

## THE WOOD CROSS SECTIONS OF HERMANN NÖRDLINGER (1818–1897)

**Ben Bubner**

Leibniz-Zentrum für Agrarlandschaftsforschung (ZALF) e.V., Institut für Landschaftsstoffdynamik,  
Eberswalder Str. 84, 15374 Müncheberg, Germany [E-mail: bubner@zalf.de]

### SUMMARY

Hermann Nördlinger (1818–1897), forestry professor in Hohenheim, Germany, published a series of wood cross sections in the years 1852 to 1888 that are introduced here to the modern wood anatomist. The sections, which vary from 50 to 100  $\mu\text{m}$  in thickness, are mounted on sheets of paper and their quality is high enough to observe microscopic details. Their technical perfection is as remarkable as the mode of distribution: sections of 100 wood species were presented in a box together with a booklet containing wood anatomical descriptions. These boxes were distributed as books by the publisher Cotta, from Stuttgart, Germany, with a maximum circulation of 500 per volume. Eleven volumes comprise 1100 wood species from all over the world. These include not only conifers and broadleaved trees but also shrubs, ferns and palms representing a wide variety of woody structures. Excerpts of this collection were also published in Russian, English and French. Today, volumes of Nördlinger's cross sections are found in libraries throughout Europe and the United States. Thus, they are relatively easily accessible to wood anatomists who are interested in historic wood sections. A checklist with the content of each volume is appended.

**Key words:** Cross section, wood collection, wood anatomy, history.

### INTRODUCTION

Wood scientists who want to distinguish wood species anatomically rely on thin sections mounted on glass slides and descriptions in books that are illustrated with microphotographs. In the 19<sup>th</sup> century the German forestry professor Hermann Nördlinger (1818–1897) published a series of books that were originally intended to support training in wood identification: *Querschnitte von hundert Holzarten* (Cross Sections of One Hundred Wood Species, Nördlinger 1852–1888). Rather than printed images, the volumes consist of thin cross sections of genuine wood mounted on sheets of paper. Between 1852 and 1888, 11 volumes were published, each volume containing 100 cross sections. Comprising 1100 different wood species from all over the world, it is the largest known collection of wood specimens to be produced and sold serially. Despite its value as an anatomical wood collection and its easy accessibility – many

volumes can be found in many libraries in Europe and the United States – Nördlinger’s cross section series is almost unknown today. Only two recent publications provide short notes based on information directly derived from the series, *i.e.* Grosser (2001) and U. Leistikow’s foreword to the 2002 reprint of R. B. Hough’s *The American Woods* (Hough 2002).

The present article draws the attention of the modern wood anatomist to a masterpiece of scientific wood presentation. It provides a detailed description of the sections and an overview of the original 11-volume series. Moreover, the article adds information concerning the publication of Nördlinger’s cross sections outside Germany, followed by an introduction to Hermann Nördlinger and his coworker Jakob Briem. Finally, the impact of Nördlinger’s cross sections is explained and information on today’s locations is given. The term “Cross Sections” (with capital letters and quotation marks) is used when referring to the original series of 11 volumes.

### DESCRIPTION OF THE SECTIONS

In 1852 Nördlinger published the first volume of the “Cross Sections”. Although not truly a book, this and the following 10 volumes (years of publication in Table 1) were available in regular bookstores because they had been distributed and sold through the publishing company Cotta, located in Stuttgart. This famous German publishing house is known for publishing such German poets as Goethe and Schiller, but it also published technical literature.

Each volume consists of a box with the appearance of a book. Silver letters on the ornamented “spine” enhance this impression (Fig. 1, left). The box contains 100 sec-



Figure 1. Volumes I to VI of the Archiv der Universität Hohenheim, Germany. – left: Volumes I–V stand in the background. The box of volume VI is opened with the booklet in the foreground. A carrier leaf with the cross section of *Callistemon speciosus* is opened. The height of the booklet is 13 cm. – right: Detail of *Callistemon speciosus*. The oval window facilitates viewing details without removing the section from the carrier leaf. The width of the window is 14 mm.

tions, each mounted on a folded carrier leaf that is lying loosely in the box: the carrier leaves measure 100 × 130 mm when folded. As the series title “Cross Sections” implies, all sections are from transverse wood surfaces. They are 50 to 100 µm thick, transparent and, at approximately 2 × 5 cm, relatively large. However, size varies with the wood species, and the wood of small shrubs is presented as round sections of whole stems. Each section is glued over an oval window, 14 × 33 mm wide, in the carrier leaf, allowing each section to be observed against a bright background without removing it from the carrier leaf (Fig. 1, right). For identification each carrier leaf is furnished with a printed label containing the scientific name of the wood. The carrier leaves are solely for handling and protecting the sections. This is different from the function of mounts on glass slides in modern wood anatomy: sections cut on a microtome often roll up and can be flattened only by fixing them between carrier and cover slide. Nördlinger's sections do not need to be mounted to be flat. In some cases sections lie loosely between carrier leaves. Still, they are completely flat.

Nördlinger did not disclose his method of preparing thin sections. Marcon *et al.* (2004) list the titles of about 260 Nördlinger publications, most of which were printed in the forestry journal *Kritische Blätter für Forst- und Jagdwissenschaft*, which Nördlinger edited from 1860 to 1871. None of these publications dealt with preparing thin wood sections. From the nature of the sections (for instance, the very hard wood of *Buxus sempervirens*), one can only conclude that he used a very rigid microtome and found a way to either prevent sections from rolling up during cutting or to somehow flatten the sections afterwards.

#### CONTENT OF THE BOOKLETS

A booklet with descriptions of the woods accompanies each volume. The contents of the booklets are summarized here because they give an overview of the groups of wood presented in “Cross Sections”. The first two volumes list species according to specific characteristics. Since some woods appeared on several lists, it was not easy for the user to gain an overall view of anatomical characteristics of each species. However, Nördlinger provided a separate key that accompanied volume II based on these lists. In volume III Nördlinger included 300 individual descriptions of the woods of the first three volumes. They feature only characteristics that can be observed with a hand lens. The descriptions are grouped according to the specific characteristics of the wood. The booklets were subsequently more practical to use, since a complete description of a wood appeared only once within a specific group. Each consecutive volume contains the same groups, each with alphabetically ordered names. New descriptions were inserted alphabetically into this list. Thus, beginning with volume IV, each booklet contains descriptions of 100 wood species inserted into a growing, systematically arranged species list.

The system that Nördlinger started in volume III included five large groups. In the following list the numbers in brackets represent the numbers of wood species in 1888.

- I. Palms and *Dracaena* (3)
- II. Tree ferns (2)
- III. Cycads (1)
- IV. Coniferous trees (77)
- V. Broadleaved trees and shrubs (1017)

While the first three groups are not subdivided further, the coniferous trees are divided into wood with and without “pores” (Nördlinger’s term for resin canals). The porous wood is further subdivided into species with conspicuous colour differences in the growth rings or without. As a result, conifers are listed under three subheadings. Naturally, the most subdivisions are found within the group of broadleaved plants (*i.e.* hardwoods). Here again, Nördlinger used the term “pores”; in this context he meant vessels. Hardwoods are divided into three major divisions with the following subheadings:

- A. Growth rings indistinct
- B. Growth rings distinct but without a porous zone at the beginning of growth ring
- C. Growth rings distinct due to a porous zone at the beginning of growth ring

Division A and B are subdivided based on patterns of parenchyma that are visible with a hand lens. Division C is subdivided based on the pattern of the pores (*i.e.* vessels). The result is 20 subheadings, *i.e.* 20 groups of broadleaved trees and shrubs. Nördlinger’s classification can be used as key for distinguishing the 20 groups, but one cannot determine individual species. For instance, the fourth group within subdivision A contains 154 species.

All wood descriptions are very thorough. They include the form of the pith (where a cross section displayed this characteristic), the arrangement of pores and parenchyma (called “tissue” by Nördlinger), features of the growth ring boundaries and wood colour. Quantitative traits such as pore diameter are designated as large or small, and rays are referred to as wide or narrow. Descriptions beginning with volume VII include the numbers of pores per square millimetre and the number of rays per tangential millimetre. The anatomical descriptions of all 1100 sections are remarkable in comparison with another publication that also contains sections of genuine wood, R.B. Hough’s *The American Woods* (Hough 2002). Hough’s book, however, does not contain any descriptions of wood anatomy.

#### MORE CROSS SECTIONS

In addition to the main series of “Cross Sections”, Nördlinger published several single editions for forest schools and in different languages. English short titles with brief descriptions are listed below. The original titles can be found in the reference list.

*German editions 1858, 1884:* 50 cross sections of timber. Cotta, Stuttgart (Nördlinger 1858, 1884). These cross sections consist of a selection of the 200 wood species of volumes I and II. They represent wood species used for construction, furniture building

or fuel. This selection aims at forestry students and craftsmen working with wood. The layout is the same as that of the original series.

*French edition 1855*: 60 cross sections of timber for the École Impériale Forestière de Nancy, text by A. Mathieu (Mathieu & Nördlinger 1855). Like the German edition, it includes woods for human use and has similar features as the original series.

*French edition 1872*: 100 cross sections of wood species from France and Algeria (Nördlinger 1872). It is different from the original series in that wood descriptions are printed directly on the carrier leaves.

*English edition 1882?*: 50 cross sections of Indian woods (Nördlinger 1882?). The publisher is not known. This edition was produced for the Central Forestry School at Dehra Dun and was published between 1882 and 1888. In the foreword of volume X (1882, p. 4), plans for an Indian wood edition are announced, and Nördlinger mentioned it as published in the 1888 foreword of volume XI (p. 4).

*Russian edition 1868*: 50 cross sections with text by Shapranov, St. Petersburg (Nördlinger 1868a). It is assumed that features and content are similar to the German edition of 50 cross sections. Marcon *et al.* (2004) also mention Russian language editions from 1872 and 1884 prepared for the forestry school of St. Petersburg.

## OUTSTANDING FEATURES

Two aspects of “Cross Sections” are remarkable even by today’s standards: first, the technical perfection of the sections themselves, and second, the large number of sections that were prepared over the years. Unlike today’s thin sections fixed on glass slides, Nördlinger’s cross sections were large and thick enough to show characteristics that can be seen on a polished wood surface, for instance, its colour and arrangement of growth rings. On the other hand, they are thin enough that arrangement of vessels and rays are visible (Fig. 2).

