

Ischaemum hubbardii Bor (Poaceae), a New Record for Thailand

PAWEENA TRAIperm¹, THAWEEsAKDI BOONKERD^{2*},
PRANOM CHANTARANOTHAI³ AND DAVID A. SIMPSON⁴

¹Ph.D. Programme in Biological Science, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand.

²Department of Botany, Faculty of Science, Chulalongkorn University, Phyathai Road, Bangkok 10330, Thailand.

³Applied Taxonomic Research Center, Department of Biology, Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand.

⁴Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, U.K.

ABSTRACT.— An addition to the known Thai grasses, a species of *Ischaemum*, has been found in Chiang Mai Province, northern Thailand. This newly recorded species is described and illustrated.

KEY WORDS: *Ischaemum*, Poaceae, Gramineae, new record, Thailand

INTRODUCTION

Ischaemum was firstly described as a genus in the family Poaceae by Linnaeus (1753). The genus is annual or perennial, comprising about 75 species in the tropics and subtropics (Sur, 2001). Sixteen species of *Ischaemum* were recorded for Thailand by Nanakorn & Norsangsri (2001). In preparing the treatment of *Ischaemum* for the Flora of Thailand, it was found that *Ischaemum hubbardii* Bor is a new record. This species was previously known only from India. It was first described by Bor in 1938 and is commonly found in the Khasia and Jaintia hills at altitudes ranging from 4,000-5,000 m.

MATERIALS AND METHODS

This study is based on specimens collected from Doi Inthanon National Park, Chiang Mai Province, northern Thailand. For comparison, we also examined herbarium material deposited in AAU, K and L. Determinations were made with the help of a key to the species of *Ischaemum* from India presented by Sur (2001).

RESULTS

The morphological characters of the Doi Inthanon *Ischaemum* specimens (P. Traiperm 308 and S. Laegaard & M. Norsangsri 21669, 21728) matched well with the key to the species and description

*Corresponding author:

Tel: (662) 218-5502-3

Fax: (662) 218-5502

E-mail: thaweesakdi.b@chula.ac.th

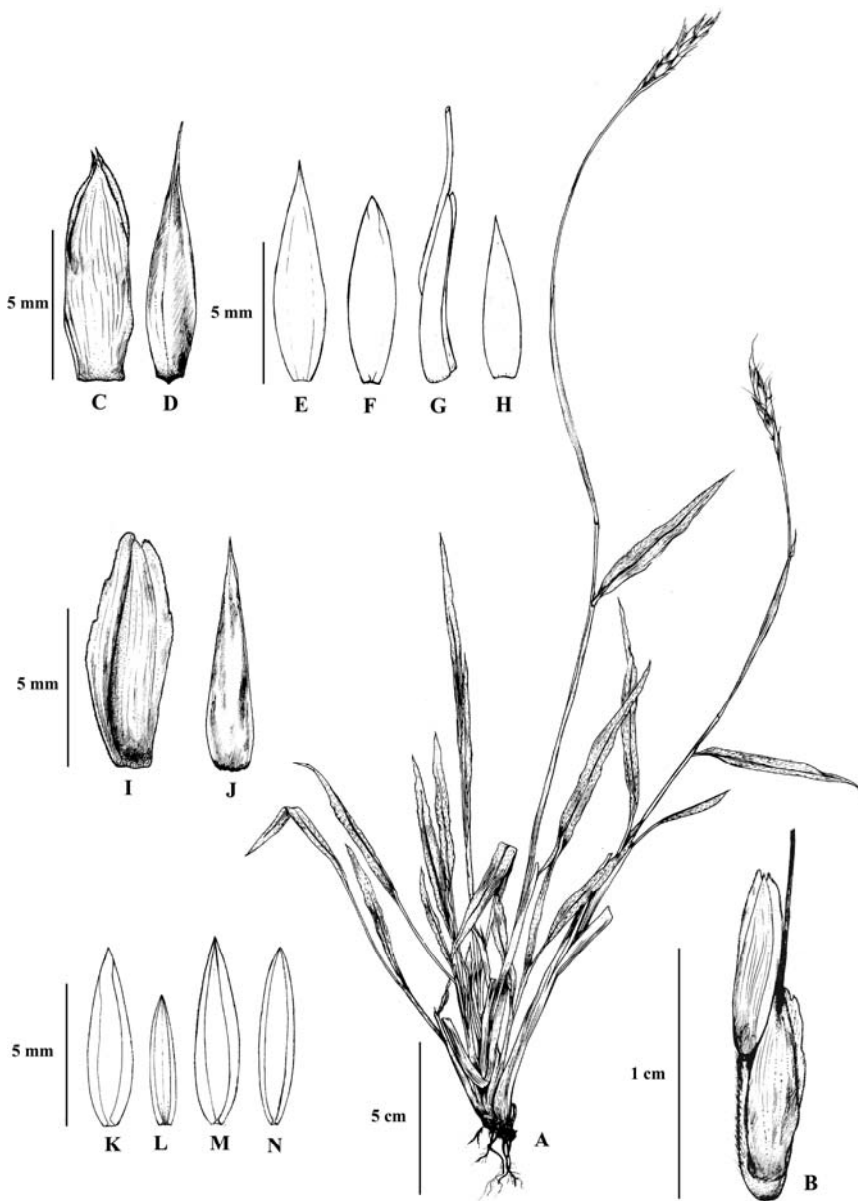


FIGURE 1. *Ischaemum hubbardii* Bor. **A.** Habit. **B.** Spikelet pair. **C.-H.** Sessile spikelet: **C.** Lower glume, **D.** Upper glume, **E.** Lower lemma, **F.** Lower palea, **G.** Upper lemma, **H.** Upper palea. **I.-N.** Pedicelled spikelet: **I.** Lower glume, **J.** Upper glume, **K.** Lower lemma, **L.** Lower palea, **M.** Upper lemma, **N.** Upper palea. All line drawings were drawn by P. Traiperm from specimen P. Traiperm 308.

of *Ischaemum hubbardii* in Sur (2001). It is also fitted well with the herbarium and type specimens, which are deposited in Kew. Accordingly, *Ischaemum hubbardii* is

newly recorded for Thailand. The description below is based on the Thai material.

