PODOCARPACEAE

Chamlong Phengklai*

A family of 6 genera widespreading in the Northern Hemisphere, but infrequent in the tropics, is characteristic by the cylindrical male inflorescences and swollen fleshy podophylls.

The family is represented in Thailand by two genera.

KEY TO GENERA

1. Leaves scale-like or awl-shaped, 4-fariously imbricate; male and female inflorescences at the end of branchlets; seeds not exceeding 0.5 by 0.3 cm
1. Dacrydium

1. Leaves flattened; male and female inflorescences along branchlets; seeds 1.1 by 1 cm or more
2. Podocarpus

1. DACRYDIUM

Soland. ex Forest. f., pl. Escul. : 80. 1786; Kent in Veitch's Man. Conif. : 144. 1900.

Evergreen dioecious tree. *Leaves* either scale-like or 4—fariously imbricate, awl-shaped, both forms sometimes on the same branch. ♂ *flowers* sessile, in spikes, anthers two-celled. ♀ *flowers* at or near the tip of branchlets consisting of a few small scales, one or several bearing a solitary reversed ovule seated in a cup-shaped aril. Seeds small, ovoid, nut-like, ultimately more or less horizontal.

Dacrydium elatum Wall.

It has been previously recorded that two species are existing in Thailand, i.e. *Dacrydium elatum* Wall. and *D. pierrei* Gagnep. but after an intensive study, only *D. elatum* is actually presant. — **Fig. 5**

Thailand.— NORTHERN : Phitsanulok; NORTH-EASTERN: Phetchabun, Loei; EASTERN: Nakhon Ratchasima, Chaiyaphum; CENTRAL: Nakhon Nayok; SOUTH-EASTERN: Trat.

Distribution.— India, Burma, Cambodia, Malay Peninsula (Type), Sumatra, Borneo, New Guinea and Philippines.

Ecology.— By stream on lower montane forests at 1000–1300 m altitudes. Flowering: January-February; fruiting rather late about August-September.

Vernacular.— Sampan-pi สามพันปี (Loei); Chuang pha จวงผา (North-eastern); Son hang ka-rok สนหางกะรอก (Phra Nakhon); Son soi สนสร้อย, Phaya makham pom พญามะขามป้อม (Trat).

* Forest Herbarium, Royal Forest Department, Bangkok 9, Thailand.

