

Ectropothecium nitidum Thér. sp. nov.

Autoicum, tenellum, albescenti-viride, sericeo-nitidum. Caulis repens, irregulariter ramosus, ramis elongatis, laxiuscule foliosis, vix complanatis. Folia sicca erecto-patula, flexuosa, nec secunda, nec disticha, lanceolata, sensim et anguste acuminata, acuta, enervia, 0,75—1 mm \times 0,6—0,8 mm, marginibus erectis, toto ambitu denticulatis, interdum subintegris; cellulis elongatis, angustissimis, 60—65 μ \times 5 μ , levibus, alaribus vix ullis. Folia perichaetialia erecto-appressa, albescentia, intima oblongo-lanceolata, raptim acuminata, loriformia, dentata; pedicellus erectus, levis, 10—12 mm longus; capsula inclinata vel horizontalis, minuta, ovalis, sicca deoperculata sub ore contracta, collo brevi abrupto contracta, sporae leves, 12—15 μ .

NOUVELLE-CALÉDONIE: Hermitage am Mt. Koghi (1. II. 26), Däniker No. x 32, auf Baumrinde.

J'ai créé en 1910, dans le Bull. Acad. géog. bot., p. 103, une variété *elongatum* d'*Ectropothecium distichellum* (C. M.).

Je la subordonne aujourd'hui à *E. nitidum* auquel elle ressemble étrangement par le brillant soyeux des touffes, par la direction et la foliation des rameaux, par la forme, les dimensions, le tissu des feuilles. Elle en diffère seulement par la couleur vert-jaunâtre des touffes, par la tige et les rameaux très allongés.

Les rameaux non aplanis, régulièrement feuillés tout autour, les feuilles plus étroites suffisent à la distinguer de *E. distichellum*.

Depuis la publication de cette variété, je l'ai reçue des localités suivantes:

Nouvelle-Calédonie: Monts Koghis (leg. Franc); Pic Pemboa (leg. Le Rat, reliq. hb. Paris); Balade (ann. 1846, reliq. hb. Vieillard).

La dernière m'a été communiquée par mon ami R. POTIER de la Varde, étiquetée ainsi: *Hypnum (Cupressina) drepanocladella* C. M. n. sp., determ. Bescherelle. Ce nom est resté inédit; je le conserve pour ma variété sous la combinaison suivante:

Ectropothecium nitidum Thér. var. *drepanocladella* (C. M.) Thér. comb. nov. (syn.: *E. distichellum* [C. M.] var. *elongatum* Thér.).

On some Ferns from New Caledonia.

Carl Christensen (Copenhagen).

Professor Dr. HANS SCHINZ, Zürich, has forwarded to me for identification a rather large collection of ferns gathered in New Caledonia partly by M. FRANC, Noumea, partly by Dr. U. A. DÄNIKER, who during his expedition to the island 1924/25 also collected several ferns in the Loyalty-Islands. The ferns of New Caledonia are relatively

well known but it becomes evident, when working with them, that a considerable number of specimens distributed by M. FRANC and originally identified by Dr. CHRIST, are wrongly named and further that several species described by FOURNIER cannot stand as valid ones, while others reduced to mere forms appear to be good species. I do not intend to publish here a revision of all the species found nor to give a report of the collections now under examination as most species collected are common and well known. I confine myself to give some critical remarks on some few species with description of a new one.

Trichomanes Lyallii Hook. var. **neocaledonicum** n. var.

A typo differt: foliis textura crassiore, petiolo vix ultra 1 cm longo brevior petiolatis, pilis marginalibus paucioribus semper simplicibus nec apice furcatis, urna urceolata nec campanulata.

NEW CALEDONIA: Mt. Mou, leg. Franc.

I have little doubt that this is specifically different from *T. Lyallii*, but the present specimens, although consisting of hundreds of leaves, are very poorly fertile and rather old with nearly all hairs fallen or rubbed off, so I prefer to refer them to *T. Lyallii* as a variety; the species was recorded for New Caledonia already by FOURNIER.

Athyrium australe (R. Br.) Pr. var. **gemmiferum** n. var. Stipe almost black; main-rachis and partial rachises with a scaly bud below their tips.

