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*D*_{r.} Schlechter's

HOYA SPECIES

By Dale Kloppenburg

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Dr. Schlechter's

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DEDICATION

Mysterious
always arduous
mostly uncertain
A beautiful bird
3X
Steps forward
steps back
It can not be otherwise

Dale Kloppenburg

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Recognition and thanks is again given to Dr. E. Nagel and Dr. Obermiller of Stuttgart Germany for permission to translate those Type Species descriptions embodied in The Botanische Jahrbucher, "Die Asclepiadaceen von Deutsch Neu Guinea". Since the drawings scanned in for this works are on the herbarium sheets at the Berlin Herbarium, I give thanks for permission to publish these drawings. The foliage drawings are also rendered from these herbarium sheets. We are all fortunate that these sheets were not destroyed during World War II. Again I have used "Flora Melasiana Ser.1 Cyclopedia of Collectors" and "Taxonomic Literature" 2nd. Ed. 1976, for additional information on Dr. Schlechter's life. A. Nicholas's, (National Botanical Institute, Pretoria South Africa) 1992 most complete work on Schlechter's Asclepiadaceae provided much needed information. This work is most scholarly and complete. Thanks also to Chuck Everson of Rainbow Gardens and Bookshop Vista, California for advice and proof reading. I cannot overlook John Scoville of San Jose California for keeping my Computer in working order at a moments notice. And lastley, to my wife Paz for patience during long hours of neglect, while working on this reference material.

Dale Kloppenburg

Introduction

The body of this publication contains 73 drawings of Hoya flower parts along with a translation of the original descriptions of each species. Dr. Schlechter's herbarium sheets are housed at the Berlin , Germany National Herbarium. This taxonomist took great pains in presenting Hoya Herbarium sheets in a most complete manner. Each sheet contains a blocked area approximately 3.5" wide and 4.5" tall (9 cm. x 11.5 cm), in which he made line drawings of the essential floral parts. These mostly consist of a stemmed calyx with the ovaries, the outside of a sepal, inner and outer coronal lobes, the crown; top, side and bottom views of a coronal scale, the pollinarium and in about a dozen cases the staminal head.

Each of these drawings was, computer enhanced and then printed off on a standard 8 1/2 by 11" paper. The original descriptions were translated to English and an actual size drawing of the foliage was made for each species. It is hoped that by bringing this valuable contribution of Dr. Schlechter's into one easily handled document, it will afford those interested a ready reference and study source. I have included a table showing the collecting dates of all herbarium sheets presented, including the sheet numbers, along with some other pertinent information.

If all taxonomists had and would take the time and make the effort to draw the floral parts as did Dr. Schlechter, we would certainly have a better grasp of species with which we are dealing. These drawings add immeasurably to the written descriptions. His extreme effort to collect, classify, describe and precisely draw the floral parts exemplifies a devotion and drive above and beyond the ordinary. I am amazed at his prodigious workload. A. Nicholas , National Botanical Institute, Pretoria, South Africa has pointed out, in his 1992 monograph of Dr. Schlechter's Asclepiads, that "despite the destruction of much of his life's work, Schlechter's remaining contribution continue to influence all those who work within Orchidaceae and Asclepiadaceae.". We who are interested in the Genus Hoya are fortunate that Schlechter's original herbarium sheets were not destroyed in World War II. Many of these existing sheets are Holotype material.

G. Volkens pointed out the great productivity of Dr. Carl Moritz Schumann (1851-1904). He accomplished so much even as he performed heavy administrative and technical responsibilities. Volkens surmised the reason was because of Schumann's "creative impulse and his conscientious desire to crowd into his daily tasks the full force of his intelligent activities." I feel the same can be said of Dr. Rudolph Schlechter. It has been said it was his goal to collect,

of Orchids. On his gutta-percha expedition to New Guinea he brought together a collection of 300 herbarium sheets of Orchids which were analyzed and drawn in situ.

Dr. Schlechter's drawings of the pollinarium are not as detailed as are those of Dr. Rintz's in "The Peninsular Malaysian Species of Hoya". The drawings do, however, give some valuable insight as to the relative length and shape of the pollinia and some degree of insight regarding the retinaculum. He mentions the stigma (staminal head) in some descriptions but has only drawn this structure occasionally. Much of Dr. Schlechter's material was undoubtedly fresh, from living plants. Those sent from the Philippines were all in a dried preserved state, and this makes study a little more difficult. It should be noted that none of the Herbarium material sent to him show drawings of the stigma. These include the Philippine material as well as *H. schneeii* and *H. treubiana*.

There are a few other interesting notes to be made:

(1) The Herbarium sheet of *H. merrillii* Schlechter and the description do not match. The sheet shows a date of May 1898 (prior to Dr. Merrill's arrival in the Philippines). Schlechter's description has the same sheet #2218 "flowering in May 1903". The plant, widely grown in the Philippines under this name and in U.S. commerce, does not match Schlechter's drawings and I am sure even in its native land this species is misrepresented by another species.

(2) The material for *H. treubiana* was sent to Dr. Schlechter in New Guinea by Professor Traub (was growing in the Botanical Garden at Buitenzorg). In this description Dr. Schlechter does not mention a type specimen or that it was sent by Prof. Traub. The sheet contains no number.

(3) The Type sheet #13711 for *H. rubida* Schltr. was collected on the Island of New Britain in 1901. In 1909 Schlechter again collected this species, if it is the same species, on the Wari River in Eastern New Guinea. I have included the drawings from both sheets. Note that the latter sheet shows no cilia on the calyx. There are also differences in the corona scales, especially the inner and outer lobes. The retinaculum of the pollinarium are also different.

I am sure the student of Hoyas will find many more interesting facts from the material here presented. It is hoped it will, in addition to other things, aid in the correct identification of collected specimens of Hoya.

Dr. Friedrich Richard Rudolph Schlechter

Dr. Schlechter was born the 16 of October 1892 in Berlin, Germany. He was the third of six children. His father Hugo Schlechter was a Prussian lithographer working in Berlin, Germany. Dr. Schlechter lived 53 years, dying on the 16 of November 1925 in Berlin. Dr. Schlechter was a gardener, botanist, plant explorer, administrator, family man, and author, among other accomplishments. His areas of expertise are comprehensive and include Asclepiadaceae and Orchidaceae.

At the age of 19 he was working as a gardener at the Berlin Botanical Garden, when in 1891 he was chosen for a Botanical collecting expedition to South Africa. (1891-1895) He arrived in Cape Town in November of that year where he at first worked as a phyloxera inspector¹ and gardener. He was then employed in the private herbarium of Dr. Harry Bolus. It was Bolus who in 1897 named the genus *Schlechteria* after him.

While in South Africa he collected in the region of the Southern and Eastern Cape and on up to the Transvaal. In 26 October 1894 he published his first paper "*Beiträge zur Kenntniss Südafrikanischer Asclepiadology...*" in

Beibl. zu den Botanischen Jahrbüchern V.45 p.50-51. see 22 June 1894 p. 1-37 Bot. Jahr. 18 (4) Biebl. 45 1-37. 10 May 1895 p. 1-44 Bot. Jahr. 20 (4) Beibl. 50: 1-44. 28 June 1895, p.1-56 Bot. Jahr. 20 (5) Biebl. 51: 1-56. This was the first of 67 publications dealing with 151 genera in which he describes over 1331 species, of which he named about 687. His last paper in 1926, a year after his death, was also an Asclepiadaceae paper. Asclepiadaceae p.368 in Loesner "Beiträge zur Kenntnis der Flora von Central Amerika (einschließlich Mexiko). 111. Bot. Jahr. V.60 p. 345-374. Schlechter left Cape Town, South Africa in March 1895, arriving in Europe with his extensive collections. He worked for a short period at the British Museum of Natural History in London.

¹ Phylloxera: one of over 30 species of the Aphid family. Best known is the grape Phylloxera (*P. vastatrix*) a native of the US. It was imported to Europe in 1858-1863 and has now reached every grape growing area of the world. By 1885 it was in S. Africa. Schlechter was undoubtedly working to prevent its spread to S. African vineyards. This pest is devastating to the root systems of susceptible grape varieties. It is combated by developing resistant root stock.

