

obscurely ringed, 5-8 cm diam. with sheaths. Leaves 15-20, palmately divided, spreading; petiole 1 m long, armed only in basal 25 cm with stubby thorns, these backward-curved, 3 mm long, set ca. 8 mm apart on lateral margins; blade 70-90 cm wide, orbicular, divided to base into 10 segments, middle or lateral ones largest, to 46 x 8 cm wide, truncately praemorse, 9-nerved, distinctly toothed, lobes 6 mm high, other segments decreasing slightly in size toward petiole, these 30-40 x 3-5 cm, truncately praemorse, 3-5-nerved. Inflorescences interfoliar, equalling or slightly exceeding leaves, to 1.5 m long, spreading, peduncle to 50 cm long; inflorescence bearing 7 partial inflorescences in apical 2/3, each a simple unbranched rachilla and each subtended by its own bract, these tubular and closely sheathing in basal half, conspicuously inflated in apical half, lower partial inflorescences ca. 20 cm apart, decreasing to 5 cm apart at apex of inflorescence, lowest rachilla to 15 cm long, uppermost to 5 cm long, each rachilla only narrowly diverging from inflorescence rachis, bracts, rachis, and rachillae densely covered with deciduous brownish felt-like indument, that of rachillae especially thick and with tightly appressed white hairs. Flowers seen just past anthesis, 10 x 4 mm, bullet-shaped; calyx 4 x 3 mm, shallowly lobed, lobes rounded; corolla ca. 2 1/2 times as high as calyx, petals 8 x 2.75 mm, long-ovate, acute, boat-shaped; staminal ring 2-3 mm high, ca. 2 times height of ovary, stamens 6, filaments short, ca. half the height of petals, anthers 1.75 mm long; pistil 2.5 x 2.5 mm, globular, glabrous, truncate apically, style 3-4 mm long, slender, nearly equalling petals. Fruits seen immature, 8 x 6 mm, +/- oblong, green, sessile or on a short pedicel, just exceeding perianth, said by local people to be 10-13 x 7-8 mm long, oblong, and red when mature; fruiting perianth 1 cm long, 8 mm wide at tip, calyx 4-5 mm high, sepals connate in basal 1/2-2/3, lobes acute apically but often splitting and tattering into numerous narrow truncate segments, petals 1 cm long, long-ovate, acute, spreading around base of fruit, perianth with similar indument as rachillae only thicker on calyx than on corolla.

The epithet honors Poonsak Vatcharakorn, co-collector of the type, and plant and seed collector for Kampon Tansacha. Poonsak probably knows

the forests of Thailand as well or better than anyone; his extensive knowledge of the palms and their habitats has proven invaluable in preparing the book on Thai palms and cycads. *Licuala poonsakii* is closest to *L. acutifida* but the latter differs in its smaller habit, leaf blades with smaller segments and fewer nerves, shorter inflorescence with fewer rachillae, ovoid flowers with shorter petals and an apically truncated ovary with a very long style reaching nearly to the tips of the petals. *L. poonsakii* occurs in moist hill forest in southeastern Thailand.

***Licuala tansachana* Hodel sp. nov. Fig. 8.**

Subgeneris *Eulicualae* Drude, sectioni *Wurmbiae* Furtado. *L. triphyllae* Griff. affinis sed foliis segmento medio apice rotundato conspicue, petiolis spinis paucis vel nullis; inflorescentiis rachillis tribus simplicibus differt. *L. pusillae* Becc. affinis sed foliis segmentiis paucioribus, segmento medio grandiore conspicue differt. *L. ruthiae* L. G. Saw affinis sed foliis segmento medio grandiore conspicue apice rotundato conspicue, petiolis spinis paucis vel nullis, inflorescentiis rhachidibus pilis brunneolis non stellaribus argenteis differt. *L. kamarudini* L. G. Saw affinis sed foliis segmento medio grandiore conspicue apice rotundato conspicue, petiolis spinis paucis vel nullis, inflorescentiis rhachidibus bracteis pilis brunneolis non argenteis hirtis, fructibus non tuberculatis differt. Typus: Thailand, SW of Narathiwat, 800 m elev., D.R. Hodel, P. & R. Vatcharakorn 1601 (Holotypus BK).

