

Coelogyne pandurata, the Xenia Orchidacea and Heinrich Gustav REICHENBACH

Coelogyne pandurata Lindley, *Gardeners' Chronicle* :791.1853

Coelogyne peltastes var. *unguiculata* J.J.Smith, *Mitteilungen aus dem Institut für Allgemeine Botanik in Hamburg* 7:33 & t.5(fig.23), 1927

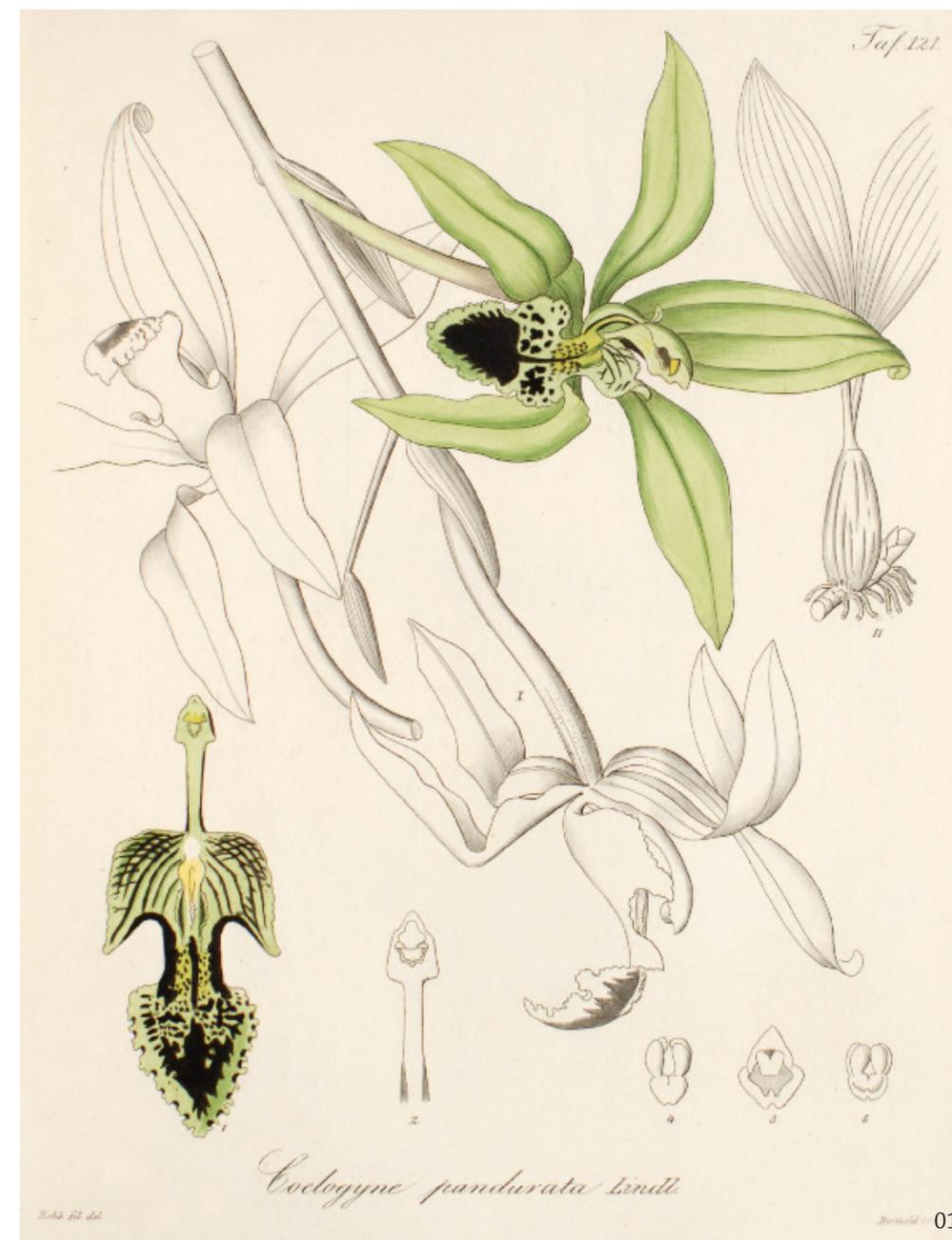
Pleione pandurata (Lindley) O.Kuntze, *Revisio Genera Plantarum* 2:680.1891