LOYALTY-ISLANDS: Felsloch bei Tadin, Maré! (XII. 1925), Däniker No. 2621.

The first record of the genus *Athyrium* for the archipelago of New Caledonia. In all characters except those mentioned the specimens agree exactly with that form described as *Asplenium Brownii* J. Sm. Hook. Ic. pl. tab. 978.

Asplenium spathulinum J. Sm. var. **proliferum** (R. Bonaparte).

A. cuneatum var. *proliferum* R. Bonaparte in FRITZ SARASIN et JEAN ROUX: Nova Caledonia B. Botanik I: 41. 1914.

NEW CALEDONIA: Mt. Koghi, très rare, Franc, Série B. No. 35 (Herb. C. Chr.).

Not considering the proliferation by a bud on the upper part of the rachis this form agrees very closely with an authentic specimen of *A. spathulinum* J. Sm. (Cuming 210, Herb. Kew!) which to me appears to be specifically different from *A. affine* Sw. from the Mascarene islands. From *A. cuneatum* Sw., a West Indian fern, it is very different.

Asplenium pteridoides Baker, Journ. of Bot. **1873**: 17; Hook. Ic. pl. 1649.

A. nodulosum Mett. Ann. sc. nat. IV **15**: 72, Fourn. ibid. V **18**: 309
(not Kaulfuss).

NEW CALEDONIA: Ignambi (6. VI. 25), Däniker No. 2871,
"Kletterfarn".

This and other specimens agree very well with BAKER's illustration of the type-specimen from Lord HOWE's island; the rhizome is subscandent, clothed with peltate, ovate-acuminate, dark-brown scales; lower pinnæ gradually reduced. *A. nodulosum* Klf. from Mauritius is rather different and by most authors considered a finely dissected form of *A. lineatum*.

Asplenium tenerum Forst. var. **neocaledonicum** Rosenstock, in Fedde Repert. **9**: 160, 1910.

Syn. *A. erectum* Bory var. *exauriculatum* Fourn. Ann. sc. nat. V. **18**: 305?

NEW CALEDONIA: Mt. Koghi, Franc No. 1439 (Herb. Zürich).

The specimens were named *A. Francii* Ros., which species was founded upon Franc No. 1439 (Fedde Repert. **9**, 161), and belongs to the section *Darea*. They belong evidently to *A. tenerum* var. *neocaledonicum* Ros. based upon Franc No. 1438; probably the number of our specimens is false. — This variety has much the aspect of *A. erectum* Bory, and I have little doubt that the var. *exauriculatum* of Fournier is the same, but I agree with Dr. ROSENSTOCK in considering it a form of *A. tenerum*.

Blechnum attenuatum (Willd.) Mett. var. **oceanicum** Rosenstock in Fedde Repert. **10**: 160, 1911.

Syn. *Lomaria gigantea* Fourn. Fil. Nov. Cal. 314 (non Kaulf.).

NEW CALEDONIA: Mt. Koghi (1. II. 26), Däniker No. 2723.

Besides typical leaves of this variety the collection contains a complete sterile individual, which looks very different, but according to Dr. DÄNIKER it is a young plant of the same. It resembles very much *B. lanceolatum* in size and cutting, but it is more rigid in texture and the oblong acute segments are entire; some leaves are simple, lanceolate, 30 cm long by 1,5 cm wide, of others pinnatifid with a long entire apex, oblanceolate, 5—6 cm broad above the middle, from which the lamina narrows very gradually to a deeply crenate wing to the midrib. Judging from this specimen it appears that the var. *oceanicum* Rosenst. is a valid species distinct from the genuine *B. attenuatum*.

Blechnum Francii Rosenstock in Fedde Repert. **12**: 191, 1913.

NEW CALEDONIA: im Rivière des Lacs (11. X. 24), Däniker

No. 285, im Wasser in 1 m Tiefe wachsend und fruktifizierend, gesammelt auch im Yatefluss.

