

Amphorogyne,
another Santalaceae Genus
from New Caledonia ¹⁾

Santalales-Studien III

Von

HANS ULRICH STAUFFER und HANS HÜRLIMANN

(with 5 Plates)

(Mitteilungen aus dem Botanischen Museum der Universität Zürich CCXI [211])

In the material of the second New Caledonian expedition of the Botanic Museum Zurich on the one hand, under which Indeterminatae of the New Caledonian Department of the Paris Herbarium were on the other hand, vouchers of a new Santalaceae genus, from which so far two species are present, which are to be described and discussed in the following.

Amphorogyne, genus novum: (αμφωργα = Jug, γυνή = Woman; from the form of the gynoeceium.)

Flores hermaphroditici, subpedicellati, ad axem articulati. Tepala 5 (-6), sine articulatione tubo florali inserta, valvata, extus glabra, intus pilis poststaminalibus munita. Stamina numero tepalorum et iisdem opposita, introrsa; filamentis brevibus dorsifixis, ad basim tepalorum insertis; thecis 2, loculamentis binis superpositis separatim dehiscentibus (modo *Choretri*). Discus epigynus carnosus, tubum floralem brevem intus tegens, breviter obtuseque lobatus, lobis tepalis alternantibus. Gynaeceum receptaculo conico immersum; stylo brevi erecto cylindraceo; stigma truncatum 3- vel 4- denticulatum. Ovarium 3-4 loculare, ovulis solitariis in quoque loculo pendulis, torquatis, funiculo indistincto placentae centrali affixis; integumento nullo.

Fructus sessilis, drupaceus, monospermus, ellipsoideo - obovatus, tepalis, disco styloque persistentibus coronatus; exocarpio laevi membranaceo, mesocarpio carnosio, endocarpio crustaceo, extus fortiter intusque leviter scrobiculato. Semen endocarpio conforme, endospermio copioso, embryo parvo immerso centrali, apice sito, cotyledonibus 2, paulo radicularum longioribus.

Frutices vel arbores parvae, glabri, ramificatione sympodiali. Rami teretes, ramuli petiolis decurrentibus angulati. Folia subverticillata, integra, brevissime petiolata, stipulis nullis; internodia inter pseudoverticillos elongata.

Flowers hermaphroditic, subpedicellate, at axes articulated. Tepals 5 (-6), inserted without floral tube articulations, valvate, exterior glabrous, interior fortified with pilose poststaminal hairs. Stamens as many as the tepals and opposite them, introrse; filaments short, dorsifixed, inserted at the base of the tepals, thecae 2, loculae paired, superposed, dehiscing separately (manner of *Choretrum*). Fleshy disk epigynous, covering the short floral tube inside, short obtusely lobed, lobes alternating with the tepals. Gynoeceium immersed in a conical receptacle; style short, erect, cylindrical; stigma truncate, 3- or 4- small projections. Ovary 3-4 locular, ovules solitary, pedulous in each locule, funiculus indistinctly affixed to the central placenta; integuments absent.

Fruit sessile, drupaceous, single-seeded, ellipsoidal-obovoid, crowned by persistent tepals, disk, and style; exocarp smooth membranous, mesocarp fleshy, endocarp crustaceous, exterior strongly invaginated? with soft pits. Seeds endocarp similar, endosperm copious, embryo small and centrally imbedded, situated at the apex, cotyledons 2, radical little elongated.

1) support of the Georges and Antoine Claraz donation implemented and published this work (series of Botanik NR. 50).

Shrubs or small trees, glabrous, ramifications sympodial. Branches terete, petioles angular decurrent on small branches. Leaves subverticillate, entire, short petiolate, stipules absent; internodes between the pseudo-verticels elongated.

Species 2, indigenous to New Caledonia; type species: *Amphorogyne spicata*.

Anatomical Characteristics of the Genus

Secondary xylem of the axis: (largest existing diameter with *A. spicata* 12.5 mm; examined for both species) vessel elements individual, diffusely distributed, very rarely two continuous, small, perforation exclusively simple. Wood parenchyma weakly contracted, apotracheal, diffusely distributed. Ray initials exclusively uniserial, heterogeneous (type III after Kribs, 1935).

Petiole: (to the Spreitenbasis, examines for both species) type H to B (after METCALFE and CHALK, 1950), arranged into three to seven single strands

Gap openings: (examines for both species) only on the blade lower surface available, deeply encompassed under craterform, multi-cell epidermal bulges: Rubiaceae type.

Pollen: (only well developed of *A. celastroides*, Hürlimann 452, available, designations after ERDTMAN, 1952) isopolar, tricolpate, angulaperturate, prolate spheroidal - subprolate: 14.8-16.2 X 12.8-14.0 μ (plate III G + H).