Heinrich Gustav REICHENBACH was born on 3rd January 1823 in Dresden, Germany. His father Heinrich Gottlieb Ludwig REICHENBACH was a botanist and so it was no surprise that his son inherited his love of plants. The first publication by young REICHENBACH was in 1851 „Tentamen Orchidographiae Europaeae“ and it made clear that his special love was for and would remain orchids. This publication was the first in a series about the flora of Europe, published by his father, Heinrich Gustav which added more than 1,500 drawings of different plant species to the immense work. In 1852 young REICHENBACH finished the dissertation for his PhD „De Pollinibus Orchidearum genesis ac structura et de Orchideis in artem et systema redigendis“. From 1848 to 1853 he was assistant professor of natural history at the Forestry College in Tharandt and from 1852 to 1855 lecturer at the University of Leipzig. In 1855 he became professor extraordinary of botany and curator of the herbarium in Leipzig. From 1860 until his death in 1889 he published an immense number of new orchid species, a large part of them in the famous “Gardeners’ Chronicle”. The descriptions were in most cases short and often not very exact, the accompanying texts were written in his typical, often enthusiastic and also ironic style. In 1863 he was elected as director of the Botanical Garden Hamburg. He was very disappointed that he never got the call as professor for botany to one of the important German universities. One of the reasons for this was most probably his unusual character – he was not an easy-going person and was notorious for his sharp tongue and sarcasm. Although he couldn’t stand criticism of his own work and opinions, he was convinced he was in a position to criticize very directly and openly the supposed mistakes of others. He also

had a rather arrogant manner, which is visible in many of his letters to other botanists or gardeners. Once he wrote to Frederick SANDER: “Your letter belongs to the greatest pleasure of my life, in general I hate long letters, but yours are different”. Another example is his letter to REGNELL concerning the intention of Joao BARBOSA-RODRIGUES to write an orchid-flora of Brasil – REICHENBACH wrote on 22nd March 1877: “My dear Dr. Regnell, The object of my present letter is to talk you about Mr. Barbosa Rodrigues. I am happy to say that his researches are fine and as things stand we could be mutually helpful to one another. If he himself publishes his Orchids half of them will already be known and he could avoid this duplication by bringing to Europe the types of his new discoveries and thus none could gainsay him. It is known to be impossible to produce a perfect work outside Europe – however except Dr. Asa Gray as far as the flora of the United States is concerned. The botanists of India were themselves unable to accomplish this and therefore Dr. Tivaitis completed his work with the help of Dr. Hooker and myself. Please draw the attention of your friend to these facts and tell him that I offer to publish his new discoveries under our joint authorship. He could thus be certain of taking a step forwards which he could never make alone. Please let me know immediately his decision and advise him of my respect for a fellow plant lover.” REICHENBACH was convinced that he was the only one with a clear idea about the whole orchid family, he was the first with the “illness“ later called the “Reichenbach syndrome”, a problem many orchidists had long after REICHENBACH. He always had problems in accepting that anyone else could have a different opinion or could be the first in describing a showy new species. After LINDLEY,

REICHENBACH was without doubt the leading orchidist of his time, and also the only one. Many of the owners of orchid collections in Europe, both amateur and professional, sent him material for determination. REICHENBACH also kept in contact with many professional collectors all around the world, sometimes even without the knowledge of their employers (which occasionally led to conflicts). Besides his regular publications in “Gardeners’ Chronicle”, REICHENBACH published articles in many other journals, he also wrote many of the texts of SANDER’s famous “Reichenbachia”.