Furthermore, depending on the nature of the wood, many sections allow microscopic details such as the cellular nature of wood, *e.g.* tracheids and resin canals in softwoods and vessels and fibres in hardwoods, to be observed (Fig. 3). The thinness of the sections was also the reason why Nördlinger never published longitudinal sections. Although there have been demands to add them, Nördlinger gave the following reply: Longitudinal sections of wood with large vessels would break if they were as thin as cross sections. Thicker sections on the other hand would not offer substantially more information to justify the resulting higher price (volume II, foreword, p. 4). From today’s point of view, given that longitudinal thin sections need the support of a glass slide, their omission was a wise decision.

Regarding the sheer number of sections, one is impressed not only that Nördlinger collected 1100 species of wood, including trees and shrubs from all five continents, but also that each set of sections was produced in large numbers. In Cotta’s *Printer’s Calculations* for 1855–1858 (Cotta-Archiv, Marbach, Germany), there is a record of 500

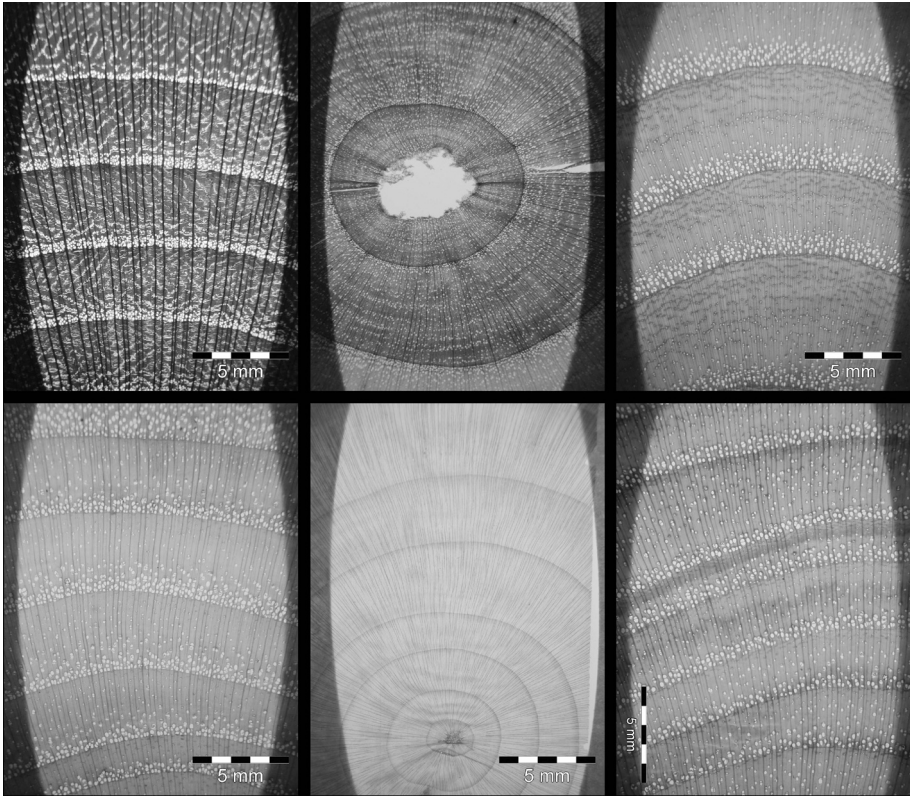


Figure 2. Cross sections from Volume I at the library of the Universität Jena, Germany, photographed through a microscope with 6.3× magnification. Names according to Nördlinger's nomenclature with present-day nomenclature in parentheses. – upper row from left: *Cytisus alpinus*, *Elaeagnus hortensis*, *Fraxinus pubescens*. – lower row from left: *Gymnocladus canadensis*, *Pinus cedrus* (*Cedrus libani*), *Sophora japonica*.

printed booklets for volume II. Since the same number of the 1858 booklet “50 Cross Sections” had been printed, it is safe to assume that 500 was the regular circulation for these. Considering that it was common practice for coloured plates to be added to expensive books only according to orders, it is also likely that the sections were manufactured not at once but on demand. This would explain why carrier leaves of volume II (booklets printed in 1856), as inspected at the Archiv der Universität Hohenheim, Germany, carry a label announcing a prize received at the 1862 International Exhibition in London. Though the boxes had not been completed at the time of the booklet printing, there are hints in Nördlinger's letters to Cotta that the number of sold boxes is close to that of the 500 printed booklets. In 1886 only 30 to 122 booklets per volume were left at Cotta's warehouse (Table 1). Assuming that the remaining books continued to be sold together with the sections, it is reasonable to conclude that up to 500 copies per volume, each containing 100 sections, were produced.

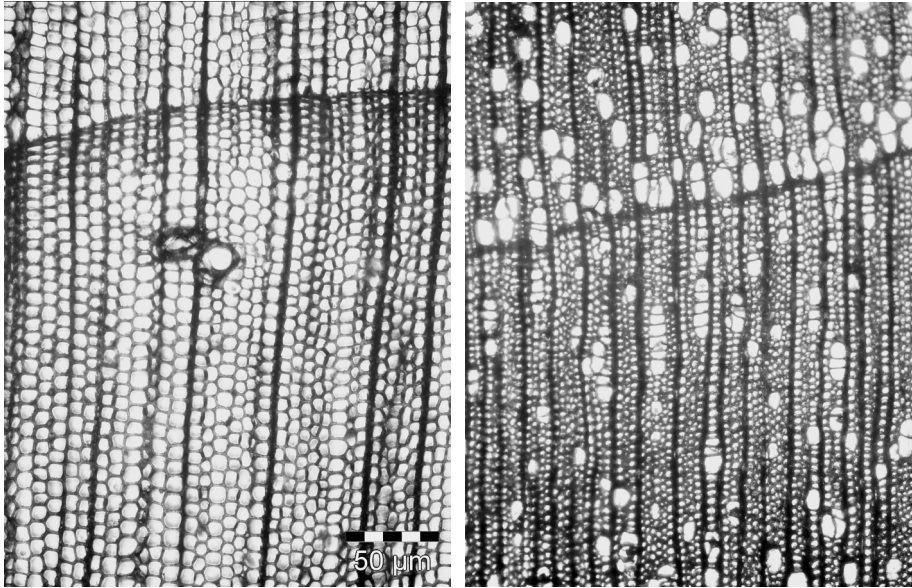


Figure 3. Microscopic details at 100× magnification. Cross sections are from the 1884 edition of “50 Cross Sections” of the author’s collection. – left: *Pinus cembra*. – right: *Aesculus hippocastanum* (Scale bar valid for both microphotographs).

**Table 1.** Year of publication and number of pages of the “Cross Sections” published by Cotta Publishing Company, Stuttgart. The bottom line gives the number of booklets that were in stock at Cotta in 1886.

	100 Cross Sections											50 Cross Sections
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	
year	1852	1856	1861	1867	1869	1874	1876	1878	1880	1882	1888	1858/1884
pages	18	36	110	56	67	66	88	87	95	99	102	32
number <sup>a</sup>	63	45	58	35	30	57	95	122	109	122	–	32

<sup>a</sup> These numbers are based on a letter dated January 17, 1886 (letter No. 170, Cotta-Archiv). Nördlinger asked for the numbers of remaining booklets and, preparing a response, a Cotta employee noted these numbers on the letter.

## HERMANN NÖRDLINGER AND JAKOB BRIEM

Collecting 1100 wood species, some from distant regions of the world, was a great achievement in the 19<sup>th</sup> century. It would have required a vigorous traveler or someone of considerable reputation to whom other traveling foresters would gladly send their valuable collections. A man of the latter sort was Hermann Nördlinger (Fig. 4, left); according to Hauff (1980), he was regarded one of the most important forest scientists in Germany and was the leading forester of the Kingdom of Württemberg. Nördlinger

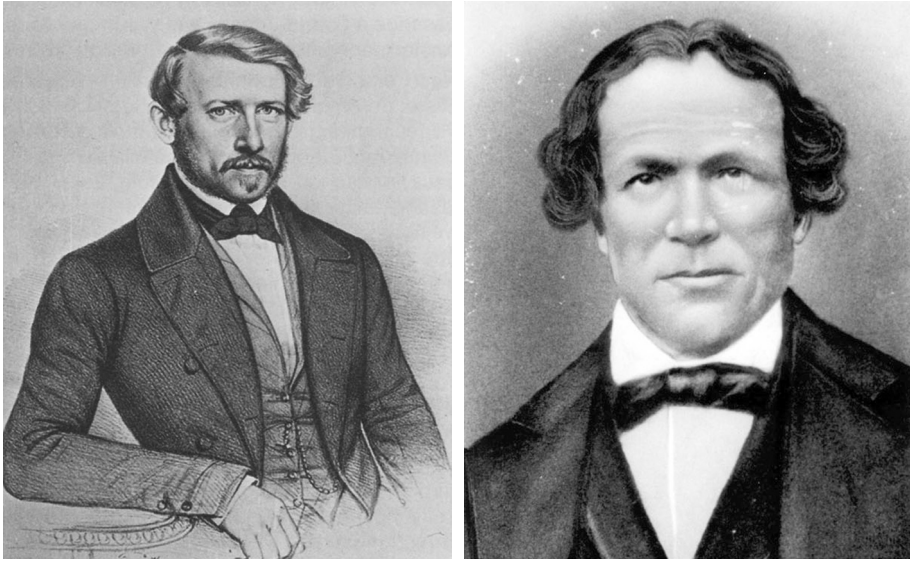


Figure 4. left: Hermann Nördlinger, reproduced from Hauff (1980). – right: Jakob Briem (courtesy Hermann Briem, Filderstadt, Germany).

was born in Stuttgart, capital of the kingdom, on August 13, 1818. He studied forestry and political economy at the Universität Tübingen and at the Land- und Forstwirtschaftliche Akademie Hohenheim (today a district of Stuttgart) from 1838 to 1841. After his studies he lectured at the École Régionale d’Agriculture de Grand-Jouan, France, from 1843 to 1845. From 1845 to 1852 and again from 1855 to 1881 Nördlinger was professor of forestry in Hohenheim. After forestry training in Württemberg was relocated from Hohenheim to the Universität Tübingen, he finished his academic career as a university professor in 1887 and died in Ludwigsburg on January 19, 1897 (Marcon *et al.* 2004).

