

## FLORAE MALESIANAE PRECURSORES IX NEW MALAYSIAN SPECIES OF *FIMBRISTYLIS*

by

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INTRODUCTION. — During the last World War Dr Ohwi worked for several years in the Herbarium Bogoriense and compiled a preliminary revision of the Malaysian representatives of the genus *Fimbristylis*. The absence of any world revision, the temporary inaccessibility of type material, and of adequate literature, were the causes that this revision had an entirely preliminary shape and made it inadvisable to publish the MS as it was, due to circumstances alluded to above.

Fortunately Mr J. H. Kern, who is in charge of the colossal job of organizing the revision of Cyperaceae for the *Flora Malesiana*, has undertaken the delicate, time-consuming task of carefully checking the novelties distinguished by Dr Ohwi, which are to be incorporated in his own revision of the genus. Some species distinguished by Dr Ohwi have appeared to be conspecific with already described species from other parts of the palaeotropics, others have since 1941 been described by contemporaneous workers on the genus. The following species have hitherto stood the test and are at present accepted by Mr Kern and Dr Ohwi as good new species. Permission for publication was readily granted both by the Keeper of the Herbarium Bogoriense and by Dr Ohwi. I am exceedingly grateful both to them and to Mr Kern for their mutual trust and co-operation and their generous attitude.

C. G. G. J. VAN STEENIS.

### 1. *Fimbristylis malayana* Ohwi, sp. nov. — Sect. *Fuscae* — Fig. 1.

Glabra; rhizoma abbreviatum, caespitosum, pluriculme. *Folia* culmo 2—3-plo breviora, falcata, plana, 10—20 cm longa, 1.5—2 mm lata, apice rotundata apiculata, margine incrassato sursum scabra, supra celluloso-striolata, subtus 5—7-sulcata, intus basi sensim in vaginam transeuntia eligulata; vaginae subcoriaceae, brunneae vel fuscae, vix nitidae, ecarinatae, striatae, antice membranaceo-stramineae fissae. *Culmi* stricti, obtuse 3—4-angulati, laeves, leviter vel vix compressi, 20—30 cm alti, inferne vaginis 1—2 aphyllis vel brachyphyllis 1—2 cm longis vix vel breviter tubulosis cincti. *Anthela* simplex vel subcomposita, angusta, densiuscula, pluri—pauci-spiculosa, 3—4 cm longa, bracteis omnibus squamiformibus glabris et laevibus margine albo-dilatatis, radiis 2—4 inaequalibus suberectis firmulis sub-

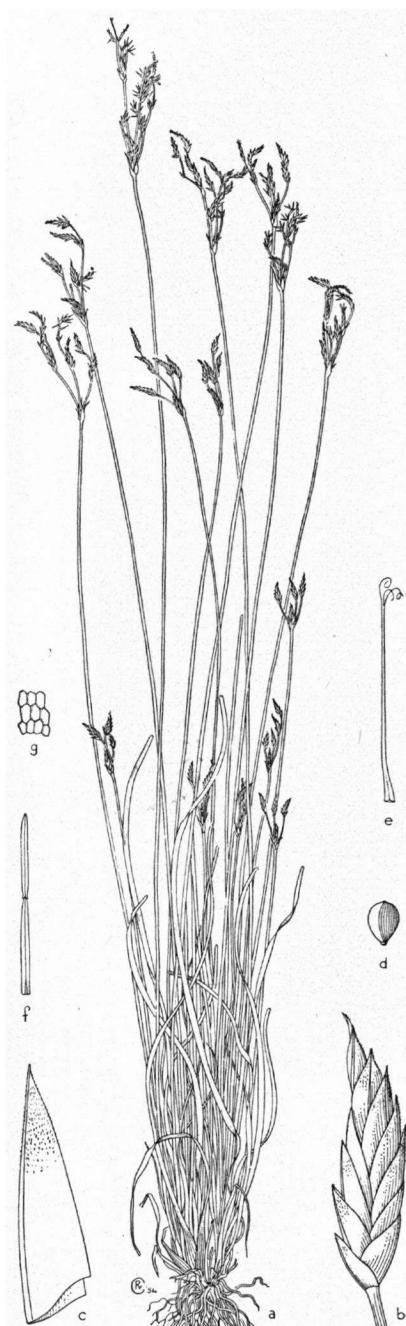
compressis laevibus obtusangulis 2—3 cm longis raro 2-radiolatis. *Spiculae* lanceolatae vel lineari-lanceolatae, saepe tortae, acutae, compressae, pauci-plurisquamatae, 6—10 mm longae, 1.7—2 mm latae. *Squamae* inferiores 2 paullo breviores, vacuae, superiores paucae steriles, reliquae fertiles, ovatae vel anguste ovatae, subdense distiche imbricatae, acuminatae, rectae, subereetae, chartaceae, non vel vix nitidae, 4 mm longae, sordide brunneae, superne minutissime puberulæ, dorso acute carinatae, carina concolore, lateribus enerves, margine latiuscule albidae. *Stamina* 3; antheræ lineares, 1.2 mm longae. *Achenia* compressiusculæ trigona, late obovata,  $\frac{2}{3}$  mm longa, albida demum brunnescens, leviter nitida, costis acutiusculis, facie planiuscula, laeviuscula vel ex toto celulis extimus minutis rotundatis punctulata, apice late rotundata; stylus gracilis, glaber, basi elongato-conicus, 3 mm longus, stigmatibus 3 capillaribus laeviusculis. — Affinis videtur *F. tortispica* Turrill, a qua ex descr. differt omnibus partibus humilioribus, foliis brevioribus, spiculis paucioribus, squamis vix late ovatis apice haud mucronatis, achenio minore.

MALAY PENINSULA. Pulau Langkawi, Selat Panchar, on limestone in open places, Nov. 22, 1934: Henderson SF 29052 (type, BO).

**2. *Fimbristylis anisoclada* Ohwi, sp. nov. — Sect. *Miliaceae* — Fig. 2.**

*Culmi* elatiusculi, validiusculi, irregulariter acute 5-quetri quasi alati, vix compressi, ad angulos superne scabriusculi. *Anthela* supradecomposita, interrupta denseque permultispiculosa, 12—20 cm longa 5—10 cm lata, bracteis 4—6 setaceis, inferioribus 1—2 lineariibus 6—8 cm longis, strictis, erectis, 1—

Fig. 1. *Fimbristylis malayana* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 5$ ; c. glume,  $\times 10$ ; d. achene,  $\times 10$ ; e. style and stigmas,  $\times 10$ ; f. stamen,  $\times 10$ ; g. outer cells of achene — From Henderson SF 29052 (BO).



