

NEW TAXA IN THE TECTARIA GROUP (POLYPODIACEAE)  
FROM MALESIA

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SUMMARY\*

In November 1989 we received from Professor R.E. Holttum his last manuscript for Flora Malesiana. He must have worked for many years to finish this publication on a very difficult group of ferns. For several reasons, not in the least because the manuscript was by no means small, it took a long time before the editing and typesetting were finished. Many new names were given and taxa described by Professor Holttum. Since new taxa are no longer published in Flora Malesiana (new style), this precursor on new species and varieties (and a few new combinations) is published in Blumea, later this year to be followed by the complete revision in Flora Malesiana, series II, volume 2<sup>1</sup>, Pteridophyta.

The following new species and varieties are described here: *Tectaria andersonii*, *T. brevilobata*, *T. coadunata* (J. Sm.) C. Chr. var. *minor*, *T. croftii*, *T. curtisii* Holttum var. *hendersonii*, *T. danfuensis*, *T. devexa* (Kunze ex Mett.) Copeland var. *novoguineensis*, *T. exauriculata*, *T. filisquamata*, *T. griffithii* (Baker) C. Chr. var. *singaporeana* and var. *amplissima*, *T. inopinata*, *T. jacobsii*, *T. lobbii* (Hook.) Copeland var. *denticulata* and var. *allosora*, *T. macrota*, *T. microchlamys*, *T. microlepis*, *T. moussetii*, *T. nabirensis*, *T. nesiotica*, *T. palmata* (Mett.) Copeland var. *sumatrana* and var. *dimorpha*, *T. rheophytica*, *T. rigida*, *T. rufescens*, *T. schmutzii*, *T. squamipes*, *T. subcordata*, *T. subtrilobata*, *T. soluensis*, *T. villosa*; *Chlamydogramme elata*; *Cyclopetalis rigida*; *Heterogonium lobulatum*; *Lastreopsis novoguineensis*.

The following new combinations are made: *Tectaria devexa* (Kunze ex Mett.) Copeland var. *minor* (Hook.) Holttum, comb. nov., *T. palmata* (Mett.) Copeland var. *platanifolia* (Mett.) Holttum, stat. nov.

TECTARIA Cav.

*Tectaria andersonii* Holttum, *spec. nov.*

*Tectaria dissectae* (Forst.) Lellinger congruens, ab ea differt: stipes rachisque ubique paleis fuscis perangustis apice filiformibus vestitus; pinnae breviores horizontaliter patentes. — T y p u s: J.A.R. Anderson S.31936, Sarawak, G. Subis, Niah, Miri Dist. (K).

D i s t r i b u t i o n. Borneo (known only from the type collection).

\*) By H.P. Nooteboom, editor of Flora Malesiana series II, Pteridophyta.  
Rijksherbarium / Hortus Botanicus, Leiden, The Netherlands

**Tectaria brevilobata** Holttum, *spec. nov.*

*Tectaria durvilleo* (Bory) Holttum affinis, ab ea differt: caudice erecto; stipitibus pallidies leviter rufo-suffusis; pinnis basi acroscopica non auriculatis; lobis basicopicis pinnarum infirmarum multo brevioribus. — T y p u s: *C. J. Brooks 16871*, Sulawesi, Maros Waterfall (BM).

**Distribution.** Sulawesi (known only from the type).

**Tectaria coadunata** (J. Sm.) C. Chr.

*Tectaria coadunata* (J. Sm.) C. Chr., *Contr. U.S. Natl. Herb.* 26 (1931) 331; Ching, *Sinensia* 2 (1931) 18, p.p. — *Aspidium coadunatum* Wall. ex Hook. & Grev., *Icon. Filic.* (1831) 202, non Kaulf. 1824. — *Sagenia coadunata* J. Sm., *J. Bot. (Hooker)* 4 (1841) 184, nom. nov. — *Sagenia macrodonta* Fée, *Mém. Foug.* 5. *Gen. Filic.* (1852) 313, nom. nov. superfl. — *Tectaria macrodonta* (Fée) C. Chr., *Index Filic. Suppl.* III (1934) 181; Tard. & C. Chr. in Lecomte, *Fl. Indo-Chine* 7 (1941) 410 (p.p.?). — T y p e: *Wallich 377 pt*, Nepal (E).