Nördlinger’s importance is indicated by the diverse lectures he gave covering all aspects of forestry: he trained generations of students for service in forestry administrations. He also published a series of books that were regarded as standard at the time, *e.g.* *Deutsche Forstbotanik* (German Forest Botany) I and II (Nördlinger 1874, 1876). Nördlinger’s compendium, *Die technischen Eigenschaften der Hölzer* (The Technical Properties of Wood, Nördlinger 1860), based on his own research, was also translated into Russian (Nördlinger 1868b). Contemporaries viewed this compilation of primary data as a pioneering work in wood science and technology (Graner 1897). That Nördlinger was well known outside Germany is demonstrated by the foreign language editions of “Cross Sections”. This was not common practice for a 19<sup>th</sup> century forester, because the nation states in Europe were highly polarized and forestry was considered a very national issue.

Given his workload as a lecturer and writer, it is unsurprising that Nördlinger did not cut the sections himself. Following the custom of his time, Nördlinger did not reveal



the identity of the manufacturer in his publications. However, an advertisement in the 1860 edition of *Die technischen Eigenschaften der Hölzer* mentions that the wood turner Jakob Briem from Bernhausen (today a district of Filderstadt near Stuttgart) supplied a collection of solid wood specimens as a supplement to “Cross Sections”. In a letter to the Cotta publishing house dated January 18, 1885 (letter no. 168), Nördlinger reports that Mr. Briem manufactured the sections for two boxes of “Cross Sections” for Nördlinger’s sons, both of whom were also foresters (Wurm 1960). The identification of the manufacturer was ascertained by a death notice in the local newspaper from July 6, 1890 (Bubner & Back 2005). Jakob Briem (Fig. 4, right) is explicitly stated as the person who prepared wood collections, *i.e.* cross sections, for Hermann Nördlinger. He was born February 26, 1824, in Bernhausen and died there July 1, 1890. Briem’s death was probably one of the reasons why the cross section series was not continued after volume XI was issued in 1888. Originally, Nördlinger wanted the series to be continued by one of his sons (letter no. 168).

#### AUDIENCE AND IMPACT

At the beginning, Nördlinger considered the thin sections as study material for forestry students. Before he started the cooperation with the Cotta publishing house, Nördlinger offered collections of natural history objects, including a collection of solid wood specimens and cross sections, to students of forestry and agriculture (Nördlinger 1850). The wood collection accompanied by cross sections that he presented at the 1851 Great Exhibition in London, was highly regarded by the jury:

*“A collection of woods, extremely well selected and arranged is exhibited by Professor NÖRDLINGER of Hohenheim, Stuttgart (sic) (4, 11, pp. 114, 115). These specimens are exceedingly well prepared, so as to show all the chief characters of each wood; though small, each sample is left in the bark, and good microscopic sections accompany each wood. As a small collection, it is admirable, and the Jury accordingly awarded a Prize Medal for it.”*

(Royal Commission 1852, p. 153)

This early recognition probably boosted Nördlinger’s efforts to publish the sections independently of the solid wood specimens. Accordingly, he promoted his serially produced sections with reference to this award. Specimens occasionally have a stamp identifying them as medal-holders of the 1851 exhibition (*e.g.* volumes I to IV, at the library of the Universität Jena, Germany).

The first two volumes of “Cross Sections” are supposed to be teaching materials, as noted in the subtitle of each booklet’s cover page: “for instruction of foresters, farmers, botanists and wood technologists”. Nördlinger argued that a teacher of wood science should support lectures with transparent cross sections on which more details are seen than are visible on a smooth wood surface (booklet volume I, p. 4). However, the title list of the potential audience and the contents reveal a dilemma: the first two volumes contain not only wood of which knowledge is important for the everyday routine of

**Table 2.** Availability at public libraries, based on online investigations at the European Library Catalogue, the GBV Catalogue or direct inquiries. Locations with volumes inspected by the author are marked with an asterisk.

**I–XI:** volumes of the original series. – **A:** 50 Cross Sections, German edition 1858. – **B:** 50 Cross Sections, German edition 1884. – **C:** 60 Cross Sections, French edition 1855. – **D:** 100 Cross Sections, France and Algeria 1872. – **E:** 50 Cross Sections, English edition 1882 (?).

Library	Volumes / editions					
	I–XI	A	B	C	D	E
Universität Halle-Wittenberg, Germany*	all volumes					
Archiv der Universität Hohenheim, Germany*	all volumes					
Bibliothèque Nationale de France, Paris	all volumes				+	
The British Library, London, UK	all volumes				+	
Natural History Museum of London, UK	all volumes					
Royal Botanic Gardens, Kew, UK	all volumes					
Rijksuniversiteit Groningen, Netherlands	all volumes			+		
Missouri Botanical Garden, USA	all volumes		+			
Harvard University, USA	all volumes		+			
Institut für Ökologie, TU Berlin, Germany*	I–X					
Magyar Természettudományi Múzeum, Budapest, Hungary	I, II, IV, V, VII–XI					
Universität Göttingen, Germany	II, III, IX, X					
Universität Hamburg, Germany	VII–XI	+				
Technische Universität München/Weihenstephan, Germany	I, II, III, VII	+				+
Universität Jena, Germany*	I–IV	+				
Library of Congress, Washington, USA	–	+			+	
Universität Freiburg, Germany	X, XI	+				
Universität Tübingen, Germany	I, II					
Universiteit Leiden, Netherlands	I					
National Botanic Garden, Meise, Belgium	I					
New York Botanical Garden, USA	I					
Universität Braunschweig, Germany	III					
Deutsches Museum München, Germany	II					
Fürstliche Bibliothek Corvey, Höxter, Germany	X					
Bayerische Staatsbibliothek München, Germany	I					
Universität Düsseldorf, Germany	I					
Bibliothek des IPK Gatersleben, Germany	–	+				
Universität Erfurt, Zweigbibliothek Gotha, Germany	–	+				

foresters and craftsmen working with wood, but also many shrubs and foreign woods that are of interest only to specialists in forest science and botany. Furthermore, the price of a single volume was relatively high. An advertisement in Nördlinger's 1880 book on forest insects (Nördlinger 1880) lists the prices of several other Nördlinger publications. Each volume of "Cross Sections" sold for 14 marks. The price of the large-format volume II of *Deutsche Forstbotanik* with 480 pages was also 14 marks. Since it included descriptions of all important kinds of timbers and printed wood engravings, a forest student would have preferred the latter.

Knowing the demand for a school collection, Nördlinger published the first school edition in 1855 for the *École Imperiale Forestière*, France (Mathieu & Nördlinger 1855). The German edition, *Fünfzig Querschnitte* (50 Cross Sections), intended for "foresters, technicians and wood workers", followed in 1858. In 1880, the price for the German edition was a bit more than 8 marks and thus affordable to forestry students or schools who otherwise had to buy volumes I and II, which had many sections of little interest to them. "50 Cross Sections" was a great success as can be seen from the fact that the German edition was reprinted and remanufactured in 1884, and further editions for Indian and Russian forestry schools were published (see above).

Nördlinger continued to collect wood and to publish it in the "Cross Section" series. In the booklets he asked wood collectors to send him wood for thin section preparation. He emphasized that the provenance of the wood should be absolutely certain. As a result, a new volume of "Cross Sections" was issued every few years. Acknowledgments in the foreword show that Nördlinger had contact with collectors who sent him wood specimens from every continent. Thus, "Cross Sections" became a specialized collection of foreign woods not readily available in Europe. This change in intention is also reflected by the subtitle used, beginning with volume IV: "for the instruction of botanists, foresters and wood technologists". At this time botanists were ranked first as potential customers. Furthermore, contemporaries perceived "Cross Sections" as a botanical collection, as can be seen from the fact that volume XI was reviewed in a botanical journal (Sanio 1889).

#### TODAY'S LOCATIONS

The 500 copies per volume of "Cross Sections" were bought not only by private persons but also by schools and universities. Thus, today many copies are available in libraries or archives all over Europe and the United States (Table 2). Altogether 28 locations have been identified. In many cases only a few volumes of the original series are available, or one of the school editions. The complete series is present at nine libraries.

Four German locations have been visited by the author (Table 2, asterisks). A thorough survey at the library of the Universität Jena revealed that many sections are missing in volumes I to IV. From volumes I and II half of the sections are missing (Bubner 2004). Because the missing specimens are common European trade timbers, it is likely they were for teaching purposes. In contrast, the ten volumes at the library of the Institut für Ökologie, Technische Universität Berlin are almost complete. They contain 989 of the originally 1000 specimens (A. Brüning, personal communication).

Only selected volumes from the complete series at the library of the Universität Halle-Wittenberg and the Archiv der Universität Hohenheim were checked. Although in both locations single wood specimens are missing or not located in the proper volume, both series are almost complete. A thorough volume-by-volume inventory based solely on the alphabetical index provided by Nördlinger proved difficult, since his is a global list indexing all specimens of previous volumes. Therefore a checklist was prepared that lists the contents per volume (Table 3, see pp. 452–457). This list should enhance the work of librarians or wood anatomists who want to check the contents of a particular volume at a given location.

### CONCLUSION

Each volume of Nördlinger's "Cross Sections" represents an extraordinary, remarkably perfect collection of wood. The volumes offered smaller institutions and private persons a convenient way to add a representative overview about the woods of the world to their collections. In contrast to solid wood specimens, Nördlinger's sections need no special storage and presentation prerequisites; a small space on a bookshelf is sufficient. Furthermore, wood specimen collections are usually manufactured in only a few copies, whereas each volume of Nördlinger's "Cross Sections" was reproduced up to 500 times. Thus, rather than a book series with a curious means of illustration, "Cross Sections" should be viewed as a botanical collection that was propagated and distributed to a large number of recipients.

For today's wood anatomist, the "Cross Sections" offer a compact format for studying the diversity of wood in publicly accessible libraries. Furthermore, the historic "Cross Sections" could serve as blueprint for the relaunch of a timber series of cross sections on paper mounts. The advantage of Nördlinger's technique of presenting both gross and microscopic characteristics makes cross sections useful additional teaching aids for practical courses of wood identification. However, modern re-publication would require re-discovery of the technique of producing flat thin sections without a supporting glass slide.