This highly peculiar fern first discovered by M. FRANC is, I believe, a submerse form of *B. obtusatum* Lab. Dr. DÄNIKER has collected a specimen growing „dicht am Wasser und zeitweise überschwemmt vom Bach“ in Plaine des Lacs, which no doubt belongs to *B. obtusatum* but in some respects approaches *B. Francii* especially in colour and in the fertile fronds.

***Blechnum procerum* (Forst.) Sw.**

Lomaria procera Fourn. Fil. Nov. Cal. 315.

NEW CALEDONIA: Mt. Humboldt (5. XI. 24), Däniker No. 497; Ignambi (4. VI. 25), Däniker No. 1774.

The group of *Bl. capense* (L.) Schlecht. is extremely difficult and the synonymy very confuse. From Mr. H. CARSE, Auckland N. Z., I have received a number of forms which probably should be referred to two or three different species, none of which being identical with the South African *B. capense*, to which these and several other forms from both the Old and the New World were referred in my Index Filicum. *B. procerum* is a better name for the Australian and Polynesian forms, but without examination of FORSTER's type it is not possible to state with certainty to which of the many forms the name *procerum* should be applied.

In New Caledonia more forms occur, of which the largest agrees rather well with the illustration of *B. procerum* in Labillardière Nov. Holl. pl. 247, but I am not convinced that that plate illustrates the genuine *procerum* (Forst.). This form has the leaves not reduced below, the pinnæ broad their base cordate and partly embracing the rachis, rachis and costæ beneath with several rufous scales; in several leaves the upper pinnæ are fertile, the lower sterile, just as in *Acrostichum aureum*.

Allied to this form is another that possibly is *Lomaria confusa* Fourn. Fil. Nov. Cal. 316. It differs by the perfectly scaleless frond and much longer and proportionally narrower pinnæ.

NEW CALEDONIA: Plateau Koniambo, ob Koné (18. I. 25), Däniker No. 497a; Mt. Humboldt (9. XI. 24), Däniker No. 582.

***Stenochlaena novae caledoniae* (Fourn.) Underw.**

NEW CALEDONIA: Mt. Koghi (31. I. 26), Däniker No. 2708.

The climbing rhizome is as young covered with dense fuscous lanceolate scales, which extend to the stipes. Young leaves rather den-

sely flocculoso-paleaceous beneath, especially on the ribs, the scales minute, rufous, lacerate. Sterile leaves from young shoots simple, lanceolate, 20—25 cm long, 1.5—2 cm broad, irregularly dentate, or with only one pair of pinnæ below the long terminal one.

Stenochlaena Balansae (Fourn.) C. Chr. comb. nov.

Lomariopsis Balansae Fournier Ann. sci. nat. V. 18: 271, 1873.

NEW CALEDONIA: Mt. Ignambi (8. VI. 25), Däniker No. 2874.

The only sterile leaf with portions of the rhizome differs from *S. novae caledoniae* not only by the shorter and narrower pinnæ that are distinctly unequal at base, rounded above, cuneate below, but also by the scales of the rhizome, which are small, ovate or nearly circular, entire, castaneous with pale-brown margins, soon falling, the rhizome becoming almost quite naked.

Schizoloma heterophyllum (Dry.) J. Sm. var. **majus** (Fourn.).

Lindsaya heterophylla var. *major* Fourn. Fil. Nov. Cal. 331.

Lindsaya heterophylloides Rosenstock in R. Bonaparte Notes ptérid. XIII: 260, 1921.

NEW CALEDONIA: Mt. Mou, sommet, Franc No. 1393; Bai du Sud; Franc.

I dare not now with Prof. ROSENSTOCK separate this local form as a species from the very variable *S. heterophyllum*. It is a large form with the veins very rarely anastomosing.

Humata botrychioides Brack. U. S. Expl. Exp. 16: 231, t. 32, f. 1, var.

NEW CALEDONIA: Mt. Humboldt (5. XI. 24), Däniker No. 489, im Moose an Baumstämmen kriechend im nebelfeuchten Wald.

The specimens agree with BRACKENRIDGE's illustration of the type in cutting, the much reduced fertile segments and large sori without projecting teeth, but differ by the fertile leaves being rather smaller than the barren ones and stipe and rachis below with several reddish scales. The species is very different from the next.