Heinrich Gustav REICHENBACH died on 6th May in 1889. In his last will he wrote that his collections should: “... be sealed up for twenty-five years, in order that the inevitable destruction of the costly collection, resulting from the present craze for Orchids, may be avoided.” Following his will, the whole collection was offered first to the Museum of Natural History (Hofmuseum) in Vienna and then to the Botanical Garden Uppsala, Sweden, the Gray Herbarium in Harvard,



01 Drawing of *Coelogyne pandurata* from *Xenia Orchidacea*, 1863

USA, and the Jardin des Plantes in Paris. The Natural History Museum in Vienna accepted REICHENBACH’s conditions and obtained the collection, which was then locked up for 25 years (until 1914). One of the reasons for this behaviour was the fact, that (especially English) orchidists started to question REICHENBACH’s leadership concerning systematics and taxonomy of the *Orchidaceae* and that he wanted to avoid his material going to Kew. Another reason was probably the fact that he was well aware of the presence of material in his collection which shouldn’t have been there – material he had on loan and had never returned or material he had taken from specimens in

other herbaria. His orchid herbarium was a collection of more or less unorganised dried plant parts, hand notes, copies of printed illustrations and articles, letters and his own sketches and drawings. After the final mounting in Vienna the herbarium had about 42,000 sheets with 70,000 orchids; his library filled 33 large crates. One of the results of this decision was that orchidists like J.J.SMITH, Oakes AMES, Rudolf SCHLECHTER and many others had no opportunity of comparing newly collected material with the type material in the REICHENBACH herbarium. REICHENBACH's descriptions had often been short, not at all precise and rarely accompanied by drawings, therefore any newly-described species could well have been named previously, this inevitably resulted in a great number of synonyms.

As explained above, Heinrich Gustav REICHENBACH

published a very large number of articles about *Orchidaceae* in several journals, but his main work was "Xenia Orchidacea". Three volumes were published, each in 10 sections with text and 10 plates. Vol.1 was published from April 1854 to October 1858, Vol.2 from April 1862 to December 1874 and Vol.3 from May 1878 to February 1900. After REICHENBACH's death in 1889, parts 4 to 10 of volume 3 were published by Friedrich Wilhelm Ludwig KRAENZLIN between December 1890 and February 1900. Not all of the illustrations were coloured and some were only partly coloured and their quality varied considerably; most are by REICHENBACH himself, but others are by GIREOUD, WENDLAND and KRAENZLIN.

Friedrich A.H. GIREOUD received his education as

a gardener at Kew then in the VEITCH nursery, in 1862 he became head gardener to the Duke of SAGAN (Silesia, Prussia), later garden-inspector and ducal garden-director, *Brassia gireoudiana* was dedicated to him by REICHENBACH. Hermann WENDLAND (1835 – 1903) was head gardener at the Herrenhäuser Gärten in Hannover and one of REICHENBACH's oldest friends. He was very interested in orchids and had collected in Costa Rica, he regularly sent REICHENBACH both dried and fresh material from the large collection at Herrenhausen, he also made some drawings, first for REICHENBACH and then for KRAENZLIN which were used in "Xenia Orchidacea".

REICHENBACH published the first part of the first volume in April 1854, two years after he got his PhD and one year before he became professor extraordinary and keeper of the herbarium in Leipzig. He dedicated the first volume to His Majesty, King Johann of Saxonia,

02 Drawing of *Coelogyne pandurata* from Reichenbachia, 1894

03 Drawing of *Coelogyne pandurata* from Flore des Serres, 1874



the first plate showing *Epistephium friederici-augusti* and was dedicated to King Friedrich August of Saxonia. The plant had been collected by Josef von WARSCIEWICZ whose name is mentioned as co-author in the description, and who also executed the drawing. In the foreword REICHENBACH mentioned all those persons who had helped him with dried material, fresh flowers and information – a long list which included all the famous names in the orchid world of that time. REICHENBACH's comment about his relationship with John LINDLEY in Kew is quite interesting, he wrote (in translation): “An intensive exchange with Mr. Lindley, who worked alone with the Orchids for such a long time, had the result that during my several visits he allowed me to use his collection of dried material and drawings, fruit of 40 years of work.” and: “Scientific disputes between Lindley – my teacher – and myself ended in favour of the one with the better material – in the interest of science we always exchanged all available material and we never tried to hide any errors”. This was most probably true for LINDLEY, but certainly not always true for