### ACKNOWLEDGMENTS

I would like to thank F. Biel and B. Fischer for responding to inquiries at the Cotta-Archiv, Marbach, Germany. R. Stimper of the Institut für Spezielle Botanik, Friedrich-Schiller-Universität Jena, provided help in taking photomicrographs, and D. Baumbach, Finsterbergen, helped measure the thickness of the sections. U. Fellmeth of the Archiv der Universität Hohenheim provided information and access to the volumes. N. Back of the Stadtarchiv Filderstadt verified that Jakob Briem was the manufacturer of the cross sections. A. Brünning prepared an inventory of volumes I through X of the library of the Institut für Ökologie, Technische Universität Berlin. The manuscript was improved by the comments of F.-H. Schweingruber, Birmensdorf, S. Poblath, Berlin, and two anonymous reviewers. Finally, I want to thank H.-P. Liebert, Jena, for pointing to Nördlinger's "Cross Sections" as an interesting study topic for wood anatomists.

### REFERENCES

- Bubner, B. 2004. Hermann von Nördlingers Holzquerschnitte: eine Bestandsaufnahme der Bände I–IV der Universitätsbibliothek Jena. *Haussknechtia* 10: 157–168.

- Bubner, B. & N. Back. 2005. Jakob Briem (1824–1890) aus Bernhausen - ein Handwerker im Dienst der Forstwissenschaft. In: Filderstadt und sein Wald. Stadt Filderstadt, Filderstadt: 145–153.
- Graner, F. 1897. Zum Andenken an Oberforstrat Dr. Hermann von Nördlinger. Forstw. Cbl. 19: 291–297.
- Grosser, D. 2001. Neuere Sammlungen aus dem 19. Jahrhundert. In: A. Feuchter-Schawelka, W. Freitag & D. Grosser, Alte Holzsammlungen. Die Ebersberger Holzbibliothek: Vorgänger, Vorbilder und Nachfolger: 132–134. Deutscher Sparkassenverlag, Stuttgart.
- Hauff, D. 1980. Hermann von Nördlinger. In: Landesforstverwaltung Baden-Württemberg. Biographien bedeutender Forstleute aus Baden-Württemberg, Stuttgart: 425–428.
- Hough, R.B. 2002. The wood book. Reprint of *The American Woods* (1888–1913, 1928), plates compiled and researched by K.U. Leistikow & H. Thüs. Taschen, Köln.
- Marcon, H., H. Strecker & G. Randecker. 2004. 200 Jahre Wirtschafts- und Staatswissenschaften an der Eberhard-Karls-Universität Tübingen. Leben und Werk der Professoren. Die Wirtschaftswissenschaftliche Fakultät und ihre Vorgänger (1817–2002) in zwei Bänden. Franz Steiner, Stuttgart.
- Mathieu, A. & H. Nördlinger. 1855. Collection de 60 sections transversales de bois des essences forestières les plus importantes à l'usage des élèves de l'école impériale forestière de Nancy, destinée à accompagner la description des bois des essences forestières les plus importantes. Grimblot et veuve Raybois, Nancy.
- Nördlinger, H. 1850. Anzeige von naturhistorischen Sammlungen für studierende Forst- und Landwirthe. Wbl. L. und Forstw. 2: 215–216.
- Nördlinger, H. 1852–1888. Querschnitte von hundert Holzarten, Volume I to XI. Cotta, Stuttgart.
- Nördlinger, H. 1858, 1884. Fünfzig Querschnitte der in Deutschland wachsenden hauptsächlichsten Bau-, Werk- und Brennholzer – für Forstleute, Techniker und Holzarbeiter. Cotta, Stuttgart, Augsburg.
- Nördlinger, H. 1860. Die technischen Eigenschaften der Hölzer: für Forst- und Baubeamte, Technologen und Gewerbetreibende. Cotta, Stuttgart.
- Nördlinger, H. 1868a. 50 cross sections, with text by Shapranov, in Russian language. St. Petersburg.
- Nördlinger, H. 1868b. *Techniceskija svojstva drevesiny - rukovodstvo dlja lesnicich, inženerov, arhitektorov i drevodelov*. Tipogr. tovariscestva "Obscestvennaja Pol'za", Sankt Petersburg.
- Nördlinger, H. 1872. Les bois employés dans l'industrie. Descriptions accompagnées de cent sections en lames minces des principales essences forestières de la France et de l'Algérie. Rothschild, Paris.
- Nördlinger, H. 1874. Deutsche Forstbotanik oder forstlichbotanische Beschreibung aller deutschen Waldhölzer sowie der häufigeren oder interessanteren Bäume und Sträucher unserer Gärten und Parkanlagen. Band I: Der Baum im Allgemeinen. Cotta, Stuttgart.
- Nördlinger, H. 1876. Deutsche Forstbotanik oder forstlichbotanische Beschreibung aller deutschen Waldhölzer sowie der häufigeren oder interessanteren Bäume und Sträucher unserer Gärten und Parkanlagen. Band II: Die einzelnen Holzarten. Cotta, Stuttgart.
- Nördlinger, H. 1880. Lebensweise von Forstkerfen oder Nachträge zu Ratzeburg's Forstinsekten. 2. vermehrte Auflage. Cotta, Stuttgart.
- Nördlinger, H. 1882? Sections of fifty Indian woods with a descriptive list. For use of students at the Dehra Dun Forest School. Dehra Dun.
- Royal Commission for the Exhibition of 1851. 1852. Reports by the Juries on the subjects in the thirty classes into which the exhibition was divided. William Cloves & Sons, London.

Sanio, C. 1889. Sammlungen. Nördlinger, H., Querschnitte von 100 Holzarten; systematisch-anatomische Beschreibung derselben. Bd. XI. Stuttgart 1888. Bot. Centralbl. 39: 153–159.  
 Wurm, T. 1960. Julius Simon Nördlinger (1771–1860) und Hermann Nördlinger (1818–1897). In: M. Miller & R. Uhland (eds.), Lebensbilder aus Schwaben und Franken: 322–336. Stuttgart.

### Documents consulted at the Cotta-Archiv (part of Deutsches Literaturarchiv Marbach)

Hermann Nördlinger's letters to Cotta 1847–1888 (178 letters).  
 Printer's calculations (Druckereicalculationen) 1855, 1856, 1857, 1858.  
 Handwritten copies of letters from Cotta to authors (Autoren-Copierbuch IV): 8. April 1885–18. Oktober 1886.

### Online resources

The European library: <http://www.theeuropeanlibrary.org/portal/index.html>, last visit 10.01.2008.  
 GBV portal to German library networks: <http://p7.gbv.de>, last visit 10.01.2008.

**Table 3.** Checklist for volumes, I to XI. The content of each volume is listed separately. This checklist is based on the alphabetical index of volume XI of 1888. Printer's errors in assigning volume numbers were corrected by comparing them with the text of the booklets in which the wood section is described. Spelling and capitalization of scientific names are the same as used by Nördlinger in 1888 and often do not correspond to present-day nomenclature. Names in parentheses are synonyms used by Nördlinger.

### Volume I

<i>Abies excelsa</i>	<i>Cornus sanguinea</i>	<i>Paulownia imperialis</i>	<i>Rhamnus frangula</i>
<i>Abies pectinata</i>	<i>Corylus avellana</i>	<i>Pinus cedrus</i>	<i>Rhus cotinus</i>
<i>Acer campestre</i>	<i>Crataegus oxyacantha</i>	( <i>Cedrus libani</i> )	<i>Rhus typhina</i>
<i>Acer dasycarpum</i>	<i>Cytisus alpinus</i>	<i>Pinus cembra</i>	<i>Robinia pseudoacacia</i>
<i>Acer negundo</i>	<i>Cytisus laburnum</i>	<i>Pinus laricio</i> var. <i>austriaca</i>	<i>Salix alba</i>
<i>Acer platanoides</i>	<i>Elaeagnus hortensis</i>	<i>Pinus mughus</i>	<i>Salix caprea</i>
<i>Acer pseudoplatanus</i>	<i>Fagus sylvatica</i>	<i>Pinus strobus</i>	<i>Salix daphnoides</i>
<i>Acer saccharinum</i>	<i>Fraxinus americana</i>	<i>Pinus sylvestris</i>	<i>Salix viminalis</i>
<i>Acer tataricum</i>	<i>Fraxinus excelsior</i>	<i>Platanus acerifolia</i>	<i>Sambucus nigra</i>
<i>Aesculus rubicunda</i>	<i>Fraxinus pubescens</i>	<i>Populus nigra</i>	<i>Sophora japonica</i>
<i>Ailanthus glandulosa</i>	<i>Gingko biloba</i>	<i>Populus tremula</i>	<i>Sorbus aucuparia</i>
<i>Alnus glutinosa</i>	<i>Gleditschia triacanthos</i>	<i>Prunus avium</i>	<i>Sorbus domestica</i>
<i>Alnus incana</i>	<i>Gymnocladus canadensis</i>	<i>Prunus cerasus</i>	<i>Spartium scoparium</i>
<i>Amelanchier botryapium</i>	<i>Hippophaë rhamnoides</i>	<i>Prunus domestica</i>	<i>Spiraea opulifolia</i>
<i>Amorpha fruticosa</i>	<i>Ilex aquifolium</i>	<i>Prunus institia</i>	<i>Syringa vulgaris</i>
<i>Amygdalus communis</i>	<i>Juglans nigra</i>	<i>Prunus mahaleb</i>	<i>Tamarix gallica</i>
<i>Betula alba</i>	<i>Juglans regia</i>	<i>Prunus padus</i>	<i>Taxus baccata</i>
<i>Betula alba</i> Schwarzbirke	<i>Juniperus communis</i>	<i>Prunus spinosa</i>	<i>Tetrapteris acutifolia</i>
<i>Bignonia catalpa</i>	<i>Juniperus virginiana</i>	<i>Prunus virginiana</i>	<i>Thuja orientalis</i>
<i>Carpinus betulus</i>	<i>Koelreuteria paniculata</i>	<i>Ptelea trifoliata</i>	<i>Tilia parvifolia</i>
<i>Castanea vesca</i>	<i>Larix europea</i>	<i>Pyrus communis</i>	<i>Ulmus campestris</i>
<i>Celtis australis</i>	<i>Ligustrum vulgare</i>	<i>Pyrus malus</i>	<i>Ulmus effusa</i>
<i>Celtis crassifolia</i>	<i>Liriodendron tulipifera</i>	<i>Pyrus torminalis</i>	<i>Viburnum opulus</i>
<i>Cercis canadensis</i>	<i>Morus alba</i>	<i>Quercus cerris</i>	<i>Vitis vinifer</i>
<i>Cornus alba</i>	<i>Morus (Broussonetia)</i>	<i>Quercus pedunculata</i>	
<i>Cornus mascula</i>	<i>papyrifera</i>	<i>Rhamnus catharticus</i>	

