

De Hepaticis II : an unpublished section of volume 6 of Stephani's Species Hepaticarum : the genus Marchantia

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Objektyp: **Article**

Zeitschrift: **Candollea : journal international de botanique systématique = international journal of systematic botany**

Band (Jahr): **14 (1952-1953)**

PDF erstellt am: **23.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-880465>

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De Hepaticis II
An unpublished section of volume 6 of Stephani's
Species Hepaticarum: the genus Marchantia

by

C. E. B. BONNER

It may have been noticed in Vol. 6 of STEPHANI'S *Species Hepaticarum*, which is in fact a supplement to the preceding ones, that the genus *Marchantia* is not represented, even though it appeared as far back as 1899 in Vol. 1.

However, it is clear, from the condition of the manuscript, that it had been recopied, as had been the case for all of STEPHANI'S manuscripts which were destined for publication by W. Barbey; also that it had been put on one side with other papers, whilst the copy was lost either at the Boissier Herbarium or at the printers. Whatever the cause may have been it was thought worth publishing this text modified only by:

a) The addition of bibliographical indications where it has been found that the species have been mentioned or described elsewhere.

b) The addition of all available data concerning the type specimens, which are present in STEPHANI'S collections held in Geneva.

The grouping of the species listed below correspond to the artificial groups intended by STEPHANI to replace an analytical key. These lists are in his handwriting as is the rest of the manuscript.

All specimens cited are in the Geneva collections.

The binomials published hereunder have been attributed to STEPHANI without any hesitation. The complete absence of the genus *Marchantia* from Vol. 6, the set up of the manuscript, the form of the diagnoses and the mode of citation of the exsiccata were considered to provide sufficient proof (as required under Rec. 33c of the *International Code of Nomenclature*) that STEPHANI intended to have this text published. Further proof to this effect is found in that a number of the species described here were cited by other authors, STEPHANI having furnished the determinations and, believing his manuscript to be in

the course of publication, had not bothered to supply them with the diagnoses.

Marchantia L.

(Cf. *Species Hepaticarum* 1: 155-195)

V*. *Capituli lobi lineares.*

chinensis (4)	pittieri (21)
cuspidisquama (8)	rufflora (26)
ernstiana (10)	tasmanica (27)
hastata (16)	tosayamensis (28)
pinnata (20)	wattsiana (29)

VI. *Capituli lobi obtusati.*

chevalieri (3)	pulcherrima (22)
colombica (5)	punaluana (23)
conifissa (6)	quadriloba (24)
esquirolii (11)	robusta (25)

VII. *Capitula disciformia breviloba.*

antiqua (2)	marginata (18)
discoidea (9)	paludicola (19)
fauriana (12)	winkleri (30)
hartlessiana (15)	

C. *Incertae sedis.*

alatocapitata (1)	hariotiana (14)
cuspidata (7)	laceriloba (17)
flavescens (13)	

I. — **M. alatocapitata** Steph. ms.

Dioica, magna robusta. *Frons* ad 5 cm. longa, 5 mm. lata tenuis; dilute viridis, parum ramosa, ramis paucis brevibus trunco in diam. aequantibus. *Costa* humilis, haud producta, alis aequilata. *Stomata* parva vix prominentia, ore interno 4 cellulis conicis clauso, epidermis tenerrima. *Squamae posticae* magnae, purpureae, appendicula cordiformi magna (0,83 mm. lata et longa) apice obtusa integerrima. *Pedunculus* capituli masculi breviusculus (15 mm. longus). *Capitula mascula* symmetrica 5-lobata, lobis breviter obtuseque solutis conico prominulis. Reliqua desunt. *Scyphuli* regulariter valideque dentati, dentibus triangulatis minuteque spinosis.

* The numbering and designation of groups correspond to that in the *Species Hepaticarum*, l.c. : 160.

HAB. : Japonia.

JAPAN : Tosa, 1893, *Inouë 12*, type.

2. — **M. antiqua** Steph. ms.