REICHENBACH – there are a number of instances where he failed to share information and material with LINDLEY, and in general, he was not interested in helping others, other than with comment or criticism. In the same foreword REICHENBACH also announced his “Genera Orchidearum” and “Species Orchidearum”, a task he never completed. He described his “Xenia Orchidacea” as a preliminary account of a general publication about orchids – the planned “Genera Orchidearum” and “Species Orchidearum”. The first volume of “Xenia Orchidacea” included the monographic

04
Drawing of
*Coelogyne
pandurata* from
Orchid Album,
1883
05
Drawing of
*Coelogyne
pandurata* from
Lindenia, 1887





06 Drawing of *Coelogyne pandurata* by John DAY from his Scrap Books, 1884
(with the kind permission of the Director and Trustees of the Royal Botanic Gardens, Kew)

07 Drawing of *Coelogyne pandurata* from Dictionnaire Iconographique des Orchidées, 1903

treatment of 38 genera, the descriptions of 320 species and drawings of 195 of them. In his foreword to the second volume, REICHENBACH published a barely adequate obituary of John LINDLEY who died on 1st November, 1865. The foreword of the third part of "Xenia Orchidacea" was written by KRAENZLIN in November 1899, ten years after the death of REICHENBACH. KRAENZLIN praised the style of REICHENBACH's descriptions as being very detailed – a judgment which is certainly not true for many of REICHENBACH's first descriptions, especially not for the majority of those published in "Gardeners' Chronicle". The first plate in the last delivery of the "Xenia Orchidacea" shows *Epistephium regis-alberti*, a species from New Caledonia, certainly not belonging to the genus *Epistephium* but a most suitable way to end REICHENBACH's work almost

50 years after the publication of its first part with *Epistephium frederici-augusti* in 1854.

Coelogyne pandurata was described in 1853 by John LINDLEY in "Gardeners' Chronicle". The plant he used for the first description was from the nursery of LODDIGES in Hackney, London. Sir Hugh LOW had collected the species in 1852 in Sarawak and had sent it to his family's nursery in England. After LINDLEY's description the plant caused great attention in the orchid communities in both England and continental Europe. Illustrations of the famous "black Orchid" were published in many of the important orchid publications like "Curtis's Botanical Magazine" by HOOKER in 1858, in "Xenia Orchidacea" in 1863, by Louis van HOUTTE in "Flore des Serres" in 1874, in WARNER and WILLIAMS' "Orchid



Album" in 1883, in "Lindenia" with a plate from E.de PANNEMAEKER in 1887, in SANDER's "Reichenbachia" in 1894 and in COGNIAUX' "Dictionnaire Iconographique des Orchidées" in 1903. John DAY was also fascinated by the species as we find a first drawing of *Coelogyne pandurata* in his "Scrap Books", dated from April 1867 and made from the plant imported by the LOW nursery and flowered in the collection of James BATEMAN. A second drawing by John DAY is dated 4th July 1884 and was made from a plant in the VEITCH nursery in Chelsea. The drawing of *Coelogyne pandurata* in Frederick SANDER's "Reichenbachia" was made from a plant from the collection of A.T.PLAYNE in Minchinhampton, England, the plant was presented to the Orchid Committee of Royal Horticultural Society on April 14th in 1891 and received a cultural commendation. In "Orchid Review" of 1911 we read: "*Coelogyne*