**Volume II**

<i>Acer monspessulanum</i>	<i>Celastrus scandens</i>	<i>Guazuma ulmifolia</i>	<i>Pyrus nivalis</i>
<i>Acmena floribunda</i>	<i>Cercis siliquastrum</i>	<i>Halesia tetraptera</i>	<i>Pyrus prunifolia</i>
<i>Aegiphila Humboldtii</i>	<i>Chaillietia murciolago</i>	<i>Hamamelis virginica</i>	<i>Pyrus spectabilis</i>
<i>Aesculus hippocastanum</i>	<i>Clavija ornata</i>	<i>Hedera helix</i>	<i>Quercus coccinea</i>
<i>Alnus viridis</i>	<i>Clematis vitalba</i>	<i>Hedera quinquefolia</i>	<i>Quercus macrocarpa</i>
<i>Alseis labatioides</i>	<i>Clethra arborea</i>	<i>Hemitelia integrifolia</i>	<i>Quercus robur</i>
<i>Amelanchier vulgaris</i>	<i>Coffea arabica</i>	<i>Hibiscus syriacus</i>	<i>Rhamnus (Zizyphus) vulgaris</i>
<i>Arbutus andrachne</i>	<i>Coffea laurifolia</i>	<i>Hippocratea viridis</i>	<i>Rhododendron maximum</i>
<i>Aristolochia sipho</i>	<i>Cornus alternifolia</i>	<i>Kalmia latifolia</i>	<i>Ruyschia clusiaeifolia</i>
<i>Aster argophyllus</i>	<i>Corylus rostrata</i>	<i>Laurus benzoin</i>	<i>Salix arbuscula</i>
<i>Azalea calendulacea</i>	<i>Corylus tubulosa</i>	<i>Laurus nobilis</i>	<i>Salix aurita</i>
<i>Azalea nudiflora</i>	<i>Crataegus pyracantha</i>	<i>Liquidambar styraciflua</i>	<i>Salix fragilis</i>
<i>Balanium Karstenianum</i>	<i>Crescentia cujete</i>	<i>Lühea grandiflora</i>	<i>Salix triandra (amygdalina)</i>
<i>Berberis buxifolia</i>	<i>Cydonia vulgaris</i>	<i>Macrocnemum tinctorium</i>	<i>Sambucus canadensis</i>
<i>Berberis vulgaris</i>	<i>Diospyros lotus</i>	<i>Magnolia acuminata</i>	<i>Sambucus racemosa</i>
<i>Betula davurica</i>	<i>Erythroxylon grandifolium</i>	<i>Marcgravia umbellata</i>	<i>Spiraea argentea</i>
<i>Betula populifolia</i>	<i>Evonymus europæus</i>	<i>Mimosa arborea</i>	<i>Sterculia platanifolia</i>
<i>Bignonia apurensis</i>	<i>Ficus carica</i>	<i>Olea europæa</i>	<i>Swartzia pinnata</i>
<i>Brownea grandiceps</i>	<i>Fraxinus lentiscifolia</i>	<i>Philadelphus gordonianus</i>	<i>Triplaris americana</i>
<i>Buxus sempervirens</i>	<i>Fraxinus ornus</i>	<i>Populus alba</i>	<i>Ulmus crenata</i>
<i>Capparis lanceolata</i>	<i>Fraxinus pallida</i>	<i>Populus italica</i>	<i>Viburnum prunifolium</i>
<i>Capparis muricata</i>	<i>Fraxinus Richardi</i>	<i>Punica granatum</i>	<i>Virgilia lutea</i>
<i>Carpinus americana</i>	<i>Genipa caruto</i>	<i>Pyrus aria</i>	<i>Vitis labrusca</i>
<i>Casuarina torulosa</i>	<i>Gleditschia horrida</i>	<i>Pyrus cuneifolia</i>	<i>Xanthoxylon pterota</i>
<i>Caulotretus heterophyllus</i>	<i>Glycine chinensis</i>	<i>Pyrus intermedia (decipiens)</i>	<i>Zygodphyllum arboreum</i>

**Volume III**

<i>Acacia binervata</i>	<i>Ehretia acuminata</i>	<i>Leptospermum arachnoidum</i>	<i>Prunus nigra</i>
<i>Acacia decurrens</i> ( <i>Fabricia levigata</i> )	<i>Elaeocarpus cyaneus</i>	<i>Lonicera iberica</i>	<i>Pyrus coronaria</i>
<i>Acacia umbrosa</i>	<i>Elæodendron australe</i>	<i>Lonicera pyrenaica</i>	<i>Pyrus dioica</i>
<i>Achras australis</i>	<i>Erica arborea</i>	<i>Lonicera tatarica</i>	<i>Quercus cinerea</i>
<i>Andromeda racemosa</i>	<i>Erica scoparia</i>	<i>Melaleuca ericæifolia</i>	<i>Quercus ilex</i>
<i>Arbutus unedo</i>	<i>Eucalyptus corymbosa</i>	<i>Melaleuca styphelioides</i>	<i>Quercus suber</i>
<i>Avicennia tomentosa</i>	<i>Eucalyptus paniculata</i>	<i>Melaleuca uncinata</i>	<i>Rhamnus alaternus</i>
<i>Banksia æmula</i>	<i>Eupomatia laurina</i>	<i>Melaleuca uncinata</i>	<i>Rhamnus dahuricus</i>
<i>Banksia integrifolia</i>	<i>Evonymus latifolius</i>	<i>Melia australasica</i>	<i>Ribes nigrum</i>
<i>Belencita Hageni</i>	<i>Exocarpus cupressiformis</i>	<i>Mespilus germanica</i>	<i>Robinia caragana</i>
<i>Berberis aquifolium</i>	<i>Ficus australis</i>	<i>Metrosideros pallida</i>	<i>Rulingia pannosa</i>
<i>Bumelia buxifolia</i>	<i>Ficus muntia</i>	<i>Monotoca albens</i>	<i>Salix rosmarinifolia</i>
<i>Cargyllia australis</i>	<i>Ficus macrophylla</i>	<i>Mussaenda flavescens</i>	<i>Solanum umbrosum</i>
<i>Carpinus ostrya</i>	<i>Ficus muntia</i>	<i>Myoporum acuminatum</i>	<i>Staphylea pinnata</i>
<i>Casearia rhopalaefolia</i>	<i>Guettarda tomentosa</i>	<i>Myrtus communis</i>	<i>Stenocarpus salignus</i>
<i>Ceratopetalum apetalum</i>	<i>Hakea acicularis</i>	<i>Notelæa ovata</i>	<i>Thuja occidentalis</i>
<i>Ceratopetalum gummiferum</i>	<i>Hakea dactylodes</i>	<i>Persoonia salicina</i>	<i>Tilia argentea</i>
<i>Crataegus crus galli</i>	<i>Homalanthus populifolia</i>	<i>Philadelphus coronarius</i>	<i>Tilia grandifolia</i>
<i>Cryptocarya obovata</i>	<i>Icica macrophylla</i>	<i>Phillyrea stricta</i>	<i>Tristania nerifolia</i>
<i>Cupressus disticha</i> ( <i>Taxodium distichum</i> )	<i>Jacksonia scoparia</i>	<i>Pinus laricio var. corsicana</i>	<i>Trochocarpa laurina</i>
<i>Daphne mezereum</i>	<i>Juglans cinerea</i>	<i>Pinus pinaster</i>	<i>Ulex europæus</i>
<i>Dendrostylis apeibaefolia</i>	<i>Juniperus drupacea</i>	<i>Pinus pinea</i>	<i>Vaccinium frondosum</i>
<i>Doryphora sassafras</i>	<i>Juniperus excelsa</i>	<i>Podocarpus spinulosus</i>	<i>Viburnum lantana</i>
<i>Duboisia myoporoides</i>	<i>Juniperus foetidissima</i>	<i>Populus angulata</i>	<i>Viminaria denudata</i>
	<i>Juniperus oxycedrus</i>	<i>Populus canadensis</i>	<i>Xylomelum pyriforme</i>
	<i>Juniperus rufescens</i>	<i>Populus monilifera</i>	
	<i>Juniperus sabina</i>		