Key to the species:

- Inflorescences simple spikes, 5 to 9 flowered, flowers 3.0 to 3.5 mm long. Leaves 16 to 51 mm long and 5.6 to 23 mm wide, with 4 to 6 \pm clear side nerves each side. - *A. spicata*

- Inflorescence branched, paniculate, 12 to 25 flowered, flowers 4.6 to 5.0 mm long. Leaves 30 to 93 mm long and 18 to 47.5 mm wide with 5 to 10 clear side nerves each side. - *A. celastroides*

Amphorogyne spicata, spec. nov. et typica generis: (spicatus= spike; from the inflorescence) plate I, II, IIIB, VA.

Frutex vel arbor parva, glaberrimus, 3,5-8 m altus. Rami teretes, cortice fulvo griseo. Ramuli sub pseudoverticillis petiolis decurrentibus angulati, subcompressi et paululum dilatati, ad basim teretes.

Ramificatio densa, angulis ramificationis $\pm 40^\circ$, ramuli secundarii recti vel minime afflexi. Pseudoverticilli foliis 3-4-5 positione 2/5 compositi, ramulis secundariis axillaribus 1-4. Internodia inter pseudoverticillos elongata, 11-41 mm longa; basis ramulorum bracteis 4-8 parvis, squamosis, caducis instructa.

Folia coriacea, glabra, integra, spatulata, apice rotundata vel leviter emarginata, basi cuneata, in petiolum brevissimum et supra canaliculatum contracta sicco fusco - atra, margine laminae incurvato, supra lucentia, infra opaca subtiliterque punctulata, 16-51 mm longa, 5,6-23 mm lata, 0,4-0,5 mm crassa, costa principalis recta, apicem attingens, costae secundariae 4-6, supra ambiguae, nisi statu sicco invisibiles.

Inflorescentiae spicatae axillares vel terminales, ad 1-6 e pseudoverticillis terminalibus vel paulum inferioribus orientes, saepe axibus vegetativis mixtae pedunculatae, 5-9-florae, flore terminali basi que bracteis 4-8 parvis dentiformibus sterilibusque instructae; flores, terminalibus exceptis, minuseule caduceque bracteati; spicae florentes 8-17 mm longae, basi 0,7-0,8 mm crassae, fructescentes -21,5 mm longae et $\pm 1,0$ mm crassae.

Flores subsessiles, articulati, sicco caduci (similiter fructuum), 3,0-3,5 mm longi, diametro 2,0-2,2 mm; receptaculum tenuiconicum; tepala 5 (-6), ovato-triangularia, carnosae, acuta, apice cartilagineo inflexo, albida, rosea vel rubra, 1,1-1,3 mm longa, 1,0-1,2 mm lata, intus pilis poststaminalibus brevibus paucisque connectivo

agglutinantibus instructa.

Stamina 0,8-0,9 mm longa; antherae 0,5-0,6 mm latae, thecis 2, connectivo parvo, filamento plano, dorsifixo, basim versus paululum dilatato, 0,3 mm longo basi latoque 0,15-0,2 mm.

Tubus floralis gynaeceum paulo superans, disco diametro 1,7 mm intus vestitus. Stylus 0,7 mm longus; stigma truncatum, 3-4-denticulatum.

Fructus drupaceus monospermus sessilis, statu turgido 11,5-14,0 mm longus, diametro 7,2-9,1 mm; exocarpio laevi membranaceo, mesocarpio carnosio, 1,5-2,0 mm crasso, endocarpio osseo, extus fortiter intusque leviter scrobaculato, 0,4-0,5 mm crasso, apiculato, sub insertione tepalorum toro circularis ornato; endocarpium exapiculatum 8,0-8,5 mm longum, diametro 5,1-5,5 mm. Semen endocarpio conforme, scrobiculatum, endospermio copioso, embryo inverso parvo, recto, 1,8 mm longo, diametro rotundo, 0,25 mm lato, cotyledonibus 2, diametro semiorotundo, paulo radiculae longioribus.

Shrub or small tree, glabrate, 3.5-8 m tall. Branches terete, bark tawny grey. Branchlets below the pseudoverticels with angular decurrent petioles, subcompressed and little dilated, at the terete base.

Ramifications dense, angle of branching $\pm 40^\circ$, secondary branches upright or a little bent. Pseudoverticellate leaves 3-4-5 composed in a 2/5 position, secondary axillary branches 1-4. Internodes between the pseudoverticels elongated, 11-41 mm long; bases of branches with 4-8 small bracts, squamately constructed, caducous.

Leaves leathery, glabrous, entire, spatulate, apex rounded slightly emarginate, base cuneate, in short petiole and on top narrow channeled in a dry state dark brown – dark green, margin of lamina incurved, shiny above, opaque below and finely punctulate, 16-51 mm long, 5.6-23 mm wide, 0.4-0.5 mm thick, midvein straight, reaching to the apex, secondary veins 4-6, upper ambiguous, if not invisible in the dry condition.