Dioica major subflaccida, flavo-rufescens, terricola. *Frons* ad 2 cm. longa, 5 mm. lata, simplex vel furcata, ramis trunco in diam. aequantibus. *Costa* angusta humillima, in sectione transversa 1 mm. lata, 0,2 mm. crassa. *Stomata* parva parum prominentia, ore interno 4 cellulis angustis circumdato. *Squamae posticae* magnae purpureae appendicula subrotunda (0,5 mm. longa et lata) apice obtusa, margine creberrime minuteque serrulata. *Pedunculus* capituli longus. *Capitula feminea* symmetrica disciformia 7-lobata, lobis anguste obcuneatis, breviter solutis, apice inciso bilobis. *Involucra* integerrima.

HAB. : Hawai.

ARCHIPELAGO HAWAI : Insula Maui, 1875, *D. D. Baldwin 87* (Hb. E. Levier 2425), type.

3. — **M. chevalieri** Steph. ms.

Dioica, major, gracilis, dilute brunnea tenerrima, flaccida, terricola. *Frons* ad 7 cm. longa, 5 mm. lata parum irregulariterque ramosa, ramis 2-4 cm. longis, trunco in diam. aequantibus. *Costa* angusta humillima, in sectione transversa 1,25 mm. lata, 0,25 mm. crassa. *Stomata* parva, sparsa, ore interno 4 cellulis conicis clauso. *Squamae posticae* pallide rufescentes, appendicula subrotunda laxa texta, marginibus irregulariter dentatis spinulosis. *Pedunculus* capituli 3 cm. longus. *Capitula feminea* disciformia ambitu rotunda, profundissime emarginato-5-lobata, sinuatis angustis lobis latissime obcuneatis apice repandis. *Involucra* integerrima.

HAB. : Africa occid.

WEST AFRICA : Ivory Coast, Pays Dajola, environs de Ona, 1 Aug., 1909, *Chevalier s.n.* (Hb. Stephani 283), ex hb. Thériot, type.

4. — **M. chinensis** Steph. ms.

Dioica, minor, gracilis, flaccida tenerrima, rufescens, rupicola. *Frons* ad 3 cm. longa, 5 mm. lata, tenuis, parum ramosa vel simplex. *Costa* angustissima, in sectione transversa elliptica (1 mm. lata, 0,6 mm. crassa). *Stomata* parva, numerosa, poro interno 4 cellulis conicis clauso. *Squamae posticae* purpureae, appendicula maxima, oblonga, (1,17 mm. longa, 0,4 mm. lata) apice acuto, marginibus ubique irregulariter dentatis et spinulosis. *Pedunculus* capituli 3 cm. longus. *Capitula feminea* planoconvexa symmetrica rotunda, in diametro 8 mm. lata, disco centrali integro 3 mm. lato, profunde 7-lobato, lobis angustissimis spiniformibus apice breviter bidentatis, dentibus divergentibus. *Involucra* ore integra, minute repanda. *Capitula mascula* gigantea (15 mm. in diametro) ad

basin fere 7-lobata lobis linearibus integerrimis 7 mm. longis, 2 mm. latis.

HAB. : China.

CHINA : s.l. 1913, *Hariot 1*, type.

5. — **M. colombica** Steph. ms.

Dioica, major, valida, rigidula, viridis. *Frons* ad 4 cm. longa, 5 mm. lata, irregulariter multiramosa, ramis vix angustioribus. *Costa* humilis angusta, in sectione transversa anguste elliptica (1,75 mm. lata). *Stomata* sparsa, parum prominentia. *Squamae posticae* magnae, purpureae, appendicula apicali ovato-triangulari, acuto-repando-integerrima. *Capitula feminea* semi-globosa 5-plicata, vertice obtuso. Ore recte truncato. *Capitula mascula* profundissime quadriloba, lobis homomallis oblongo-obcuneatis, apice rotundatis.

HAB. : Colombia.

COLOMBIA : s.l. 1912, Irmscher misit, [*Mayor*] 48, type, and 38.

Cited as *M. columbica* in *Mém. Soc. Neuchâteloise Sc. nat.* 5 : 995. 1914 : « Central-Anden, Dep. Antioquia, Puerto de los Pobres am Cauca-Fluss, bei Paso de concordia um 720 m, auf Erde (n. 38-6.IX) ; Kulturgebiet bei Cafetal La Camelia bei Angelopolis um 1800 m. (n. 48-19. VIII) ». The collector was *Dr. Eug. Mayor*.

6. — **M. confissa** Steph. ms.