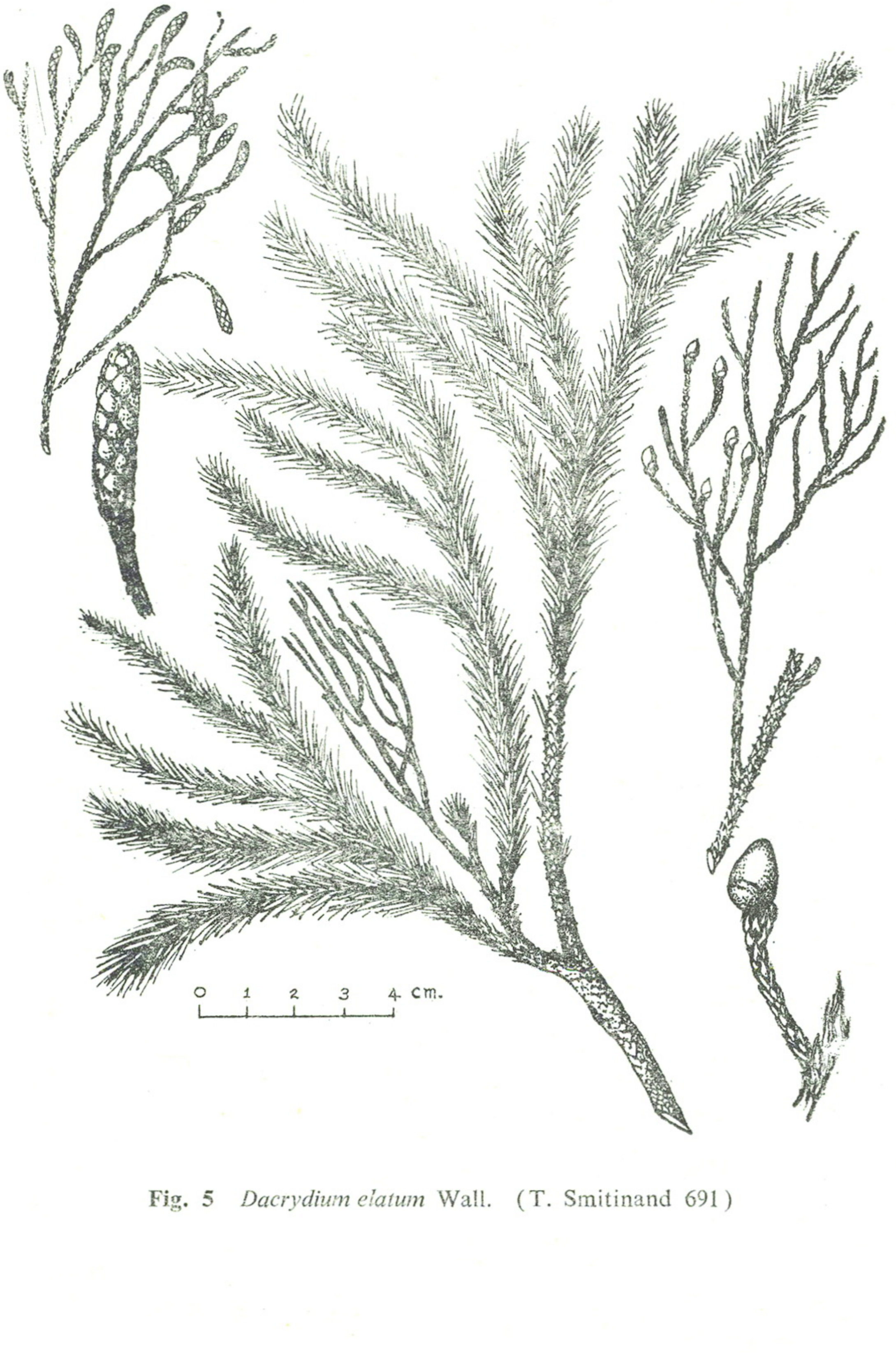


Fig. 5 *Dacrydium elatum* Wall. (T. Smitinand 691)

2. PODOCARPUS

L'Hérit. ex Pers., Syn. 2 : 580.1807; Pilger in Engl., Pflan. 4.5 : 54.1903; Wascher in Blumea 4. : 360.1941.

Evergreen dioeceous tree. *Leaves* spirally arranged, opposite or sub-opposite in two close ranks, very variable in size and shape, linear acuminate, ovate to lanceolate ovate or scale-like, petiolate or sub-sessile. ♂ *flowers* in axillary, cylindrical catkins. ♀ *flowers* solitary, axillary, pedunculate or sessile, with usually 2–3 scales. *Seeds* globose or ovoid drupaceous, red or purple, or green no the thickened fleshy receptacle.

Key to species

1. Midrib prominent; longitudinal veins wanting
   2. Apex of leaves pointed
      3. Catkins solitary or 2–3 together; ♀ flowers with peducle ± 1 cm long. Leaves up to 20 by 1.8 cm and tapering towards the apex **1. P. neriifolius**
      3. Catkins 3–5 together. ♀ flowers with peduncle ± 0.2 cm long. Leaves up to 7 by 0.5 cm with shortly narrowed apex **2. P. polystachyus**
   2. Apex of leaves rounded or blunt **3. P. pilgeri**
1. Midrib obscure, longitudinal veins apparent
   4. Leaves two forms: on branches linear, terete, spirally appressed; on terminal shoots, linear, flattened, distichous **4. P. imbricatus**
   4. Leaves not as above
      5. Catkins solitary; receptacle 1 cm long. Leaves elliptic, not more than 5 by 2.5 cm **5. P. motleyi**
      5. Catkins 3–6. Leaves oblong or ovate-oblong, larger than 5 by 2.5 cm **6. P. wallichianus**

1. Podocarpus neriifolius D. Don

One of the widely distributed species from the peninsular up to the northern Thailand, it is easily recognized by the size and shape of leaves.— **Fig. 6**

T h a i l a n d.— NORTHERN : Chiang Mai, Chiang Rai, Nakhon Sawan; NORTH-EASTERN : Loei, Udon Thani; EASTERN : Nakhon Ratchasima; SOUTH-EASTERN : Trat; PENINSULAR : Krabi, Nakhon Si Thammarat, Trang, Narathiwat.