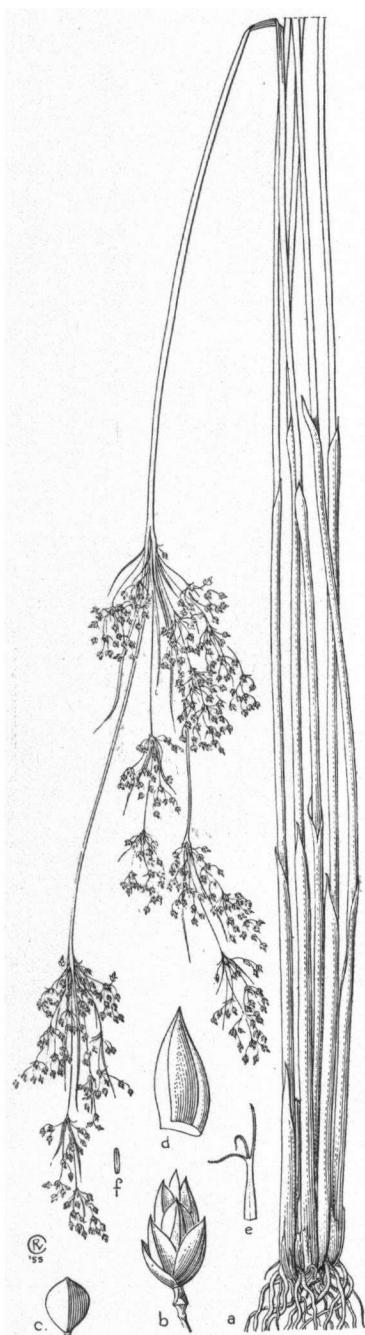


Fig. 2

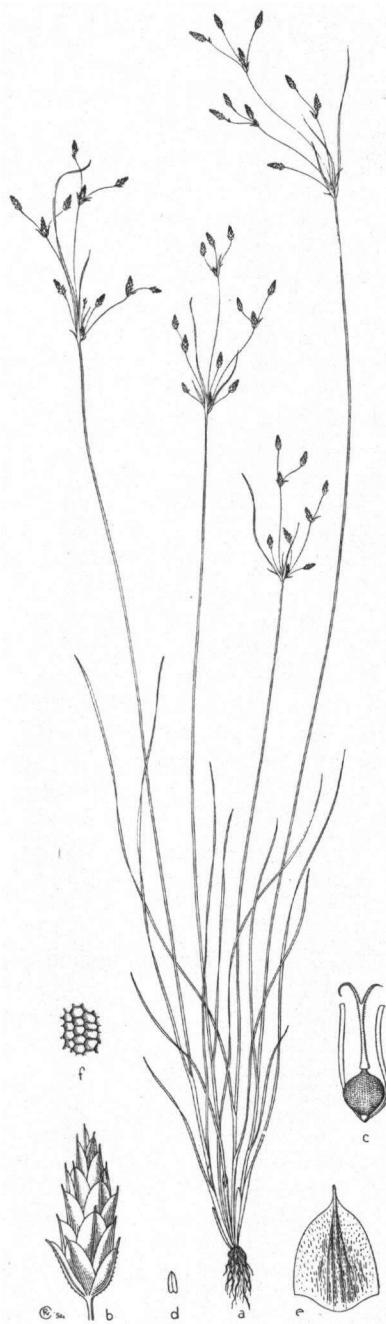


Fig. 3

1.5 mm latis rigidulis, sursum sensim angustatis, acuminatis, subtus pauci-striatis subcostatis laeviusculis, supra estriatis, ex toto scabro-exasperatis, margine incrassato sursum scabriusculis, radiis valde inaequalibus, strictis, numerosis, acute 4—5-angulatis, vix compressis, laeviusculis, usque ad 12 cm longis, radiolis ad 5 cm longis, anhelulis 3—4-ve compositis, usque ad 8 cm longis, bracteolis setaceis usque ad 5 cm longis. *Spiculae* solitariae, ovatae, acutiusculae, subangulatae, laxiuscule pauci- vel pluriflorae, castaneo-fuscae, 2—3 mm longae, 1—1.5 mm latae. *Squamae* ovatae vel late ovatae, 1.2—1.3 mm longae, ascendentes, acutiusculae, mucronatae, laeves, glabrae, nitidulae, obscure 3-nerves, dorso obtuse lateque carinato atro-castaneo nitido, lateribus dilute castaneae enerves, margine membranaceo scariosae. *Stamina* 1 vel 2; antherae lineares,  $\frac{1}{3}$ — $\frac{2}{5}$  mm longae, apice cuspidatae. *Achenia* angulo acutiusculo trigona, paullulo compressa, facie convexiuscula, pallida, nitidula, 0.6 mm longa, late vel suborbiculato-ovovata, laevia, cellulis extimus transverse ellipticis vel rotundatis obsoletissimis obsoletissime punctulata; stylus trigonus, glaber, basi elongato-pyramidalatus,  $\frac{2}{3}$  mm longus, stigmatibus 3 pertenuibus papillosum  $\frac{1}{3}$  mm longis.

SOUTH CELEBES. Mara, May 13, 1912: Noerkas (exp. Van Vuuren) 218 (type, BO).