Solitary, dwarf, acaulescent understory palmlet to 1 m overall height but usually shorter. Stem short, bulbous, mostly subterranean. Leaves 8-12, palmately divided, spreading; petiole to 90 cm long, scarcely armed and then only in basal 10 cm with reflexed thorns, these 2 mm long, set ca. 1 cm apart on lateral margins; blade 30-40 cm wide, semi-orbicular, divided to base into 3-4 segments, middle one conspicuously the largest, to 32 x 12 cm, sharply rounded apically, praemorse, shallowly toothed, 19-nerved, narrowing to 1 cm wide at base, other segments 15-20 x 1.5-5 cm, obliquely praemorse, 2-5-nerved, more conspicuously toothed. Inflorescences interfoliar, shorter than leaves, to

30 cm long, ascending; peduncle 18 cm long; bracts 2, loosely sheathing, 3 partial inflorescences in distal half of inflorescence, each a simple unbranched rachilla and each with its own subtending bract, the bract tubular in basal half, inflated in apical half; rachillae to 8 cm long, 1 mm diam., straight or curved, bracts, inflorescence rachis and rachillae densely covered with deciduous reddish brown felt-like indument. Flowers not seen but scars spirally arranged, solitary or paired. Fruits 10 x 7-8 mm, ovoid-globose, reddish, held on a very short pedicel; fruiting perianth 1.75 mm high, deeply lobed, lobed rounded, broadly flared against base of fruit.

The epithet honors Kampon Tansacha, owner of Nong Nooch Tropical Garden in Thailand, host of the 1998 International Palm Society Biennial Meeting, and sponsor of the field research and book on Thai palms and cycads. *Licuala tansachana* occurs sparingly in hill forest in southern peninsular Thailand. It is closest to *L. triphylla* and *L. pusilla*. The former differs in its leaf blade with a more truncate middle segment, petiole with few or no thorns, and branched partial inflorescences, while the latter differs in its leaf blade with more numerous segments, all more or less the same size. Two newly named species are also similar to *L. tansachana*; *L. ruthiae* differs in its middle leaf segment not conspicuously larger and with the apex truncate or only slightly rounded, and the silvery stellate hairs of the rachis and inflorescence bracts, while *L. kamarudii* differs in the more numerous leaf segments or, if few segments, then without the sharply curved apices, the spiny petiole, the inflorescence bracts with silvery shaggy hair, and the tuberculate fruit.

***Pinanga bowiana* Hodel sp. nov.** Figs. 9 & 10.

Subgeneris *Orthostichanthae* Becc. *P. auriculatae* Becc. affinis sed foliis pinnis paucioribus, vaginis virellis albis; inflorescentiis rachillis pilis appressis albis differt. Typus: Thailand, SE of Narathiwat, 800 m elev., D.R. Hodel & P. & R. Vatcharakorn 1608 (Holotypus BK).

Solitary undergrowth palm to 4 m tall. Stem 2-2.5 cm diam, ringed, internodes 4-8 cm, green

with silver to brown indument, brown prop roots 5-7 mm diam. and 3 cm high at base. Leaves 9, pinnate, spreading; sheath to 25 cm long, tubular, obliquely open apically, forming a crownshaft, greenish with dense cover of closely appressed white hairs and brownish scales, rusty-brown tattered ligules to 7 cm long at apex; petiole to 30 cm long, with same whitish indument as sheath; rachis to 50 cm long, with same indument as sheath and petiole; 5-7 pinnae per side, these to 25 x 7 cm, broadly lanceolate, falcate, conspicuously sigmoid, caudate, 3-6-nerved, opposite to subopposite, narrowed at base to 1 cm wide, rich glossy green above, paler below, indument extending from rachis onto base of pinnae, end pair confluent, to 18 x 6 cm, 6-7-nerved, truncately praemorse, lobes 1.5 cm long, bifid. Inflorescence infraxillary, pendulous against stem, to 15 cm long; peduncle 1.5 cm long, with appressed white hairs; prophyll to 12 cm long, brown and tattered at pistillate anthesis; rachis 1 cm long; rachillae 2-5, to 12 cm long, at pistillate anthesis yellowish with pink blush. Staminate flowers not seen. Pistillate flowers distichously arranged, alternate, 5 mm apart within a row, 2 x 2 mm, broadly ovoid to conical, pink; calyx 1.25 mm high, shallowly lobed, sepals 1.25 x 2.75, imbricate nearly to apex, broadly rounded to truncate, nerved when dry; corolla 1.75 mm high, petals 1.5 x 1.5 mm, clam-shell-shaped, imbricate nearly to apex and there rounded-acute, narrowed at base, minute spine-like projections on apical margins; pistil 2 x 1.25 mm, ovoid, exceeding petals, truncate apically, style lacking, stigma lobes short, blunt. Fruits not seen.

The epithet honors Nataporn "Bow" Pitakpao, associate and partner of Kampon Tansacha. The greenish leaf sheaths densely covered with appressed whitish hairs gives the crownshaft of *Pinanga bowiana* its distinctive greenish white color. *P. bowiana* is closest to *P. auriculata* from Borneo but the latter lacks the distinctive greenish white leaf sheaths and rachillae with appressed white hairs. *P. bowiana* is infrequent in hill forest in southern peninsular Thailand.

***Salacca stolonifera* Hodel sp. nov.** Fig. 11.

S. glabresceni Griff. affinis sed habitu