Inflorescence axillary or terminal spikes, to 1-6 and pseudoverticillate oriented terminal or a little below, often mixed with axillary vegetative peduncles, 5-9 flowered, flowers terminal equipped with 4-8 basal, small, tooth-like, sterile bracts; flowers, terminal only, with miniscule caducous bracts; floral spikes 8-17 mm long, base 0.7-0.8 mm wide, fruiting (spikes) – 21.5 mm long and ± 1.0 mm wide.

Flowers subsessile, articulate, fallig when dry (similarly the fruits), 3.0-3.5 mm long, 2.0-2.2 mm in diameter; receptacle slender conical; tepals 5 (-6), ovate-triangular, fleshy, acute, apex cartilaginous inflexed, white, pink to red, 1.1 – 1.3 mm long, 1.0-1.2 mm wide, interior equipped with pilose, short, poststaminal hairs that somewhat agglutinate (attach to) the connective (of the anther).

Stamens 0.8-0.9 mm long; anthers 0.5-0.6 mm wide, thecae 2, connective small, filament flat, dorsifixed, base a little dilated, 0.3 mm long 0.15-0.2 mm wide.

Floral tube overtopping the gynoecium, clothed in the interior with a 1.7 mm diameter disk. Style 0.7 mm long; stigma truncate, 3-4 denticulate (small lobed).

Fruit drupaceous, one-seeded, sessile, standing erect 11.5-14.0 mm long, 7.2-9.1 mm in diameter; exocarp smooth membranous, mesocarp fleshy, 1.5-2.0 mm wide, endocarp bony, exterior strongly *invaginated?* with soft pits, 0.4-0.5 mm wide, apiculate, decorated below the insertion of the tepals with a circular protruberand; endocarp not apiculate 8.0-8.5 mm long, 5.1-5.5 mm wide. Seed conforming to the endocarp, pitted, endosperm copious, embryo small, turned upside down, straight, 1.8 mm long, round diameter, 0.25 mm wide, cotyledons 2, semiorotund in diameter, radical little elongated.

Type: Balansa 2882, Holo: P! Iso: Z!

Distribution: New Caledonia: Mont Mou, vers 1200 meters d'altitude, arbre de 6 à 8 mètres de hauteur, Balansa 2882 (P, Z), 13.4.1870, in flower with young and ripe fruits.

On the way from Camp Bernier to the Montagne Sources, mesophylic mountain forest at steep SW exposed serpentine hang, \pm 980 m elev. M., 3.5 m high small tree with whitish flowers at the edges somewhat pink-colored and green fruits, Hürlimann 949 (Z), 21. 2. 1951.

Längstälchen north the summit of Mt. Mone (Koghi), mesophilic mountain forest of *Trisyngyne codonandra*, + 1040 m elev. M., 6 m high bush with light yellow-grey cortex, red (galligen = bilious) flowers becoming green (to bilious) young fruits, Hürlimann 1747 (Z), 28.7.1951.

The three vouchers show only small variability in the density of the ramifications (number of the side axes), in the number of terminal verticels occurring on the inflorescences (1-6), in the number of the leaves per verticel (soon 3-4-5, soon 3-4-5) in the length of the always short pedicels (0.5 to 2 mm); in the leaf shape, the nervation, which can be \pm visible, and in the leaf size the differences are insignificant. In the reproductive region the vouchers likewise agree well, Hürlimann 1747 show flowers and young fruits, which have changed to bilious (color).

The leaf position in the false whorl (pseudo verticillate) is clearly a two-fifth spiral to recognize the fact that 5-merous whorl arises and that on it a four-merous gap remains open always by a fifth sector; also to it that the leaves of a whorl are frequently unequally large. The flaky small basal leaves (Niederblaetter) at the recent shoots and at the inflorescences are located likewise in two-fifth position, so also the flowers, whereby the two to three highest closest to the terminal flower move up. Per inflorescence obviously only one fruit comes to the development, which takes arbitrary position, soon terminals, soon laterally.

The ramifications effected predominantly at the most extreme whorl of an axil member with 1-2-4 side axils, thus sympodial and often is dichasial, in addition, arise at lower whorl isolates to two side axils, which over-culminate the centerline clearly usually.

Ecology, Biocoenology: *A. spicata* is a plant of the mountain forests on serpentine, it arises in altitudes from 1000 to 1200 m in the understory, both in society of *Trisyngyne Baumanniae* and in company of *Trisyngyne codonandra*.

Amphorogyne celastroides, spec. nov.: (*celastroides* = einem *Celastrus* similarly, after the habit of the branches) plate IIIA, C-H, plate IV.

Frutex vel arbor parva, glaberrimus, 1,8-4 m altus. Rami teretes, cortice laevi, griseo. Ramuli sub pseudoverticillis petiolis decurrentibus angulati, compressi leviterque dilatati, ad basim teretes.

Ramificatio modice densa, angulis ramificationis 30-45°; ramuli secundarii recti. Pseudoverticilli foliis 3-4 (-5) positione 2/5 compositi, ramulis secundariis axillaribus 1-2-3. Internodia inter pseudoverticillos elongata, 11-96 mm longa basis ramulorum bracteis 4-8 parvis, squamosis, caducis, ultimis interdum remotis, munita.