*Aspidium cicutarium* auct.: Hook., *Sp. Fil.* 4 (1862) 61, p.p.; Bedd., *Handb. Ferns Brit. Ind.* (1883) 220, p.p.

*Nephrodium cicutarium* auct.: Baker, *Syn. Fil.* (1867) 299, p.p.; Clarke, *Trans. Linn. Soc. London* II, Bot. 1 (1880) 539, excl. var. *coadunatum*.

## KEY TO THE VARIETIES

- 1a. Basal pinnae of mature plants to 50 cm long, pinnate; those of small plants deeply lobed but not pinnate . . . . . **a. var. coadunata**  
 b. Basal pinnae to 15 cm long, pinnate . . . . . **b. var. minor**

**a. var. coadunata**

**Distribution.** NE India and SW China, N Thailand.

**b. var. minor** Holttum, *var. nov.*

*Tectaria macrodonta* auct.: Holttum, *Revis. Fl. Malaya* 1, 2 (1955) 505, quoad plantas peninsulares.

A typo speciei differt: lamina frondis usque c. 30 cm longa, pinnis infimis usque 15 cm longis pinnulis unijugatis praeditis; costis costulisque subtus minute puberulis. — T y p u s: *Henderson SFN 21383*, Pulau Langkawi (K; iso SING).

**Distribution.** W Malaysia (Langkawi Is., Perlis).

**Tectaria croftii** Holttum, *spec. nov.*

*Tectaria angulata* (Willd.) Copeland affinis, ab ea differt: pinnis unijugatis, brevi-stipitulatis, basi supra semper gemmiferis; paleis stipitis usque 20 × 1,5 mm, stipite sursum rhachi costisque subtus paleis angustis omnino praeditis, costis venisque subtus copiose pilosis; soris plerisque non ad venulas liberis sitis. — T y p u s: *J. R. Croft 1734*, Papua New Guinea, W Sepik, north slopes of Bewani Mts, 300 m, on vertical limestone face (K; iso LAE, L).

**Distribution.** Northern Papua New Guinea, Manus I.

**Tectaria curtisii** Holtum

*Tectaria curtisii* Holtum, Gard. Bull. Sing. 38 (1986) 145. — T y p e: *C. Curtis* 3376, Dec. 1895, near Ipoh, on limestone (K; iso SING).

## KEY TO THE VARIETIES

- 1a. Upper pinnae lobed to 5 mm from their costae . . . . . **a. var. curtisii**  
 b. Upper pinnae lobed to 10 mm from their costae . . . . . **b. var. hendersonii**

**a. var. curtisii**

**Distribution.** Malay Peninsula (near Ipoh; known only from the type collection).

**b. var. hendersonii** Holtum, *var. nov.*

A typo speciei differt frondibus majoribus (pinnis infimis usque 40 cm longis), pinnis superioribus minus profunde lobatis, lobis longioribus, pagina subtus inter venas glabra. — T y p u s: *Henderson* 22325, Pahang, G. Senyum (K; iso BM, SING).

**Distribution.** Malay Peninsula (besides the type collection, one young plant from Sungei Ketch, Kelantan, probably belongs to this variety; it has hairs between veins on the lower surface, as in *var. curtisii*).

**Tectaria danfuensis** Holtum, *spec. nov.*

*Tectaria melanorachi* (Baker) C. Chr. affinis, ab ea differt: frondibus duplo majoribus; pinnis infimis usque 64 cm longis, pinnulas uninjugatas stipitatas ferentibus; axibus frondium cum pagina pinnarum subtus omnino pilis multis usque 0,1 mm longis capitatis vel obtusis vestitis; pagina supra inter venas glabra; indusiis margine minute papillosis. — T y p u s: *A. C. Jermy* 7915, New Ireland, Danfu Valley, 270 m (BM; iso BO).

**Distribution.** New Guinea (New Ireland, known from the type and *Jermy* 7869 and 8006, cult. Royal Botanic Gardens Kew).