In 1896 Dr. Schlechter again returned to collect in South Africa. During part of this time he was accompanied by his younger brother Max (1847-1960). On this trip he explored the West and North Western Cape, returning to Cape Town in November 1897. From here he sailed to the island of Mozambique to collect extensively there and the adjoining areas of Africa for 4 months. He became ill from dysentery and with a fever he returned to Germany in April 1898. It was at this time that he began his University studies at the Freidrich-Willhelms-University in Berlin. He completed his doctorate in 1904 after his return from his first Malayan, Indonesian and South Sea Island expedition. His Thesis was "*Pflanzen geographische Gliederung der Insel New-Kaledonien*" with the inaugural dissertation at the University on the day of promotion 3 Dec. 1904. Inaugural-Dissertation zur Erlangung der Doctorwürde genehmigt von der Philisophischen Fakultät der Freidrich-Willhelms-Universität zu Berlin. Copies are in B, HH, M, NSUB, NY. This was published in the Botanische Jahrbucher V.36 (1) 28 Feb. 1905.

In his university studies Schlechter was a student of Doctor of Philosophy, Professor Engler. There he was also in contact with L. Diels and the Economic botanist, Dr. Otto Warburg who had a profound influence on his life and botanical work. It was Diels who named the species *Polyalthia rudolphi* after his friend Rudolf Schlechter. It was most likely that it was Otto Warburg who influenced the selection of Schlechter for the 1899-1900 Kautschuk-Expedition to West Africa and his selection by the *Kolonial-Wirtschaftliches Komitee* for his 2 year first expedition to Malaya, Indonesia and the South Sea Islands (1900-1902). Economic plant resources, especially plant sources of rubber were of particular interest at this time. Since the family Asclepiadaceae produced a milky sap the family of plants was given special attention. This was a Gutta-Percha undertaking. His Herbarium sheets on this expedition bare the headings that this was a Gutta-percha undertaking. (see #1 under the Heading Key in the Floral Drawing list). Gutta-percha is a milky fluid latex obtained from several trees. Malaya has two trees of the Sapotiaceae family that supply economic quantities of latex. They are *Palaquium gutta* and *P. oblongifolia*. Other trees of this family yield similar although inferior products. There are plants in South America and Africa that yield latex. The United States had a W.W. II project with Guayule of the Aster family to produce rubber. None of these are of much economic importance at present. None of the Asclepiadaceae produced economic rubber, however, the search is not yet over.

From this 1900-1902 expedition the following herbarium sheet numbers were assigned: 13101-13140 from Borneo; 13141-13241 from the Malay Peninsula; 13242-13329 Sumatra, this includes Schlechter's first Hoya named. This is #13307 *H. parvifolia* Schlechter. The second Hoya sheet #13458, *H. glabra* Schltr. is included in the Borneo numbers 13330-13569; 13570-13633 are from Java and include two Hoyas. #13634-14712 contains 6 Hoya species collected in

New Guinea and the Bismarck Archipelago. Ten new *Hoya* species in all were described from this two year expedition. The Gutta-Percha expedition yielded 1571 herbarium sheets. Although I can find no records of sheets #13142 to #15395, it seems likely he numbered sequentially. There were another 684 sheets collected before he left New Caledonia. Before returning to Germany he went to New Caledonia where one additional species of *Hoya* was collected, #15396, *H. neocaledonica* Schltr. (This sheet is headed differently).

Many of the Philippine Hoyas which Dr. Schlechter received were evidently sent to him in Berlin. They cover the collecting dates 1 January 1904 to November 1906, with the exceptions of #88960 *H. elmerii* Schltr. which was never published and #7374 *H. cagayanensis* Schltr., also not published by Schlechter. Including these latter two there are 16 hoya species in this group. The sheet numbers here are not in sequence with Schlechter's collections and represent Bureau of Science source numbers.

Upon his return to Germany he completed his Doctoral thesis in 1904. Sailing from Genoa, Italy in 1906 he began his second visit to the South Seas. This expedition contained the following herbarium sheets: #15820-15844 from Borneo; #15845-16035 from Sumatra; #16036-20399 from New Guinea; #20400-20725 from the Celebes Islands and #20726-20784 from Sumatra. This includes the bulk of his hoya species, 36 in all. (see under Heading Key in Floral drawing list). Dr. Schlechter embarked at Belawan 11 April 1910 going by the North Western coastal Malayan Island of Penang then to Columbo etc. to Europe, arriving at Naples, Italy on 1 May 1910. This represents 4964 herbarium numbers.

Back in Germany he married Alexandra Sobennikoff in August 1910. They had two daughters. Schlechter remained in Europe for the remainder of his life. In 1913 he was appointed assistant to the Berlin Botanical Museum and in 1921 was made director, serving in this capacity until 1925. He served in the military on active duty during World War I, 1914-1918.

Plants named for Dr. Schlechter include 8 genera as follows:

- 1897 Schlechteria Bousl
- 1900 Schlechterella K. Schumann
- 1902 Schlechteros Harms
- 1921 Schlechterosciadium H. Wolff
- 1929 Schlechteranthus Schwantes
- 1930 Schlechterianthus Quisumbing
- 1944 Rudolphiella Hoehne
- 1966 x Schlechtereara L.A. Gray & H.R. Sweet

Two of these, Schlechterella and Schlechteranthus are genera in the Asclepiadaceae family.

On the species level about 386 have been named for this outstanding plant taxonomist. Eleven of these species are in the Asclepiadaceae:

Astephanus schlechterianus Urban
Ceropegia schlechteriana Warderm.
Cynanchum schlechterianum Warburg
Ditassa schlechterii Macbride
Gomphocarpus schlechterii Schumann
Gymnema schlechterianum Warburg
Hoya schlechteriana S. Moore
Marsdenia schlechteriana Rothe
Metastelma schlechterii Macbride
Oxypetalum schlechterii Malme
Schizoglossum schlechterii N.E. Brown

Dr. Schlechter's Itinerary 1900-1902; 1906-1910
With Type Sheets Entered

<u>DATE</u>	<u>PLACE</u>
13 Dec 1900	Sailed from Naples, Italy
5-17 Jan. 1901	Singapore - vicinity
18 Jan.-7 Feb.	Malacca & Mt Ophir
8-19 Feb.	Singapore-Penang-Taiping & G. Highlands
20 Feb.-13 Mar.	Penang-Sumatra E. Coast. (Belewan, Deli, Medan, Langkat, Lauttador & Penang)
14-28 Mar.	Penang-Malay peninsula (Perak, Genting Highlands)
29 Mar.-23 Apr.	NW Borneo (Sarawak, Brunei)-Singapore
2-3 April	Singapore, British N. Borneo (Labuan)
4-7 April	Kudat
8-9 April	Sandakan
11-16 April	Labuan
24 April-May 14	Singapore-Riouw-Central Sumatra (Indragiri, Rengat-Singapore)
9 May 1901	Sheet #13307 <i>H. parvifolia</i> Schltr., Sumatra, Danau Kotta
15 May-6 June	Singapore
7-27 June	Singapore-Java (Batavia) Buitenzorg, Bandoeng, Soerabaja)
28 June-24 July	Soerabaja to S.E. Borneo (Bandjermasin, Balikpapan, Samarinda, the Mahakam (Koetai River), Tengaroeng (Tenggarong), Ma Kaman, Ma Klindjau.
2 Aug. 1901	Sheet #13458 <i>H. glabra</i> Schltr., Borneo, Long-Wahau
25 July-19 Aug.	Koetai region, middle course of the Mahakam
20 Aug.-2 Sept.	Samarinda-Bandjermasin, P. Bauean (N. of Java), Java (Soerabaja)
Aug.	Sheet #13550 <i>H. aeschynanthoides</i> Schltr., Borneo, Long Dett, Kaetid State
5 Sept.	Soerabaja-Semarang-Batavia
3-18 Sept.	Buitenzorg-Tjibodas & G. Gedeh-Batavia
	Billiton-Riouw-Singapore
19 Sept.	Singapore-Riouw (Tandjoeng Penang)
22-25 Sept.	Pasir Tardiang
26-27 Sept.	Singapore