Dioica, major, tenuis, flaccida, viridis, terricola. *Frons* ad 3 cm. longa, 1 cm. lata, simplex vel furcata. *Costa* minima, in sectione transversa anguste elliptica (0,5 mm. lata, 0,6 mm. crassa). *Stomata* parva, ore interno 4 cellulis conicis clausa. *Squamae posticae* parvae ; appendicula ovali (1 mm. longa, medio 0,5 mm. lata). Apice apiculato integerrimo. *Capitula feminea* magna rotunda (1 cm. longa et lata) profunde inciso-lobata, lobis confertis oblongo-obconicis apice truncatis. *Involucra* ore dentata, dentibus dense longeque ciliatis. *Capitula mascula* desunt.

HAB. : China.

CHINA : s.l. 1913, *Hariot 4*, type.

7. — **M. cuspidata** Steph. ms.

Dioica, majuscula, gracilis valida et tenax, dilute viridis, terricola. *Frons* ad 4 cm. longa, 5 mm. lata, simplex vel pauciramosa, ramis trunco aequilatis. *Costa* lata, valida (2,25 mm. lata, 0,5 mm. crassa). *Stomata* magna, ore interno 4 cellulis conicis clauso. *Squamae posticae* magnae, appendicula lanceolata longissime attenuata, apice setaceo, integerrimo (1,33 mm. longo, medio infero 0,5 mm. lato). *Capitula mascula*

brevissime pedunculata, valde asymmetrica, ramiformia, basi late breviterque excisa, cetera regulariter breviterque 6-lobata, sinubus obtusis lobulis brevibus obtusis. Reliqua desunt.

HAB. : India orientalis.

INDIA : s.l., *Meebold s.n.* (Lillie 16635), type.

8. — **M. cuspidisquama** Steph. ms.

Dioica, minor, valida et tenax, olivaceo, rupicola. *Frons* ad 15 mm. longa, simplex vel furcata, 7 mm. lata. *Costa* latissima, in sectione transversa fusiformis 2,75 mm. lata, medio 0,5 mm. crassa. *Stomata* numerosa, parva, ore interno 4 cellulis angustis circumdato. *Squamae posticae* magnae, purpureae, appendicula grosse lanceolata, e basi cordata longe attenuata (1,17 mm. longa, inferne 0,67 mm. lata) integerrima. *Capitula feminea* disciformia, antice parum convexa marginibus inciso-lobatis, lobulis rotundatis parum prominentibus. *Involucra* purpurea, ore minute denseque crenulato. *Capitula mascula* magna, breviter pedicellata profundissime 4-lobata, lobis angusti-linearibus minuteque denticulatis, 7 mm. longis.

HAB. : Hawaii, valde communis.

HAWAII : Hana, Sept. 1909, *Faurie 314*. — Maui, Hana, Sept. 1909, *Faurie 315*, (lectotype); Nahiku, Sept. 1909, *Faurie 310 & 311*. — Punalua, June, 1910, *Faurie 505*. — Kaori, Wainiha, 1910, *Faurie 597*. — Malawa, July, 1909, *Faurie 336*. — Hilo, June, 1909, *Faurie 332*. — « Sandwich Isles », 1910, *Faurie 598*.

9. — **M. discoidea** Steph. ms.

Dioica, magna, rigida, rufo-brunnea. *Frons* ad 3 cm. longa, 1 cm. lata, media 1,25 mm. crassa, marginibus crispatis, hic illic breviter lateque ramosa. *Costa* humilis, fronde triplo angustior, in sectione transversa fusiformis (3,5 mm. lata, 0,75 mm. alta). *Stomata* parva humillima. *Squamae posticae* maximae, purpureae, appendicula optime ovata minima (0,83 mm. longa, medio 0,58 mm. lata) integerrima. *Capitula femina* disciformia, parum convexa, optime circularia, vertice 8-radiata, radiis leviter prominentibus, angustis, bene distinctis. Androecia ignota.

HAB. : Colombia.

COLOMBIA : s.l. 1912, Irmscher misit. *Mayor 57*, type cited in *Mém. Soc. neuchâteloise Sc. nat.* 5 : 994, 1914 : « Central-Anden, Dep. Antioquia, Wald bei der Laguna gegenüber von Medellin um 2300 m, auf Ende (W. 57-8.VIII) ».

The correct collector is *Dr. Eug. Mayor* and not *Irmscher*, who dealt with the identifying of the Bryophyta collected.