**Tectaria devexa** (Kunze ex Mett.) Copeland

*Tectaria devexa* (Kunze ex Mett.) Copeland, Philipp. J. Sci. 2 (1907) Bot. 415; Ching, Sinensia 2 (1931) 16; Backer & Posth., Varenfl. Java (1939) 72; Holtum, Revis. Fl. Malaya 2 (1955) 505, 626, fig. 297; Copeland, Fern Fl. Philipp. (1960) 304; Holtum & Roy, Blumea 13 (1965) 135; Sledge, Kew Bull. 27 (1972) 416; Holtum, Gard. Bull. Sing. 34 (1981) 136, Indian Fern J. 1 (1985) 36. — *Aspidium devexum* Kunze, Bot. Zeitung (Berlin) 6 (1848) 259, nom. nud. — *Aspidium intermedium* Mett., Farngatt. 4 (1858) 119, non Willd. 1810. — *Aspidium devexum* Kunze ex Mett., Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 237 in obs. — *Pleocnemia devexa* (Kunze ex Mett.) Alderw., Malayan Ferns (1908) 174, incl. *var. permutata* Alderw. — T y p e: *Zollinger* 2717, Java (LZ, †; iso B, G, L).

*Aspidium membranaceum* Hook., Sp. Fil. 5 (1864) 105 in footnote. — *Pleocnemia membranacea* (Hook.) Bedd., Ferns Brit. India Suppl. (1875) 15; Handb. Ferns Brit. Ind. (1883) 225. — L e c t o t y p e (Holtum 1981): *Cuming s.n.*, Philippines (K).

## KEY TO THE VARIETIES

- 1a. Lobes of upper pinnae deeply lobulate; veins forming few areoles beyond those along costae and costules . . . . . 2  
 b. Lobes of upper pinnae at most crenate; additional areoles frequent below sinuses between pinna-lobes . . . . . c. var. *novoguineensis*  
 2a. Both surfaces densely short-hairy between veins . . . . . a. var. *devexa*  
 b. Upper surface bearing scattered hairs 0.5 mm long; lower surface between veins almost glabrous . . . . . b. var. *minor*

**a. var. *devexa***

**Distribution.** Southern Burma and Thailand; Western Malasia, Central and SW Sulawesi, Philippines. Specimens from Taiwan, SW China and Tonkin have sparse longer hairs on the upper surface but are otherwise similar.

**b. var. *minor* (Hook.) Holttum, *comb. nov.***

*Aspidium giganteum* Blume var. *minor* Hook., Sp. Fil. 4 (1862) 50. — *Sagenia gigantea* var. *minor* Bedd., Ferns S. India (1864) 81, t. 243. — **T y p e:** *Thwaites CP 1358*, Ceylon (K).

**Distribution.** Ceylon, Christmas Island.

**c. var. *novoguineensis* Holttum, *var. nov.***

A typo speciei differt: pinnis minus profunde lobatis, lobis latioribus subintegrus vel crenatis; venis sub sinibus inter lobos in areolis saepe biseriatis dispositis. — **T y p u s:** *Holttum s.n.*, cult. Kew, origin limestone near Kundiawa, E New Guinea (K).

**Distribution.** Eastern New Guinea, New Hebrides (Efate).

***Tectaria exauriculata* Holttum, *spec. nov.***

Stipes castaneus, nitens, basi paleis angustis rigidis valde contortis vestitus; lamina usque 25 cm longa, apici trilobato pinnisque 2-jugatis constituta; pinnae superiores usque 17 × 5 cm, basi subcordatae; sori magni, inter venas biseriati; indusia rotundo-reniformia. — **T y p u s:** *M. J. S. Sands et al. 2676*, Manus I. (K).

**Distribution.** New Guinea (known only from the type collection).

***Tectaria filisquamata* Holttum, *spec. nov.***

Caudex brevis, erectus, apice paleis angustis apice filiformibus vestitus; stipes usque 18 cm longus, gracilis, glaber, pallide castaneus; lamina frondium plantae maturae usque 14 cm longa, trilobata, lobis integris, subtus brevi-pilifera; sori parvi, plerique compitales, exindusiati. — **T y p u s:** *T. Lobb 259*, Java (K; iso BM).