D i s t r i b u t i o n.— India (Type), China, Laos, Vietnam, Cambodia. Thailand, Malay Peninsula, Indonesia, Borneo, New Guinea and Philippines.

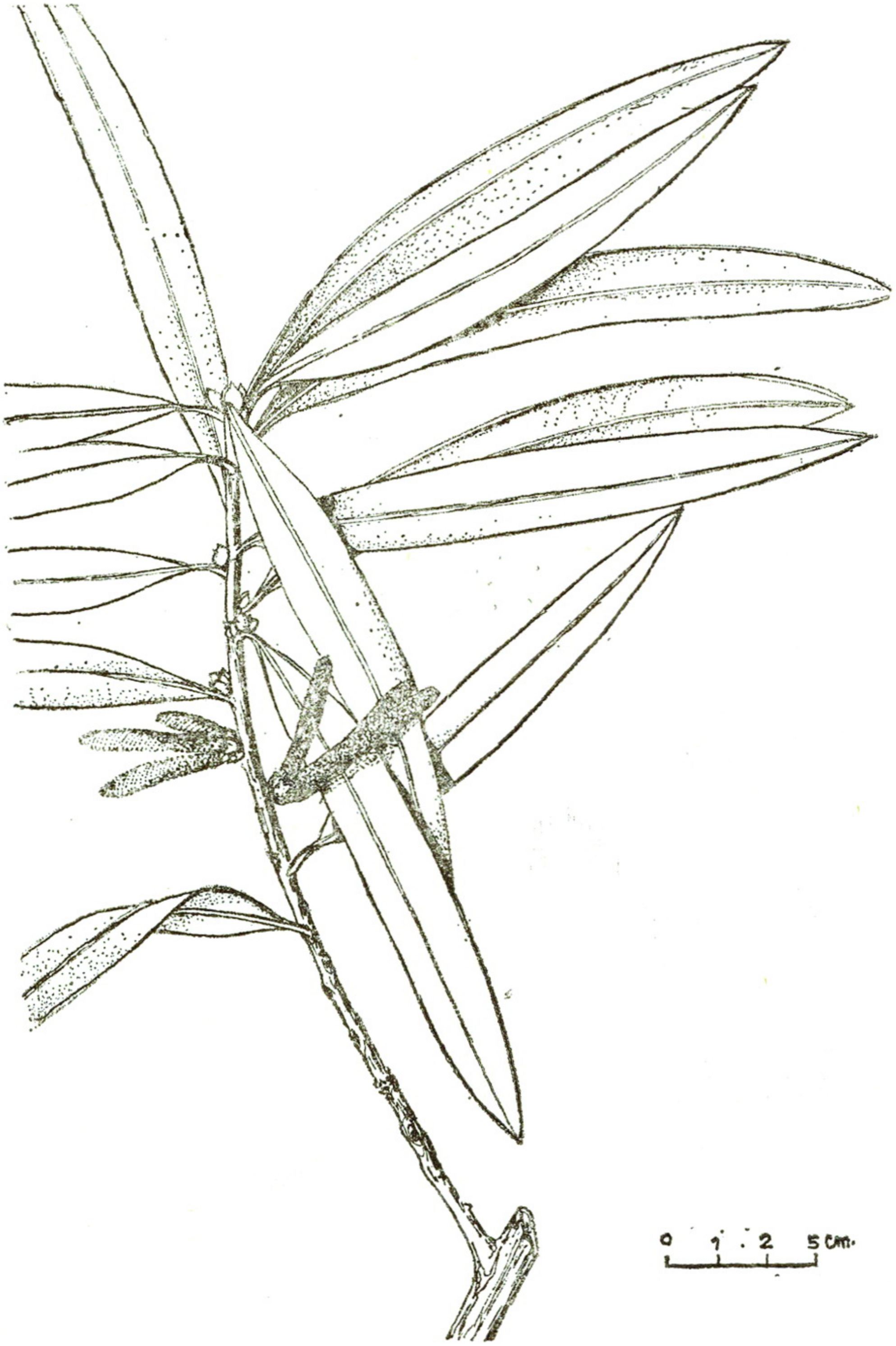


Fig. 6 *Podocarpus neriifolius D. Don* (T. Smitinand 10269)

Ecology.— Frequent in evergreen forest at 600–1300 m altitudes. Flowering : January – March; Fruiting : March upto June.