10. — **M. ernstiana** Steph. ms.

Dioica, mediocris, valida, rigidula dilute brunnea. *Frons* ad 25 mm. longa, anguste linearis, 5 mm. lata, simplex rarissima furcata. *Costa* humilis angusta, in sectione transversa oblongo-elliptica (0,4 mm. lata). *Stomata* parva parum prominentia. *Squamae posticae* magnae, appendicula apicali late ovato-acuta, circumcirce remote minuteque dentata. *Capitula feminea* subrotunda longe pedunculata asymmetrica magna, infero late rotundata, supero breviter trilobata, lobis iterum incisobilobis. *Involucra* hyalina marginibus lobatis, lobulis breviter ciliatis. *Capitula mascula* breviter pedunculata, 4-lobata, lobis angusta triangularibus obtusis divergentibus.

HAB. : Philippinae Insulae, Java.

PHILIPPINES : Luzon, Benguet subprovince, on damp cliffs 40 km. north of Bagnio, 1700 m., May, 1911, *Merrill* 7890; idem in ravines on earth, 1500 m., May, 1911, *Merrill* 7884, type. JAVA : Lac de Talaya bodas sur Garvet, talus terreux du chemin, 1300 m., 25 Oct. 1904, *Hochreutiner* 2173.

11. — **M. esquirolii** Steph. ms.

Dioica, minor, flaccida, rufo-brunnea, terricola. *Frons* ad 25 mm. longa, 5 mm. lata, tenerrima, medio 0,6 mm. crassa, simplex vel furcata. *Costa* angustissima (1,25 mm. lata, 0,38 mm. crassa). *Squamae posticae* magnae, appendicula longissima, anguste lanceolata (1,17 mm. longa, 0,17 mm. lata) cuspidata, marginibus remote obtuseque denticulatis. *Capitula feminea* circularia, plana, profundissime 6-lobata, lobis anguste obconicis apice ad $\frac{1}{3}$ bifidis. *Capitula mascula* femineis majora, profundissime 6-lobata, segmentis anguste linearibus, marginibus minute repanda. *Involucra* destructa.

HAB. : China.

CHINA : Kiou Tchou, May 14, 1910, *Esquirol* 2120 & 2121 (ex hb. Munich). In hb. G. the two numbers are combined as a single sample, the type.

12. — **M. fauriana** Steph. ms.

Dioica, magna, robusta, tenuis vel valida, dilute viridis, aetate rufo-brunnea, terricola. *Frons* ad 4 cm. longa latissima, 13 mm. lata, simplex vel furcata, ramis trunco in diam. aequantibus. *Costa* angustissima, humillima, in sectione transversa fusiformis (2,75 mm. lata, 0,5 mm. crassa). *Stomata* numerosa, porus internus 4 cellulis conicis clausus. *Squamae posticae* parvae ovatae, basi utrinque longe decurrentes, apice rotundatae appendicula nulla. *Capitula mascula* magna. disciformia,

subrotunda (14 mm. in diametro) ad medium inciso 9-lobata, disco centraliconvexo, lobis ovatis obtusis, disco duplo brevioribus, planis. Reliqua desunt.

HAB. : Japonia.

JAPAN : Sapporo, *Faurie* 1923, type.

13. — **M. flavescens** Steph. ms.

Sterilis, magna, robusta, flaccida, flavorufescens. *Frons* ad 4 cm. longa, 7 mm. lata, costa valida, parum producta. *Stomata* parva, vix prominentia, ore interno 4 cellulis angustis circumdato. *Squamae posticae* purpureae, appendicula optime cordata, parum longiore quam lata, apice cuspidato, marginibus repandis.

HAB. : Africa occid.

FERNANDO PO : s.l. 1911, *Mildbraed* 6275, type.

14. — **M. hariotiana** Steph. ms.

Dioica, majuscula, flaccida, dilute olivacea, rupicola. *Frons* ad 3 cm. longa, 8 mm. lata, simplex vel furcata, tenerrima. *Costa* parva, humillima (2,25 mm. lata, 0,3 mm. crassa) in sectione transversa anguste fusiformis. *Stomata* exigua, ore interno 4 cellulis conicis clauso. *Squamae posticae* parvae, appendicula rotunda, (0,83 mm. longa, et lata) integerrima. *Capitula mascula* breviter pedunculata, disciformia, parum convexa, rotunda integerrima, 8-costata.

