

## STUDY ON THE MORPHOLOGY AND USES OF SEVEN SPECIES OF BAMBOO IN BAGO AREA

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### Abstract

In the present research paper, 7 species of bamboo plants belonging to the family Poaceae (Gramineae) in tribe Bambuseae were studied in Bago area. The present study included a total of 7 species belonging to the 7 genera of family Poaceae. These genera are Bambusa, Cephalostachyum, Dendrocalamus, Dinochloa, Melocanna, Neohouzeaua and Oxytenanthera. Most of the bamboos are naturally distributed in higher or lowland of mountain range. Bamboos are commercially important plants with innumerable uses and many environmental benefits. Identification of the collected species was based on morphology of culm, culm sheath, branching types, young shoots and leaves. Each specie was recorded with photographs.

**Keywords** : seven bamboo, morphology and uses

### INTRODUCTION

Bamboos are a group of woody perennial evergreen plants form the grass family Poaceae. They are characterized by its woody, usually hollow culms, joint stem, complex rhizome and branch systems. Bamboos are classified under the subfamily Bambusoideae, there are about 60 to 70 genera and over 1200-1500 species of Bamboo in the world. In Myanmar, as bamboos were found as 18 genera and about 100 species (Hendley and Chit KoKo, 1987), in the present study, 7 species of bamboo were collected in Bago area. This study area was located between latitude 17° 20 12 N and 96° 28 47 E longitude at an elevation 4m (13ft). Bamboos grow in the tropical, sub-tropical and temperate regions of the world. In many parts of Southeast Asia, bamboos have been recognized as village or cultivated bamboos and native or forest bamboos (Wong 2004). There are two general patterns for the growth of bamboo "clumping" (sympodial) and "running" (monopodial). Sympodial bamboo species tend to spread slowly as the growth pattern of the rhizome is to simply expand the root mass gradually similar to ornamental grasses. Monopodeal bamboos spread mainly through their roots and or rhizomes, which can spread widely underground and send up new culms to break through the surface (Thomas, 1979). Uses of bamboo by Myanmar people are countless. People eat young bamboo shoots by boiling them in water until they are soft and cook them with meat and other vegetables. In the present study (7) species that belong to (7) general had been identified in Bago area. The morphology of only vegetative part was studied because bamboo flowers only once in a life time. The vegetative parts are habits, culm, branching system, culm sheaths and foliage leaves.

### MATERIALS AND METHODS

The collected specimens were kept immediately into the plastic bags to identify and classify systematically. The collected specimens were identified by Hooker, (1964), Wong, (2004) , Cronquist, (1981) and Gamble, (1966). Uses of Bamboos were recorded from literature as well as by interviewing people about bamboo trade. All of studied and described species by coloured photographic were mentioned the genera and species were alphabetically arranged.

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## RESULTS

No	Scientific Name	Local Name	Common Name
1	<i>Bambusa vulgaris</i> Schrader	Shwe wa	Golden bamboo
2	<i>Cephalostachyum pergracile</i> Munro	Tinwa	Not known
3	<i>Dendrocalamus giganteus</i> Munro	Wabogyi	Giant bamboo
4	<i>Dinochloa compactiflora</i> (Kurz) McClure	Wanwegok	Not known
5	<i>Melocanna humilis</i> Kurz	Tabindaingwa	Kanyin wa-galae
6	<i>Neohouzeaua helferi</i> Munro	Wathabut	Not known
7	<i>Oxytenanthera parviflora</i> Brandis	Thaiktu hmyintu	Not known

S. N : ***Bambusa vulgaris* Schrader**

L. N : Shwe wa

C. N : Golden bamboo

Evergreen, loosely tufted, about 20 m height. Culms erect, thick walls, node slightly swollen. Internodes 20-42 cm long, yellow with dark green stripes. Culm sheaths broadly triangular, deciduous, thick, smooth, straw coloured. Leaves blade linear-lanceolate.

S. N : ***Cephalostachyum pergracile* Munro**

L. N : Tinwa

C. N : Not known

Evergreen, densely tufted, about 20 m height. Culms erect, with pendulous tip, thin walls, nodes not swollen. Internodes 12-42 cm long, green, glabrous. Culm sheath deciduous, ovate, reddish-brown. Leaves blades oblong-lanceolate.

S. N : ***Dendrocalamus giganteus* Munro**

L. N : Wabogyi

C. N : Giant bamboo

Evergreen, densely tufted, about 30 m height. Culms thick walls; nodes not swollen. Internode 20-50 cm long, covered with a white waxy layer when young. Culm sheaths caduceus, broadly ovate, leathery, dark brown. Leaves blades oblong-lanceolate.

S. N : ***Dinochloa compactiflora* (Kurz) McClure**

L. N : Wanwegok

C. N : Not known

Evergreen, densely tufted, about 15 m height. Culms with slightly zigzag, thick walls, nodes not swollen. Internodes 18-40 cm long, green, glabrous. Culm sheaths broadly triangular, caducous, thin, erect, smooth, straw coloured. Leaves blades oblong-lanceolate.