**Distribution.** Java (known from *Lobb 258* and *259* only).

**Tectaria griffithii** (Baker) C. Chr.

- Tectaria griffithii* (Baker) C. Chr., Index Filic. Suppl. III (1934) 180; Tard. & C. Chr., in Lecomte, Fl. Indo-Chine 7 (1941) 411; Holttum, Revis. Fl. Malaya 2, sec. ed. (1968) 636. — *Nephrodium griffithii* Baker, Syn. Fil. (1867) 300. — *Sagenia griffithii* (Baker) Bedd., Ferns Brit. India (1870) t. 337. — T y p e: *Griffith*, Burma (K).
- Nephrodium multicaudatum* Clarke, Trans. Linn. Soc. London II, Bot. 1 (1880) 540, t. 77. — *Aspidium multicaudatum* (Clarke) Bedd., Handb. Ferns Brit. Ind. (1883) 222; Alderw., Malayan Ferns (1908) 250. — *Tectaria multicaudata* (Clarke) Ching, Sinensia 2 (1931) 20; Holttum, Revis. Fl. Malaya 2 (1955) 507, fig. 299. — T y p e: *Clarke 18427*, Sylhet (K).
- Aspidium malayense* Christ, Philipp. J. Sci. 2 (1907) Bot. 187. — *Tectaria malayense* (Christ) Copeland, Philipp. J. Sci. 2 (1907) Bot. 416; C. Chr., Gard. Bull. Straits Settle. 7 (1934) 260; Copeland, Fern Fl. Philipp. (1960) 305. — L e c t o t y p e (selected here): *Loher 858*, Luzon (P; iso K).
- Pleocnemia trimenii* Bedd. forma *dissecta* Alderw., Bull. Jard. Bot. Buitenzorg III, 2 (1920) 164. — T y p e: *Lörzing 5403*, Sumatra, Sibolangit (BO; iso L).

## KEY TO THE VARIETIES

- 1a. Basal pinnae with 5 pairs of pinnules . . . . . c. var. **amplissima**  
 b. Basal pinnae with 1 pair of pinnules . . . . . 2  
 2a. Veins amply anastomosing in fertile fronds . . . . . a. var. **griffithii**  
 b. Veins all free in lobes of fertile pinnae . . . . . b. var. **singaporeana**

**a. var. griffithii**

**Distribution.** Assam, Burma, Vietnam, Thailand; in Malesia: N Sumatra, Malay Peninsula, W Java, Borneo, Sulawesi, Philippines (Luzon to Mindanao).

**b. var. singaporeana** Holttum, *var. nov.*

A typo speciei differt: venis in lobis soriferis pinnarum et pinnularum omnibus liberis. — T y p u s: *C.G. Matthew s.n.*, Jan. 1908, Singapore, Bukit Timah (K).

**Distribution.** Singapore (known only from forest on Bukit Timah).

**c. var. amplissima** Holttum, *var. nov.*

A typo speciei differt: pinnis usque 12-jugatis, infimis 50 cm longis pinnulis 6-jugatis instructis, pinnulis infimis basiscopis foliis tertiariis 3-jugatis instructis, rhachibus costisque subtus dense brevopilosis. — T y p u s: *C.G. Matthew s.n.*, Sumatra, Padang Panjang, Bukit Tilabung (K).

**Distribution.** Sumatra (known only from the type collection).

**Tectaria inopinata** Holttum, *spec. nov.*

Species aspectu *Tectariae brooksii* congruens, ab ea differt: venulis liberis in areolis costalibus carentibus, venulis liberis in areolis ceteris perpauca brevibus; soris valde irregularibus, plerisque elongatis, eis secus venas costales longissimis. — T y p u s: *A.C. Jermy & J.M. Rankin J 15324*, Sabah, near Tenom, 2200 m (BM).

**Distribution.** Borneo. Known only from the type locality (two collections) and from G. Matang (Sarawak).

**Tectaria jacobsii** Holttum, *spec. nov.*

*Tectaria lobbii* (Hook.) C. Chr. affinis, ab ea differt: frondibus majoribus; pinnis latoribus (vulgo 2,5 cm latis); pinnis inferioribus 3-paribus basin versus pinnulis 1–2-paribus praeditis, distaliter oblique lobatis; soris multis irregulariter inter venas conspersis. — T y p u s: *M. Jacobs 5590*, Brunei, junction of rivers Temburong and Belalang at 500 m (K; iso L).