HAB. : China.

CHINA : s.l. 1913, *Hariot* 2, type.

15. — **M. hartlessiana** Steph. ms.

Dioica, mediocris, valida, et tenax, rufescens, rupicola. *Frons* ad 3 cm. longa, 5 mm. lata, parum longeque ramosa, ramis trunco primario in diam. aequantibus. *Costa* tenuis, in sectione transversa elliptica (2 mm. lata, 0,6 mm. crassa). *Stomata* conferta, ore interno 4 cellulis angustis circumdato. *Squamae posticae* magnae, purpureae, longissimae, appendicula ovata, acuminata, integerrima, laxe reticulata. *Capitula* longe pedunculata, disciformia, asymmetrica, 5-6 lobata, lobis brevibus rotundatis. *Involucra* (sub lobis occulta, haud interradiana) margine fimbriata, squamis numerosis obvelata. *Androecia* desunt.

HAB. : Sikkim Himalaya.

SIKKIM : Darjeeling, Singhla Range, 7-8000 ft., 5 Aug., 1901, *Hartless s.n.* (Levier 3253), type.

16. — **M. hastata** Steph. ms.

Dioica, mediocris, tenuis, sed rigida, viridis, aetate rufescens, in rupibus calcareis gregarie crescens. *Frons* ad 3 cm. longa, 8 mm. lata,

pauciramosa, ramis trunco in diam. aequantibus. *Costa* parva, in sectione transversa elliptica (1,5 mm. lata, 0,5 mm. crassa). *Stomata* sparsa, ore interno 4 cellulis conicis clauso. *Squamae posticae* magnae, appendicula magna, optime rotunda, integerrima. *Capitula feminea* longe pedicellata, discoidea, 8-lobata, lobis linearibus, inaequalibus, inferis triplo longioribus optimeque hastatis. *Involucra* dense profundeque lacerata. *Androecia* ignota.

HAB. : China.

CHINA : s.l. 1913, *Hariot* 5, type.

17. — **M. laceriloba** Steph. ms.

Dioica, mediocris, valida, tenax, viridis, aetate rufo-brunnea, rupicola. *Frons* ad 3 cm. longa, 5 mm. lata, regulariter bis-bifida, ramis trunco in diam. aequantibus. *Costa valida*, in sectione transversa elliptica (1,15 mm. lata, 0,75 mm. crassa). *Stomata* (ore interno) 4 cellulis conicis clausa. *Squamae posticae* parvae, appendicula obovato-oblonga, grosse angustaque laciniata, segmentis valde irregularibus, plus minus longis, apice interdum bifidis, angulos diversos efficientibus. *Capitula mascula* magna, subrotunda, asymmetrica 8-lobata, lobis brevibus, apice rotundatis, sub apice constrictis, lobis basalibus lato sinu discretis quasi hastatis. Reliqua desunt.

HAB. : Nova Zelandia.

NEW ZEALAND : N. Island, Auckland, Niho tupo Falls, Pipe track, on ground, exposed, 1000 ft., Oct. 1907, *Gibbs* 1032, type.

18. — **M. marginata** Steph. ms.

Dioica, minor, tenuis, flaccida, virens, terricola. *Frons* ad 3 cm. longa, 5 mm. lata, simplex vel furcata. *Costa* parva, in sectione transversa 1,5 mm. lata, 0,5 mm. crassa. *Stomata* ore interno 4 cellulis conicis clauso. *Squamae posticae* parvae subrotundae (0,33 mm. longae et latae) grossitextae, margine cellulis angustis, radialiter dispositis purpureis limbatae, margine ceterum minute irregulariterque crenulato. *Capitula feminea* majuscula (5 mm. longa et lata) subrotunda, asymmetrica, basi excisa leviterque hastata, ceterim 10-lobata, lobis minutis rotundatis. *Involucra* ore repanda, integerrima. *Androecia* desunt.

HAB. : Hawai.

HAWAI : Honolulu, 1909, *Faurie* 544, type.

19. — **M. paludicola** Steph. *Journ. Proc. Roy. Soc. N.S. Wales* 14 : 120. 1914.

