 7-23 cm long, rachis 120-147 cm long

Leaflet in groups of 4

Flagellum 150-300 cm long

Knee present, green

Ocrea tiny, brown

Spine light green at base, light brown above base upward

Observation: Koh Kong, kralie, Stung Treng, Ratanakiri, Mondulakiri.

Note:

This species usually grows only in lowland dry and open area, rarely in shade or nearby water source. Thus, It is also called Phdao Kok (arid land rattan) by local people in some parts of the country. It is also important for trading, since its cane is good for furniture.



ឆ្ការឹក: *Calamus salicifolius*



9-Lpeak: *Calamus salicifolius* _13

Characters of *C. salicifolius*

Habit: clustering, climbing, up to c. 10 m long

Leaves: petiole sessile, rachis 14-25 cm long

Leaflet in groups of 4, whitish underneath

Neither cirrus nor flagellum present

Knee present, light gray

Ocrea: tiny, light gray

Observation: Kampong Cham, Kampong Chhnang, Pursat, Takeo, Kampot, Siem Reap, Kg Thom and Kg Speu.

Note:

Never found in forest areas. Confined to paddy rice field with small patches of bushes.

ផ្លែប្រស្សីមេរ្យា: *Plectocomia* sp.



10-Phdao Russey Msao: *Plectocomia* sp. _18

Character of Phdao Russey Msao

Habit: clustering, climbing.

Leaves: n/a Cirrus n/a

Knee absent

Leaflet regular

Spines short, in long circular rows

Observation: Kampot

ឆ្កែសោម: *Daemonorops jenkinsiana*



11- Phdao Som: *Daemonorops jenkinsiana* _7

Characters of *D. jenkinsiana*

Habit: clustering, climbing, up to 40-50 m long

Leaves: petiole 70 cm long, rachis 240 cm long, cirrus 108 cm long.

Leaflet regular

Knee present, yellow-green to green

Ocrea tiny, black

Spine black, soft

Observation: Koh Kong, Kampot, Ream national park, Stung Treng and Ratanakiri, Preah Vihear, Udor Meanchey and Battambang.

Note:

This species inhabits evergreen and gallery forest. Its cane is widely used, ranging from furniture frames to crafts.



សែសីង- ផ្លែច្រូត ហាពាក់

Calamus tetradactylus



12- Phdao Changret, Se Seung or Hapak: *Calamus tetradactylus* _2

Characters of Phdao Changret

Habit: clustering, climbing, up to 10-15 m long

Leaves: petiole 6-14 cm long, rachis 14.5-40 cm long

Leaflet 3-4 groups, each of which 2-4, the tip joint two third

Flagellum 48-74 cm long

Knee present, green

Ocrea very tiny, light brown

Spines sparse or dense, yellow-brown at base, light brown upward, black at tip.

Observation: Koh Kong, Kratie, Ratanakiri, Mondulkiri, Preah Vihear, Kampong Thom and Banteay Meanchey.

Note:

This species is variable in spine density. It is not extracted for trade, possibly because of small canes. However, some local people use for handicraft as such basket.

តាំងអា

Plectocomiopsis sp.



13- (Phdao) Taing Oa: *Plectocomia* sp. _19

Characters of *Plectocomia* sp.

Habit: clustering, climbing, up to 40 m long
Leaves: petiole 6 cm long, rachis 69 cm long, cirrus 42 cm long
Leaflet regular, cuticle on underneath.
Knee absent
Ocrea tiny, brown
Spines in short rows, light yellow-brown

Observation: Kampot.

Note:

This species differs from Phdao Thngae in its spine pattern. Information on commercial trade for this species is lacking.

ឆ្កែទឹកឃ្មុំ: *Calamus sp.*



14- Phdao Teuk Khmom (honey rattan): *Calamus sp.* _8

Character of Phdao Teuk Khmom

Habit: Clustering rattan, climbing, 15m long (up to 70m long) stilt root.

Leaves: petiole 15 cm long, 75-84 cm long, flagella 1.5-3m long.

Leaflet: regular

Knee: present

Ocrea: tiny, gray

Spine: short; base conical, green; above base to tip black.

Observation: Western part of Samkos Wildlife Sanctuary. It was also reported be common in Samlot Multiple Use Area and other parts of PSWS

Note:

The typical character of this species is stilt roots and conical shape of basal spine. It is confined only in the western part of Cambodia. Its cane is high quality and high demand by Thai furniture producers.