**Distribution.** Borneo (known only from the type collection).

**Tectaria lobbii** (Hook.) Copeland

*Tectaria lobbii* (Hook.) Copeland, Philipp. J. Sci. 10 (1915) Bot. 146; Fern Fl. Philipp. (1960) 309. — *Aspidium lobbii* Hook., Sp. Fil. 4 (1862) 59, t. 232; Alderw., Malayan Ferns (1908) 244. — *Sagenia lobbii* (Hook.) Christ, Ann. Jard. Bot. Buitenzorg 20 (1905) 100. — T y p e: *T. Lobb s.n.*, Sarawak, 1857, on rocks (K).

*Nephrodium hosei* Baker, Ann. Bot. (London) 5 (1891) 330. — *Nephrodium stenophyllum* Baker, J. Linn. Soc. Bot. 22 (1886) 227, t. 11, non Sodiro 1883. — *Aspidium stenophyllum* (Baker) Diels in Engler & Prantl, Nat. Pflanzenfam. I, 4 (1899) 185; Alderw., Malayan Ferns (1908) 247. — *Tectaria hosei* (Baker) Copeland, Sarawak Museum J. 2 (1917) 371. — T y p e: *G.F. Hose 110*, Sarawak, river banks (K).

## KEY TO THE VARIETIES

- 1a. Sori not elongate nor confluent . . . . . 2  
 b. Sori irregularly elongate and sometimes confluent . . . . . **c. var. allosora**  
 2a. Margins of pinnae and pinnules entire . . . . . **a. var. lobbii**  
 b. Margins of pinnae and pinnules minutely denticulate . . . . . **b. var. denticulata**

**a. var. lobbii**

**Distribution.** Borneo, Philippines (Bohol).

**b. var. denticulata** Holttum, *var. nov.*

A typo speciei differt frondibus minoribus, pinnis infimis pinnula unica praeditis, marginibus pinnarum omnium minute denticulatis. — T y p u s: *P.S. Ashton S 18175*, Sarawak, Bintulu, Ulu Tubau, on frequently flooded river banks (K).

**Distribution.** Borneo (known only from the type collection).

**c. var. allosora** Holttum, *var. nov.*

A typo speciei differt soris elongatis, interdum confluentibus. — T y p u s: *D.R. Pleyte 250*, Halmahera, G. Sembilan, thinned-out wood near river (BO; iso K, L).

**Distribution.** Halmahera, Morotai.

**Tectaria macrota** Holttum, *spec. nov.*

Stipes usque 60 cm longus; lamina usque 50 cm longa, pinnis 1–3-paribus et apice trilobato constituta; pinnae suprabasales basi acroscopica auricula acuminata 6–10 cm longa praeditae, pinnae

basales pinnulis unijugis subaequalibus praeditae; venae copiose anastomosantes; sori parvi, irregulariter conspersi, plerique non ad venas terminales. — T y p u s: *Mousset 617*, Java, Mt Tengger, Gerbo (P; iso K, L).

**Distribution.** Java (E Java, Tengger Mts at 700–800 m, in forest; known from 3 collections).

***Tectaria microchlamys* Holttum, *spec. nov.***

*Tectaria christovalensi* (C. Chr.) Alston affinis, ab ea differt: frondibus trilobis tantum, tenuibus, majoribus; gemmis carentibus; costis supra glabris; soris raro ad apices venularum in areolis sitis, indusiis minutis setiferis praeditis. — T y p u s: *J.R. Croft 1115*, Manus I., New Guinea (K; iso LAE).

**Distribution.** New Guinea (known only from the type collection).

***Tectaria microlepis* Holttum, *spec. nov.***

*Tectaria lobbio* (Hook.) Copeland var. *lobbio* affinis, ab ea differt: costis supra glabris; gemmis carentibus; pinnis infimis unifurcatis non pinnuliferis; soris indusiis perparvis praeditis. — T y p u s: *J.H. Coert 657*, E Java, 'kali ten zuyden van Soekoredjo' (L).