Dioica, mediocris, tenax, viridis, aetate rufescens, paludicola. *Frons* ad 3 cm. longa 1 cm. lata, simplex, rarius brevi ramulo aucta. *Costa* humilis sed latissima, in sectione transversa anguste linearis (5 mm. lata, 0,75 mm. crassa). *Stomata* creberrima, ore interno 4 cellulis angustis

circumdato. *Squamae posticae* magnae, purpureae, appendicula subrotunda integerrima (0,8 mm. longa et lata). *Capitula feminea* hemisphaerica, centro antico valide apiculato, margine breviter crenata 5-lobata, lobis rotundatis. *Involucra* ore dense longeque lacerata. *Capitula mascula* rotunda, majora, disciformia, alveolis masculis radiatim insertis, radiis leviter prominulis, margine disci itaque crenato.

HAB. : Australia, New South Wales.

AUSTRALIA : New South Wales, Cambewarra Mountains, Oct. 1907, *Watts 1106*, type ; idem Mt. Werong 3900 ft., 4. Dec. 1911, *Cabbage s.n.* (*Watts 1102*).

20. — **M. pinnata** Steph. ms.

Dioica, parva, tenax, pallide virens, in cortice late expansa. *Frons* ad 3 cm. longa, 5 mm. lata, parum remoteque ramosa, ramis brevibus, trunco in diam. aequantibus. *Stomata* creberrima, ore interno 4 cellulis angustis circumdato. *Costa* angusta (1,5 mm. lata, 0,75 mm. crassa). *Squamae posticae* magnae appendicula anguste lanceolata, irregulariter longeque pinnatim spinosa. *Capitula feminea* disciformia umbellatim convexa, profunde 7-lobata, lobis anguste linearibus, apice rotundatis. *Involucra* breviter lobata, marginibus ciliatis. *Androecia* desunt.

HAB. : Japonia.

JAPAN : Kagoshima, 1900, *Faurie 711*, type ; id., 1899, *Faurie 325* ; id., 1899, *Faurie s.n.*

21. — **M. pittieri** Steph. ms.

Dioica, parva, valida, virens, aetate flavescens, terricola. *Frons* ad 3 cm. longa, 5 mm. lata, linearis simplex, rarius parum breviterque ramosa. *Costa* parva, humilis, in sectione transversa anguste elliptica (1,5 mm. lata, 0,5 mm. crassa). *Stomata* humilia, ore interno 4 cellulis angustis circumdato. *Squamae posticae* magnae, purpureae, appendicula ovata, acuminata, marginibus angustatis et repandis. *Capitula feminea* longissime pedunculata, majuscula, ambitu subrotunda, disciformia, 5-lobata, asymmetrica lobulis breviter obcuneatis, apice breviter excisis. *Involucra* magna, tenerrima, hyalina, margine breviter lobato minuteque laciniato. *Perianthia* hyalina, ore angusto integerrimo. *Capitula mascula* brevius pedunculata, palmatifida, lobis quatuor, profunde solutis late linearibus.

HAB. : Costa Rica, Mexico.

COSTA RICA : San Francisco dos Rios, May 1891, *Pittier [15563]*, ex hb. J. Cardot, type ; La Verbena prope Alajuelita, Aug. 1894, *Tonduz [15562]*, ex hb. J. Cardot. — MEXICO : Falapa, Coutapec, 9. Oct. 1908, *Schenk 893*.

22. — **M. pulcherrima** Steph. ms.

Dioica, magna, robusta, flaccida, olivacea, terricola et rupicola. *Frons* ad 4 cm. longa, 5 mm. lata, parum breviterque ramosa, ramis vix angustioribus. *Costa* angusta humillima (2,5 mm. lata, 0,25 mm. crassa). *Squamae posticae* magnae, appendicula ovato-oblonga (1,17 mm. longa, supra basin 0,67 mm. lata) superne longe attenuata acuta, marginibus regulariter denticulatis. *Stomata* humilia, ore interno optime cruciata. *Capitula feminea* disciformia, circularia, 9-lobata lobis brevibus, obcuneatis, apice rotundatis. *Involucra* hyalina margine purpurea, dense breviterque fimbriata. *Androecia* ignota. *Scyphuli* desunt.

HAB. : Japonia, China.