S. N : ***Melocanna humilis* Kurz**

L. N : Tabindaingwa

C. N : Kanyinwa galae

Evergreen, loosely tufted, about 15 m height. Culms erect, slightly, thin walls, nodes slightly swollen. Internodes 12-42 cm long, light green. Culm sheaths narrowly lanceolate, pale yellow rigid leathery, blades sward shaped. Leaves blades oblong-lanceolate.

S. N : *Neohouzeaua helferi* Munro

L. N : Wathabut

C. N : Not known

Evergreen, densely tufted, about 15 m height. Culms with pendulous, light green, thin walls, nodes swollen. Internodes 22-50 cm long, white ring present. Culm sheaths oblong-lanceolate, straw-coloured, blade reflexed or erect, linear-lanceolate. Leaves blades oblong lanceolate.

S. N : *Oxytenanthera parviflora* Brandis

L. N : Thaiktu-hmyintu

C. N : Not known

Evergreen, loosely tufted, about 10 m height. Culms erect, thin walls, nodes slightly swollen. Internodes 35-53 cm long, white ring present. Culm sheaths broadly triangular, thin, erect, smooth, pale orange when young. Leaves blades oblong-lanceolat



A. Habit



B. Branching Type



C. Young shot



D. Culm sheath (upper)

**Figure (1) *Bambusa vulgaris* Schrader. (Shwe wa)**



A. Habit



B. Culm sheath



C. Branching Type



D. Leaf

**Figure (2) *Cephalostachyum pergracile* Munro. (Tinwa)**



A. Habit



B. Branching Type

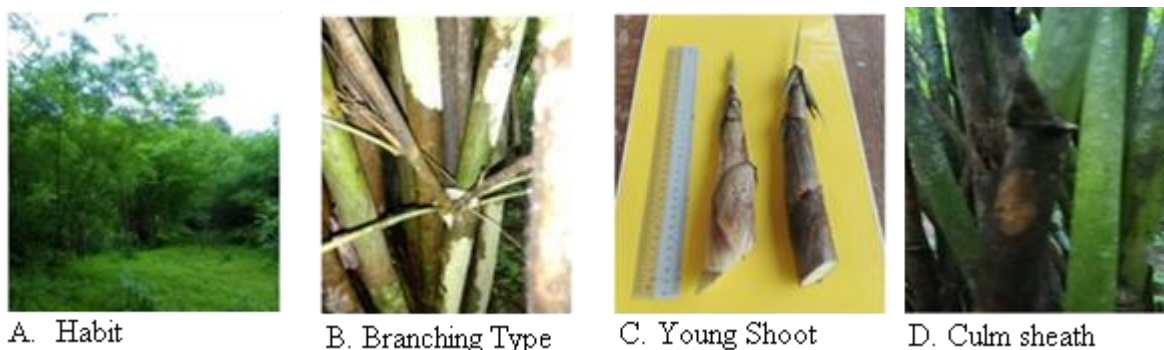


C. Young Shoot

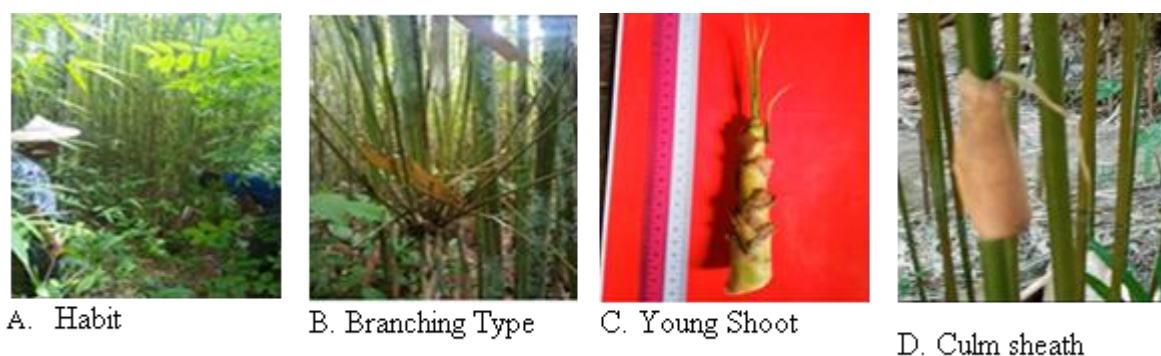


D. Culm sheath

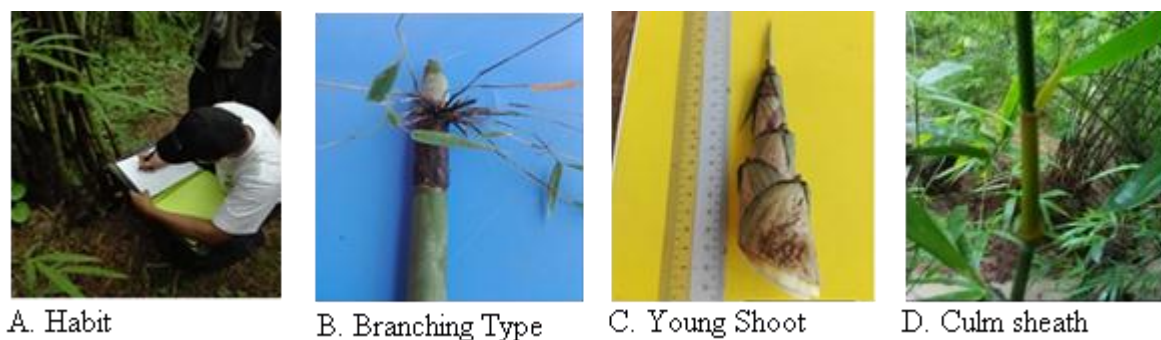
**Figure (3) *Dendrocalamus giganteus* Munro. (Wabogyi)**