**Volume IV**

<i>Acacia celastrifolia</i>	<i>Citharexylon verticillatum</i>	<i>Hamelia chrysantha</i>	<i>Podocarpus elongatus</i>
<i>Acacia dealbata</i>	<i>Citrus aurantium</i>	<i>Hibiscus heterophyllum</i>	<i>Polyosma Cunninghamii</i>
<i>Acacia falcata</i>	<i>Crataegus coccinea</i>	<i>Hopea suave</i>	<i>Porana volubilis</i>
<i>Acacia juniperina</i>	<i>Crataegus lobata</i>	<i>Inga xylocarpa</i>	<i>Premna pyramidata</i>
<i>Acacia longifolia</i>	<i>Crataegus nigra</i>	<i>Jambosa australis</i>	<i>Proustia pyrifolia</i>
<i>Acacia melanoxylon</i>	<i>Croton elateria</i>	<i>Laurelia aromatica</i>	<i>Prunus brigantiaea</i>
<i>Acacia pycnantha</i>	<i>Cupressus glauca</i>	<i>Laurus carolinensis</i>	<i>Psychotria Hookeri</i>
<i>Acacia tetragona</i>	<i>Cupressus sempervirens</i>	<i>Laurus indica</i>	<i>Rea micrantha</i>
<i>Achras sapota</i>	<i>Cytisus canariensis</i>	<i>Laurus lingu</i>	<i>Rea pinnata</i>
<i>Alnus cordata</i>	<i>Dalbergia sissoo</i>	<i>Leptospermum persiciflorum</i>	<i>Rhizophora mangle</i>
<i>Anona muricata</i>	<i>Daphne caracasana</i>	<i>Leptospermum scoparium</i>	<i>Rhus lucida</i>
<i>Aristolotelia maqui</i>	<i>Duvaua dependens</i>	<i>Libocedrus tetragona</i>	<i>Robinia viscosa</i>
<i>Azara integrifolia</i>	<i>Erica vulgaris</i>	<i>Lippia fruticosa</i>	<i>Royena lucida</i>
<i>Baccharis nereifolia</i>	<i>Evonymus verrucosus</i>	<i>Lomatia dentata</i>	<i>Salix phlycifolia</i>
<i>Balbisia Berteri</i>	<i>Ficus benjamina</i>	<i>Lomatia ferruginea</i>	<i>Saxe-Gothaea conspicua</i>
<i>Buddleia globosa</i>	<i>Garcinia cowa</i>	<i>Lomatia obliqua</i>	<i>Scutia doncella</i>
<i>Callistachys ovata</i>	<i>Gardenia costata</i>	<i>Lonicera xylosteum</i>	<i>Senecio cymosus</i>
<i>Callistemon salignus</i>	<i>Geonoma simplicifrons</i>	<i>Menispermum fenestratum</i>	<i>Senecio denticulatus</i>
<i>Calyptectus acuminatus</i>	<i>Gesneria arborea</i>	<i>Mühlenbeckia sagittifolia</i>	<i>Senecio thurifer</i>
<i>Capparis Humboldtiana</i>	<i>Gmelina arborea</i>	<i>Myrtus trinervia</i>	<i>Sophora microphylla</i>
<i>Cassia speciosa</i>	<i>Grewia microcos</i>	<i>Omphalobium hæmorrhæum</i>	<i>Strychnos toxifera</i>
<i>Casuarina quadrivalvis</i>	<i>Guarea trichilioides</i>	<i>Ovidia pillo-pillo</i>	<i>Tectona grandis</i>
<i>Cedrela toona (australis)</i>	<i>Guettarda melanocarpa</i>	<i>Pinus insignis</i>	<i>Weinmannia glabra</i>
<i>Celastrus nutans</i>	<i>Guevina avellana</i>	<i>Pinus uncinata</i>	<i>Wellingtonia gigantea</i>
<i>Citharexylon elegans</i>	<i>Hakea ruscifolia</i>	<i>Podocarpus chilinus</i>	<i>Zieria lanceolata</i>

**Volume V**

<i>Abies balsamea</i>	<i>Celtis micrantha</i>	<i>Hymenæa courbaril</i>	<i>Nitraria tridentata</i>
<i>Abutilon muticum</i>	<i>Chrysophyllum cainito</i>	<i>Ilex perado</i>	<i>Nuxia verticillata</i>
<i>Acacia Ehrenbergiana</i>	<i>Chrysophyllum viridiflorum</i>	<i>Imbricaria borbonica</i>	<i>Odontoloma acuminatum</i>
<i>Acacia odoratissima</i>	<i>Cissus mappia</i>	<i>Imbricaria petiolaris</i>	<i>Olea chrysohylla</i>
<i>Acacia pterygocarpa</i>	<i>Clematis verticillaris</i>	<i>Karstenia roseo-odora</i>	<i>Olea lancea</i>
<i>Acacia retinodes</i>	<i>Coccoloba uvifera</i>	<i>Lagerstræmia pubescens</i>	<i>Periploca græca</i>
<i>Acacia speciosa</i>	<i>Cocculus laëba</i>	<i>Laurus azorica</i>	<i>Podocarpus nereifolius</i>
<i>Aesculus macrostachya</i>	<i>Colutea arborescens</i>	<i>Laurus camphora</i>	<i>Podocarpus salicifolius</i>
<i>Amyris gileadensis</i>	<i>Coronilla emerus</i>	<i>Laurus cinnamomum</i>	<i>Populus balsamifera</i>
<i>Amyris kataf</i>	<i>Cossinia borbonica</i>	<i>Laurus cupularis</i>	<i>Poupartia borbonica</i>
<i>Antirrhoea (Cunninghamia</i>	<i>Crataegus azarolus</i>	<i>Laurus perseæ</i>	<i>Prunus lusitanica</i>
[sic]) <i>verticillata</i>	<i>Dillenia aurea</i>	<i>Lonicera alpigena</i>	<i>Psathura borbonica</i>
<i>Apollonias canariensis</i>	<i>Diospyros kaki</i>	<i>Mærua uniflora</i>	<i>Rhamnus latifolius</i>
<i>Assonia populnea</i>	<i>Dirca palustris</i>	<i>Mammea americana</i>	<i>Rhamnus saxatilis</i>
<i>Betula lenta</i>	<i>Erica azorica</i>	<i>Mangifera indica</i>	<i>Rhododendron ponticum</i>
<i>Cadaba glandulosa</i>	<i>Eriobotrya japonica</i>	<i>Melia azedarach</i>	<i>Shorea robusta</i>
<i>Cadaba longifolia</i>	<i>Erythroxylon laurifolium</i>	<i>Melicocca bijuga</i>	<i>Sideroxylon borbonicum</i>
<i>Calophyllum tacamahaca</i>	<i>Eugenia buxifolia</i>	<i>Melicocca diversifolia</i>	<i>Sodada decida</i>
<i>Calotropis procera</i>	<i>Eugenia mespiloides</i>	<i>Melicocca oliveformis</i>	<i>Tamarindus indica</i>
<i>Calycanthus floridus</i>	<i>Euphorbia litschi</i>	<i>Mimosa elata</i>	<i>Vaccinium maderense</i>
<i>Carissa xylopicron</i>	<i>Fernelia buxifolia</i>	<i>Momisia lævigata</i>	<i>Viburnum tinus</i>
<i>Carpinus orientalis</i>	<i>Fissilia psittacorum</i>	<i>Muntingia calabura</i>	<i>Vismea dealbata</i>
<i>Cassia Roxburghii</i>	<i>Fitzya patagonica</i>	<i>Myrica faya</i>	<i>Xanthoxylon heterophyllum</i>
<i>Caulotretus scandens</i>	<i>Færdia mauritiana</i>	<i>Myrica gale</i>	
<i>Celastrus oblongifolius</i>	<i>Haronga madagascariensis</i>	<i>Myrsine retusa</i>	
<i>Celastrus undulatus</i>	<i>Hernandia ovigera</i>	<i>Myrtus jambosa</i>	



## Volume VI

<i>Acacia homalophylla</i>	<i>Ephedra fragilis</i>	<i>Maba geminata</i>	<i>Quercus castaneaeifolia</i>
<i>Acacia mucronata</i>	<i>Eucalyptus globulus</i>	<i>Maba obovata</i>	<i>Quercus lusitanica</i> (Mirbecki)
<i>Acer opulifolium</i>	<i>Eucalyptus rostrata</i>	<i>Melaleuca parviflora</i>	<i>Quercus rubra</i>
<i>Atherosperma moschatum</i>	<i>Euphorbia dendroides</i>	<i>Melaleuca Wilsonii</i>	<i>Quercus tozza</i>
<i>Balanites aegyptiaca</i>	<i>Euroschinus falcatus</i>	<i>Melia azadirachta</i>	<i>Randia hondurensis</i>
<i>Baloghia lucida</i>	<i>Ficus sycomorus</i>	<i>Morus nigra</i>	<i>Rhamnus vitiensis</i>
<i>Bauhinia reticulata</i>	<i>Flindersia Bennettiana</i>	<i>Mussaenda speciosa</i>	<i>Rhodotypos kerrioides</i>
<i>Bignonia radicans</i>	<i>Forsythia suspensa</i>	<i>Myoporum insulare</i>	<i>Rhus coriaria</i>
<i>Canarium australianum</i>	<i>Freylinia lanceolata</i>	<i>Myoporum laetum</i>	<i>Rhus rhodanthemum</i>
<i>Casuarina suberosa</i>	<i>Guajacum officinale</i>	<i>Myrodendrum amplexicaule</i>	<i>Rosmarinus officinalis</i>
<i>Ceanothus thyrsiflorus</i>	<i>Hakea suaveolens</i>	<i>Myrsine variabilis</i>	<i>Sapindus saponaria</i>
<i>Celastrus Cunninghamii</i>	<i>Hirtella hirsuta</i>	<i>Nephelium leiocarpum</i>	<i>Sarcocephalus cordatus</i>
<i>Cistus monspeliensis</i>	<i>Hypericum balearicum</i>	<i>Notelaea ligustrina</i>	<i>Senecio Bedfordii</i>
<i>Corylus colurna</i>	<i>Icica decandra</i>	<i>Ochradenus baccatus</i>	<i>Sersalisia laurifolia</i>
<i>Couma guianensis</i>	<i>Inga saman</i>	<i>Oylobium callistachys</i>	<i>Solanum dulcamara</i>
<i>Cupania anacardioides</i>	<i>Inula viscosa</i>	<i>Panax elegans</i>	<i>Solanum sodomæum</i>
<i>Cupania pseudorhus</i>	<i>Jacquinia armillaris</i>	<i>Panax Murrayi</i>	<i>Strychnos brachiata</i> (hachensis)
<i>Daphne gnidium</i>	<i>Juglans alba</i>	<i>Pinus halepensis</i>	<i>Tamarix articulata</i>
<b><i>Dasyneuma glabrum</i></b>	<i>Juglans amara</i>	<i>Piper celtidifolium</i>	<i>Tamarix germanica</i>
<i>Dialesta discolor</i>	<i>Khaya senegalensis</i>	<i>Pistacia atlantica</i>	<i>Thuja articulata</i> (Callitris quadrialvis)
<i>Dicorenia paraensis</i>	<i>Lecythis longifolia</i>	<i>Pistacia lentiscus</i>	<i>Thuja cupressiformis</i>
<i>Diospyros virginiana</i>	<i>Leucopogon Richei</i>	<i>Pittosporum bicolor</i>	<i>Vitex melicopea</i>
<i>Diploglottis australis</i>	<i>Ligusticum toluicense</i>	<i>Pourouma sapida</i>	
<i>Dysoxylon rufum</i>	<i>Lobelia caoutschouk</i>	<i>Prinos verticillatus</i>	
<i>Engelia tovarensis</i>	<i>Lomatia Fraseri</i>	<i>Psidium pyriferum</i>	
<i>Eperua falcata</i>	<i>Loranthus europæus</i>	<i>Pterocarpus suberosus</i>	