Folia coriacea, glabra, integra, late vel anguste spatulata vel obovata, apice obtusa, rotundata vel leviter emarginata, basi breviter cuneata, in petiolum brevissimum et supra canaliculatum contracta, sicco fusco - atra, margine incurvato, supra lucentia, infra opaca subtiliterque punctulata, 30-93 mm longa, 18-47,5 mm lata, 0,3-0,45 mm crassa. Costa principalis recta, apicem attingen-costae secundariae 5-10, supra infraque ambiguae, nisi statu sicco invisibiles.

Inflorescentiae axillares vel terminales, ad 1-5 e pseudoverticillis terminalibus orientes, paniculatae, pedunculatae, floribus terminalibus et ramulis ordinis secundi raroque tertii munitae, 12-25 florum; flores, terminalibus exceptis ramulique bracteis minimis caducis instructi; axis principalis 15-57 mm longus, \pm 1,0 mm crassus, basi bracteis sterilibus 6-10 parvis, dentiformibus munitis; ramuli secundarii apicem versus leviter incrassati, 4-16 mm longi, articulati ramuli tertiarii 1,5-3,5 mm longi.

Flores subsessiles, articulati, sicco caduci, 4,6-5,0 mm longi, diametro \pm 1,8 mm; receptaculo tenuiconico, leviter curvato. Tepala 5, non articulata, ovato - triangularia, subcarnosa, acuta, apice cartilagineo inflexo, viridia, 1,1 mm longa, 1,0 mm lata, intus pilis poststaminalibus brevibus paucisque connectivo agglutinantibus instructa.

Stamina 5, 0,7-0,8 mm longa; antherae caducae, 0,4-0,5 mm latae, thecis 2, connectivo parvo, filamento plano, dorsifixo, basim versus leviter dilatato, 0,4-0,45 mm longo basi latoque 0,25-0,3 mm.

Tubus floralis gynaecium paulo superans, disco diametro 1,1 mm intus vestitus. Stylus 0,6 mm longus; stigma truncatum, leviter lobis acutis 3-4-lobatum.

Fructus adhuc ignotus.

Shrub or small tree, glabrous, 1.8-4 m high. Branches terete, bark smooth, grey. Branchlets below the pseudoverticels with angular decurrent petioles, subcompressed and little dilated, at the terete base.

Ramifications moderately dense, angle of branching 30- 45°, secondary branches upright. Pseudoverticillate leaves 3-4 (-5) composed in a 2/5 position, secondary axillary branches 1-2-3. Internodes between the pseudoverticels elongated, 11-96 mm long; bases of branches with 4-8 small bracts, squamately constructed, caducous, ultimately remote on the internodes.

Leaves leathery, glabrous, entire, widely or narrowly spatulate or obovate, apex rounded or slightly emarginate, base shortly cuneate, in short petiole and on top narrow channeled in a dry state dark brown – dark green, margin of lamina incurved, shiny above, opaque below and finely punctulate, 30-93 mm long, 18-47.5 mm wide, 0.3-0.45 mm thick, midvein straight, reaching to the apex, secondary veins 5-10, upper ambiguous, if not invisible in the dry condition.

Inflorescence axillary or terminal, to 1-5 and pseudoverticillate oriented terminal, pedunculate, terminal flowers and second order branchlets few, 12-25 flowered, flowers terminal equipped only on brachlets with basal, small, caducous bracts; principle axis 15-57 mm long, \pm 1.0 m wide, basal bracts sterile 6-10 small, small tooth-like; secondary apical branchlets somewhat thickened, 4-16 mm long, tertiary branchlets articulated, 1.5-3.5 mm long.

Flowers subsessile, articulate, fallig when dry, 4.6-5.0 mm long, 1.8 mm in diameter; receptacle slender conical, slightly curved; tepals 5, nonarticulate, ovate-triangular, somewhat fleshy, acute, apex cartilaginous inflexed, green, 1.1 mm long, 1.0 mm wide, interior equipped with pilose, short, poststaminal hairs agglutinated with the connective.

Stamens 5, 0.7-0.8 mm long; anthers caducous, 0.4-0.5 mm wide, thecae 2, connective small, filament flat, dorsifixed, base a little dilated, 0.4-0.45 mm long 0.25-0.3 mm wide.

Floral tube overtopping the gynoecium, clothed in the interior with a 1.1 mm diameter disk. Style 0.6 mm long; stigma truncate, somewhat lobed, acute lobes 3-4.

Fruit thus far unknown.

Type: Hürlimann 452, Holo: Z!

Distribution: New Caledonia : east of the Montagne Source road with excrements 500, mesophilic *Trisyngyne Balansae* forest on weak-bent serpentine ground, 500 m elev. M., bush of 1.8 m height with green flowers (buds pink), Hürlimann 452 (Z), 28. 12. 1950.