**3. *Fimbristylis capilliculmis* Ohwi, sp. nov. — Sect. *Autumnales* — Fig. 4.**

Rhizoma fere nullum, caespitos densos efformans. *Folia* pauca, capillacea, culmum aequantia vel paullo breviora, mollia, glabra, 20—30 cm longa, ca.  $\frac{1}{2}$  mm lata, praeter apicem subscaberulam laevia, subtus unicostata supra cellulosa, apice breviacuminata obsolete setulosa, intus basi ligulata; ligula brevis, ciliolata; vaginae 3—4 cm longae, glabrae, pallide virides, striatae, membranaceae, antice superne fuscae tenuimembranaceae, laeves, demum antice vix vel non fissae, dorso tereti subcarinatae. *Culni* capillacei, compresso-ancipites, 30—40 cm alti, quam folia non latiores, laeves, glabri, tenuiter striati, basi vaginis 2—4 foliiferis eineti, innovations intravaginales. *Anthelae* 3—10-spiculosae, laxae, 15—25 mm longae et latae, bracteis 2—3, superiora subsetacea brevis, ima subfiliformis 2—5 cm longa anhelam aequans usque duplo superans; radiis simplicibus unispiculatis vel pauci-(2—3)-spiculatis, ancipitibus, tenuissimis, laevibus, obsolete striatis, usque ad 15 mm longis; bracteolis squamiformibus, apice cuspidate scabro recurvo terminatis. *Spiculae* solitariae, anguste ovatae, angulatae, laxiusculae, pauci-squamatae, clare fusco-brunneae, opacae, acutae, 4—5 mm longae 1.5(—2) mm latae. *Squamae* undique imbricatae, anguste vel ovato-oblongae, brunneae, opacae, glabrae, 2—2.5 mm longae, e dorso pallido subtrinervi acute carinato super apicem obtusum breviter recteque cuspidatae, lateribus membranaceis enerves, margine vix scariosae. *Stamina* 3; antherae breviter lineares, 0.4 mm longae, mueronatae. *Achenia* late obovata, angulo acutiusculo trigona, paullo a dorso compressa, facie plana, non verrucosa, 0.8 mm longa,

Fig. 2. *Fimbristylis anisocladia* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 5$ ; c. achene,  $\times 10$ ; d. glume,  $\times 10$ ; e. style and stigmas,  $\times 10$ ; f. anther,  $\times 10$  — From *Van Steenis* 8198 (BO) (see p. 120).

Fig. 3. *Fimbristylis perlaxa* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 4$ ; c. achene (with persistent filaments and style),  $\times 8$ ; d. anther,  $\times 8$ ; e. glume,  $\times 8$ ; f. outer cells of achene — From *Thomsen* 817 (BO).

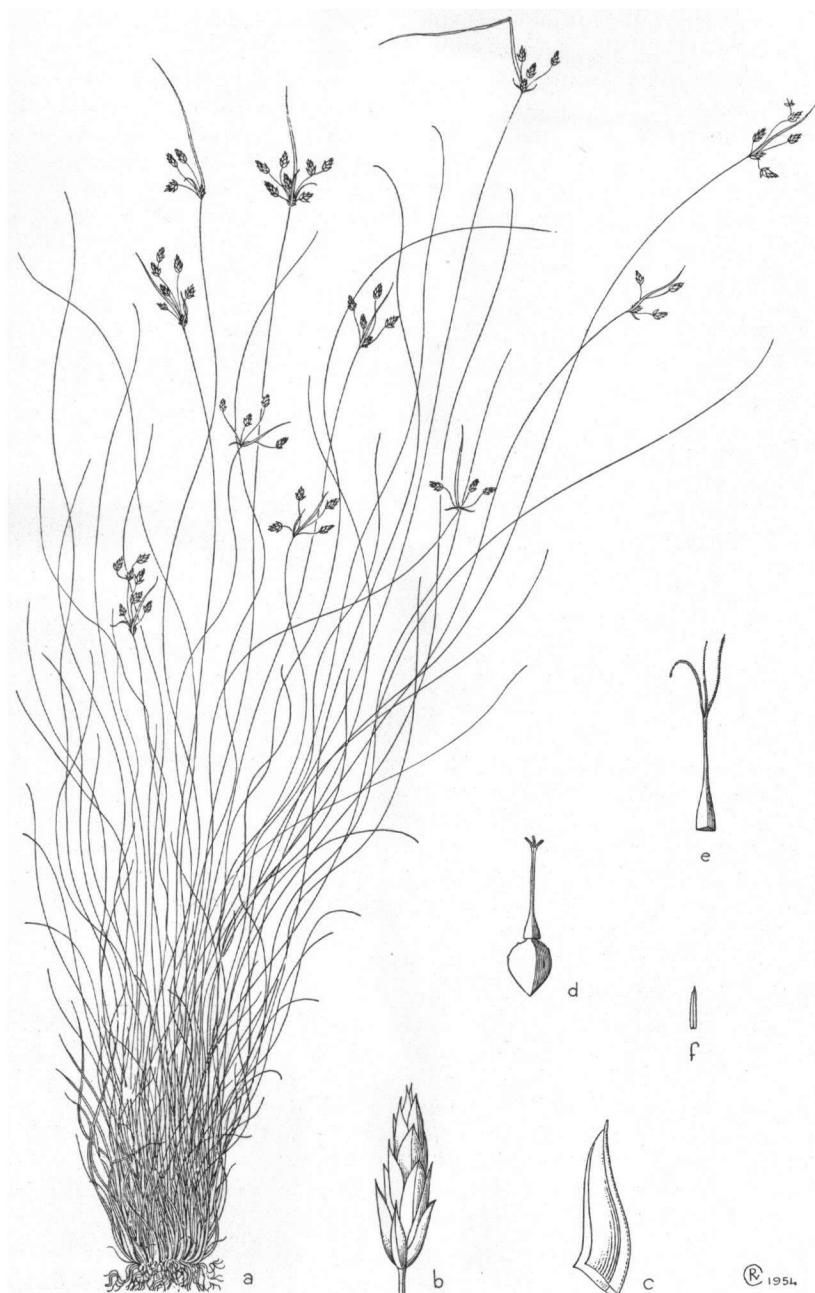


Fig. 4. *Fimbristylis capilligulmis* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 5$ ; c. glume,  $\times 10$ ; d. achene and style,  $\times 10$ ; e. style and stigmas,  $\times 10$ ; f. anther,  $\times 10$  — From Pulle 332 (BO).

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albida, paullo iridaceo-nitida, cellulis extimis obsoletis transverse ellipticis planis obsolete punctulata vel laevia; stylus tenuis, trigonus, glaber, 1.5 mm longus, inferne fere  $\frac{1}{3}$ , pyramidato-incrassatus, stigmatibus 3 pertenuibus obsolete papillosis 1.5 mm longis. — Affinis *F. complanatae* (Retz.) Link, sed habitu capillaceo, spiculis paucius florigeris brevioribus, squamis margine vix scariosis.

WEST NEW GUINEA. Beaufort River, riparian vegetation on loam, alt. 100 m, Nov. 12, 1912: Pulle 332 (type, BO).