## Volume VII

<i>Abies alba</i>	<i>Diospyros tomentosa</i>	<i>Maclura aurantiaca</i>	<i>Podocarpus Thunbergii</i>
<i>Abies Smithiana</i>	<i>Eckebergia capensis</i>	<i>Macrozamia Preissii</i>	<i>Ptaeroxylon utile</i>
<i>Abies Webbiana</i>	<i>Elæodendron croceum</i>	<i>Melicocca trijuga</i>	<i>Quercus dilatata</i>
<i>Anona triloba</i>	<i>Escallonia montevidensis</i>	<i>Mimusops obovata</i>	<i>Quercus incana</i>
<i>Aralia crassifolia</i>	<i>Euclea lanceolata</i>	<i>Moschoxylon multiflorum</i>	<i>Rhus lævigata</i>
<i>Aralia spinosa</i>	<i>Eugenia jambolana</i>	<i>Myrsine melanophleas</i>	<i>Rhus toxicodendron</i>
<i>Araucaria imbricata</i>	<i>Euphorbia mellifera</i>	<i>Myrtus caryophyllata</i>	<i>Ribes alpinum</i>
<i>Atherstonia decussata</i>	<i>Evonymus japonicus</i>	<i>Myrtus melastomoides</i>	<i>Royena pubescens</i>
<i>Boldea fragrans</i>	<i>Fontanesia phylliræoides</i>	<i>Mystroxyton kubu</i>	<i>Salix pentandra</i>
<i>Bumelia tenax</i>	<i>Gardenia thunbergia</i>	<i>Nandina domestica</i>	<i>Schotia latifolia</i>
<i>Bupleurum fruticosum</i>	<i>Gonioma kamassi</i>	<i>Nauclea cordifolia</i>	<i>Scutia Commersonii</i>
<i>Burchellia capensis</i>	<i>Halleria elliptica</i>	<i>Nauclea parvifolia</i>	<i>Sideroxylon inermis</i>
<i>Calodendron capense</i>	<i>Harpephyllum caffrum</i>	<i>Nectandra reflexa</i>	<i>Styrax officinale</i>
<i>Capparis albitrunca</i>	<i>Hartogia capensis</i>	<i>Nuxia floribunda</i>	<i>Suaeda fruticosa</i>
<i>Capparis triphylla</i>	<i>Hippobromus alatus</i>	<i>Ochna arborea</i>	<i>Sycomorus capensis</i>
<i>Celastrus acuminatus</i>	<i>Holarrhena antidysenterica</i>	<i>Olea foveolata</i>	<i>Tarchonanthus camphoratus</i>
<i>Celastrus rostratus</i>	<i>Homalium vitiense</i>	<i>Olea laurifolia</i>	<i>Tarrietia argyrodendron</i>
<i>Celastrus variabilis</i>	<i>Hovenia dulcis</i>	<i>Olea verrucosa</i>	<i>Taxodium sempervirens</i>
<i>Celtis rhamnifolia</i>	<i>Hypericum kalmianum</i>	<i>Olinia capensis</i>	<i>Toddalia lanceolata</i>
<i>Ceratonia siliqua</i>	<i>Jasminum officinale</i>	<i>Owenia venosa</i>	<i>Virgilia capensis</i>
<i>Cestrum parqui</i>	<i>Jasminum revolutum</i>	<i>Phoberos Ecklonii</i>	<i>Vitex agnus castus</i>
<i>Cinchona condaminea</i>	<i>Kiggelaria africana</i>	<i>Phoberos Zeyheri</i>	<i>Weinmannia trifoliata</i>
<i>Canonia capensis</i>	<i>Lagerstræmia indica</i>	<i>Picconia excelsa</i>	<i>Xanthoxylon capense</i>
<i>Curtisia faginea</i>	<i>Laurus bullata</i>	<i>Pinus longifolia</i>	<i>Xanthoxylon fraxineum</i>
<i>Dalbergia latifolia</i>	<i>Lilhea parvifolia</i>	<i>Plectronia Mundtiana</i>	<i>Zizyphus mucronata</i>

**Volume VIII**

<i>Acacia verek</i>	<i>Cornus capitata</i>	<i>Lonicera quinquelocularis</i>	<i>Rhamnus triquetrus</i>
<i>Acer casium</i>	<i>Cotoneaster acuminata</i>	<i>Melanorrhöa usitatissima</i>	<i>Rhamnus virgatus</i>
<i>Acer Campbelli</i>	<i>Cotoneaster bacillaris</i>	<i>Meliosma dilleniaefolia</i>	<i>Rhododendron arboreum</i>
<i>Acer caudatum</i>	<i>Cotoneaster tomentosus</i>	<i>Michelia champaca</i>	<i>Ribes sanguineum</i>
<i>Acer pictum</i>	<i>Cupania Cunninghami</i>	<i>Michelia excelsa</i>	<i>Robinsonia thurifera</i>
<i>Acer striatum</i>	<i>Cupressus californica</i>	<i>Nicotiana glauca</i>	<i>Rosa macrophylla</i>
<i>Acer villosum</i>	<i>Cupressus lambertiana</i>	<i>Nyssa aquatica</i>	<i>Salix grandifolia</i>
<i>Allamanda cathartica</i>	<i>Cupressus thyoides</i>	<i>Olmedia rigida</i>	<i>Salix hastata</i>
<i>Alstonia theäiformis</i>	<i>Dalbergia ougeirensis</i>	<i>Oyedea verbesinoides</i>	<i>Salix purpurea</i>
<i>Araucaria Cunninghami</i>	<i>Datura arborea</i>	<i>Parkinsonia aculeata</i>	<i>Schinus molle</i>
<i>Aristolochia bilabiata</i>	<i>Dipterocarpus alatus</i>	<i>Passiflora emarginata</i>	<i>Stillingia divaricata</i>
<i>Avicennia nitida</i>	<i>Dipterocarpus grandiflorus</i>	<i>Philadelphus umbellatus</i>	<i>Stillingia sebifera</i>
<i>Banksia serrata</i>	<i>Dracena australis</i>	<i>Phönix dactylifera</i>	<i>Symplocos cratägoides</i>
<i>Bignonia capreolata</i>	<i>Ficus elastica</i>	<i>Pinus australis</i>	<i>Syringa chinensis</i>
<i>Boswellia thurifera</i>	<i>Ficus glomerata</i>	<i>Pinus excelsa</i>	<i>Syringa Emodi</i>
<i>Camellia japonica</i>	<i>Grevillea mimosoides</i>	<i>Pinus mitis</i>	<i>Syringa persica</i>
<i>Cassia fistula</i>	<i>Guettarda karsteniana</i>	<i>Pittosporum undulatum</i>	<i>Taxodium adscendens</i>
<i>Casuarina stricta</i>	<i>Hæmatoxylon brasiletto</i>	<i>Poinciana Göllesii</i>	<i>Terminalia bellerica</i>
<i>Cestrum diurnum</i>	<i>Halleria lucida</i>	<i>Prinsepia utilis</i>	<i>Terminalia chebula</i>
<i>Cinchona corymbosa</i>	<i>Jatropha manihot</i>	<i>Prosopis spicigera</i>	<i>Terminalia tomentosa</i>
<i>Cinchona prismatostylis</i>	<i>Juglans myristicæformis</i>	<i>Prostanthera lasianthus</i>	<i>Theobroma cacao</i>
<i>Cissampelos pareira</i>	<i>Juglans pterocarpa</i>	<i>Pyrus chamæmepilus</i>	<i>Tournefortia glabra</i>
<i>Colmeira buxifolia</i>	<i>Kadsura grandiflora</i>	<i>Quercus annulata</i>	<i>Tournefortia hirsutissima</i>
<i>Comyza glutinosa</i>	<i>Leucadendron argenteum</i>	<i>Quercus lamellosa</i>	<i>Trichocladus crinitus</i>
<i>Coriaria myrtifolia</i>	<i>Lonicera angustifolia</i>	<i>Quercus semicarpifolia</i>	<i>Ulmus integrifolia</i>