Vernacular.— Phaya mai พญาไม้, Sang-ching ซางจิง (Chiang Mai); Samunlawaeng สะมุลละแว้ง, Mahachang มหาจาง (Chiang Rai); Phailamton ไผ่ลำต้น (Udon); Hang kai ฮังไก้ (Thai); Khun mai ขุนไม้, Praya dairak, พญาได้ราก, Phaya mai พญาไม้ (Nakhon Ratchasima).

2. Podocarpus polystachyus R. Br.

This is a new record for Thailand, closely related to *P. neriifolius*, but differed from the latter by its smaller size of the leaves and more numbers of male inflorescences. — **Fig. 7**

Thailand.— NORTH-EASTERN : Loei (Phu Luang).

Distribution.— India, Burma, Thailand, Malay Peninsula, Borneo, Indonesia (Type) and Philippines.

Ecology.— Found in evergreen forests by streams on sandstone at 800 m altitude, often occurs at low elevations, on granitic rocks along the seashores or along rivers and even in the mangrove swamps. It is not frequented among hill forests.

Vernacular.— Sonbailek สนใบเล็ก (Loei).

3. Podocarpus pilgeri Foxw.

This species is very rare in Thailand, found only once on Khao Kuap by the late Dr. A.F.G. Kerr. It is characteristic by it's blunt or rounded tip of leaves. **Fig. 8**

Thailand.— SOUTH-EASTERN : Trat (Khao Kuap).

Distribution.— Thailand, Celebes (Type), New Guinea and Philippines.

Ecology.— In hill evergreen forest at ca 1000 m altitude.

4. Podocarpus imbricatus Bl.

This species is widely spreading from the Southeastern up to the Northern, and easily recognized by its feather-like leaves.

The juvenile tree is readily distinguished from *Dacrydium elatum* by its feather like leaves. — **Fig. 9**

Thailand.— NORTHERN : Phitsanulok; NORTH-EASTERN : Loei, Phetchabun; EASTERN : Nakhon Ratchasima; SOUTH-EASTERN : Trat.

Distribution.— India, China, Burma, Vietnam, Laos, Cambodia, Thailand, Malay Peninsula, Indonesia (Type), Borneo and Philippines.



Fig. 7 *Podocarpus polystachyus* R. Br. (K. Bunchuai 1748)