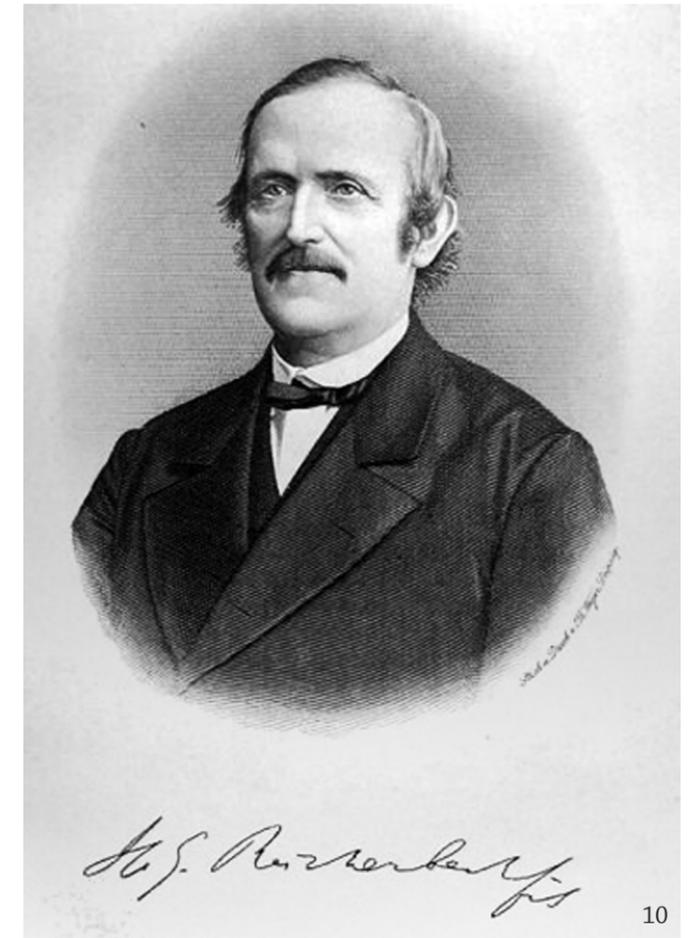
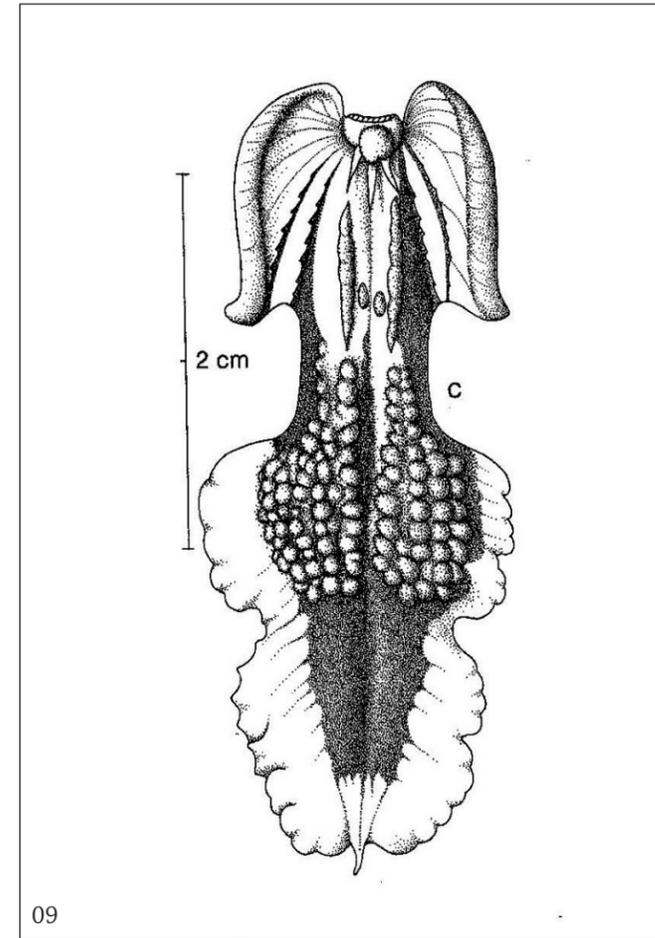
pandurata is not an expensive Orchid, a healthy plant of flowering size being procurable for half-a-guinea". The partially colored drawing in "Xenia Orchidacea" from 1863 was made by REICHENBACH's own hand, done most probably from living material from the famous collection of Consul Gustav Wilhelm SCHILLER in Ovelgönne near Hamburg. The species was widely distributed in many orchid collections, the plate in "Curtis's Botanical Magazine" of 1858 was made from a plant in the collection of BUTLER in Woolwich, London. The Royal Botanic Gardens Kew and John DAY had plants of it in their collections, as did Consul SCHILLER and Senator Johann Martin JENISCH in Hamburg. The plant of Baron SCHROEDER, cultivated by his gardener BALLANTYNE, was used by John Nugent FITCH for the plate in the "Orchid Album" in 1883. Louis van HOUTTE published a plate of the species in "Flore des Serres"