**Volume IX**

<i>Abies firma</i>	<i>Briedelia tomentosa</i>	<i>Euphoria longan</i>	<i>Odina wodier</i>
<i>Abies Fraseri</i>	<i>Bucklandia populnea</i>	<i>Evonymus lacerus</i>	<i>Olea fragrans</i>
<i>Abies tsuga</i>	<i>Buddleia salviafolia</i>	<i>Evonymus Sieboldianus</i>	<i>Olmediopsis obliqua</i>
<i>Abroma fastuosa</i>	<i>Busbeckia arborea</i>	<i>Feronia elephantum</i>	<i>Ougenia dalbergioides</i>
<i>Acacia angico</i>	<i>Byrsonnia ferruginea</i>	<i>Ficus regia</i>	<i>Peskia scandens</i>
<i>Acacia calamifolia</i>	<i>Callistemon lanceolatus</i>	<i>Ficus religiosa</i>	<i>Phellodendron amurense</i>
<i>Acacia catechu</i>	<i>Calophyllum inophyllum</i>	<i>Flacourtia cataphracta</i>	<i>Phæbe lanceolata</i>
<i>Acacia eburnea</i>	<i>Camphora officinalis</i>	<i>Gardenia Rothmannia</i>	<i>Rhus Thunbergii</i>
<i>Acacia lebbek</i>	<i>Capparis aphylla</i>	<i>Garuga pinnata</i>	<i>Spartium junceum</i>
<i>Acer laevigatum</i>	<i>Castanea indica</i>	<i>Geijeria salicifolia</i>	<i>Terminalia macrocarpa</i>
<i>Acer polymorphum</i>	<i>Cedrela serrata</i>	<i>Grumilea cymosa</i>	<i>Terminalia oblongata</i>
<i>Achras Pohlmaniana</i>	<i>Celastrus rhombifolius</i>	<i>Heterophragma adenopylla</i>	<i>Terminalia Thezetti</i>
<i>Acrocarpus fraxinifolius</i>	<i>Chilianthus arboreus</i>	<i>Hibiscus mutabilis</i>	<i>Vitis himalayana</i>
<i>Actinidia arguta</i>	<i>Conocarpus latifolius</i>	<i>Hopea odorata</i>	<i>Tetranthera monopetala</i>
<i>Adenocarpus decorticans</i>	<i>Cytisus sessilifolius</i>	<i>Hymenodictyon excelsum</i>	<i>Ulmus Wallichiana</i>
<i>Adina cordifolia</i>	<i>Dillenia speciosa</i>	<i>Hymenodictyon thyrsiflorum</i>	<i>Urostigma natalense</i>
<i>Aegle marmelos</i>	<i>Diospyros melanoxylon</i>	<i>Ilex integra</i>	<i>Urtica rugulosa</i>
<i>Aesculus indica</i>	<i>Diospyros montana</i>	<i>Laurus glandulifera</i>	<i>Uvaria badajamba</i>
<i>Aesculus pavia</i>	<i>Drimys chilensis</i>	<i>Laurus obtusifolia</i>	<i>Viburnum cotinifolium</i>
<i>Ailanthus imberbiflora</i>	<i>Dulongia acuminata</i>	<i>Lebidieropsis orbicularis</i>	<i>Vitex leucoxylo</i>
<i>Alnus firma</i>	<i>Dysoxylon binectariferum</i>	<i>Ligustrum ibota</i>	<i>Vitis himalayana</i>
<i>Alnus maritima</i>	<i>Engelhardtia spicata</i>	<i>Liquidambar altingiana</i>	<i>Wendlandia excelsa</i>
<i>Bignonia glabrata</i>	<i>Eriolena Candollei</i>	<i>Lonicera coerulea</i>	<i>Wigandia caracasana</i>
<i>Bignonia incarnata</i>	<i>Eugenia operculata</i>	<i>Ochroma lagopus</i>	<i>Xanthoxylon brachyacanthum</i>
<i>Brexia spinosa</i>	<i>Eugenia praecox</i>	<i>Ochrosia Kilneri</i>	<i>Xylia dolabriformis</i>

**Volume X**

<i>Abies pinsapo</i>	<i>Carapa guianensis</i>	<i>Dysoxylon Hamiltonii</i>	<i>Podocarpus bracteatus</i>
<i>Alnus ferruginea</i>	<i>Careya arborea</i>	<i>Echinocarpus dasycaarpus</i>	<i>Pongamia glabra</i>
<i>Alphitonia excelsa</i>	<i>Casearia glomerata</i>	<i>Ehretia Wallichiana</i>	<i>Pterocarpus marsupium</i>
<i>Alstonia scholaris</i>	<i>Casearia graveolens</i>	<i>Eleocharis lanceaefolia</i>	<i>Pterospermum suberifolium</i>
<i>Amoora spectabilis</i>	<i>Castanopsis rufescens</i>	<i>Fagus obliqua</i>	<i>Putranjiva Roxburghii</i>
<i>Aniba guianensis</i>	<i>Celtis occidentalis</i>	<i>Genista pilosa</i>	<i>Quercus lanceaefolia</i>
<i>Anogeissus latifolia</i>	<i>Chamaecyparis obtusa</i>	<i>Gordonia Wallichii</i>	<i>Quercus lappacea</i>
<i>Anthocephalus cadamba</i>	<i>Chikrassia tabularis</i>	<i>Ilex theaefolia</i>	<i>Rhus succedanea</i>
<i>Aphananthe aspera</i>	<i>Cinchona micrantha</i>	<i>Isonandra polyantha</i>	<i>Saccopetalum tomentosum</i>
<i>Araucaria excelsa</i>	<i>Cinchona officinalis</i>	<i>Juglans mandshurica</i>	<i>Sageratia Brandrethiana</i>
<i>Artocarpus chaplasha</i>	<i>Cinchona succirubra</i>	<i>Kalopanax ricinifolia</i>	<i>Salix japonica</i>
<i>Artocarpus hirsuta</i>	<i>Cistus salvifolius</i>	<i>Lagerstræmia lanceolata</i>	<i>Salix tetrasperma</i>
<i>Artocarpus mollis</i>	<i>Citrus trifoliata</i>	<i>Lagerstræmia parvifolia</i>	<i>Salvadora oleoides</i>
<i>Barringtonia acutangula</i>	<i>Cleverya japonica</i>	<i>Lagerstræmia reginae</i>	<i>Sapindus Mucorossi</i>
<i>Bassia latifolia</i>	<i>Cælospermum reticulatum</i>	<i>Lagerstræmia tomentosa</i>	<i>Schima Wallichii</i>
<i>Bauhinia frutescens</i>	<i>Copaifera officinalis</i>	<i>Lophopetalum Wightianum</i>	<i>Schrebera swietenoides</i>
<i>Bauhinia purpurea</i>	<i>Cordia fragrantissima</i>	<i>Machilus odoratissima</i>	<i>Sesbania ægyptiaca</i>
<i>Bauhinia retusa</i>	<i>Cordia myxa</i>	<i>Melia japonica</i>	<i>Sonneratia acida</i>
<i>Befaria glauca</i>	<i>Crataeva religiosa</i>	<i>Miliusa velutina</i>	<i>Stephegyna parvifolia</i>
<i>Beilschmiedia Roxburghiana</i>	<i>Croton argyratum</i>	<i>Morus indica</i>	<i>Streblus asper</i>
<i>Bischoffia javanica</i>	<i>Cryptomeria japonica</i>	<i>Phillyrea media</i>	<i>Swietenia mahagoni</i>
<i>Brachypteris chrysophylla</i>	<i>Cupressus funebris</i>	<i>Phyllanthus bicolor</i>	<i>Thuja dolabrata</i>
<i>Calophyllum tomentosum</i>	<i>Cupressus Lawsoniana</i>	<i>Phyllanthus emblica</i>	<i>Thuja gigantea</i>
<i>Capparis grandis</i>	<i>Cupressus torulosa</i>	<i>Pinus Merkusii</i>	<i>Ulmus acuminata</i>
<i>Carallia integerrima</i>	<i>Daphniphylopsis capitata</i>	<i>Pistacia integerrima</i>	<i>Vateria indica</i>

**Volume XI**

<i>Abies canadensis</i>	<i>Celastrus senegalensis</i>	<i>Excocaria Dallachyana</i>	<i>Mesua ferrea</i>
<i>Abies Douglasii</i>	<i>Chimonanthes (Calycanthus) praecox</i>	<i>Exocarpus striata</i>	<i>Metrosideros corymbosa</i>
<i>Acacia arabica</i>	<i>Chionanthes virginica</i>	<i>Exochorda grandiflora</i>	<i>Mimusops Kummel</i>
<i>Acacia heterophylla</i>	<i>Chloroxylon swietenia</i>	<i>Fagus Cunninghamii</i>	<i>Oxyris abyssinica</i>
<i>Acacia procera</i>	<i>Citrus limonium</i>	<i>Ficus bengalensis</i>	<i>Ostegia integrifolia</i>
<i>Acacia salicina</i>	<i>Citrus medica</i>	<i>Ficus radicans</i>	<i>Poinciana elata</i>
<i>Acacia spirocarpa</i>	<i>Citrus nobilis</i>	<i>Ficus scabra</i>	<i>Pomaderris apetala</i>
<i>Acacia verugera</i>	<i>Citrus vulgaris</i>	<i>Flindersia maculosa</i>	<i>Populus euphratica</i>
<i>Angophora intermedia</i>	<i>Clusia abyssinica</i>	<i>Grevillea robusta</i>	<i>Potentilla fruticosa</i>
<i>Araucaria brasiliensis</i>	<i>Coprosma microphylla</i>	<i>Grewia ferruginea</i>	<i>Quercus rugata</i>
<i>Arbutus longifolia</i>	<i>Cordia africana</i>	<i>Hardwickia binata</i>	<i>Rhamnus (Zizyphus) jujuba</i>
<i>Arduina edulis</i>	<i>Croton macrostachys</i>	<i>Hedycarya Cunninghamii</i>	<i>Rhus glutinosa</i>
<i>Aster stellulatus</i>	<i>Dacrydium Franklinii</i>	<i>Helicia præalta</i>	<i>Ruprechtia corylifolia</i>
<i>Bauhinia Carronii</i>	<i>Dillenia indica</i>	<i>Heritiera littoralis</i>	<i>Salix Humboldtiana</i>
<i>Berbera ferruginea</i>	<i>Diospyros mespiliformis</i>	<i>Heteromorpha arborescens</i>	<i>Salvadora persica</i>
<i>Berchemia volubilis</i>	<i>Dipterocarpus tuberculatus</i>	<i>Hibiscus Patersonius</i>	<i>Santalum album</i>
<i>Bombax malabaricum</i>	<i>Dombeya Bruceana</i>	<i>Hormogyne cotinifolia</i>	<i>Solanum jasminoides</i>
<i>Bursaria spinosa</i>	<i>Elæagnus parvifolia</i>	<i>Ilex dahoon</i>	<i>Solanum pseudocapsicum</i>
<i>Cadaba farinosa</i>	<i>Eremophila Mitchelli</i>	<i>Indigofera argentea</i>	<i>Tamarix nilotica</i>
<i>Casalpina praecox</i>	<i>Eucalyptus macrorhyncha</i>	<i>Juniperus phœnicea</i>	<i>Trichilia emetica</i>
<i>Callistemon speciosum</i>	<i>Eucalyptus pauciflora (coriacea)</i>	<i>Lomatia ilicifolia</i>	<i>Vaccinium myrtillus</i>
<i>Cantua dependens</i>	<i>Eucalyptus robusta</i>	<i>Maba fasciculosa</i>	<i>Vaccinium uliginosum</i>
<i>Capparis galeata</i>	<i>Eucalyptus rudis</i>	<i>Macadamia ternifolia</i>	<i>Viburnum lentago</i>
<i>Cedrus atlantica</i>	<i>Eucalyptus Stuartiana</i>	<i>Magnolia grandiflora</i>	<i>Visiana paniculata</i>
<i>Cedrus deodora</i>		<i>Magnolia obovata</i>	
<i>Celastrus luteolus</i>		<i>Marlea vitiensis</i>	