Humata serrata Brack. U. S. Expl. Exp. 16: 230 (not Desv.).

NEW CALEDONIA: Mt. Koghi, Franc No. 359.

I follow now METTENIUS and FOURNIER (Fil. Nov. Cal. 343) in calling the most common New Caledonian species of *Humata* *H. serrata*. Numerous specimens were distributed by M. FRANC under the name *H. botrychioides* Brack; certainly they do not belong to the species of BRACKENRIDGE, but very likely *Davallia botrychioides* Baker in Hook. Ic.

pl. 1621 is the same. BAKER's illustration agrees as a whole very well with our specimens. The species is nearly related to *H. alpina* (Bl.) but much larger, tripinnate and the fertile frond much more contracted; the dark colour of the frond is a noteworthy character.

Tapeinidium.

To this genus belong some species by FOURNIER referred to *Lindsaya*. The best known of these, *L. Moorei*, was some years ago transferred to *Tapeinidium* by the late Prof. HIERONYMUS (*Hedwigia* **62**: 13, 1920) and the other species described by FOURNIER are so closely related to *T. Moorei* that they probably all are forms of it. Knowing some of them from fragments only I shall not create new combinations that perhaps will appear to be not needed.

The species or forms in question are the following:

Tapeinidium Moorei (Hook.) Hieron. l. c.

Davallia Moorei Hook. C. Chr. Ind.

Lindsaya Moorei Fourn. Fil. Nov. Cal. 336.

The typical form of this has longstalked leaves with deltoid lamina, but sometimes the leaves are more elongated, even lanceolate in outline (specimens from Bai du Sud, leg. Franc). The type is common and often collected.

Forma *mediocris* (Fourn.).

Lindsaya mediocris Fourn. l. c. 336.

A small form with leaves incl. stipe scarcely 10 cm high, the blade deltoid or ovate-elongate, otherwise not different from the type.

NEW CALEDONIA: Mt. Koghi, Balansa No. 42 a; Mt. Dore, Franc; Bai du Sud, Franc.

Tapeinidium flavicans (Fourn.) Hieron. l. c.

Lindsaya flavicans Mett. Fourn. l. c. 335.

Very like typical *T. Moorei* in size and shape of lamina but more finely cut with narrow cuneate ultimate segments. Very likely a form of *T. Moorei*.

Mac Gillivray! Mt. Koghi, Franc No. 360 pro parte.

Forma *exilis* Fourn.

Lindsaya exilis Fourn. l. c. 335.

A small form of *flavicans*, standing to it as *mediocris* to *Moorei*.

Lindsaya Balansae Fourn. l. c. 335 unknown to me is probably a form of the same relationship.

Cheilanthes Daenikeri C. Chr. sp. nov.

Rhizomate breviter repente, paleis anguste lanceolatis longe acuminatis centro castaneis marginibus pallidis vestito. Stipitibus numerosis fasciculatis, gracilibus ad 10 cm longis, atropurpureis, glabris, supra teretibus infra planis vel leviter sulcatis, versus basin paleis filiformibus sparse praeditis. Lamina ovata vel ovato-lanceolata, coriacea, glaberrima, infra pallide viridi, 6—8 cm longa, 2,5—3 cm lata, apice obtusa, bipinnata-tripinnatifids. Pinnis 6—8-jugis, oppositis vel alternis inferioribus maximis deltoideis petiolatis, apice lato crenato rotundato-obtusis. Pinnulis 3—4 jugis, basalibus breviter petiolulatis, profunde lobatis vel basi pinnatis, basiscopicis vix auctis, pinnis superioribus pinnulis II ord. pinnarum infimarum similibus. Marginibus fertilibus (sterilibus non visis) lobatis, lobis saepissime bifidis, ovalibus vel semi circularibus in marginem pallidiorem indusiiformem attenuatis, superne hydatioidis profunde foveolatis. Soris a lobis tectis, serius nudis, confluentibus Venis immersis, invisibilibus, liberis.

NOVA CALEDONIA: S. W. Tamoa (3. XII. 24), Däniker No. 2876, zerstreut in der Weide der Küstenhügel, auf Kalkunterlage. (Typus in Herb. Bot. Mus. Zürich.)