28 Sept.	Sailing for Makassar (S.W. Celebes)
7 Oct.	Amboin
8 Oct.	Banda (collecting on Mt. Api)
8 Oct. 1901	Sheet #13663 <i>H. bandanebsis</i> Schltr., Banda below summit of Gunong Api
15 Oct.	Kaiser Wilhelmsland N.E. New Guinea Berlin Harbor
16 Oct. 1901	Sheet #13675 <i>H. litoralis</i> Schltr., shore Potsdam Harbor
30 Oct. 1901	Sheet #13688 <i>H. marginata</i> Schltr., Karo Falls-Beinig Mts.
17 Oct.	Friedrich Wilhelms Harbor; Erima Harbor
21 Oct.	Finschhafen-Bismarck Arch. (Herbertshohe, Herbertshohe
21-27 Oct.	
29 Oct.	Gazelle Penn., Massawa Weber Harbor
3 Nov. 1901	Sheet #13711 <i>H. rubida</i> Schltr. New Britain Island
5 Nov. 1901	Sheet #13763 <i>H. trigonolobus</i> Schltr., New Pommern at Mandres New Pommern (New Britain Island)
?	Sheet #13765 <i>H. luzonica</i> Schltr. from Dr. O. Warburg Zambales, Luzon, Philippines
7 Nov.	Back to Herbertshohe, sailing for Nea Mecklenburg (New Ireland) visiting Rossel Mt.
14 Dec.	From Herbertshohe to mainland of NE New Guinea, Friedrich Wilhelms Harbor
19 Dec.	Stephansort
26 Dec.	From Erim harbor to the Ramu River
3-10 Jan. 1902	Ramu Station
24-26 Jan.	Bismark Mountains (to 1800 meters altitude) Ramu Station
7 Feb.	Erima
26 Feb.	Stephansort, setting out for the Finisterre Mts., forced to return at 600 meters altitude
4 Feb. 1902	Sheet #14185 <i>H. anulata</i> Schltr., upper Nuru meters Altitude
8 March	Constantin Harbor
15 Mar.-6 April	Stephensort
8 April	Seleo
13-24 April	Berlin Harbor tour to Torricelli Mts.
24 Apr. 1902	Sheet #14400 <i>H. papuana</i> Schltr., Torricelli Mts.
4-8 May	Sleo
10-19 May	New Pommern (New Birtain) Herbertshohe
30 May	Nausa
-15 June	New Mecklenburg (New Ireland) Kavieng, trip started at the NW point following

	to N. Coast till halfway up island and then crossing it via the Punam Mts.
28 June	BO
6 days	Rossel Mts.; sailing via New Lauenburg
15 July	Duke of York Island, to Mioko
14/15 Aug. 1902	New Pomera (New Britain) (Herbertshohe) departing for Sidney and New Caledonia
12 Dec. 1902	Sheet #15396 <i>H. neocaleconica</i> Schltr., Oubatche

23 Oct. 1906	Sailing from Genoa, Italy
14-22 Nov.	Penang, Singapore, visiting BT Timah
23 Nov.	Singapore
26 Nov.	W. Java (Batavia)
27 Nov.-2 Dec.	Buitenzorg
3-5 Dec.	Tjampea, Tjipetir
25 Dec.	(Batavia) Singapore,, NW Borneo, Sarawak
28 Dec.-1 Jan.1907	Kuching, Borneo
2 Jan.	Sarawak
2-4 Jan.	Singapore
20 Jan. 1907	Sheet #15916 <i>H. padangensis</i> Schltr., Sumatra, Pedang Pandjama
11 Jan.-Feb.	Tadjong Priok (Java), Sunda Strait-S. Sumatra (Telok, Betong, Benkoelen) Sumatra West Coast (Indrapoera, Emmahaven, Pedang, and environs Pedang, Pandjang, Agam, Fort de Kock, Mt. Merspi back to Penang
10 Feb.	Pedang
11 Feb.	Indrapoera-Benkoelem-Batavia
-23 Feb.	Singapore, leaving
24 Feb.	Hongkong-Philippines, Manila, Luzo
4-5 March	NE New Guinea (Freidrich Wilhelms Harbor) ²
13 March	Bismark Archipelago (French Island Herbertshohe in New Pommern) New Britain
16-21 Mar.	Herbertshohe-Simpson Harbor-French Island-NE New Guinea
23 Mar.	

² Mandated Territories of New Guinea: In 1884 Bismarck annexed "The Bismarck Archipelago" New Britain, New Ireland, the Admiralty Islands and the N. Solomon Islands and the mainland between 2° 15' S & 8° S and 141° to 148° E.. The mainland section was known as "Kaiser Wilhelmsland". Seat of the Government was at first Finsch Harbor, then to Stephanscourt then to Friedrich-Wilhelms Harbor and finally to Herbertshohe. The chief export was copra. The territory was lost to Australian troops in 1914.

26-27 Mar.	Freidrich Wilhelms Harbor
28 Mar.	Stephansort
29 Mar.	Konstantin Harbor, Bulu
29 Mar-28 Feb. 1908	Headquarters at Bulu making trips from there into the interior of Bulu, Konstantinberg, Kakika, Damum, the Minjem and the Mudjene, Wangi and Albu, Bongu and Melamu (Konstantin Harbor), Stephansort, the Djamu, Gatinberg, Kaniberg, Ibo Mts.
6 Aug. 1907	Sheet #16375 <i>H. patella</i> Schltr., Wobbe in Minjem Valley
1 Mar. 1908	Leaving Bulu.
4 March	Finch Harbor, Adolph Harbor, penetrating into the interior along the Uaria (Waria & Hekukus River) ascending it until the 12 of the month
11 Mar. 1908	Sheet #17430 <i>H. wariana</i> Schltr., Waria Valley
12-15 Mar.	Return back to the mouth, climbing Gomadjidji Mt.
?	Sheet #17494 <i>H. warburgii</i> Schltr., unpublished
26 Mar. 1908	Sheet #17510 <i>H. calycina</i> Schltr., Kani Mts.
18 Mar.	Bulu, from Bulu making trips in the mountains of the Mudjem and the Mudjene etc.
28 April 1908	Sheet #17623 <i>H. flavescens</i> Schltr., Kani Mts.
10 May 1908	Sheet #17688 <i>H. oreostemma</i> Schltr., Kani Mts.
25 June 1908	Sheet #17859 <i>H. montana</i> Schltr., Kani Mts.
26 June 1908	Sheet #17865 <i>H. exilis</i> Schltr., Kani Mts.
16-31 July	Tour to the Finisterre Mts. up to 1000 meters
23 July 1908	Sheet #18060 <i>H. subglabra</i> Schltr., Finest. Mts.
27 July 1908	Sheet #18075 <i>H. haploasia</i> Schltr., Finest. Mts.
12-26 Aug.	Trip to Kenija (Ramu)
27 Aug. 17 Sept	2nd tour to the Finisterre Mts. up to 1200 meters
30 Aug. 1908	Sheet # 18114 <i>H. collina</i> Schltr., Kambaran river Finesterre Mts.
6 Sept. 1908	Sheet #18212 <i>H. leucodora</i> Schltr., Finn. Mts..
6 Sept. 1908	Sheet #18214 <i>H. solanifera</i> Schltr., Finn. Mts.
18 Sept.-1 Nov.	Via Ramu to Bismarck Mts. up to 1600 meters
14 Oct. 1908	Sheet #18393 <i>H. kenejiana</i> Schltr., Kenejia, Galerie Mts.
28 Oct. 1908	Sheet #18517 <i>H. reticulata</i> Schltr., Saugueti Etape, Bismarck Mts.
2 Nov.-4 Dec.	Part of the way back & once more in the Bismarck Mts. up to 2000 meters
2 Nov. 1908	Sheet #18614 <i>H. microphylla</i> Schltr., Bismarck Mts.
13 Nov. 1908	Sheet #18764 <i>H. venusta</i> Schltr., Bismarck Mts.