ផ្លែទឹកប្រៃ *Calamus erinaceus*



15-Phdao Teuk Prai (salt water rattan): *Calamus erinaceus*_14

Characters of *C. erinaceus*

Habit: clustering, climbing, up to 30 m long

Leaves: petiole 2.8 cm long, rachis 2 m long, cirrus 1.4 m long.

Leaflet regular

Knee present, swollen

Ocrea tiny

Spines brown

Observation: Koh Kong and Ream national park (Kampong Som province)

Note:

Its cane is a bit rigid and hard to bend. Its habitat is confined to estuaries.



ផ្លែទឹក: *Calamus siamensis*



16-Phdao Toek (water rattan): *Calamus siamensis*_15

Characters of *C. siamensis*

Habit: Clustering, climbing, up to 30-40 m long

Leaves: Petiole 11.5 cm long, rachis 79 cm long

Leaflet regular, pinnate or interrupted pinnate

Flagellum 140-295 cm long

Knee present

Ocrea tiny, green, turning to gray

Spine light green at base, light brown above base to tip

Observation: Kratie, Ratanakiri and Mondulkiri.

Note:

The name of rattan is given, referring to the fact that its habitat is nearby water sources or seasonally wet areas. Its cane is collected for commercial trade in Kratie province, but not used for furniture in PP. Its cane could not be used for furniture unless boiled.

ត្នោតថ្ម *Plectocomiopsis* sp.



17-Phdao Thngae: *Plectocomiopsis* sp._16

Characters of *Plectocomiopsis* sp.

Habit: Clustering, climbing, up to 20-25 m long

Leaves: petiole 2.5 cm long, rachis 106 cm long, cirrus 70 cm long.

Leaflet: regular

Knee absent

Ocrea long, gray

Spine: sheath fairly sparse, brown from the base to tip.

Observation: Mondulkiri

Note:

Confirmed only in Seima Biodiversity Conservation Area, Mondulkiri province.
Also possibly inhabiting in Takaen Koh Sla, adjacent to Bokor National Park.

ឆ្កែប្លូស្សី/ទ្រុសឈើ: *Myrialepis paradoxa*



18-Phdao Russey (bamboo rattan): *Myrialepis sp.*_1

Character of *Myrialepis sp.*

Habit: clustering, climbing, up to ca. 40 m long, young sheath covered by cuticle.

Leaves: petiole 12 cm long, rachis 211 m long, cirrus 81 cm long

Leaflet in groups of 2-6

Knee absent

Ocrea tiny

Spines in long circular row

Observation: Koh Kong, Kampot, Kratie, Mondulkiri, Ratanakiri, Kg Thom, Preah Vihear, Battambang and Pursat.

Note:

This species inhabits semi-evergreen or evergreen forest, either near or far from water source. It is common throughout the country. Its cane is hard in the outer part, but the core is soft. Thus, it is cheap and confined only to certain products, and not commonly used.

ផ្កាប្លូស្ស៊ីយក្យ: *Plectocomia* sp.



19-Phdao Russey Yeak (Giant bamboo rattan): *Plectocomia* sp._20

Characters of *Plectocomia* sp.

Habit: solitary stem

Leaves: n/a, cirrus n/a

Leaflet regular, with cuticle on underneath

Knee absent

Ocrea small

Spines long, in short rows

Observation: Kampot. Also Pursat and Koh Kong

Note

The biggest rattan of Cambodia. Confined to only high elevations, ca. 800 m a.s.l to more than 1000 m.

ព្រះឆ្មៅ: *Korthalsia laciniosa*



20-Preah Phdao: *Korthalsia laciniosa* _17

Characters of *K. laciniosa*

Habit: clustering, climbing, up to c. 30-40 m long

Leaves: petiole 24.5-28 cm long, rachis 56-201.5 cm long, cirrus 28-84 cm long

Leaflet diamond-shape with gray cuticle underneath

Knee absent

Ocrea net-like

Spine: short, sparse, black

Observation: Koh Kong, Kampot, Battambang and Mondulkiri

Note:

This species inhabits evergreen forest. Its cane is light brown. It is the second most expensive rattan after *C. rudentum*, and is used intensively in Kingdom of Cambodia.

21-Pa Kaim: *Salacca sp.*



Character of Pa Kaim

Habit: clustering, stemless or very short erect stem

Leaves: petiole 81.5 cm long, rachis 142.5 cm long

Leaflet regular

No cirrus and flagellum

Knee absent

Observation: Thmorbang, Samlaut, Pailen



Note:

Fruits are covered by brown scale. The seed covered by thick sour brown edible aril. This species is domesticated in other countries in Southeast Asia for fruits.

This species does not belong to rattan.