in 1874 and LINDEN's establishment in Belgium had the the species for sale around 1887. The plate in "Flore des Serres" is – in spite of the printer's note "off.lith. & pict.in Horto Van Houtteano" – nothing other than a back-to-front reproduction of the plate by Walter Hood FITCH in "Curtis's Botanical Magazine" of 1858. In 1867 the same plate was reproduced in "A second century of Orchidaceous Plants" by James BATEMAN.

Coelogyne pandurata belongs to the section *Verrucosae* of the genus *Coelogyne*, described by PFITZER and KRAENZLIN in A.ENGLER's "Das Pflanzenreich" in 1907, today the section includes nine species. Other "black" – or green-flowered species in the section are *Coelogyne mayeriana*, *Coelogyne zurowetzii* and *Coelogyne peltastes*. *Coelogyne pandurata* is flowering proteranth, meaning the inflorescence emerges from

- 08 Drawing of *Coelogyne pandurata* from Curtis's Botanical Magazine, 1858
- 09 Drawing of the lip of *Coelogyne pandurata* (figure a) (with permission from G.SEIDENFADEN)
- 10 Portrait of Professor Heinrich Gustav Reichenbach
- 11 Flowering plant of *Coelogyne pandurata* (courtesy of Ong Poh Teck)





12 Flowering plant of *Coelogyne pandurata*
(courtesy of Ong Poh Teck)
13 Single flower of *Coelogyne pandurata*
(courtesy of Ong Poh Teck)

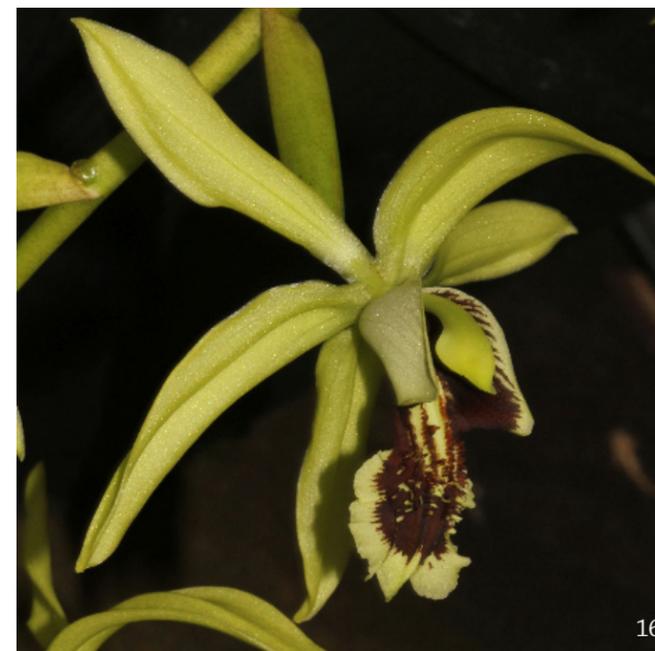
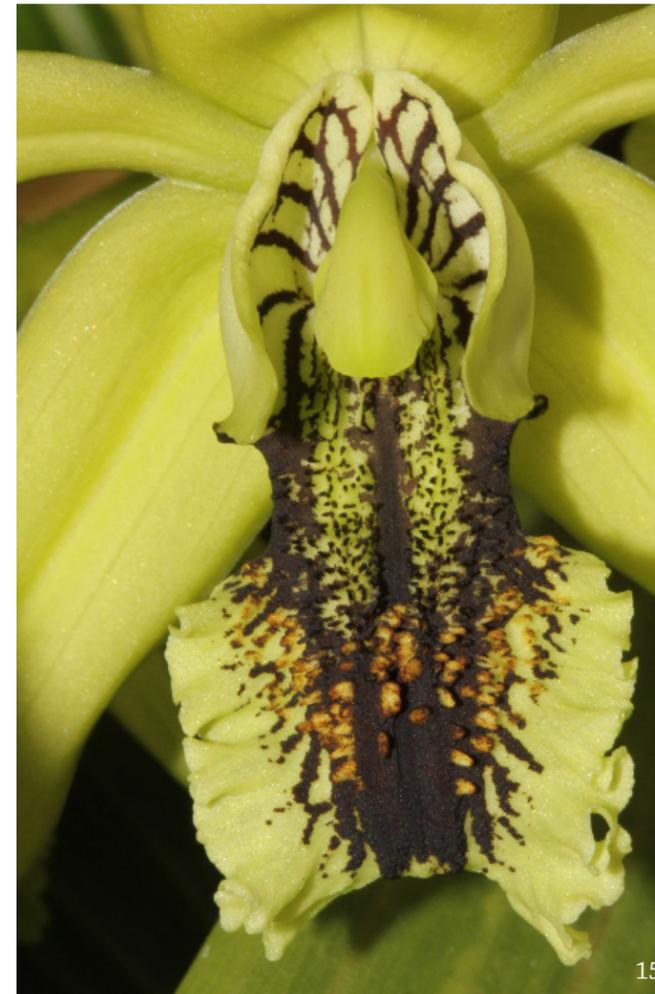
the young growth before the pseudobulb is formed, the flowers are the largest in the section and opens from the base up. The epithet (species-name) *pandurata* means like a fiddle or fiddle-shaped and refers to the form of the lip. The species is rather variable in size of plant and flower, depending on the habitat, and can be seen as epiphytic, lithophytic and as a terrestrial plant, depending on the culture conditions. The species is distributed from sea-level up to 1200 m altitude over a very large area including Peninsular Malaysia, the west coast of Sumatra, Java and Borneo (Kalimantan, Sabah, Sarawak and Brunei), and possibly even on the Philippines – species distributed over such large areas often have a considerably high variability. A small-flowered form of *Coelogyne pandurata* was described and illustrated in 1927 by Johan Jacob SMITH in “Mitteilungen aus dem Institut für Allgemeine Botanik in Hamburg” as *Coelogyne peltastes* var. *unguiculata*. The plant was collected in western Borneo by Hans WINKLER in 1924, SMITH’s variety is today considered as synonymous with *Coelogyne pandurata*. Together with many other taxa in 1891 Otto KUNTZE recombined in “Revisio Genera Plantarum” *Coelogyne pandurata* to *Pleione pandurata*, but this has never been accepted.