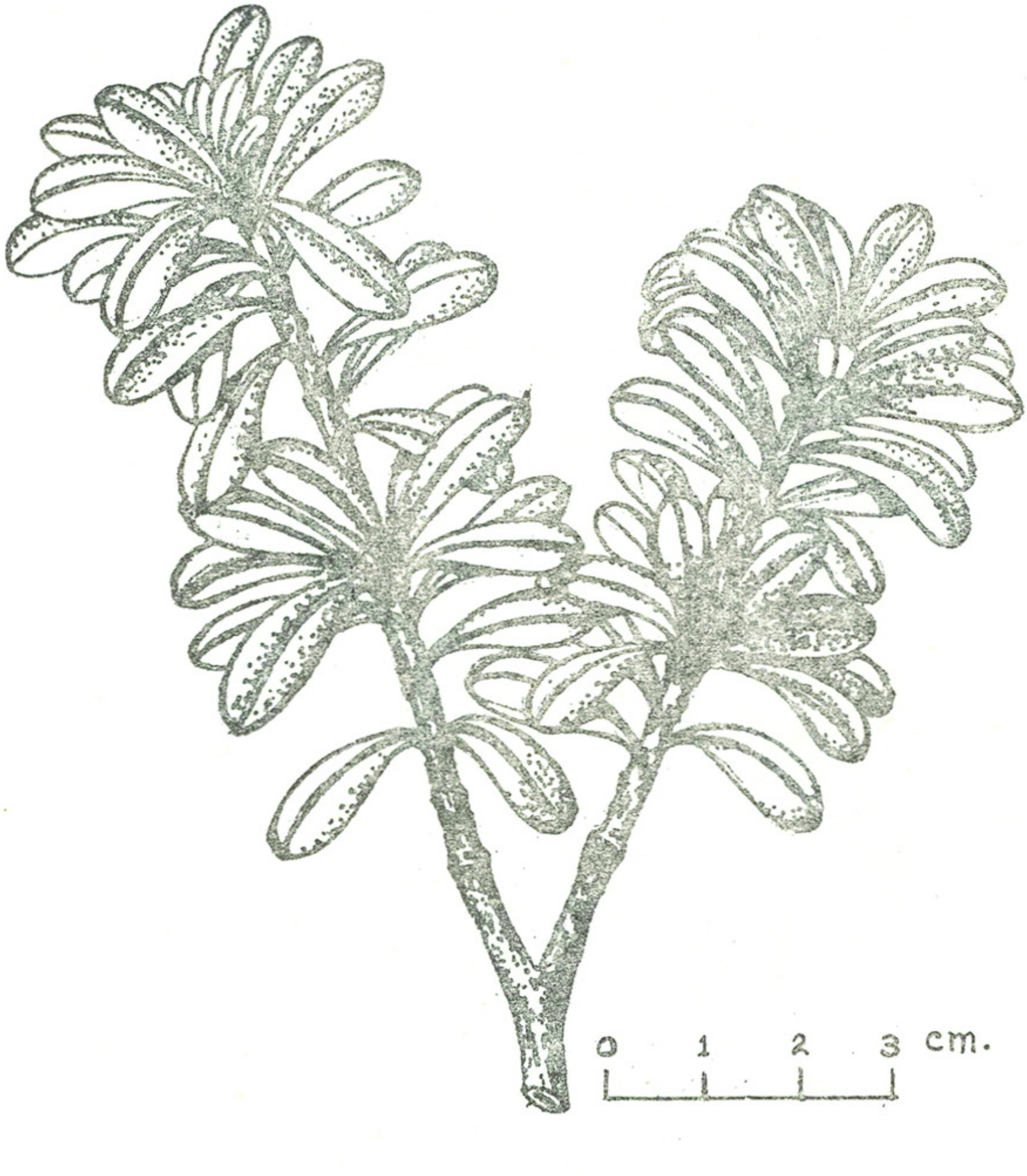


Fig. 8 *Podocarpus pilgeri* Foxw. (A.F.G. Kerr 17809)



Fig. 9 *Podocarpus imbricatus* Bl. (T. Smitinand s.n.)

Ecology.— Scattered in evergreen forests at 700–1200 m altitudes. Flowering in January to May; fruiting in March to September.

Vernacular.— Makhampom dong มะขามป้อมดง (Thai, Nakhon Ratchasima); Phaya mai พญาไม้, Sarul สะรูล (Trat).

5. **Podocarpus motleyi** (Parl.) Dum.

Only found in Narathiwat, it is quite different from the others by its strongly elliptic leaves. — **Fig. 10**

Thailand.— PENINSULAR : Narathiwat.

Distribution.— Thailand, Malay Peninsula, Borneo (Type) and Indonesia.

Ecology.— This species occurs in the lowland tropical evergreen forests or in swamp forests, usually at or a little above the sea-level.

Vernacular.— Sangchin ซางจีน, Phaya mai พญาไม้ (Narathiwat); Ra-yo ka-yu รายอกายู (Malay).

6. **Podocarpus wallichianus** Presl.

This species is easily recognized by it finely spear shaped of leaves. — **Fig. 11**

Thailand.— NORTHERN : Nan; EASTERN : Nakhon Ratchasima; SOUTH-EASTERN : Chanthaburi, Trat; PENINSULAR : Ranong, Nakhon Si Thammarat, Satun.

Distribution.— India (Type), Burma, Thailand, Vietnam, Laos, Cambodia, Malay Peninsula, Indonesia, Borneo, New Guinea and Philippines.

Ecology.— In evergreen forest, from sea level up to 2000 m elevation.