**Distribution.** Java (known only from the type collection).

***Tectaria moussetii* Holttum, *spec. nov.***

Stipes rachisque atropurpureus; pinnae 6-jugatae vel plures, valde dissitae; pinnae infimae usque 15 cm longae, pinnulis infimis basicopicis 6,5 cm longis profunde lobatis; sori indusiati, indusiis tenuibus pilis brevibus praeditis; sporangia pilos capitatos breves ferentia. — T y p u s: *Mousset 130*, E Java, Lawang, near Poespo, 700–800 m (K; iso L, UC).

**Distribution.** East Java, Bali (3 collections).

***Tectaria nabirensis* Holttum, *spec. nov.***

Rachis atrobrunnea, nitens, paleis angustis multis instructa; pinnae infimae usque 28 cm longae, pinnulis liberis unijugatis praeditae, pinnula basicopica 17,5 × 7 cm profunde lobata lobis oblique lobulatis; venae in areolis costalibus et costularibus ordinatae, areolis ceteris paucis; sori indusiati, indusiis glabris. — T y p u s: *W. Schönian 38*, W New Guinea, Geelvink Bay, Mts S of Nabire, 100–400 m (B).

**Distribution.** W New Guinea (known only from the type).

***Tectaria nesiotica* Holttum, *spec. nov.***

Rachis atrobrunnea, nitens; pinnae infimae ignotae, pinnae suprabasales usque 42 cm longae, pinnulis liberis 12-jugatis instructae; pinnulae maximae 8,7 cm longae, 1,7 cm latae, profunde lobatae, lobis 2 mm latis sinibus latioribus separatis; sori indusiati, indusia firma, fusca, glabra. — T y p u s: *J.R. Croft & J. Marsh LAE 71234*, Goodenough Is., 950 m, in forest (K; iso L, LAE).

**Distribution.** New Guinea, known only from the type collection.

**Tectaria palmata** (Mett.) Copeland

*Tectaria palmata* (Mett.) Copeland, Sarawak Museum J. 2 (1917) 369. — *Aspidium palmatum* Mett., Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 238; Alderw., Malayan Ferns (1908) 247. — **L e c t o - t y p e** (selected here): *Korthals*, Kalimantan (L 916,68-77).

## KEY TO THE VARIETIES

- 1a. Fertile fronds isomorphous with sterile ones, or nearly so, their lower surface glabrous between veins . . . . . 2  
 b. Fertile fronds much contracted, their lower surface bearing many hairs between veins . . . . . **d. var. dimorpha**  
 2a. Indusia distinct on all sori . . . . . 3  
 b. Indusia very small, hidden by sporangia, or lacking . . . . . **c. var. platanifolia**  
 3a. Costae densely short-hairy on upper surface . . . . . **a. var. palmata**  
 b. Costae glabrous on upper surface . . . . . **b. var. sumatrana**

**a. var. palmata**

**D i s t r i b u t i o n.** Borneo (central and SE Kalimantan).

**b. var. sumatrana** Holttum, *var. nov.*

A typo speciei differt: costis supra glaberrimis, leviter sulcatis. — **T y p u s:** *Lörzing 14739*, N Sumatra, G. Sibajak, 850 m (BO).

**D i s t r i b u t i o n.** Sumatra (known only from the type collection).

**c. var. platanifolia** (Mett.) Holttum, *stat. nov.*

*Aspidium platanifolium* Mett., Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 239; Alderw., Malayan Ferns (1908) 235. — *Tectaria platanifolia* (Mett.) Copeland, Sarawak Museum J. 2 (1917) 369. — **T y p e:** *Wallace*, Borneo (holotype †; iso K).

*Aspidium angulatum* auct.: Hook. Sp. Fil. 4 (1862) 44, p.p.

Differs from var. *palmata*: sori much smaller and more numerous, exindusiate or with very small indusia hidden by sporangia, those on veins near costae sometimes a little elongate or confluent.

**D i s t r i b u t i o n.** Borneo (Sarawak, many collections; E Kalimantan).

**d. var. dimorpha** Holttum, *var. nov.*

A typo speciei differt: stipite usque 20 cm longo; frondibus fertilibus contractis, subtus inter venas pilis multis 0,5 mm vel ultra longis vestitis. — **T y p u s:** *K. Iwatsuki et al. B-980*, E Kalimantan, Tabang (K; iso KYO).