#### 4. *Fimbristylis subdura* Ohwi, sp. nov. — Sect. *Autumnales* — Fig. 5.

Perennis, dense caespitosa, rhizoma breve lignosum multiculme. *Folia* culmo subbreviora, plana, rigidula, glabra, e basi 2.5—3 mm lata sursum sensim angustata, apice abrupte acutissima, margine scabra, subtus pluri-striata ecostata, supra celluloso-paucistriata, intus basi eligulata sensim in vaginam transeuntia; vaginae brunneo-virides, ore antice tenuimembranaceo ferrugineo oblique fisso. *Culmi* rigiduli, laeves, striati, 40—50 cm alti, sub apice subcompressi 1.5 mm diam., glabri, angulo obtuso, inferne vaginis 1—2 subaphyllis vel brachyphyllis tubulosis apice oblique fissis 5—10 cm longis cineti. *Anthela* supradecomposita, ampla, 10 cm longa et lata, diffusa, laxiuscula, multispiculosa, bracteis 4—5 setaceis leviter curvatis 2—3 cm longis anthela multo brevioribus margine crebre scabris apice sensim angustatis supra basin 0.7—1.2 mm latis, bracteolis 1—1.5 cm longis setaceis angustis, radiis 6—10 inaequalibus compressis laevibus glabris usque ad 4—5 cm longis oblique patentibus, radiolis radiolulisque tenuibus sed firmulis. *Spiculae* solitariae, lanceolatae, teretes, acuminatae vel acutissimae, pauciflorae, rufo-vel brunneo-fuscae, 3—5 mm longae 1.2 mm latae, pedicellatae. *Squamae* undique imbricatae, late ovatae, obtusae, mucronatae, dure membranaceae, brunneae, paullo nitidulae, 1.7 mm longae, dorso obtuso 3-nerves, lateribus enerves, margine anguste albo-scariosae. *Stamina* 3; antherae breviter lineares,  $\frac{2}{3}$  mm longae. *Achenia* late ovata, angulo obtusulo inflato-trigona, dense verrucosa, 0.6 mm longa, griseo-alba nitida, cellulis extimis transverse ellipticis impressis obsolete punctulato-reticulata; stylus trigonus, basi leviter dilatatus 1.2 mm longus, stigmatibus 3 papillosis. — Habitu affinis *F. durae* (Zoll. et Mor.) Merr., a qua autem differt culmis inferne vagina subaphylla cinetis, bracteis brevibus, achenia verrucosa, cellulis extimis fere rotundatis.

CENTRAL JAVA: Gundik, N of Solo, teak-forest, alt. 200 m, Jan. 24, 1913, Backer 6525 (type, BO); Forestry Manggar near Kedungdjati, teak-forest, alt. 50—100 m, Jan. 22, 1920: Beumée 4901 (BO).

#### 5. *Fimbristylis perlaxa* Ohwi, sp. nov. — Sect. *Aestivales* — Fig. 3.

Annuas, caespitosa, multiceps. *Folia* culmo duplo vel  $\frac{1}{3}$  breviora, mollia, planiuscula, 10—20 cm longa, 0.6—1.5 mm lata, extus ecostata pauci-striata, intus glabra vel inferne puberula subcellulosa, apice breviacuminata vel acutissima, intus basi a vagina serie ciliarum limitata; vaginae molles, puberulæ, teretes, ecarinatae, striatae, 3—7 cm longae, pallide virides, antice tenui-membranaceae brunneo-ferrugineae. *Culmi* graciles, laeves, glabri, obtuse trigono-compressi, 30—40 cm alti, basi vaginis paucis foliosis tecti. *Anthela* laxa, composita, plurispiculosa, 8—15 cm longa, bracteis setaceis, ima subelongata anthelam subaequanti erecta dorso inferne prophylisque puberulis, bracteolis subsquamiformibus, radiis gracilibus com-



Fig. 5. *Fimbristylis subdura* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 5$ ; c. de-florated flower,  $\times 10$ ; d. glume,  $\times 10$ ; e. achene,  $\times 10$ ; f. anther,  $\times 10$ ; g. tip of leaf,  $\times 5$  — From Backer 6525 (BO).

pressis glabris laevibus suberectis usque ad 6 cm longis, radiolis gracilibus ascendentibus 10—20 mm longis. *Spiculae* solitariae, longe pedicellatae, late lanceolatae vel anguste oblongo-ovatae, leviter angulatae, acutissimae, densiuscule pluriflorae, clare brunneae, 6—8 mm longae 1.5—2 mm latae. *Squamae* ovatae, membranaceae, glabrae, laeves, undique imbricatae, adpressae, clare brunneae subnitidae, 2—2.5 mm longae, dorso laevissime carinato obsolete trinerves, margine vix hyalinæ, apice breviter cuspidatae cuspidé leviter recurvo laevi, latere obsolete pauci-nervulosae. *Stamina* 2; antheræ oblongo-lineares,  $\frac{1}{8}$  mm longae. *Achenia* elliptico-rotundata, biconvexa, stramineo-brunnea nitidula, brevistipitata, 0.8 mm longa, angulis acutiusculis, facie cellulis extimis transverse oblongis vel ellipticis longitudinaliter 15—18-serialibus leviter impressis minute trabeculata; stylus tenuis, 1 mm longus, basi leviter dilatatus, ramificationem non albo-extenuatum, breviter ciliatus, stigmatibus 2 tenuibus brevibus papillosum. — A *F. bisumbellata* (Forsk.) Buban. diversa culmis foliisque longioribus, anthela laxa, spiculis latioribus, achenio pluristriato, cellulis extimis minutis minus impressis. Planta Sect. *Aestivalem* et Sect. *Ferrugineam* conjunxit.

WEST NEW GUINEA: Mamberamo, in forest, alt. 40 m, Aug. 14, 1914, Th. Thomsen 1817 (type, BO). — MOLUCCAS: Ceram, Amahai-Tibu Alá, March 23, 1938, Eyma 3153 (BO).