5-31 Dec.	Via the Ramu back to Bulu
1-21 Jan. 1909	From Bulu to the Finisterre Mts. up to 1300 m.
22 Jan.-8 Feb.	Return march to Bulu
9 Feb.-13 April	From Bulu to Freidrich Wilhelms Harbor (Hansemnnberg), Biliao & Hilo, back to Freidrich Wilhelms Harbor
4 Apr.-6 June	2nd trip to the Wari (Herkules River), visiting Stephansort. Finsch Harbor, Bukaua
8 May 1909	Sheet #19376 <i>H. piestolepis</i> Schltr., Waria Valley
31 May-6 June	Adolph Harbor, ascending the river, Gomadjidji- Mts., Dischore Summit (above 1300 meters)
9 May 1909	Sheet #19389 <i>H. gigas</i> Schltr., Gomadjidji on Wari
30 May 1909	Sheet #19627 <i>H. rhodostemma</i> Schltr. Dischore Mts.
10 June 1909	Sheet #19781 <i>H. oleoides</i> Schltr., Dischore Mts.
14 June 1909	Sheet #19834 <i>H. dischorensis</i> Schltr., Dis. Mts.
7 June-6 July	Return to the mouth of Waria
7-27 July	Visiting Adolph Harbor, Margot river, Bukua
14-16 July	Finsch Harbor (Sattelberg)
17 July	Freidrich Wilhelms Harbor
28 July-6 Aug.	By boat to the mouth of the Ramu going up the Kaiserin Augusta (Sepik) river for about 185 nautical miles & return to Dallman Harbor
7 Aug.	To Muscha
8 Aug.	Etape
11 Aug. 1909	Sheet #19964 <i>H. etipensis</i> Schltr., Etape
12 Aug. 1909	Sheet #19965 <i>H. ischnopus</i> Schltr., Etape Area
17 Aug. 1909	Sheet #19968 <i>H. halophila</i> Schltr., Etape
18-22 Aug.	St. Anna
25 Aug.	Tadji, Wakau, Pro, back to Etape
29 Aug-1 Sept.	Paub
2-9 Sept.	Torricelli Mts. setting out from Paub via Jemur river to Akur
6 Sept. 1909	Sheet #20066 <i>H. stenophylla</i> Schltr., Torri. Mts.
8 Sept. 1909	Sheet #20102 <i>H. epedunculata</i> Schltr., Torr. Mts.
8 Sept. 1909	Sheet #20103 <i>H. puchella</i> Schltr., Torricelli Mts.
13 Sept. 1909	Sheet #20176 <i>H. oligantha</i> Schltr., Torric. Mts.
14 Sept. 1909	Sheet #20190 <i>H. microstemma</i> Schltr., Torri. Mts.
15 Sept. 1909	Sheet #20213 <i>H. gracilipes</i> Schltr., Torric. Mts.
22 Sept. 1909	Sheet #20314 <i>H. chloroleuca</i> Schltr., Torr. Mts.
22 Sept. 1909	Sheet #20315 <i>H. torricellensis</i> Schltr., T. Mts.
10 Sept.	Apur
10-27 Sept.	Return to Paub via Rin-Tejo & Rin-Jemur bivouacs
28 Sept.	Pro
28 Sept.-10 Oct.	Etape

11-21 Oct.	Freidrich Wilhelms Harbor
21-30 Oct.	Sailing from there along the coast of Dutch New Guinea via Banda, Ambon & Boeroe to Celebes
31 Oct-3 Nov.	Stay at Macassar
4-10 Nov.	By boat along the West Coast
11-14 Nov.	Manado
15 Nov.-5 Dec.	Tomahon
	Visiting Mt. Masarang, Mt. Mahowo, Mt. Lokan & Tampuso (Tompaso)
19 Nov. 1909	Sheet #20434 H. minahassae Schltr., Tomohom, Celebes
20 Nov. 1909	Sheet #20451 H. incurvula Schltr., Celebes, foot of Lokon
6 Dec.	Tondano
7 Dec.	From there to Ayermadidi (Airmadidi)
-19 Dec.	To the summit of Mt. Klabat and back
24 Dec.	Via Tondano to Kakas, Mt. Kawang (Kombi)
24 Dec.	Lango(w)an-Ratahan
26 Dec.	Back to Lango(w)an-Kawangkoan-Lansot
27-30 Dec.	Mt. Sopoetan
31 Dec.	Kawangkoan-Sonder-Tomohon
3 Jan. 1910	From Tomohon to Manado
1--12 Jan.	Sailing to Toli-Toli
15 Jan. 1910	Sheet #20642 H. dolichosparte Schltr., Celebes, Toli-Toli
17 Jan.	By proa going up the Kuala Besar
20 Jan.	Ascending the Lanpasioe River
? 24 Jan.	By canoe to the Kabetoa (Kabetan) Is.
25 Jan. 5 Feb.	Ill at Toli-Toli
6 Feb.	By boat to SW Celebes
20 Feb.	Makassar
21 Feb.	Makassar-Bawean-Karimon Djawa-W. Java (Batavia)
10 Mar.	Buetenzorg
11 Mar. 10 Apr.	Sailing to Batavia via Banka, Singapore, Penang, to Sumatra E. Coast: Medan Rindjai (Bindjei) estate & Lau Boentoe, Bandar Baroe (Pentani Fall) & back to Medan & Rindjai Estate
11 April 1910	Embarking at Belawan via Penang, Colombo, etc. to Europe, arriving at Naples on May 1st.

**A List of Dr. Schlechter's Herbarium Sheets Containing Floral drawings
Keyed to the Sheet headings**

<u>Date</u>	<u>Heading Key *</u>	<u>Sheet #, Name, Source, Place</u>
Aug. 1875	5	s.n. <i>H. naumannii</i> Schltr., Naumann, Bougainville
2 Dec. 1880	Nat. Herb. Victoria	s.n. <i>H. betchei</i> Schltr., from E. Bêche
9 June 1886	-	s.n. <i>H. gracilis</i> Schltr., Celebes, Talisse Is.
May 1893	3	#2218 <i>H. merrillii</i> Schltr., from E.D. Merrill Palo, Mindoro, Philippines
9 May 1901	1	#13307 <i>H. parvifolia</i> Schltr., Sumatra, Danau Kotta
2 Aug. 1901	1	#13458 <i>H. glabra</i> Schltr., Borneo, Long-Wahau
Aug. 1901	1	#13550 <i>H. aeschynanthoides</i> Schltr., Borneo, Long Dett
8 Oct. 1901	1	#13363 <i>H. bandanensis</i> Schltr., Banda Is.
16 Oct. 1901	1	#13675 <i>H. litoralis</i> Schltr., Shore of Potsdam Harbor
30 Oct. 1901	1	#13688 <i>H. marginata</i> Schltr., Karo Falls, Beinig Mts.
3 Nov. 1901	1	#13711 <i>H. rubida</i> Schltr., between Massawa & Cape Lambert
5 Nov. 1901	1	#13763 <i>H. trigonolobus</i> Schltr., Mandres, New Britain
?	5	#13765 <i>H. luzonica</i> Schltr., from O. Warburg, Philippines
4 Feb. 1902	1	#14185 <i>H. anulata</i> Schltr., upper Nuru, New Guinea
24 Apr. 1902	1	#14400 <i>H. papuana</i> Schltr., Torricelli Mts, New Guinea
12 Dec. 1902	4	#15396 <i>H. neocaledonica</i> Schltr.,
1 Jan. 1904	3	#3202 <i>H. odorata</i> Schltr., from E.D. Merrill, Philippines "Rare epiphyte only two seen"
Mar. 1904	3	#5979 <i>H. benguetensis</i> Schltr., from A.D.E. Elmer, Philipp.
Mar. 1904	3	#420 <i>H. bilobata</i> Schltr., from C.B. Copeland, Philipp.
June 1904	3	#1213 <i>H. bordenii</i> Schltr., from T.E. Borden, Philippines
A-M 1905	3	#332 <i>H. mindorensis</i> Schltr., from R.C. McGregor, Philip.
A-M 1905	3	#191 <i>H. mcgregorii</i> Schltr., from R.C. McGregor, Philip.
May 1906	3	#4545 <i>H. amblyolipis</i> Schltr. unsp. from H.M. Curran, Philippines
M-J 1906	3	#357 <i>H. madulidii</i> Klopp., (<i>H. coronarioides</i> Schltr. Unsp.) from F.H. Bolster, Philippines
May 1906	3	#834 <i>H. palawanica</i> Klopp., from F.W. Foxworthy, Philip
Nov. 1906	3	#5542 <i>H. alagensis</i> Schltr., from E.D. Merrill, Philippines
Nov. 1906	3	#5650 <i>H. cembra</i> Klopp. (<i>H. leucantha</i> Schltr.) from E.D. Merrill, Philippines
Nov. 1906	3	#5674 <i>H. halconensis</i> Schltr. ex Klopp., from E.D. Merrill, Philipp.
Nov. 1906	3	#5177 <i>H. intermedia</i> Schltr., unsp. from W.I. Hutchinson
Nov. 1906	3	# 5618 <i>H. paziae</i> Klopp. (<i>H. eugenoides</i> Schltr.), from E.D. Merrill, Philippines
20 Jan. 1907	2	#15916 <i>H. padangensis</i> Schltr., Sumatra, Padang Pandjama
Mar. 1907	3	#88906 <i>H. elmerii</i> Schltr., from A.E.D. Elmer, Baguio, Philippines
6 Aug. 1907	2	#16375 <i>H. patella</i> Schltr., Wobbe. New Guinea
2 Mar. 1908	2	#17430 <i>H. wariana</i> Schltr., Waria Valley, New guinea
26 Mar. 1908	2	#17510 <i>H. calycina</i> Schltr., Kani Mts. New Guinea
28 Apr. 1908	2	#17623 <i>H. flavescens</i> Schltr., Kani Mts., New Guinea
10 May 1908	2	# 17688 <i>H. oreostemma</i> Schltr., Kani Mts., New Guinea
25 June 1908	2	#17859 <i>H. montana</i> Schltr., Kani Mts., New Guinea