ទិដ្ឋភាព និងអេកូឡូស៊ីរបស់ផ្តៅ

- ផ្តៅជាទូទៅដុះជាក្រុម
- អាចដុះលូតលាស់បាន ដោយសារមានព្រៃឈើ/ ល្អាក់ដែលដុះតាមវាលស្រែ
- មិនចូលចិត្តដុះនៅក្នុងព្រៃដែលមានភ្លើងឆេះរាល់ឆ្នាំ
- ចូលចិត្តដុះនៅតាមតំបន់ ដែលមានសំណើមខ្ពស់
- ប្រភេទផ្តៅផ្សេងគ្នា ត្រូវការប្រភេទព្រៃ ប្រភពទឹក និងរយៈកំពស់ខុសៗគ្នា
- ប្រភេទផ្តៅខ្លះអាចដុះ នៅតាមប្រភេទព្រៃផ្សេងៗ
- ផ្តៅខ្លះគ្របដណ្តប់ដោយស្នូបដែលមានបន្ទា
- ដើមផ្តៅចាស់ពណ៌បៃតង គ្មានស្នូប ហៅកាត់ថា ទៃ



ការដកហូតផ្តៅ

- រដូវកាលប្រមូលផ្តៅប្រែប្រួលតាមទីកន្លែងឬតំបន់: រដូវប្រាំង វស្សា រពេញមួយឆ្នាំ
- ប្រមូលប្រភេទផ្តៅមានតំលៃពាណិជ្ជកម្ម ដូចជា ក្រែក ឈ្នាំង សោម ដំបង ទឹកឃ្មុំ ព្រះផ្តៅ និង អាចម៍មាន់ និងផ្សេងទៀតដូចជា ផ្តៅទឹក ផ្តៅប្រសិទ្ធិយក្ស និងប្រសិទ្ធិ
- ឧប្បករណ៍កាប់ផ្តៅ មានកំបិត ដងថ្នាំ
- គេដកហូត ដើមកៅទេ ដើមចាស់ (បច្ចុប្បន្នមានកាប់ផ្តៅខ្លីលក់)
- គុម្ពផ្តៅមិនដែលដកហូតពីមុន អាចកាប់បាន៥-៥០ ដើម/គុម្ព
- គុម្ពផ្តៅធ្លាប់ដកហូតពីមុន អាចកាប់បាន ១-៤ដើម/គុម្ព
- ផ្តៅមួយដើម អាចកាប់បាន៥កំណាត់-មួយកំណាត់ ៤,៥-៥មែត្រ។

កត្តានាំអោយ មានការថយ ចុះធន ផ្ដៅ

ការទន្ទ្រានដីព្រៃ

ពង្រីកដីកសិកម្ម តាំងទីលំនៅ ដាំដំណាំឧស្សាហកម្ម
ដីព្រៃធ្លាក់មូស្ទូ

ការដកហូតផ្ដៅលើសកំរិត

ប្រដែងដកហូតប្រភេទពាណិជ្ជកម្ម មិនមានជំនាញកែច្នៃ
មិនចូលចិត្តកែច្នៃផ្ដៅ និងពងផ្អែកតែលើផ្ដៅព្រៃ

កាប់បំផ្លាញ/ ដកហូតផលព្រៃឈើលើសកំរិត

មានលំហនៅក្នុងព្រៃ បំរែបំរួលប្រភេទព្រៃ
ថយចុះជីវសាស្ត្រក្នុងព្រៃ ខ្វះដើមឈើជាទំរ
ខ្វះការពង្រាយគ្រាប់ពូជ

ភ្លើងឆេះព្រៃ

ព្រៃឈ្មោះចំរុះ និងព្រៃពាក់កណ្ដាលស្រោង តំបន់ទំនាបរង
ការឆេះភ្លើងព្រៃ ដោយគ្រោះរាំងស្ងួតយូរ ក្នុងឆ្នាំមួយនេះ

ការកាប់យកគមផ្ដៅ

តាមតំបន់ខ្លះ ភូមិភាគឥសាន្ត និងមាល់យៃ



ការប្រើប្រាស់ផ្តៅ

គម្ពុផ្តៅ:

ល្អាក់ ក្រែក សោម ដំបង និងមានប្រភេទផ្សេងៗទៀត

ប្រើជាខ្សែចំណង

គ្រឿងតំបុក្កៈ

កាផា បង្កី ល្អី រខេង កន្រ្តក កន្ទេល
និងវត្ថុអនុស្សាវរីយ៍ផ្សេងៗ

គ្រឿងសង្ហារឹម:

សាឡុង ផ្លែសៀវភៅ ទូ តុ និងកៅអីច្រើនប្រភេទ