Vernacular.— Phaya mai พญาไม้ (Trat); Khun mai ขุนไม้ (Ranong).



Fig. 10 *Podocarpus motleyi* (Parl.) Dum. (S. Nartruthai s.n.)

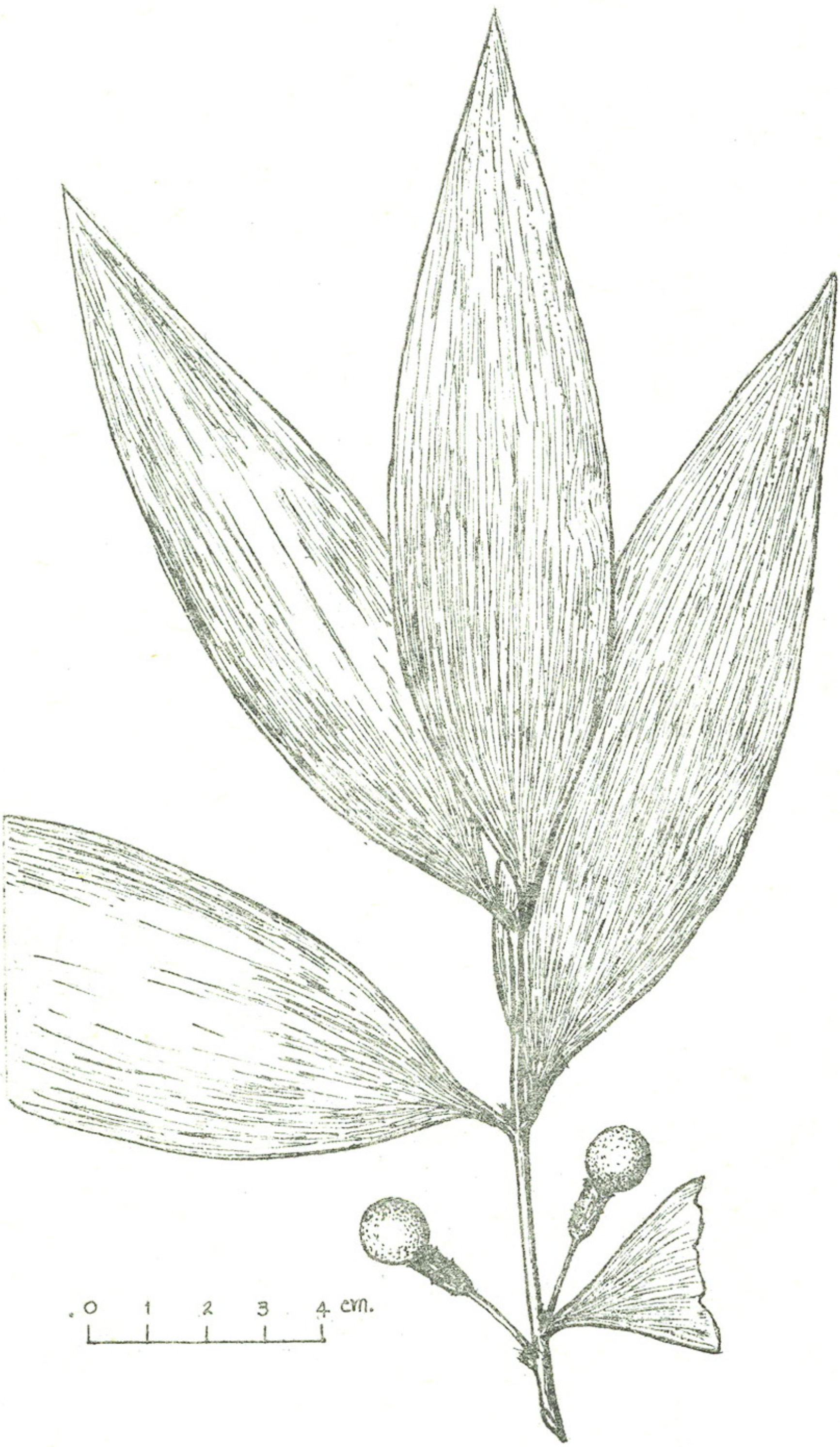


Fig. 11 *Podocarpus wallichianus* Presl.