Ischaemum hubbardii Bor

Bor in Indian Forest Rec. Bot. 1: 98. 1938; Grass. Burm. Ceyl. Ind. & Pakis.:179. 1960; Srivastava & Sinha in High. Pl. Ind. Sub-con. 9: 66. 2000; Sur in J. Econ. Taxon. Bot. 25(2): 417. 2001. Type: India, Assam, fairly common in the Khasia and Jaintia hills, alt. 4,000-5,000 m, *N.L. Bor* 2264 (holotype K!). Fig. 1.

Perennial, densely tussocking grass. *Culms* slender, terete, 25–60 cm tall, internodes and nodes glabrous. *Leaf-sheaths* tight, 4–7 cm long, glabrous or slightly pilose, margins thin. *Ligules* long membranous, 3.5–5 mm long, glabrous. *Leaf-blades* 5–15 by 0.3–1 cm, tuberculate-pilose on both surfaces, margins scabrous, apex acute. *Inflorescences* raceme, terminal, 3–5 cm long, conjugated with 2 racemes, rachis internodes oblong, 6–6.5 by *ca.* 0.1 mm, triangular in transverse section, pilose along central keel, nodes with a ring of long hairs, callus *ca.* 1 mm long, glabrous. *Sessile spikelet*: lower glume oblong, 6.5–8 by 2.5–2.8 mm, distinctly 10–14-nerved, subcoriaceous, transversely humped along the lower 1/3, glabrous on back, unequally narrowly laterally winged above, wing scabrous; upper glume boat-shaped, 8–9 mm by 1.8–2.2 mm, keeled, scabrous, margins ciliate, apex acuminate, with a small wing at the apex. *Lower floret*: lemma lanceolate, 7–7.5 by *ca.* 1.5 mm, hyaline, slightly folded, upper margins ciliate; palea elliptic, 5.5–6 by *ca.* 1.5 mm, hyaline, folded, apex muticous. *Upper floret*: lemmas *ca.* 7 by 1.5–1.8 mm, bifid, geniculately awned from sinus, awn twisted, 18–25 mm long; palea ovate, *ca.* 5 by 1.3 mm, apex acute,

hyaline. *Lodicules* cuneate, 1–1.2 mm long. *Pedicelled spikelets*: pedicels 5.5–6 by *ca.* 1 mm, pilose along central keel. *Glumes*: lower glume obliquely-oblong, 7–7.5 by 2.7–3 mm, 6–8-nerved, with 2 subequal wings along whole length of the margins, glabrous on back, margins folded, apex bifid; upper glume boat-shaped, 7–8 by 1.5 mm, keeled along the upper of mid-nerve, scabrous on keel. *Lower floret*: lemma lanceolate, *ca.* 6 by 1.2 mm, hyaline, folded, glabrous, apex acute; palea oblong, *ca.* 5 by 0.8 mm, apex acute, hyaline, slightly folded. *Anthers ca.* 3 mm long. *Upper floret*: lemma ovate, *ca.* 5.5–6.5 by 0.9–1.4 mm, apex acute, hyaline, folded; palea oblong, *ca.* 4.5–6 by 0.8–1.2 mm, apex rounded, hyaline, slightly folded. *Caryopsis* ellipsoid, *ca.* 3 mm long.

Thailand.- NORTHERN: Chiang Mai [Doi Inthanon, Kew Mae Pan nature trail, 25 Nov. 2005, *P. Traiperm* 308 (BCU, BKF, KKU); Doi Inthanon, Kew Mae Pan nature trail 3 Oct. 2001, *S. Laegaard & M. Norsangsri* 21669 (AAU, K, L); Doi Inthanon National Park, along road from summit *ca.* 5 km towards entrance, 16 Oct. 2001, *S. Laegaard & M. Norsangsri* 21728 (AAU)].

Distribution.- India and Thailand.

Ecology.- Common along Kew Mae Pan nature trail or in lawn near pagoda, alt. 1,950–2,650 m. Flowering period: October to November.

DISCUSSION

Ischaemum hubbardii is characterized by its tuberculate-pilose leaves together with a lower glume that has 10–14 distinct nerves, and a transverse hump on the lower

1/3 of the glume, which is glabrous on the back. It is similar to *I. indicum* (Houtt.) Merr. in having a glabrous surface on the back of the lower glume of sessile spikelets but differs in having the unequal narrow lateral wings above and hairs on both surfaces of the leaf-blades. The lower glume of the sessile spikelet in the Thai specimens has a transverse, nearly flat hump on the lower 1/3 of the glume although the hump is slightly convex on the back in the type specimen from India.

So far, this species has been found at high altitude in India and Thailand and seems to be a member of the so called Indo-Burmese elements. It should also occur somewhere in upper Myanmar. However, the available taxonomic data of this plant group from Myanmar are still scant. For our species this may, in part, be due to its preference for high altitude habitats which are difficult to get to in order to make collections. Further work in this area is needed.

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