**D i s t r i b u t i o n.** Borneo (known only from the type locality).

**Tectaria rheophytica** Holttum, *spec. nov.*

*Tectaria trifida* (Fée) Price affinis, ab ea differt: lamina rigida, subtus omnino glabra; pinnis uniparibus tantum, gemmis destitutis; soris exindusiatis, punctiformibus vel irregulariter elongatis. — **T y p u s:** *J.R. Croft 1681*, Papua New Guinea, West Sepik, (K; iso LAE).



**Distribution.** New Guinea (known only from the type and *Croft 1623*, foot of Mt Bougainville near West Irian border).

***Tectaria rigida* Holttum, *spec. nov.***

Lamina c. 30 cm longa, rigida, in sicco pallida; pinnae usque 5-jugatae, infimae usque 15 cm longae pinnulis 1-paribus instructae, pinnulis infimis basiscopis 7 cm longis profunde lobatis, lobis infimis fere liberis; lobi pinnarum sterilium falcati, acuti, acute dentati; pagina supra inter venas glabra; indusia fusca, rigida, glabra. — T y p u s: *W. Meijer 7491*, Sumatra, G. Sago, ravine in forest at 900–1000 m (BO; iso SING).

**Distribution.** Sumatra (known only from the type collection).

***Tectaria rufescens* Holttum, *spec. nov.***

Caudex brevis, erectus; stipes usque 20 cm longus, castaneus; lamina rufescens, apice trilobato pinnisque 2–3-paribus constituta; pinnae suprabasales 10 × 2 cm, integrae, basi cuneatae; pinnae infimae 12 × 2 cm, lobo basiscopico 8 × 1,5 cm praeditae; sori parvi, irregulariter conspersi, interdum coalescentes lineas ad venas laterales parallelas facientes; indusia minuta. — T y p u s: *Soe-geng Reksodihardjo 408*, SE West Irian (BO; iso L).

**Distribution.** New Guinea (apart from the type, one collection from lowland forest in NW West Irian, Sorong District).

***Tectaria schmutzii* Holttum, *spec. nov.***

*Aspidium trifolium* var. *compitale* Alderw., Bull. Jard. Bot. Buitenzorg II, 20 (1915) 6; Malayan Ferns Suppl. (1917) 193. — T y p e: *Saanam 44*, Obi Is., P. Bisa (BO).

*Tectaria angulata* (Willd.) Copeland affinis, ab ea differt: frondibus minoribus; pinnis uni- vel 2-paribus; gemmis perfecte carentibus; soris plerisque non ad venas liberis sitis. — T y p u s: *E. Schmutz 6977*, Flores, Nengke River, on limestone rocks, 100 m (K).

**Distribution.** Lesser Sunda Islands (Flores, Obi Is.).

**Note.** The type of *Aspidium trifolium* var. *compitale* is a young plant. The fronds consist of a simple or slightly trilobed lamina shaped as in immature plants of *T. schmutzii*; there are few sori.

***Tectaria squamipes* Holttum, *spec. nov.***

Stipes cum rhachide costisque persistenter paleaceus; pinnae infimae brevi-stipitatae pinnulis liberis vel adnatis unijugatis praeditae, pinnae ceterae sessiles vel adnatae; nervatio ut in *T. kingii*; pagina supra inter venas pilis crassis ornata; indusia parva, tenuia, verisimiliter caduca. — T y p u s: *J.R. Croft 1753*, Papua New Guinea, West Sepik Province (K).

**Distribution.** Papua New Guinea (also known from Milne Bay Province).

***Tectaria subcordata* Holttum, *spec. nov.***

*Tectaria tabonensi* M.G. Price affinis, ab ea differt: stipite rachidique omnino nigra; apice frondis trilobata; pinnis suprabasalibus fere integris; pinnis basalibus non longioribus, unilobatis, margine basiscopico sinuato-crenato; soris leviter impressis, regulariter dispositis. — T y p u s: *J. R. Croft LAE 65567*, New Ireland, N Scheinitz Range, 300 m (LAE; iso L).