Coelogyne pandurata is also parent of one of the more famous orchid hybrids, *Coelogyne Burfordiensis*. This hybrid between *Coelogyne asperata* and *Coelogyne pandurata* was announced in 1911 by Trevor LAWRENCE. It was not the first *Coelogyne* hybrid – *Coelogyne Brymeriana* (*C. asperata* x *C. dayana*) – another hybrid with *Coelogyne*

asperata – had been presented in 1906 – but up to the present day *Coelogyne Burfordiensis* remains the best known hybrid in the genus. The name *Burfordiensis* – after Burford Lodge, the seat of Sir Trevor LAWRENCE – persists today, in spite of the fact that in 1910 J.J.SMITH had already presented in the journal “Teysmannia” a hybrid between the same two species as *Coelogyne Stanny* after a plant in the collection of P.J.GEBEL in Batavia, Java. It seems that some plants of the original cross from LAWRENCE are still in cultivation, but it is known that the cross was later remade at least twice. The back-cross of *Coelogyne Burfordiensis* with *Coelogyne asperata* was registrated as *Coelogyne South Carolina* by CARTER & HOMES in 1996. Today it is often difficult to separate plants of the true *Coelogyne pandurata* from its hybrids *Coelogyne Burfordiensis* and *Coelogyne South Carolina*.



- 14 Flowers of
Coelogyne
Burfordienseis
(*Coelogyne*
asperata x
Coelogyne
pandurata)
- 15 Close-up of the
lip of *Coelogyne*
Burfordienseis
- 16 *Coelogyne* Green
Dragon, the
hybrid between
Coelogyne
tomentosa
(earlier
C.massangeana)
and *Coelogyne*
pandurata



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