26 June 1908	2	#17865 <i>H. exilis</i> Schltr., Kani Mts., New Guinea
23 July 1908	2	#18060 <i>H. subglabra</i> Schltr., Finisterre Mts., New Guinea
27 July 1908	2	#18075 <i>H. hypolasia</i> Schltr., Finisterre Mts., New Guinea
30 Aug. 1908	2	#18114 <i>H. collina</i> Schltr., Kambara R., Finisterre Mts. N.G.
6 Aug. 1908	2	#18212 <i>H. leucorhoda</i> Schltr., Finisterre Mts., N.G.
11 Sept. 1908	2	#18214 <i>H. solaniflora</i> Schltr., Finisterre Mts. New Guinea
14 Oct. 1908	2	#18393 <i>H. kenejiana</i> Schltr., Kenejia, New Guinea
28 Oct. 1908	2	#18517 <i>H. reticulata</i> Schltr., Eitape, New Guinea
2 Nov. 1908	2	#18614 <i>H. microphylla</i> Schltr., Bismarck Mts., N.G.
13 Nov. 1908	2	#18764 <i>H. venusta</i> Schltr., Bismarck Mts., New Guinea
Nov. 1908	5	s.n. <i>H. treubiana</i> Schltr., from Prof. Traub. Beutenzorg Botanical Garden, Java
Mar. 1909	3	#7374 <i>H. cayanensis</i> Schltr. ex Burton, from Maximo Ramos, Philippines
8 May 1909	2	#19376 <i>H. piestolepis</i> Schltr., Waria Valley, New Guinea
9 May 1909	2	#19389 <i>H. gigas</i> Schltr., Gomadjidji, New Guinea
30 May 1909	2	#19627 <i>H. rhodostemma</i> Schltr., Dischore Mts., N. G.
10 June 1909	2	#19781 <i>H. oleoides</i> Schltr., Dischore Mts. New Guinea
June 1909	3	#10829 <i>H. angustisepala</i> Schltr. ex Burton, from A.D.E. Elmer, Philippines
14 June 1909	2	#19834 <i>H. dischorensis</i> Schlechter, Dischore Mts., N.G.
5 July 1909	2	#19948 <i>H. rubida</i> Schltr., not Type, Madang, Waria, N.G.
2 Aug. 1909	2	#19964 <i>H. eitapensis</i> Schltr., Eitape, New Guinea
12 Aug. 1909	2	#19965 <i>H. ischnopus</i> Schltr., Eitape area, New Guinea
15 Aug. 1909	6	#s.n. <i>H. schneeii</i> Schltr., from Dr. Schnee, Ponapae Is.
17 Aug. 1909	2	#19968 <i>H. halophylla</i> Schltr. Eitape, New Guinea
6 Sept. 1909	2	#20066 <i>H. stenophylla</i> Schltr., Torricelli Mts. New Guinea
8 Sept. 1909	2	#20102 <i>H. epedunculata</i> Schltr., Torricelli Mts., N.G.
8 Sept. 1909	2	#20103 <i>H. puchella</i> Schltr., Torricelli Mts., New Guinea
13 Sept. 1909	2	#20176 <i>H. oligantha</i> Schltr., Torricelli Mts., New Guinea
14 Sept. 1909	2	#20190 <i>H. micoostemma</i> Schltr., Torricelli Mts., N.G.
15 Sept. 1909	2	#20213 <i>H. gracilipes</i> Schltr., Torricelli Mts., New Guinea
22 Sept. 1909	2	#20314 <i>H. chloroleuca</i> Schltr., Torricelli Mts. New Guinea
22 Sept. 1909	2	#20315 <i>H. torricellensis</i> Schltr., Torricelli Mts., N.G.
19 Nov. 1909	2	#20434 <i>H. minahassae</i> Schltr., Celebes, Tomohom
20 Nov. 1909	2	#20451 <i>H. incurvula</i> Schltr., Celebes, foot of Lokon
15 Jan. 1910	2	#20642 <i>H. dolichosparte</i> Schltr., Celebes, Toli-Toli

*Heading Key: Schlechter's Herbarium sheets have a heading as follows:

- (1) "Guttaperchia Expedition nach Malaysia und der Sudsee".
- (2) "R. Schlechter Pflanzen des Monsun-Gebietes"
- (3) "Flora of the Philippines"
- (4) "Plantae Schlechterianae"
- (5) "Herbarium Asclepiad R. Schlechter"
- (6) "Museum Botanicum Berolinensis"

As you can see above many of the Philippine sheets were sent to Dr. Schlechter in groups in 1904, 1905 and 1906. These sheets were most likely sent from the Bureau of Science, Manila, Philippines, most certainly under the direction of Dr. Elmer D. Merrill.

All of the above sheets are Type sheets with the exception of *H. intermedia* Schltr. #5177 from the Philippines which was unpublished and sheet # 19948 *H. rubida* Schltr., which has been included for comparison of the drawings. This is a complete list of the *Hoya* species named by Dr. Schlechter, with the exception, however, of three additional species, none of which appear in Index Kewensis. Schlechter in referring to the original species did not mention any Type material. At the time it appears his work was legitimate. These species were converted from other genera to the genus *Hoya*. All three of these species are mentioned in Botanische Jahrbucher V.50. *H. blumeana* Schlechter on p. 123. Under Section III Plocostemma, Schlechter states, " So for the present time, it is certain that only two species belong here, *Hoya lasiantha* (Blume) Korth. and *Hoya blumeana* Schlechter (*Plocostemma pallidum* Blume), the first from Borneo, the latter from Sumatra:....". The other two species names appear on p.127, under the Section VI Physostelma. "*H. collettii* Schlechter (*Physostelma carnosum* Collett et Hemsl.) from Burma is the most prevalent. *H. cystiantha* Schlechter (*Cystianthus laurifolius* Blume) is from Sumatra".