JAPAN : Norikura, 1905, *Faurie 1764*, type. — CHINA : Prov. du Kony Tcheou, ruisseau de Pa-oua, March 1911, *Esquirol 2650*, ex hb. Thériot, hb. Stephani 323).

23. — **M. punaluana** Steph. ms.

Dioica, mediocris, tenera, subflaccida, fuscovirens, terricola et rupicola. *Frons* ad 3 cm. longa, 7 mm. lata, simplex vel furcata, ramis trunco aequalibus. *Costa* parva humilis, in sectione transversa fusiformis (1,75 mm. lata, medio 0,5 mm. crassa). *Stomata* majuscula ore interno 4 cellulis elongatis circumdato. *Squamae posticae* parvae, appendicula oblonga, apice longe cuspidato, integerrima. *Capitula feminea* longissime pedunculata, disciformia, ambitu rotunda, ad medium 5-lobata, lobis brevibus, apice truncato-rotundatis, basi constrictis. *Involucra* margine irregulariter minuteque denticulata. *Capitula mascula* in pedicello longissimo quadrifida palmatim inserta, lobis 4-linearibus, obtusis.

HAB. : Japan.

JAPAN : Punalu, 1910, *Faurie 503*, type.

24. — **M. quadriloba** Steph. ms.

Dioica, minor, gracilis, tenerrima, viridis, terricola. *Frons* ad 4 cm. longa, 7 mm. lata, simplex vel furcata. *Costa* valida, in sectione transversa subrectangulata, 0,67 mm. lata, 0,33 mm. crassa. *Stomata* ore interno 4 cellulis conicis clauso. *Squamae posticae* breviter appendiculatae, appendicula lanceolata (0,5 cm. longa, medio 0,17 mm. lata), apice cuspidato. *Capitula feminea* longissime pedunculata (pedunculo 3 cm. longo) 4-lobata, lobis planis centro capituli aequantibus, oppositis, subquadratis vel leviter obcuneatis, integerrimis. *Involucra* lobata, lobis minute dentatis. *Capitula mascula* ignota.

HAB. : Nova Zelandia.

NEW ZEALAND : Wairaragia, Jan. 1911 *W. Gray, s.n.*, ex hb. Rev. W. Lillie (hb. Stephani 212), type.

25. — **M. robusta** Steph. ms.

Dioica, magna robusta, tenax, pallide flavo-virens, aetate flavo-rufescens, rupicola. *Frons* ad 7 cm. longa, 1 cm. lata, parum longeque ramosa. *Costa* parva, in sectione transversa anguste elliptica (2 mm. lata, 0,75 mm. crassa). *Stomata* parva, ore interno 4-6 cellulis conicis clauso. *Squamae posticae* magnae, appendicula gigantea late ovata, apice acuto, marginibus denticulatis. *Capitula feminea* magna, asymmetrica, longissime pedunculata, pedunculo hirto, disciformia inciso lobata, lobis 9, brevibus, contiguis subquadratis vel leviter obconicis. *Involucra* margine profunde lacerata, segmentis dense longeque pilosis. *Capitula mascula* magna, longe pedunculata, profundissime inciso-lobata, lobis linearibus, acutis 10 mm. longis, saepe hamatis.

HAB. : Java.

JAVA : s.l. *Giesenhagen s.n.* (hb. Stephani 6.), type. (Cited in Dr. K. Giesenhagen : Die Moostypen der Regenwälder. *Annales Jard. Bot. de Buitenzorg*, ser. 2, suppl. 3, 1910 : 777. — « Moosdecke No. 6. Ceylon, zw. Hakgala u. Nuwara Eliga, 23. III. 1900 »).

26. — **M. rufiflora** Steph. ms.

Dioica, magna, robusta et valida, viridis, aetate rufescens, terricola et rupicola. *Frons* ad 7 cm. longa, 1 cm. lata, furcata, ramis late divergentibus, aequalibus. *Costa* magna, valida, in sectione transversa anguste elliptica (3,5 mm. lata 1 mm. crassa). *Stomata* parva, ore interno 5 cellulis conicis clauso. *Squamae posticae* magnae, appendicula late ovata, apice anguste cuspidato, ceterim irregulariter dentata et spinulosa. *Capitula feminea* sanguinea longe pedunculata, ambitu subrotundo, subsymmetrica, 7-lobata, lobi lineares, apice truncati, duplo longiores quam lati. *Involucra* ore irregulariter minuteque ciliata. *Androecia* ignota.