Northeast P. 576 west the Boulari valley, down to to P. 784 rising mountain range, mesophilic mountain range forest on serpentine, \pm 550 m elev. M. 4 m high small tree with greenish flowers and grey bark, Hürlimann 855 (Z) 5.2.1951.

On the Montagne Source road before the passport height to the Dumbéa river system, mesophilic *Trisyngyne Balansae* forest at weakly inclined SE exposed serpentine hang, \pm 500 m elev. M., 3 m high bush with old inflorescences and (bilious changed) buds, Hürlimann 1568 (Z), 10. 7,1951.

Of the available vouchers Hürlimann 452 and 855 agree very well, while Hürlimann 1568 particularly deviates somewhat in the leaf shape. The differences are tabularly compared:

Leaf form	H 452 and 855 broadest above the middle	H1568 often broadest in the middle
Leaf length	37-93	19-47,5 mm
Width	18-45	30-78 mm
Index: {Length/ Width	1,65-2,05-2,40	1,30-1,50-1,86
Number of side nerves	5-10	5-8

Transitions between the various leaf forms types are present in all vouchers. The flower buds of Hürlimann 1568 are through a fungus changing to bilious it show in the tepals as bulging rampant growths (adenoids), the inflorescence show same structure as with the remaining vouchers.

For the leaf position in the whorl the (above) said applies to *A. spicata*. The paniculate inflorescence of *A. celastroides* is less derived than that of *A. spicata*, the panicle branches are built like the spikes of *A. spicata*, although with smaller flower numbers. The ramifications of the vegetative system agrees with *A. spicata*.

Ecology, Biocoenology: *A. celastroides* belongs to a lower vegetation zone as *A. spicata*, it arises in the company of *Trisyngyne Balansae* as small tree or bush of the under story of the mesophilic serpentine mountain forest at heights of 500 to 550 m.

Discussion:

The new genus *Amphorogyne* belongs in the Santalaceae Osyrideae, this tribe (in the sense of HIERONYMUS, 1889, and PILGER, 1935) represents no unit, but disintegrates into several generic groups, which differ part and parcel from Osyrideae and Thesieae; e.g. concerning wood anatomy, in the placenta construction, in the pollen, in the degree of the sinking of the ovary, in leaf position and ramifications and in the inflorescence.

Anatomy leaves one to differentiate (after SWAMY, 1949, METCALFE and CHALK. 1950) within the Osyrideae two types, among which only the first more primitive needs to interest us here, since *Amphorogyne* incorporates itself under these. It is the type with diffuse vessel arrangement, the actual Osyrideae, which are in addition the Anthoboleae and the woody Thesieae.

Within the Osyrideae two generic groups of this type can be differentiated by the construction of the stamens and by characteristics of the placentation. A group with thecae, which dehisce with a longitudinal fissure, with one freely into the well constructed locula rising more shorter or longer stalked central placenta (whereby at the base of the ovarian locule small pockets can be present or be missing) covers genera such as *Santalum* and related *Osyris*, *Colpoon*, *Rhoiacarpus*.

The second group is through the thecae with two individually dehiscing, superposed locules, the ovules rise from a placenta grown together more strongly with the ovary tissue (therefore it \pm is seems unstalked), it is individually into \pm deep pockets of the ovarian locule, which extends the not substantially beyond ovules, indented. Into this group the following genera belong:

Choretrum R. Brown - Australia

Leptomeria R. Brown ¹⁾

Amphorogyne Stauffer et Hürlimann

New Caledonia

Daenikera Hürlimann et Stauffer

Dendrotrophe Miquel

Dendromyza Danser

Asiatic mainland of Nepal

Hylomyza Danser

and China, Malesia to New-

Cladomyza Danser

Guinea and Salomon Islands

Phacellaria Bentham

1) the Australian genus *Omphacomeria* (Endl.) A. DC, which was included by Brown in *Leptomeria*, despite (in fruit) an inferior gynoeceum, with the placentation, in the construction of the stamens and the pollens therein, the absence of poststaminal hairs, and in habitual characteristics, corresponds to the Anthoboleae.

The genus *Amphorogyne* appears in many relationship as original **xxxx** representative of the whole group. The ovary is in three to four chambers divided in each chamber hangs a long, worm-like wound integumentless ovule (plate VA). The central, star shaped placenta bundel still continues over the beginning place of the ovules, it seems above to be connected with the ovary tissue, so that thus the central placenta would not be completely free.

Amphorogyne is further relatively originally by the well constructed leaves in two-fifth position, the little derived inflorescences (particularly of *A. celastroides*), the tree form stature, then by wood anatomy (vessels small, heterogeneous ray initials diffuse, weakly formed parenchyma).

Derived characteristics are the reduction of the number of the ovules from four to three, the complete absence of a calyx seam or a tepal articulation (the tepals remain up to fruit ripening).