Schlechter's Species Keyed to the Literature

* **Bold** indicates Type description

<u>Species</u>	<u>Date</u>	<u>Literature Key</u>
aeschynanthoides Schlechter	1908	97, 421
alagensis Schltr. ex Kloppenburg	1990	297, 510, 386
ambyolepis Schltr. (unpublished)	1906	
angustisepala Schltr. ex Burton	1987	336 , 446, 510
anulata Schlechter	1905	98, 337, 486
bandaensis Schltr.	1908	68, 97 , 98, 495
benguetensis Schlechter	1904	172, 466, 510, 511 , 512
betchei Schlechter (P. betchei)	1913	67 , 98, 119, 528
bilobata Schlechter	1906	172, 446, 511
blumeana Schltr. (P. pallidum Bl.)	1913	98
bordenii Schlechter	1904	172, 446, 510, 511, 512
cagayanensis Burton(Schltr.ex El)	1887	336 , 510
calycina Schlechter	1913	98 , 337
cembra Kloppenburg	1990	386 , 510
chloroleuca Schlechter	1909	98 , 337
collettii Schltr. P. carnosus C & H	1913	98 , 405
collina Schlechter	1908	64, 98 , 337
cystiantha Schltr. C. laurifolius Bl.	1813	98 , 337
dischorensis Schlechter	1909	98 , 337
dolichosparte Schlechter	1916	68
eitapensis Schlechter	1913	98 , 337
elmerii Schltr. (unp.)	1907	
epedunculata Schlechter	1913	98 , 337
eugenioides Schltr. (paziae Klopp.)	1938	368 , 466, 510
exilis Schlechter	1913	98 , 337
flavescens Schlechter	1913	98 , 336, 337
gigas Schlechter	1913	98 , 182, 337, 425, 495, 503
glabra Schlechter	1913	67, 97, 98 , 337
gracilipes Schlechter	1905	98, 337, 486
gracilis Schlechter	1908	67 , 172, 446, 510
halconensis Schltr.ex Klopp.	1990	297 , 510, 368
halophila Schlechter	1913	64, 98, 337
hypolasia Schlechter	1913	98 , 337
incurvula Schlechter	1916	64
intermedia Schlechter	1938	64, 466, 510
ischnopus Schlechter	1893	93 , 98, 337, 99
kenejiana Schltr.	1913	98 , 337
leucantha Schltr. (unp.)	1908	510, 337
leucorhoda Schlechter	1913	98 , 337

<i>litoralis</i> Schlechter	1905	98, 337, 486
<i>luzonica</i> Schlechter	1904	7, 172, 294 , 394, 446, 510, 511
<i>madulidii</i> Kloppenburg	1906	368 , 510
<i>marginata</i> Schlechter	1901	98, 337, 486
<i>mcgregorii</i> Schlechter	1906	172, 510, 511 , 446
<i>merrillii</i> Schlechter	1904	294 , 510, 515
<i>microphylla</i> Schlechter	1913	98 , 337, 683
<i>microstemma</i> Schlechter	1913	98 , 337
<i>minahassae</i> Schlechter	1916	64
<i>mindorensis</i> Schlechter	1906	368, 446, 510, 511
<i>montana</i> Schlechter	1906	98 , 337
<i>naumannii</i> Schlechter	1908	97 , 98, 337,
<i>neocaledonica</i> Schlechter	1906	96 , 270, 412
<i>odorata</i> Schlechter	1904	172, 446, 510, 511 , 512
<i>oleoides</i> Schlechter	1913	98 , 337
<i>oligantha</i> Schlechter	1913	98 , 337
<i>oreostemma</i> Schlechter	1913	98 , 337, 344
<i>padangensis</i> Schlechter	1916	64
<i>palawanica</i> Kloppenburg	1990	368 , 510
<i>papuana</i> Schlechter	1913	98 , 337, 486
<i>parvifolia</i> Schlechter	1908	97
<i>patella</i> Schlechter	1913	98 , 337
<i>paziae</i> Kloppenburg	1990	368 , 510
<i>pedunculata</i> Schltr.	1913	92A, 98 , 337
<i>piestolepis</i> Schlechter	1913	98 , 337
<i>pulchella</i> Schlechter	1909	98 , 337, 683
<i>reticulata</i> Schlechter ex Engler	1913	98 , 337
<i>rhodostemma</i> Schlechter	1909	98 , 337
<i>rubida</i> Schlechter	1901	98, 337, 486
<i>schneei</i> Schlechter	1909	71, 99 , 398A, 683A
<i>solaniflora</i> Schlechter	1913	98 , 337
<i>stenophylla</i> Schlechter	1913	98 , 337
<i>subglabra</i> Schlechter	1908	98 , 337
<i>torricellensis</i> Schlechter	1908	98 , 337
<i>treubiana</i> Schlechter	1908	67 , 98, 337
<i>trigonolobus</i> Schlechter	1905	98, 337, 486
<i>venusta</i> Schlechter	1908	98 , 337
<i>warburgii</i> Schltr. Unp.	19??	
<i>wariana</i> Schlechter	1909	98 , 337

Composite Works on Hoya Publications
with dates and numbers keyed to Schlechter's Hoya species

<u>Pub.</u> <u>Date</u>	<u>#</u> <u>Key</u>	<u>Publication</u>
1912	7	A Flora of Manila p.380-381 E.D. Merrill
1916	64	Beihefte zum Botanischen Centrblatt V.34 #2 p.13-15 "Neue Asclep. von Sumatra und Celebes" p.1-18 R. Schlechter
1908	67	Beiblatt zu den Botanischen Jahrbuchen #92 V.40 p.16 Arch. Malaya Schlechter
1935	71	Bishop Museum Bulletin "Flora of Ponape" p.209; p.91 Glassman
1893	93	Botanische Jahrbucher V.25 p.669 Engler's (Reinecke) "Die Flora der Samoa-Inseln II
1906	96	Botanische Jahrbucher V.39 "New Caledonia" p.242-249
1908	97	Botanische Jahrbucher V.40 "Borneo Is., Molucca" p.13-16 R. Schlechter
1913	98	Botanische Jahrbucher V.50 "Die Asclepiadaceen von Deutsch Neu Guinea" p.116-138 R. Schlechter (p. 81-164)
1921	99	Botanische Jahrbucher V.56 p.567 "Die Asclepiadacean von Micronesia" R. Schlechter
1935	119	Candollea V.1
1923	172	Enumeration of Philippine Plants V.3 p.351-52 Philippine Is. Science Publication E.D. Merrill V.4 p.97
1970	182	Exotica III Cent Ed.
1948	270	Flore Analytique et Synoptique de la Nouvelle-Caledonie p.300 Guillaumin
1904	294	Fragmenta of the Florae of the Philippineae V.1 p.119-136 (Perkins) R. Schlechter & O. Warburg
1988	297	Fraterna (International Hoya Association) 1988-- Editor Ann Wayman
1979	336	Hoya Society International pub. Hoya 4x/year 1979-- Editor C. Burton
1992	337	Hoyas of Northeastern New Guinea, ORCA Publishing, Translation of R. Schlechter by D. Kloppenburg
1940	344	Icones Plantarum V.35 t.3407 Siam t.3406 Kerr
1913	386	Journal of Botany (& Forestry) V.52 p.293-294 "Plantae Novae Papuanea" S. Moore
1934	394	Journal of the Arnold Arboretum V.15 #4 p.318
1891	405	Journal of the Linnean Society V.28 p.87-88
1921	412	Journal of the Linnean Society V.45 p.336-368 "Plants from New Caledonia" S. Moore
1921	425	Journal of the Royal Asiatic Society, Straits Branch V.85 p.506 H. Ridley
1938	446	Leaflets of Philippine Botany V.10 (1938-39) p.3572-591 A.E.D. Elmer
1884	466	Malesia 1884-1886 p.213-227; 260-274; tab.8/54; 60-63 O. Beccari

- 1905 **486** Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p.351-369 K. Schumann & K. Lauterbach
- 1991 **510** Philippine Hoya Species,ORCAPublishing p.1-103 R.D. Kloppenburg
- 1906 **511** Philippine Journal of Science V.1 p.295-303; 119,332 R. Schlechter
- 1908 **512** Philippine Journal of Science V.3 Bot. p.351-355,429 "Enumeration of Philippine Plants" E.D. Merrill (see #172)
- 1911 **515** Philippine Journal of Science V.6 p.220
- 1978 **528** Phytologia V.38 #5 p.410
- 1916 **683** Transactions of the Linnean Society of Botany V.9 p.112-16 S. Moore
- 1943 **683A** Transactions Nat. Hist. Soc, of Formosa V.33 p.121 Hosokawa