HAB. : Java.

JAVA : Gedeh, *Ernst s.n.* (Hb. Stephani 25), type.

27. — **M. tasmanica** Steph. ms.

Dioica, mediocris, valida et tenax, pallide virens, in rupibus caespitans. *Frons* ad 5 cm. longa 1 cm. lata, marginibus crispulis, simplex vel furcata, ramis ad 25 mm. longis. *Stomata* parva, ore interno 4 cellulis conicis clauso. *Costa* angustissima et humillima (1,5 mm. lata, 0,5 mm. alta). *Squamae posticae* magnae, appendicula minima ovata, acuta 1 mm. longa, marginibus repandis. *Capitula feminea* hemisphaerica, margine integerrimo. *Involucra* minute dentata. Reliqua desunt.

HAB. : Tasmania.

TASMANIA : s.l., *Watts s.n.*, type.

28. — **M. tosayamensis** Steph. ms.

Dioica, parva, rigidula, flavo-rufescens, terricola. *Frons* ad 2 cm. longa, 5 mm. lata, simplex vel furcata, plana. *Costa* latissima, humilis, in sectione transversa fusiformis (2,25 mm. lata, 0,5 mm. crassa). *Stomata* parva, ore interno 4 cellulis conicis clauso. *Squamae posticae* purpureae, majusculae, appendicula apicali late ovata, marginibus dense crenulatis, apice acuto. *Capitula feminea* disciformia, profunde emarginato-5-lobata, 3 lobis superis apice bilobis, lobis inferis simplicibus, omnibus apice rotundatis. *Involucra* profunde fissa, marginibus laceratis. *Capitula mascula* ignota.

HAB. : Japonia.

JAPAN : Prov. Tosa, Tosayama, 5 June 1904, Y. Tokihisa 105, type.

29. — **M. wattiana** Steph. ms.

Dioica, major, valida, tenax, flavo-virens, aetate flavo-rufescens, rupicola. *Frons* ad 3 cm. longa, 1 mm. lata, simplex vel furcata, leviter crispata. *Costa* humilis, angusta, in sectione transversa fusiformis, (2 mm. lata, 0,5 mm. crassa). *Stomata* valde numerosa, dense inserta, ore interno 4 cellulis elongatis limbato. *Squamae posticae* parvae, appendicula maxima, subrotunda, irregulariter obtuseque denticulata. *Capitula feminea* longe pedicellata, plano-convexa, symmetrica, 10-lobata, lobis disco centrali integro aequilongis, linearibus apice obtusis. *Involucra* ore dense longeque laciniata. *Capitula mascula* subrotunda, 7-lobata, lobis parum prominentibus obtusis vel solum angulatis.

HAB. : Australia.

AUSTRALIA : New South Wales ; on stone in Whian Creek, Federal, Richmond River, 13 Aug. 1902, *Watts*, s.n. (hb. Levier 4529), lectotype ; Miami, July 1901, *Watts* 317 (hb. Levier 3116 bis) ; Richmond River, 1901, *Watts* 308 (hb. Levier 3111).

30. — **M. winkleri** Steph. ms.

Dioica, major, tenerrima, flaccida, fuscovirens, terricola. *Frons* ad 4 cm. longa, 8 mm. lata, simplex vel furcata, ramis vix angustioribus, planis. *Costa* humilis, angustissima, in sectione transversa 0,67 mm. lata, 0,17 mm. crassa. *Stomata* ore interno 4 cellulis conicis clauso. *Squamae posticae* purpureae, appendicula late ovata, apice cuspidato, marginibus irregulariter angulatis vel sparsim spinosis. *Capitula feminea* longissime pedunculata, disciformia, centro obtuso, 7-lobata, lobulis brevibus apice truncato-rotundatis, sub apice constrictis convexis. *Involucra* margine longe densissime pilosa. *Capitula mascula* disciformia, ambitu subrotunda, 6-costata, costis angustis, parum prominentibus, margine itaque emarginato-angulata.

HAB. : Africa occ.

KAMERUN : s.l., *Ledermann* 2685 (ex. hb. Berlin) ; s.l. *Winkler* 270 (ex. hb. Berlin) type. — CONGO : s.l., *Vanderyst* s.n. (hb. Stephani 16).