**Distribution.** New Ireland (known only from the type collection).

**Tectaria subtriloba** Holttum, *spec. nov.*

Caudex brevis, erectus; stipes atrocastaneus, minute puberulus; lamina firma, usque 14,5 cm longa, ovata, acuta, basi cordata, supra basin utroque latere lobo breve acuto praedita, subtus inter venas glabra; sori parvi, saepe ± elongati vel coalescentes. — T y p u s: *Hennipman 5859*, SE Sulawesi between Soroako and Malili (L; iso K).

**Distribution.** Sulawesi (known only from the type collection).

**Tectaria suluensis** Holttum, *spec. nov.*

*Tectaria angulata* (Willd.) Copeland affinis, ab ea differt: frondibus dimorphis; lamina apicali pinniformi vel ad pinnam proximam juncta, basi decurrenti, costa gemmis destituta; pinnis basi aequaliter cuneatis, apice abrupte brevi-acuminatis; pinnis supremis semper basi gemmiferis; pinnis infimis non lobatis, brevi-stipulatis; frondibus fertilibus quam sterilibus minoribus; soris confertis, interdum confluentibus. — T y p u s: *Y. Kondo & G. Edano 38624*, Sulu Archipelago, Siasi (K; iso L, SING, US).

**Distribution.** Philippines (Sulu Archipelago and Palawan).

**Tectaria villosa** Holttum, *spec. nov.*

*Tectaria keckio* affinis, ab ea differt: rhachidi costisque subtus pilis multis 0,2–0,5 mm longis vestitis, lamina supra inter venas pilis crassis 0,5 mm longis praedita, indusiis brevifimbriatis. — T y p u s: *De Voogd 2245*, Lesser Sunda Islands (Sumba) (BO).

**Distribution.** Lesser Sunda Islands (Sumba) (known from the type collection only).

**CHLAMYDOGRAMME** Holttum**Chlamydogramme elata** Holttum, *spec. nov.*

Lamina frondis sterilis usque 70 cm longa, apice terminali 5-lobato et pinnis c. 7-jugatis constituta; pinnæ maximæ c. 22 × 2,5 cm; pinnæ infimæ simplices basi valde inaequaliter cuneatae; pinnæ frondis fertiles usque 15 cm longae et 3 mm latae. — T y p u s: *J.R. Croft 1735*, Papua New Guinea, West Sepik Prov. (K, iso LAE).

**Distribution.** Papua New Guinea (known from type collection only).

**CYCLOPELTIS** J. Sm.**Cycloeltis rigida** Holttum, *spec. nov.*

Pinnæ rigidae, infimæ 1 cm, mediales 3,5 cm longae, basin versus angustatae, basi acroscopica cuneatae; paleae margine dentatae; sori uniseriati, indusiati. — T y p u s: *D.R. Pleyte 997*, New Guinea, Misool Is. (L; iso BO).

**Distribution.** New Guinea (known only from the type collection).

**HETEROGONIUM Presl****Heterogonium lobulatum** Holttum, *spec. nov.*

*Heterogonium sagenioidi* (Mett.) Holttum similis, ab ea differt: lobis pinnarum omnibus valde lobulatis, lobis basiscopicis maximis pinnarum infimarum usque  $4,0 \times 1,2$  cm, usque  $2/3$  costulas versus lobulatis, marginibus lobulorum leviter sinuatis. — T y p u s: *M.G. Price & B.F. Hernaez 399*, Philippines, Western Samar (K; iso MICH).

**D i s t r i b u t i o n.** Philippines (known only from the type collection).

**LASTREOPSIS R.C. Ching****33. Lastreopsis novoguineensis** Holttum, *spec. nov.*

Caudex brevis, suberectus; stipes usque 60 cm longus, basi paleis  $6 \times 1,5$  mm vestitus; lamina usque 35 cm longa, omnino anadromata; pinnae infimae usque 25 cm longae, pinnulis plurijugatis praeditae, pinnula infima basiscopica usque 13 cm longa, foliolis tertiariis usque 5-jugatis praedita cetera ad alam angustam oblique lobata; sori indusiis crassiusculis glabris tecti. — T y p u s: *Nakaike 578*, Papua New Guinea, Central Province, Woitape (K).

**D i s t r i b u t i o n.** Papua New Guinea (widely on mountains at 1800–3000 m).