This is a very peculiar species, that resembles *Doryopteris concolor* in texture, colour and scales, but it is not, I believe, an abnormal form of that species. It differs by the shape of the lamina, which is divided into several pairs of distinct pinnæ with the rachis not at all winged and especially by the sori. The margins of the fertile segments are rather deeply cleft into simple or more often bifid round lobes, the margins of which are thinner and paler, forming indusia that in an old state are recurved.

Adiantum caudatum L.

NEW CALEDONIA: in den Kalkfelsen an schattigen Stellen im Tale des Flusses von Koumac (2. V. 25), A. U. Däniker No. 1676.

New to the island.

Adiantum aneitense Carr., Rosenstock in Fedde Repert. **10**: 158, 1911.

Ad. longipes Rosenst. in R. Bonaparte: Notes ptérid. XIII: 276 (nomen).

NEW CALEDONIA: Bai du Sud, Franc.

Prof. ROSENSTOCK has l. c. (1911) referred the New Caledonian *Adiantum*, formerly by various authors called *A. fulvum* Raoul, to *A. aneitense* as a variety *incisa* Ros. In this he partly is right but I have specimens from Mt. Koghi, leg. Franc, that seem to be the true

A. fulvum. Most other specimens belong, however, to another species, probably *A. ancitense*. It is easily distinguished from the other species known to the island by the very long stipe (50—60 cm), by the leaves being glabrous on both surfaces while the rachises are densely strigosely pubescent above but glabrous beneath. By the latter character the species differs from *A. affine* Willd, which it otherwise resembles in general habit and cutting, although much larger (lamina 20—25 cm long and nearly as broad). The leaves are very uniform with 3—5 lateral pinnae, of which the two lowest normally bear a basisopic secondary larger pinna and often an acrosopic smaller one.

Neu-Caledonische Orchidaceen

von Fr. Kränzlin (Wolfenbüttel).

Die hier publizierten neuen Arten (denen ich einige ältere, mangelhaft beschriebene beigelegt habe) zeigen dasselbe Bild wie die von früheren Botanikern heimgebrachten Sammlungen, nämlich dass jede, sofern und sobald der Sammler seine eigenen Wege ging, eine überraschend grosse Menge neuer Arten enthält. Arten in der bisher üblichen Auffassung, an welche zu rühren zunächst nicht wohlgetan ist. Neue Gattungen sind äusserst selten, wohl aber treten ein paar Mal neue Typen bekannter Gattungen auf. Bei Bearbeitung dieser Sammlung bin ich nur einmal in die Versuchung gekommen, eine neue Gattung aufzustellen, habe mich aber doch entschlossen, lieber eine neue Sektion von *Eria* aufzustellen, worüber unter dieser Gattung nachzulesen ist. Als neuer Typus einer alten Gattung, und soweit mir bekannt, nur auf Neu-Caledonien beschränkt und nur in der DÄNIKERschen Sammlung vertreten, sind die spreizklimmenden Arten von *Dendrobium*. Diese Wuchsform ist unter den Orchidaceen äusserst selten; ich kenne sie nur bei *Tropidia*, wo sie typisch ist, alsdann bei den paar Arten der saprophytischen Gattung *Galeola*. *Vanilla* gehört zu den Wurzelkletterern und bei *Oncidium* finden wir bisweilen ungeheuer lange, spreizklimmende Blütenstände, aber die Pflanzen selbst sind Epiphyten ohne die mindeste Neigung zu klimmen. Diese Form des Wuchses ist für die Flora Neu-Caledoniens ein Novum. Man kann aber an der Orchideen-Flora dieser Insel nicht vorübergehen, ohne der *Lyperanthus*-Arten zu gedenken, von welchen die DÄNIKERsche Sammlung auch drei neue enthält. Pflanzen, welche auf dieser Insel ihre höchste Entwicklung erreichen, welche an Wuchs die grossen *Lissochilus*-Arten Westafrikas übertreffen, und bei einer der Arten an Grösse der Blattfläche in Quadratcentimetern ausgedrückt, die Blätter von