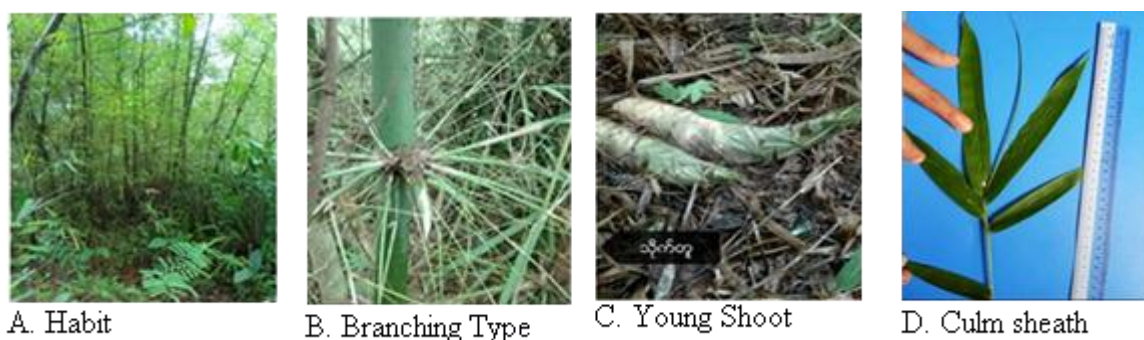
**Figure (4) *Dinochloa compactiflora* (Kurz) McClure. (Wanwegok)**



**Figure (5) *Melocanna humilis* Kurz. (Tabindaingwa)**



**Figure (6) *Neohouzeaua helferi* Munro. (Wathabut)**



**Figure (7) *Oxytenanthera parviflora* Brandis. (Thaiktu hmyintu)**

### Location map of the study area



### DISCUSSION AND CONCLUSION

The present research dealt with morphological study on Bamboos species in Bago area. It had been observed that totally 7 species belonging to 7 genera were distributed in the study area. All these 7 species were sympodial type of roots. Among them, Wabogyi was the tallest about 30 m high. Shwe-Wa, and Tin-wa were about 20 m high. Wathabut, wanwe-gok and Tapinding-wa were about 15m high. Thaiktu-myintu was about 10m high. In the study species, Wathabut was distinct swollen nodes and, Shwe-wa, Tapinding-wa, Thiketuhmyintu were slightly swollen and Wabogyi, Tinwa and Wanwegok were not swollen.

Shwe-wa Wanwe-gok and Thaiktu-hmyintu possessed broadly triangular culm sheaths and culm blade sword shaped, narrowly lanceolate and pale yellow rigid leathery culm sheath found in *Melocanna humilis* Kurz (Tapindaing). Brightly reddish brown colored culm sheaths were tightly persistent in *Cephalostachyum pargaciel* Munro (Tin-wa). Morphological characteristics such as the "zig-zag" of culms were found in genus *Dinochloa compactiflora* (Kurz) McClure (Wanwegok). The pale orange culm sheath was found in *Oxytenanthera parvifolia* Brandis (Thaiktu-hmyintu). These all characters agreed with Clack et.al (2015), Hooker (1897), Dassanayake (1991). Therefore, further systematic studies of Bambusoideae could give the valuable information as the plant resources of Southeast Asia, (Bogar), 1995.

No	Scientific Name	Uses
1	<i>Bambusa vulgaris</i> Schrader (Shwe wa)	Ornamental, and house hold use in villages young shoots are edible, pulp for making paper, masts, rudders, poles fencing and pros,
2	<i>Cephalostachyum pergracile</i> Munro (Tinwa)	basket, Matted wall, Mat, Glutinous rice sealed in bamboo tube, Short bamboo strip rope, Paper
3	<i>Dendrocalamus giganteus</i> Munro (Wabogyi)	basket, Hat, Floor, Chair, Lamp, bridge-building, water pipes, to build houses, bamboo boards, ceilings, young shoots are edible
4	<i>Dinochloa compactiflora</i> (Kurz) McClure (Wanwegok)	construction, furniture, handicrafts, basket, mats, paper, young shoots are edible
5	<i>Melocanna humilis</i> Kurz (Tabindaingwa)	house building, basket, mats, handicrafts, wall plates, hats, paper pulp

6	<i>Neohouzeaua helferi</i> Munro (Wathabut)	basketry, construction, young shoots are edible
7	<i>Oxytenanthera parviflora</i> Brandis (Thaiktu hmyintu)	Basketry, building, construction, houses and furniture.

USES





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