Schlechter's Drawings
and Text

***Hoya aeschynanthoides* Schlechter n. sp.**

Epiphytic, hanging down or decumbent (prostrate with the tips rising upward) on tree branches, branched ; branches and branchlets threadlike elongate, flexible, hispid, with aerial roots, densely leaved; with leaves shortly petioled, broad ovate-elliptic, acute, pilose (felt like) on both sides, 1.5-2.3 cm. long, nearly 1-1.8 cm. wide, petiole hispid 0.3-0.5 cm. long; cymes shaped like umbels, briefly hispid about 0.5 cm. long; flowers in general rather small, white; with the segments of the calyx lanceolate-oblong obtuse hispid, barely 1.5 mm. long; corolla rotate 0.5 cm. pedunculate, leaves commonly much shorter, peduncle hispid 0.5-1 cm. long, pedicels in diameter, 5 lobed to below the middle, lobes ovate-triangular a little obtuse outside glabrous, inside with the margins hairy, incurved, densely ciliate, otherwise glabrous; leaf of the corona with back ascending rising above the anthers, above oblanceolate with inner apex beaked, below oblong with the end cut off, definitely channeled; anthers trapezoidal, appendages hyaline triangular; with the head of the stigma conic.

Borneo: on trees at Long Dett in the state of Kaetid (R. Schlechter #13550, blooming in August 1901).

A very characteristic species which has foliage that reminds one of the *Aeschynanthus* Genus. It is closely related to *H. lacunosa* Blume.

Published by Dr. R. Schlechter in:
1908 Botanische Jahrbucher #92 V.40 p.13 (Beiblatt zu den).

Although this species is compared with *H. lacunosa* Blume which is in the *Otostemma* Section , this species is in fact in the *Acanthostemma* Section.

Hoya aeschynanthoides Schlechter

Sheet #13550 (B) August 1901

Collected by Dr. Schlechter at Long Dett, Borneo

Hoya aeschynanthoides Schlechter sp.

Long Dett, Borneo

Hoya alagensis Kloppenburg
H. alagensis Schlechter (unpublished)

A climbing twiner 6 meters or more, branches round glabrous, somewhat fleshy, leaves outspread ovate-lanceolate, with the base rounded, apex acute and beaked, 11cm. long by 4.5-5 cm. wide, both surfaces glabrous, root fleshy, veins on both sides 4-6 ascending, reticulate, costa (midrib) thick prominently raised below. Petiole fleshy glabrous 3.0 cm. long. 0.2 cm. in diameter, curved, round. Peduncle 4.0 cm. long, glabrous, 0.2 cm. in diameter, rachis abbreviated threadlike 0.4 cm. in diameter. Pedicels threadlike, pubescent near 5.0 cm. or longer. Segments of the calyx hirsute 0.25 cm. long slightly overlapping, ovate obtuse, with ligules present. Corolla lobes broad ovate acute, near apiculate, definitely lobed. Corona scales ovate above, inner apex shortly beaked, outer apex shortly excised, in the middle with a hump and longitudinal ridge, below longitudinally channeled.

This species has foliage similar to *H. angustisepala* Burton and the coronas are somewhat similar in having the outer apex slightly recurved and blunt. Even the corolla lobes are similarly shaped, however the sepals are entirely different. It differs from other known Philippine (*Hoya*) species.

Published by Dale Kloppenburg in:
1990 Fraterna Publication of the International Hoya Association, 3rd. Quarter

Hoya alagensis Kloppenburg
 Schlechter's *H. alagensis* (unpublished)

Sheet #5542 (B) (November 1906)

Collected by Elmer D. Merrill on Alag River Mindoro, Philippines

Hoya ambyolepis Schlechter (unpublished)

Sheet #4545 (May 1906)

Collected by H. M. Curran on Palawan Island, Philippines

Hoya affinisifolia

Herb. Philipp. 4545

Hoya angustisepala Burton*Hoya mindanaensis* Elmer (invalidly published in English)*Hoya angustisepala* Schlechter (unpublished)

Branches thick 5-6 mm. in diameter, glabrous, with the leaves thickly leathery, glabrous, oblong to oblong ovate, all the way to 15 cm. long, 6 cm. wide, base broadly rounded or obscure emarginate (shallowly notched), apex acute to somewhat acute, nerves on both sides 3-5, nerves fine,; petiole thick to 2 cm. long, glabrous above, below sulcate, with the inflorescence shaped like an umbel descending, peduncle thick 8-12 cm. long; with the pedicels about 5 cm. long, with the segments of the calyx linear 5-7.5 mm. long, margin ciliate. Corolla lobes broad ovate, folded together, with the tips reflexed, outside glabrous, inside puberulous, 2-2.5 cm. in diameter. Corona scales pouch-shaped, below broadly sulcate, internal apex acute, external recurved obtuse. Pollinia long, narrow; translators long, trough shaped, retinaculum long narrow.

Published by C. Burton in:

1987 The Hoyan V.8 #4 part 2 p.b.

Hoya angustisepala Burton
Schlechter's *H. angustisepala* (unpublished)

Sheet # 10829 (B) June 1909

Collected by A.D.E. Elmer at Tadayo (Mt. Apo) Davao, Mindanao, Philippines

Hoya anulata Schlechter - in K. Schumann and Lauterbach, Addendum (1905) p. 362.

Northeastern New Guinea: Epiphytic on trees at Minjen-Tor about 100 m. altitude (Schlechter #16223 - Blooming in July 1907); on trees on the upper Nuru, on the way from Ramu to the coast, about 440 m. altitude (Schlechter #14185 - Blooming in February 1902); on trees in the forest of the Ibo Mountains., about 1000 m. altitude (Schlechter #17087 - Blooming in December 1907; #18278 - Blooming in September 1908); on trees in the forest on the Njonge near Ambo, about 600 m. altitude (Schlechter #18123 - Blooming in August 1908); on trees in the forest of the Bismärck Mountains, about 300 m. altitude (Schlechter #18515 - Blooming in October 1908); on trees in the forest at Jaduna on the Waria, about 200 m. altitude (Schlechter #19324 - Blooming in April 1909); twining in the bushes of the forest of the Mimi on the Waria, about 650 m. altitude (Schlechter #17412 - Blooming in March 1908); on trees in the forest of the Dischore Mountains, about 1000 m. altitude (Schlechter #19625 - Blooming in May 1909).

Along with *H. hellwigiana* Warburg this species is the most widespread in the province (district). In the form of the leaves it has a few variations, that are not enlarged to such a degree as in *H. hellwigiana* Warburg. Characteristics on the other hand seems to be a rather constant (fixed). The ring like thickening on the inner side of the corolla above the base is characteristic of the species. This is formed by means of the corolla being pressed inward at the bottom. The blooms are white with a rose-red middle.

Hoya anulata Schlechter

Sheet #14185 (B) 4 February 1902

Collected by Dr. Schlechter in the Ibo Mts., New Guinea

Dr. Schlechter in the Ibo Mts., New Guinea

H. 1111

4. 11. 1902

***Hoya bandanensis* Schlechter n. sp.**

A high climbing climber, branched, branches rebranched and elongated, flexible, glabrous, fleshy, loosely leaved; leaves petiolate elliptic acute or briefly acuminate, both sides glabrous, with fleshy texture, 10-12 cm. long in the middle 5-7 cm. wide, petiole fleshy about 1.5 cm. long; cymes shaped like umbels, multiflowered, peduncle now of the same length, pedicels threadlike 3-3.5 cm. long, glabrous; flowers similar to *H. diversifolia* Blume, nearly equal size and similar; with segments of the calyx lanceolate acute, margins minutely ciliate, in the middle glabrous, 0.3 cm. long; corolla rotate 5 lobed all the way to the middle, 1.4 cm. in diameter, outside glabrous, inside minutely and densely papilous, lobes ovate-triangular acute, margins recurved; with the scale of the corona fleshy horizontal, above rhomboid with apex beaked, below four sided and bilobed; anthers four sided-trapezoidal, appendages hyaline ovate, briefly acuminate; pollinia erect obliquely oblong, exterior margin with a narrow keel, translators very short, retinaculum rhomboid much smaller than the pollinia; stigma head briefly conic.