#### 6. *Fimbristylis celebica* Ohwi, sp. nov. — Sect. *Aestivales* — Fig. 6.

Annua, dense caespitosa, pluriceps. *Folia* culmum aequantia vel sublongiora, capillaria, curvata,  $\frac{1}{4}$ — $\frac{1}{8}$  mm lata, praeter apicem acutissimum margine scabrum laevia, glabra, paucistriata, leviter involuta; vaginae submembranaceae, dilatatae, breves, glabrae, pluristriatae, laeves, brunneostramineae. *Culni* basi foliis paucis foliiferis cincti, subcompressi, folia vix latiores, laeves, glabri, leviter striati, 5—10 cm longi. *Spiculae* singulæ, ebracteatae, oblanceolatae vel anguste oblongae, acutæ, pauci—pluriflorae, erectæ, angulatae, interdum oligostichæ, albidae et saepius paullo castaneo-variegatae, 5—6 mm longae, 2—2.2 mm latae. *Squamae* erectæ, oblongolanceolatae, membranaceae, glabrae, laeves, acutiusculæ, brevissime recte mucronatae, fere 3 mm longae, carina acuta pallida subtrinerves, lateribus albo-stramineæ fusco-variegatae enerves, margine dilutiores non seariosæ. *Stamina* 1—3; antheræ lineares, 0.8 mm longae, apiculatae. *Achenia* obovata, inflato-biconvexa, margine acuta, basi sessilia, glabra, albida, vix nitida, 0.7 mm longa, cellulis extimis minutis obsolete punctulatis vel fere laevia; stylus pertenuis, glaber, 1.2—1.5 mm longus, basi vix incrassatus, stigmatibus 2 papillosis 0.8 mm longis. — Habitu *F. pauciflorae* R. Br., sed differt spiculis numerosius floriferae, achenio glabro haud iridaceo-colorato, stylo bifido, et a *F. polytrichoidei* (Retz.) R. Br. foliis elongatis, achenio nec reticulato nec tuberculato ambitu obovato apice rotundato vix obtriangulato-obovato.

CELEBES. Res. Menado, subdiv. Posso, Pendolo, margin of Posso-Lake, Oct. 27, 1938: Eyma 4113 (type, BO); Beao, Towuti-Lake, not rare in *Imperata*-fields, alt. 300 m, Aug. 1929: Kjellberg 3749 (BO); Nöcha, margin of Matano-Lake, open, alt. 382 m, Aug. 11, 1938: Eyma 3336 (BO).

#### 7. *Fimbristylis wetarensis* Ohwi, sp. nov. — Sect. *Ferrugineae* — Fig. 7.

Perennis, dense caespitosa, pluriculmis. *Folia* culmo plus duplo breviora,

plana, firmiuscula, acutissima vel breviter acuminata, 15—25 cm longa, 1—1.5 (vulgo 1.2) mm lata, supra cellulosa glabriuscula vel puberulo-scaberula, subtus striata puberula subunicostata, intus basi eligulata sensim in vaginam striatam puberulam vix carinatam transeuntia. Culmi obtuse leviterque striati, vix compressi, puberuli vel glabrescentes, 30—45 cm alti, apice erectim vel leviter oblique monostachyi bractea squamiformi praediti, inferne foliis paucis foliiferis cincti. Spicula lanceolata vel late lanceolata, teres, acuta, dense multiflora, clare rufo-brunnea, nitidula, 7—15 (demum usque ad 22) mm longa, 3—4 mm lata. Squamae oblongae, membranaceae, acutiusculae, glabrae, adpressae, mucronulatae, rufo-brunneae, inferne aureo-

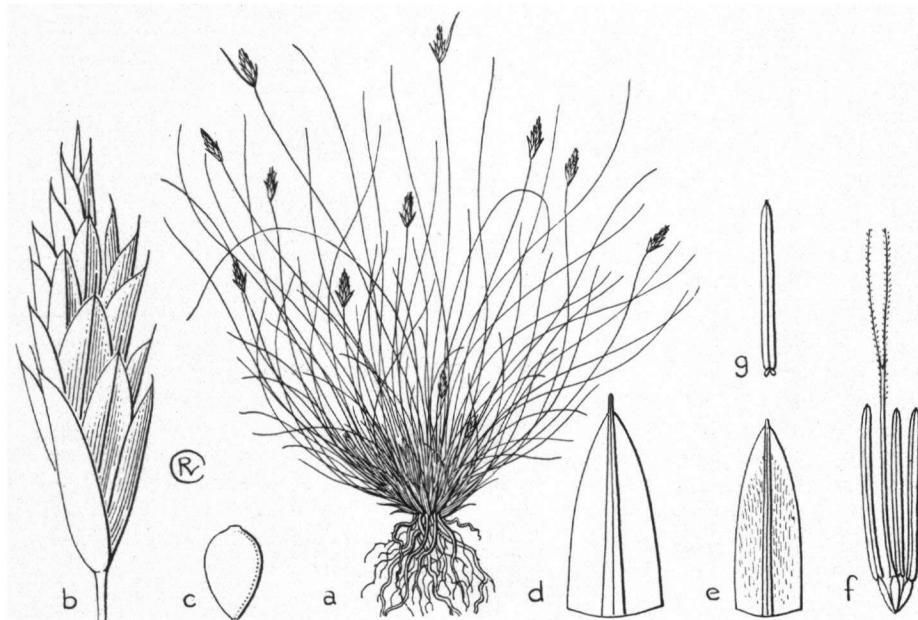


Fig. 6. *Fimbristylis celebica* Ohwi — a. Habit, somewhat reduced; b. spikelet,  $\times 8$ ; c. achene,  $\times 16$ ; d-e. glumes,  $\times 8$ ; f. flower,  $\times 16$ ; g. anther,  $\times 16$  — From Eyma 4113 (BO).

suffusae, nitidae, 5 mm longae, dorso non carinato pallide uninerviae. *Stamina* 3; antherae lineares, 2 mm longae. *Achenia* obtriangulato-obovata, biconvexa, apice rotundato-subtruncata, ex toto laxe humiliter verruculosa, albida vix nitida, 1.2 mm longa, cellulis extimis hexagono-rotundis minute reticulato-punctulata; stylus subtenuis, compressus, 4 mm longus, basi leviter dilatatus, angulo papilloso-ciliatus, margine vix extenuato a medio sursum albo-ciliatus, stigmatibus 2 tenuibus papillosis fere 2 mm longis.

LESSER SUNDA ISLANDS: Wetar, 24 km N of Ilwaki along Meta Lerai, above rain-forest in *Eucalyptus* savannah, 700—900 m, April 3—5, 1939: Bloembergen 3567 (type, BO).