The further, above specified genera leave themselves, with exception of the strongly derived likewise New Caledonian *Daenikera*, which stands isolated, again separates into two sub-groups. On the one hand an Australian sub-group with the closely allied genera *Choretrum* and *Leptomeria*, excellently by strong modification of the vegetative parts to aphyllous or small leaved "switch shrubs" (Rutensträuchern) with at the same time little derived ♂ flowers: With *Choretrum* (plate VC) still another calyx seam is available, likewise in both genera five clearly constructed ovules; the endokarp is inside and \pm smooth.

The second sub-group comprising as primordial (ancestral?) genus *Dendrotrophe* (plate VD), woody plants with developed leaves and 5 (-6) well constructed ovules; flowers unisexual or bisexual; to this genus the genera *Dendromyza*, *Hylomyza*, *Cladomyza* and *Phacellaria* (plate of VE) belong, with all the number of the five ovules received remained, the degree of the development, however, reduced, at the same time becomes unisexual flowers the rule with increasing parasitism and appropriate reduction of the vegetative parts. The whole sub-group is excellently **xxxxxxx** various structures of the meso- and endocarps, from DANSER, the editor and founder of several of their genera (see DANSER, 1939; 1940; 1955), who put special weight (on these) as diagnostically valuable characteristics.

The New Caledonian, strongly parasitic modified genus *Daenikera* (plate VB) stands by reduction of the ovules to (3)-2, whereby these are relatively clearly developed, somewhat off the remaining genera. It shows in the fruit and in the branching system resemblances to *Amphorogyne*, which is in vegetative form, however, strongly reduced. The modification of the stamens (staminodia, in the available exemplars no pollen was found) is particularly remarkable, to conditions with by parasitism likewise changed, with the Santalaceae without doubt reminded of the genus *Myzodendron*, with the *Daenikera* also in branching the character agreements shows (see HÜRLIMANN and STAUFFER, 1957).

In conclusion, it can be found out that towards us walks the genus posed *Amphorogyne*, which belongs to the numerous, relatively primitive, relictual genera from New Caledonia, one both in a morphologic-systematic regard and a plant-geographic regard, an interesting new Santalaceae, which might in the future perhaps not contribute insignificantly to clarifying phylogenetic questions within the Santalales.

The available study became possible by the hiring of the material of the second New Caledonian expedition of the Botanic Museum of Zurich, which was implemented on suggestion of Professor Dr. A. U. DÄNIKER and under co-operation of the GEORGES and ANTOINE CLARAZ donation. Likewise by liberal hiring of the material of the Paris Herbariums by the director, Professor Dr. H. HUMBERT, and by Professor Dr. A. GUILLAUMIN, the editor and respected connoisseur of the New Caledonian Flora. The designs were implemented by Mrs. LISA MARIA STAUFFER IMHOOF. We would like to thank all involved in the best way for valuable assistance and this addition.

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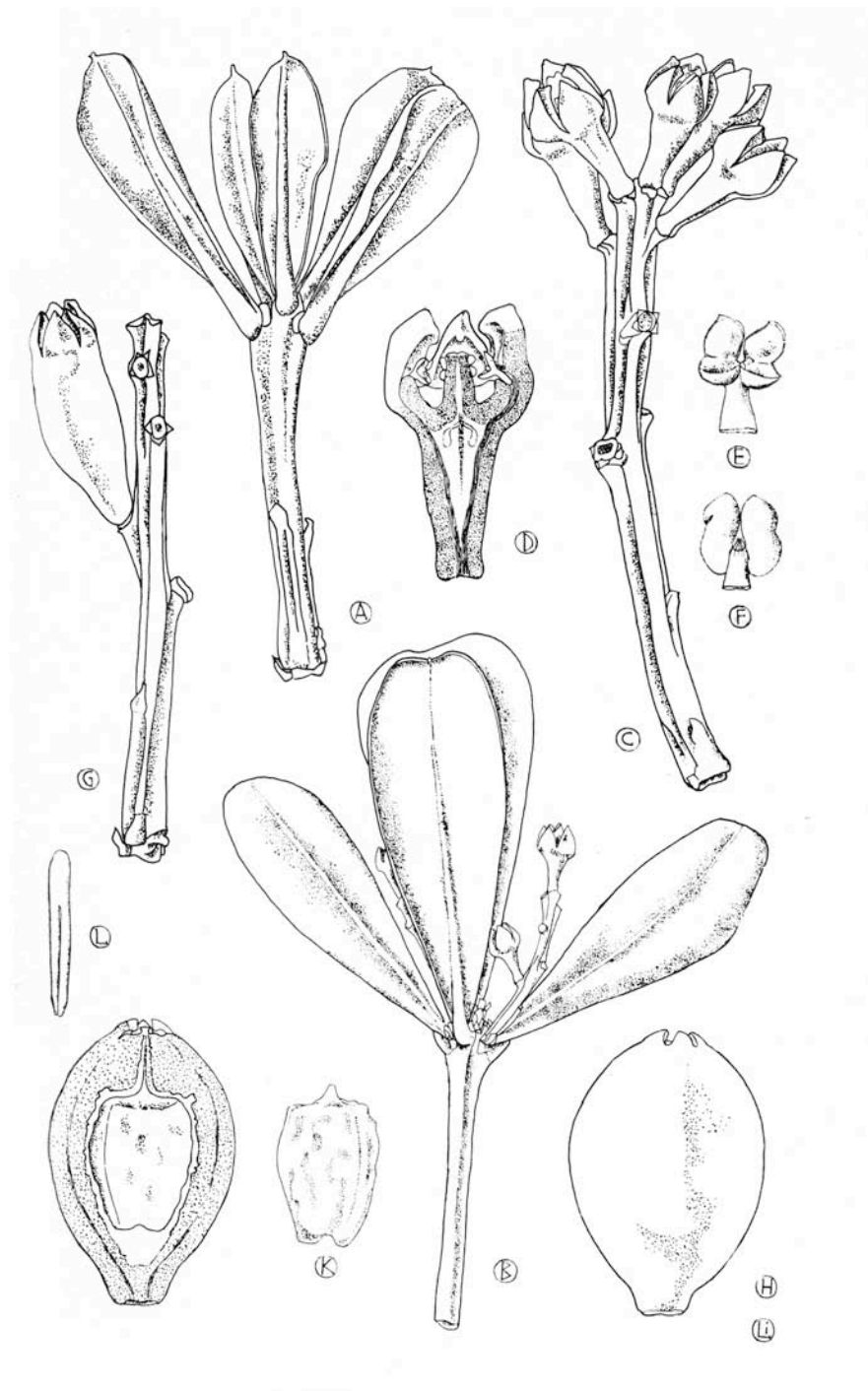


Plate I *Amphorogyne spicata*

A Young shoot, 6X; B flowering terminal pseudoverticil, 2 X; C inflorescence, 7X; D longitudinal section through the flower, 12X; E stamen from inside, 20X; F stamen from outside, some broken off poststaminal hair project by the small concavity over the connective on the inside, 20X; G young fruit on infructescence, 6X; H ripe fruit. 3X I longitudinal section through the fruit, seed removed, 3X; K seed, 3 X; L embryo, 14X after Balansa 2882).



Plate II *Amphorogyne spicata*
Habit of the branch, Balansa 2882.

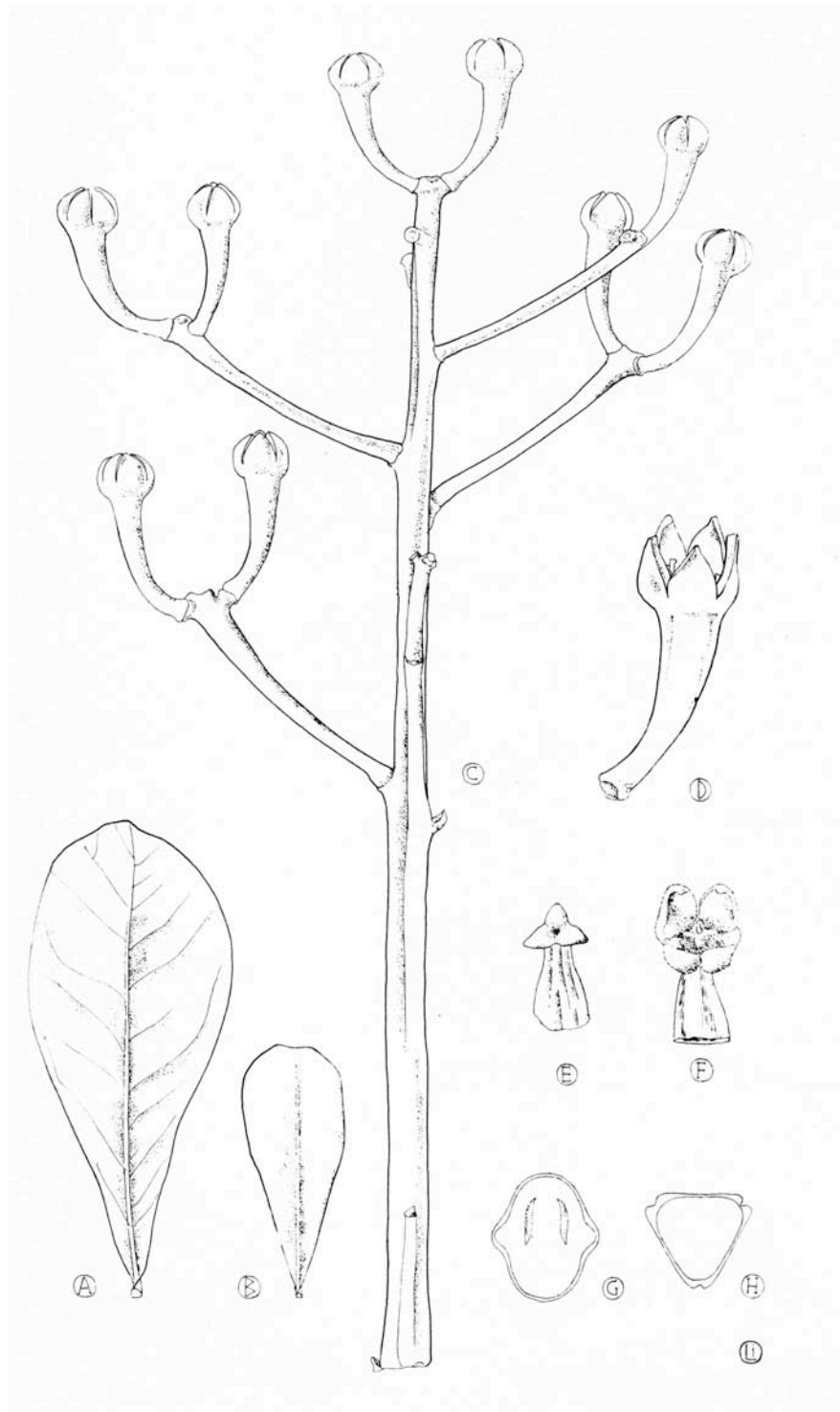


Plate III *Amphorogyne celastroides*