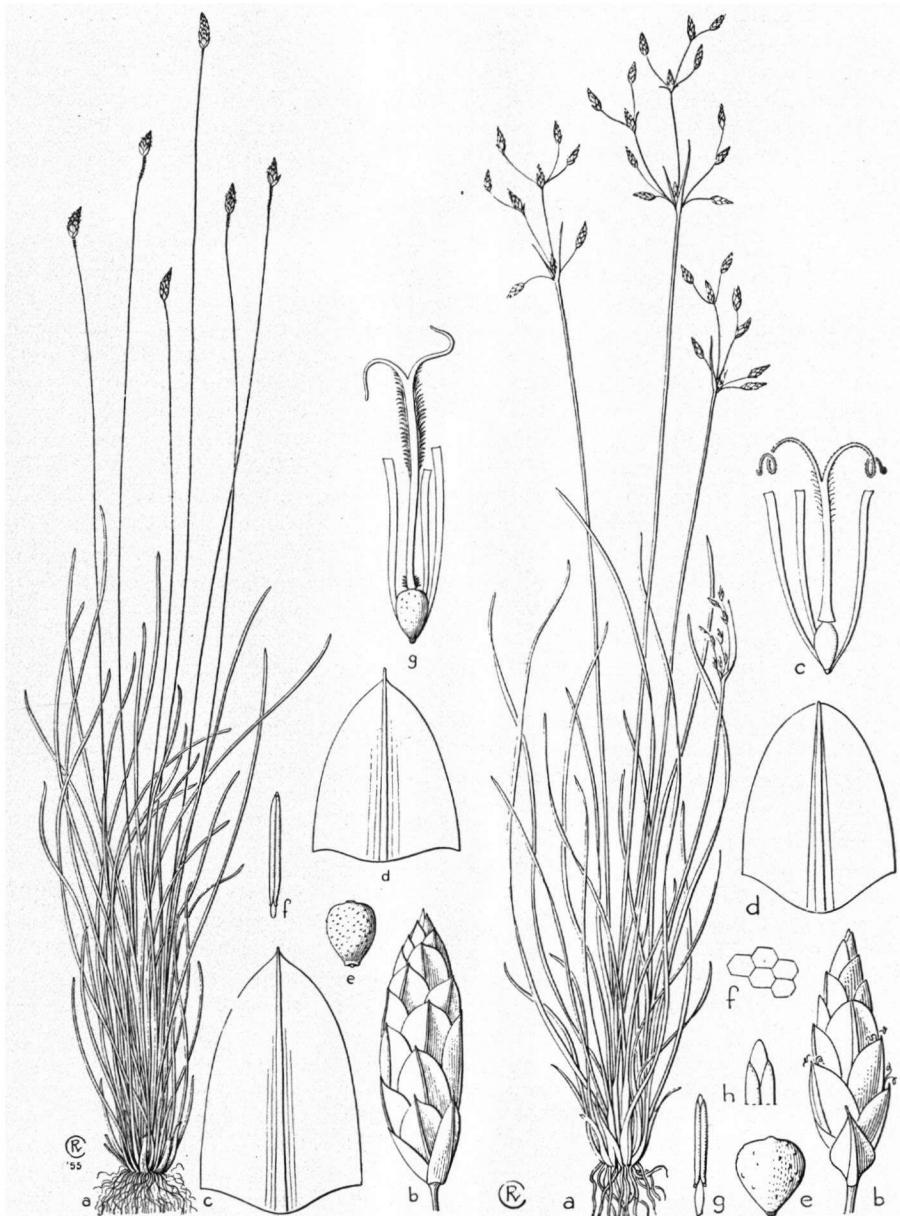


Fig. 7. *Fimbristylis wetarensis* Ohwi —  
a. Habit,  $\times \frac{1}{3}$ ; b. spikelet,  $\times 3$ ;  
c-d. glumes,  $\times 7$ ; e. achene,  $\times 7$ ;  
f. stamen,  $\times 7$ ; g. deflorate flower,  
 $\times 7$  — From Bloembergen 3567 (BO).

Fig. 8. *Fimbristylis semarangensis* Ohwi  
— a. Habit,  $\times \frac{1}{3}$ ; b. spikelet,  $\times 6$ ;  
c. deflorate flower,  $\times 12$ ; d. glume,  
 $\times 12$ ; e. achene,  $\times 12$ ; f. outer cells  
of achene; g. stamen,  $\times 12$  — From  
Koorders 42656  $\beta$  (BO).

**8. *Fimbristylis sumbaensis* Ohwi, sp. nov. — Sect. *Ferrugineae* —  
Fig. 9.**

Perennis, dense caespitosa, estolonifera. *Folia* culmo duplo breviora, erectiuscula, sursum subcircinata, plana, rigidiuscula, glauco-viridia, 1—1.2 mm lata, margine superne scabra, subtus striata, supra cellulosa et juventute adpresso puberula cito glabrata, apice breviacuminata, basi intus eligulata; vaginae striatae, ecarinatae, opacae, brunnescentes. *Culmi* tenues, compresso-trigoni, obtusanguli, striati, 30—40 cm alti, superne parce puberulo-scabri, inferne foliis paucis vel subpluribus foliiferis cincti. *Anthela* subcomposita vel composita, plurispiculosa, 3—5 cm longa, bracteis 2—3 setaceis brevibus ima anthelam paullo usque plus duplo longiore scabra, radiis inaequalibus ascendentibus compressis margine piloso-scabris usque ad 6 cm longis, radiolis breviusculis. *Spiculae* solitariae, ovatae vel oblongo-ovatae, subangulatae, acutae, dense pluriflorae, cinereo-brunneae, opacae, 4—6 mm longae, 2—2.5 mm latae. *Squamae* undique imbricatae, ovatae, membranaceae, acutae, mucronulatae, 2.5 mm longae, dorso carina viridi elevata crassa percursae, lateribus fulvo-fuscae enerves subnitidae, margine perlate dilutiores cinereo-suffusae, interdum ferrugineo-maculatae. *Stamina* 3; antherae lineares, acutae, 1.2 mm longae. *Achenia* late obovata, angulo subacuto inflato-biconvexa, glabra, albida, 0.7 mm longa et fere aequilata, cellulis extimus transverse brevilinearibus vix impressis subtilissime longitudinaliter 8—10-striata et transverse striolata; stylus tenuis, compressus, basi abrupte leviterque dilatata retroso-hispidulus, a medio sursum laxe ciliatus, vix extenuatus, stigmatibus 2 tenuibus laxe papillosis. — An hvrida *F. sericea* R. Br. × *F. dichotoma* (L.) Vahl?

LESSER SUNDA ISLANDS. Sumba, Waingapu, open meadow or shaded, Feb. 2, 1940: P. Hoekstra 3 (type, BO).

**9. *Fimbristylis semarangensis* Ohwi, sp. nov. — Sect. *Ferrugineae* —  
Fig. 8.**

Laxe caespitosa, estolonifera, glabra. *Folia* culmo 2—3-plo breviora, erecta, plana, firmula, 10—15 cm longa, praeter marginem superne sebaram laevia, apice acuta, supra cellulosa, subtus striata ecostata, intus basi eligulata sensim in vaginam laevem striatam pallidam antice ferrugineam tenui-membranaceam transeuntia. *Culmi* obtuse compressi, laeves, striati, 20—40 cm alti, foliis non latiores, inferne foliis paucis laminiferis cincti. *Anthela* composita vel subcomposita, patens, laxe plurispiculosa, 3—5 cm longa et lata, bracteis 1—2, ima setacea erecta 1—2 cm longa 1 mm lata, radiis usque 4 cm longis inaequalibus compressis oblique ascendentibus laevibus, radiolis tenuibus interdum subexcavatis 5—10 mm longis. *Spiculae* solitariae, anguste ovatae, teretes, acutae, dense pluriflorae, 6—8 mm longae, 2 mm latae. *Squamae* ovatae, apice rotundatae, muticæ, subnitidae, glabrae, laeves. levissime concavæ, membranaceæ,  $2\frac{1}{2}$  mm longae, costa viridula angusta sub apice evanescente, lateribus enervibus clare rufo-brunneæ, margine late albo-scariosæ. *Stamina* 3; antherae lineares, 1 mm longae. *Achenia* latiuscule obovata, margine albido acutiusculo biconvexa, stramineo-brunnea, nitida, sparsim humiliterque verruculosa, 0.7—0.8 mm longa, cellulis extimus minutis transverse ellipticis vel subrotundis planis punctulato-reticulata vix longitudinaliter striata; stylus tenuis, compressus, non extenuatus, basi leviter dilatatus, margine superne  $\frac{1}{3}$  breviter ciliatus, stigmatibus 2

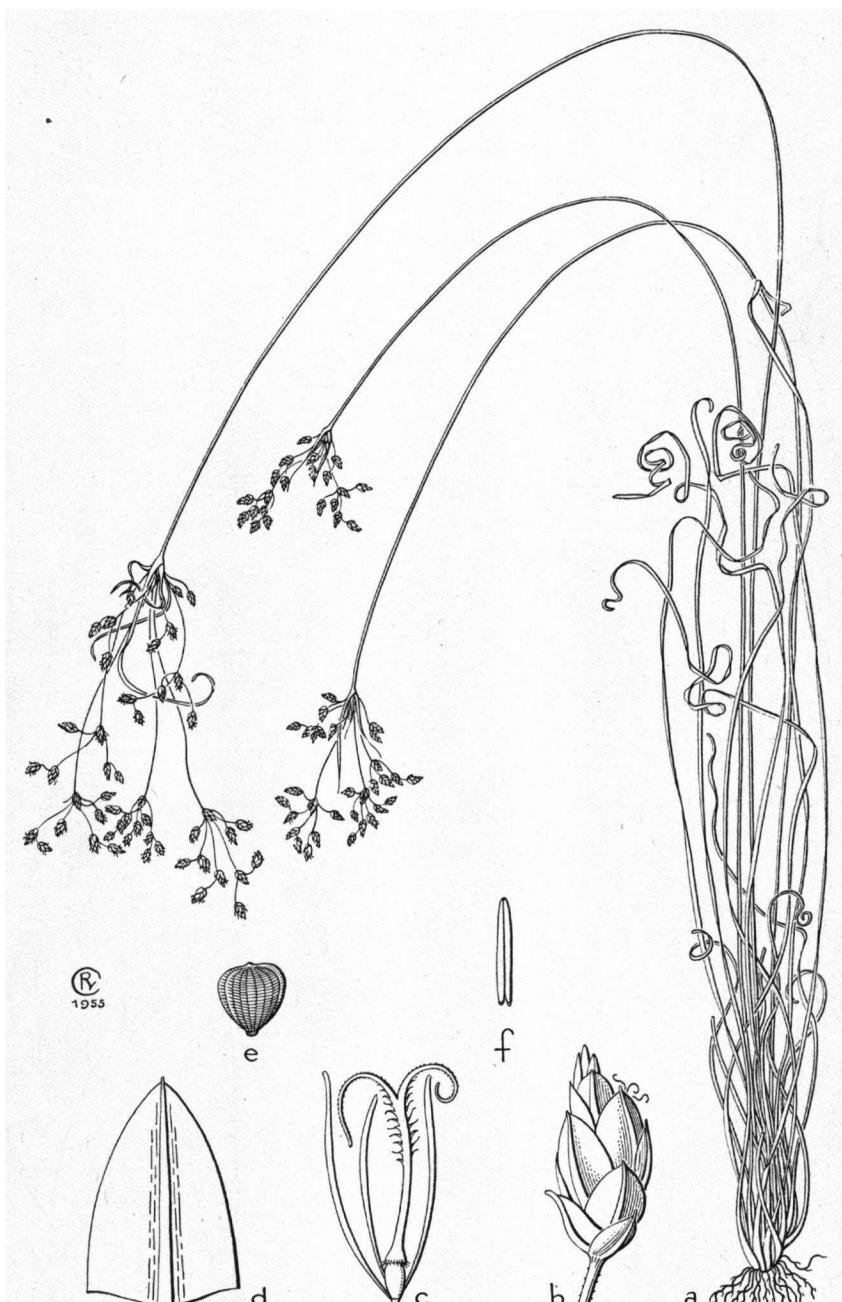


Fig. 9. *Fimbristylis sumbaensis* Ohwi — a. Habit,  $\times \frac{1}{6}$ ; b. spikelet,  $\times 6$ ; c. de-florated flower,  $\times 12$ ; d. glume,  $\times 12$ ; e. achene,  $\times 12$ ; f. anther,  $\times 12$  — From Hoekstra 3 (BO).