A foliage leaf, 1X; C inflorescence, 4X; D open flower, 8X; E style with stigma, 30X; stamen from inside, 30X; GH pollen, ca. 1200X; B foliage leaf of *A. spicata*, in comparison, 1X. (A after Hürlimann 855, B after Balansa 2882, C-H after Hürlimann 452.



Plate IV *Amphorogyne celastroides*
Habit of the branch, Hürlimann 855

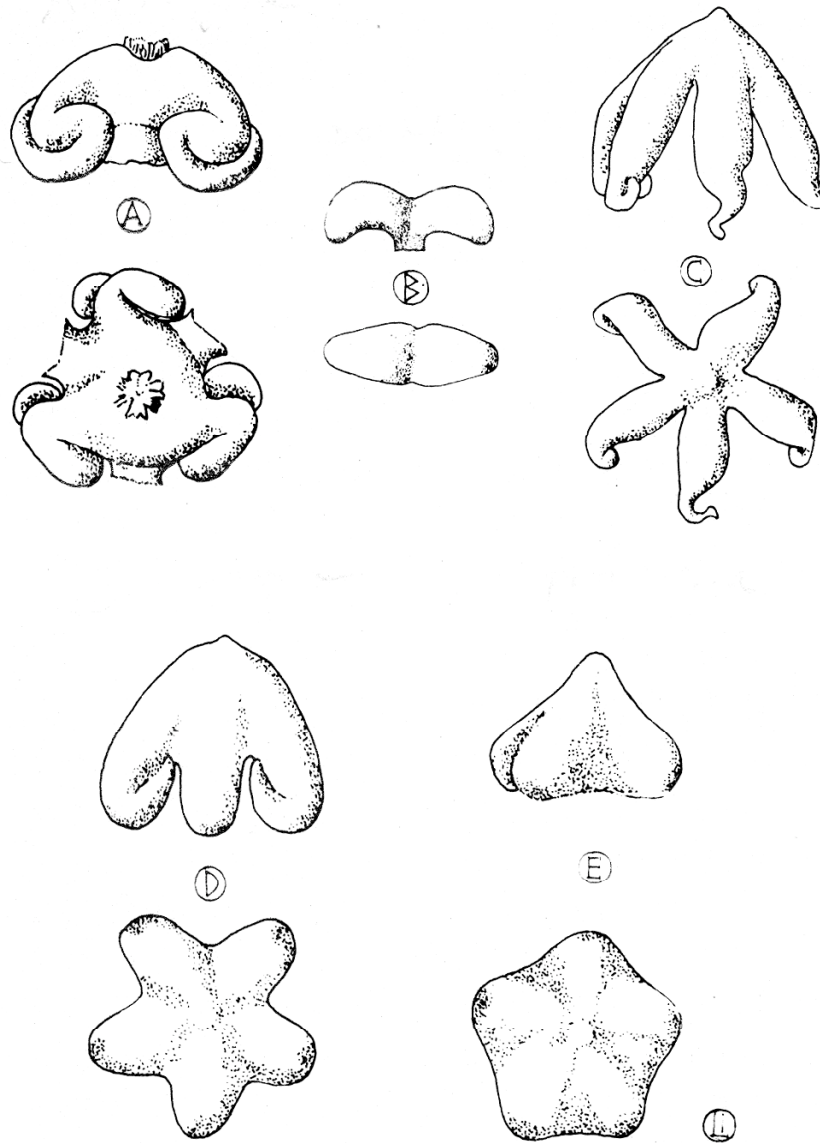


Plate V Placentas

Amphorogyne spicata, Balansa 2882, 35X; B *Daenikera corallina*, Hürlimann 1586, 70mal;
 (*Choretrum lateriflorum*, Williamson s. n., 30X; D *Dendrotrophe spec.*, Brass 12788, 38X; E
Phacellaria compressa, Herb. Mus. Paris, 42X.