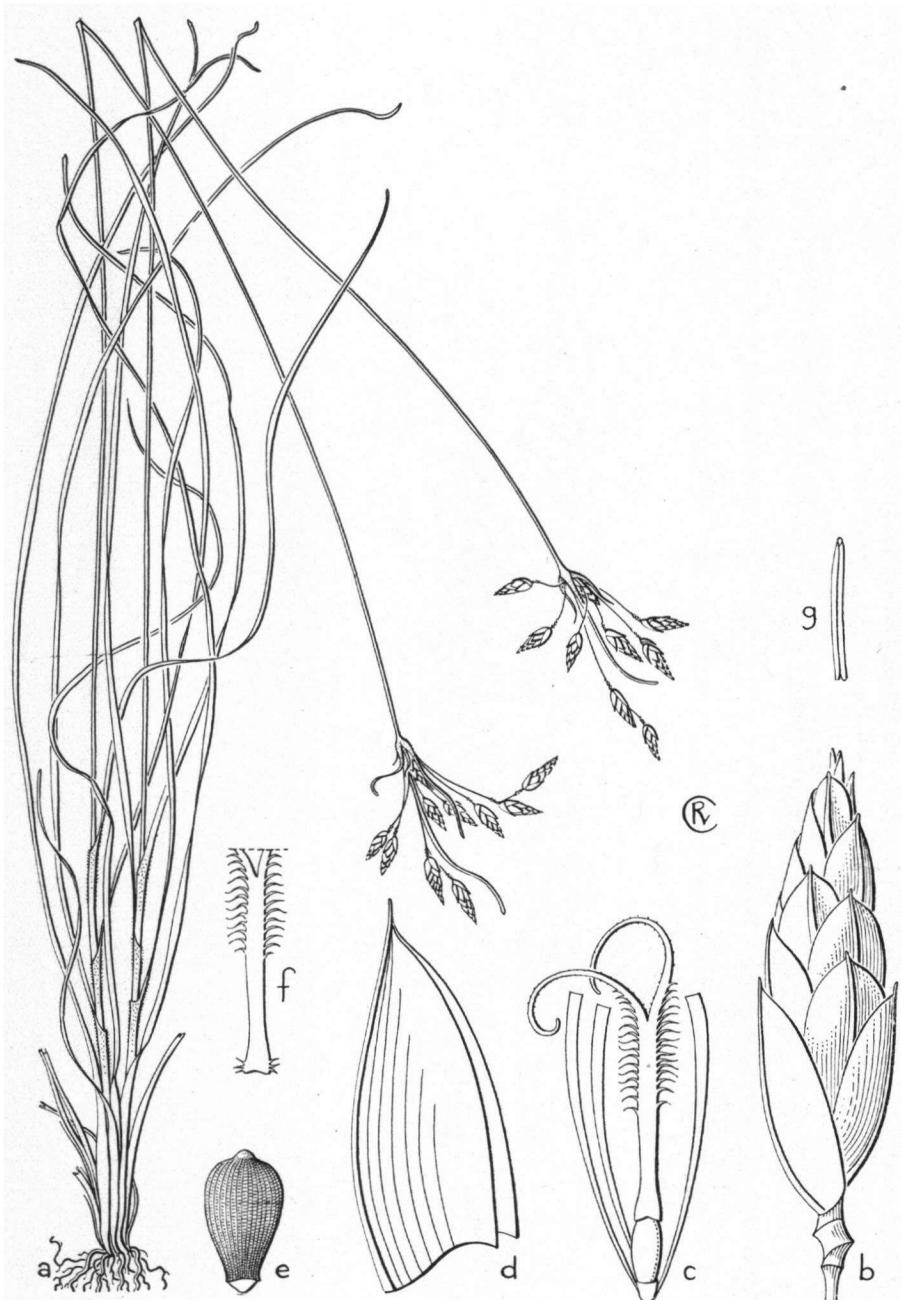


Fig. 10. *Fimbristylis lineatisquama* Ohwi — a. Habit,  $\times \frac{1}{2}$ ; b. spikelet,  $\times 6$ ; c. deflorate flower,  $\times 12$ ; d. glume,  $\times 12$ ; e. achene,  $\times 12$ ; f. style,  $\times 12$ ; g. anther,  $\times 12$  — From Merrill BS 11546 (BO).

pertenuibus 1 mm longis parce papillosum. — Species inter Sect. *Aestivalem* et Sect. *Ferrugineam* ambiguit.

CENTRAL JAVA. Res. Semarang, Bledug Kuwu, in saline pools, Feb. 20, 1914: Koorders 42656 ♂ (type, BO).

10. *Fimbristylis lineatisquama* Ohwi, sp. nov. — Sect. *Ferrugineae* — Fig. 10.

Perennis, caespitosa. *Folia* culmo duplo breviora, falcata, basi latiore, sursum levissime angustata, plana, rigidula, 1.5—2 mm lata, margine scabra inferne parce ciliato-pilosa, supra cellulosa, subtus striata, dorso inferne dense pilosa, intus inferne ligula dense puberula a vagina distincta; vaginæ pallide striatae, sursum densius pilosae. *Culmi* compresso-trigoni, striati, parce puberuli vel glabri, ca. 40 cm alti, inferne foliis paucis laminiferis cincti. *Anthela* simplex vel subcomposita, pauci—plurispiculosa, 2—5 cm longa, bracteis paucis setaceis ima longitudine anthelae basi dense pilosa margine scabra, radiis paucis compressis laevibus glabris superne saepe fusco-maculatis 2—2.5 cm longis. *Spiculae* solitariae, oblongo-ovatae vel late lanceolatae, teretes, acutae, pluri—multiflorae, sordide brunneae, 7—10 (demum ad 14) mm longae, 2.5—3 mm latae. *Squamae* oblongo-ovatae, tenui-membranaceae, glabrae, laeves, 4—4.5 mm longae, ex toto tenuiter sed elevato-multinervulosae, sordide brunneae, apice obtusae minute cuspidatae, adpressae, non carinatae. *Stamina* 3; antherae lineares, 1.8 mm longae. *Achenia* obovata vel oblongo-obovata, angulo obtusulo inflato-biconvexa, glabra, griseo-brunnescentia, 1.5 mm longa, cellulis extimus rotundatis vix impressis obsolete longitudinaliter 14—16-striolata et multilineolata; stylus latiusculus, compressus, 2 mm longus, basi leviter abrupteque dilatatus, a medio sursum ciliatus, stigmatibus 2 tenuibus papillosum fere 2 mm longis.

PHILIPPINES. Sulu Islands, Golo (Jolo), Aug. 1922, Merrill BS 11546 (type, BO).

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