Banda-Archipelago: in the underbrush below the summit of Gunong Api (R. Schlechter # 13663, blooming in October 1901).

The flowers are white with a rose band on the petal lobes.

Published by Dr. R. Schlechter in:
1905 Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p.118, K.
Schumann und K. Lauterbach.

Hoya bandaensis Schlechter

Sheet #13663 (B) 8 October 1901

Collected by Dr. Schlechter on the Banda archipeligo, Gunon api.

***Hoya benguetensis* Schlechter.**

A twining epiphyte, climbing branched, stalks and branches threadlike elongate, flexible round, glabrous, loosely leaved, with the leaves elliptical or ovate elliptical, acuminate, glabrous, with thick coriaceous texture, with 5 primary nerves very conspicuous, 6-10 cm. long; with the cymes shaped like umbels of many flowers, with the rachis at last cylindrical, elongate, with the peduncle now short, pedicels at times nearly 7.5 cm. long, with the pedicels threadlike slender, glabrous, 1-1.3 cm. long; apparently reddish, midsize in general; with the segments of the calyx ovate obtuse, glabrous, barely 0.2 cm. long; corolla all the way to below the middle 5 lobed, rotate, outside glabrous, inside minutely and somewhat inconspicuously mealy-papulose, about 1 cm. in diameter, lobes broadly ovate, acute, about 0.3 cm. long; with the corona scales somewhat horizontal, with the tip obtuse, produced into a beak, with the outer tip obtuse, above longitudinally keeled all the way from back of the tip, channeled below, with the pollinia obliquely clavate, with the translators very short, with the retinaculum rhomboid.

Luzon, Province of Benguet, Baguio (#5979 Elmer) March 1904.

A species in leaf characteristics somewhat resembling *Hoya camphorifolia* Warburg, but well distinguished from that species by its flowers which are apparently reddish.

Published by Dr. Schlechter in :
1906 Philippine Journal of Science 1 Suppl. p.310.

Hoya benguetensis Schlechter

Sheet #5979 (B) March 1904

Collected by A.D.E. Elmer at Baguio, Benguet Prov., Luzon, Philippines

Physostelma betchei Schlechter
Hoya betchei Schlechter

Twining high climber, with slender branches, branched and rebranched, threadlike elongated, flexible, glabrous, loosely leaved, leaves outspread petiolate lanceolate-elliptic, with the base rounded, glabrous, texture leathery, 6.9-9.5 cm. long, in the middle 1.8-2.3 cm., petiole fleshy about 1 cm. long; cymes slenderly pedunculate shaped like umbels, of few flowers, peduncle round, glabrous, 5-6 cm. long; pedicels slender, glabrous, about 3.5 cm. long; with flowers similar to those of *P. papuanum* (*H. papuana*) Schlechter, similar and nearly of equal size; with the segments of the calyx ovate-oblong obtuse, 0.2 cm. long; corolla broad campanulate, 5 lobed all the way to above the middle, about 1.1 cm. long, lobes triangular-ovate obtuse, inside puberulous, margins ciliate, outside glabrous; with the scale of the corona fleshy, above oblong, briefly beaked, below oblong, longitudinally pitted, in the middle, on the back turned a little upward; anthers trapezoidal, appendage hyaline ovate obtuse, with the tip of the corona lobe a little higher; with the stigma head conic, pollinia obliquely oblong, exterior margins with raised (keeled) edges, translators short throughout, retinaculum rhomboid, minute.

Samoa: in the forest of the higher mountains (E. Bêche, flowering in December 1880)

No doubt related to *P. papuanum* Schlechter, but easily recognized through the leaves and the flowers which are hairy on the inside. This representative of the Genus appears to be closest of all to the Genus *Hoya* (subsequently placed in the *Hoya* Genus).

Published by Dr. R. Schlechter in:

1908 Botanische Jahrbucher #92 V.40 p.16 (Beiblatt zu den).

Hoya betchei Schlechter

Sheet # s.n. (B) 11 December 1880

Collected by E. Betcher in high Mts. of Samoa

Hoya betchei

***Hoya bilobata* Schlechter sp. nov.**

Epiphytic, branched with branches and stems elongated, round, puberulous, well leaved; leaves shortly petiolate broadly elliptical or somewhat orbicular, obtuse, glabrous, texture leathery, 1.7-2.2 cm. long, in the middle nearly 1.3-1.8 cm. wide, petiole about 0.3 cm. long, fleshy, with the cymes shaped like umbels, about 20 flowered, peduncle round, glabrous, 1-3 cm. long, with the pedicels threadlike, glabrous, up to 0.8 cm. long; flowers in general among the smallest; with the segments of the calyx oblong obtuse, glabrous, longitudinally barely attaining 0.1 cm.; corolla rotate, 5 lobed nearly all the way to the middle, outside glabrous, inside shortly and densely papulose, lobes decurved ovate somewhat obtuse, about 1.5 mm. long; with the scales of the corona toward the tip ascending obtuse, beaked, outer obtuse with a hump above the middle, with 2 earlike appendages above the outer apex; anther leaf tip scarcely evident; pollinia oblong, translators very small, retinaculum minute, rhomboid almost equally long.

Mindoro, Davao (420 Copeland) March 1904.

The smallest *Hoya* yet known from the Philippines. It is well distinguished by the corona scales which are produced at the back (outer) into two rather large lobes.

These lobes are in reality nothing but the otherwise simple recurved sides of horizontal corona scales, which in the case of the above species are produced beyond the dorsal apex of the scale itself.

Published by Dr. R. Schlechter in:
1906 The Philippine Journal of Science 1 Suppl. p 301-302.

Hoya bilobata Schlechter

Sheet # 420 (B) (march 1904

Collected by E.B. Copeland at Davao Mindanao, Philippines

Copeland 96d

Hoya bordenii Schlechter

A branched epiphyte in tree branches, branching stalks threadlike elongate, flexible, glabrous, loosely leaved: with leaves outspread lanceolate-oblong or narrowly elliptical, acuminate, glabrous, texture leathery, 11-18 cm. long, 2.5-4.5 cm. wide at the middle or below the middle, with the petiole short, fleshy 1.5-2 cm. long; with the cymes shaped like umbels, pedunculate, with the petiole 3-5 cm. long, round glabrous, with the pedicels threadlike, vary narrow glabrous, 2.7 cm. long; flowers similar to those of *H. parasitica* Wallich, almost equal in size, rosy; segments of the calyx ovate obtuse, toward the base sparsely puberulous, about 1.5 mm. long; corolla rotate about 1 cm. in diameter,, 5 lobed all the way to below the middle, outside glabrous, inside minute and sparsely granulous papillose, lobes ovate acute; scales of the corona horizontal, above narrowly elliptic, with the inner and exterior tip somewhat acute, with a hump (swelling) in the middle of a short linear longitudinal ridge, below with a longitudinal minute pit; leaflet of the anther apex a little extended, margins cartilaginous, narrowly cycle shaped; pollinia obliquely oblong, translators very small, retinaculum smaller, rhomboid.

Luzon, Province of Bataan, Mount Maraveles (1213 Borden) June 1904. In forest at 650 meters.

Evidently one of the species of the *H. parasitica* Wallich group, closely related to this species, however, it can be readily recognized by its long leaves and rather narrow straight corona scales.

Published by Dr. R. Schlechter in:
1906 The Philippine Journal of Science 1 Suppl. p.302.

Hoya bordenii Schlechter

Sheet #1213 (B) (June 1904)

Collected by T.E. Borden at Lamao River, Mt Merivelies, Bataan Province Luzon,
Philippines

Borden 1213.

Hoya cagayanensis* BurtonH. cagayanensis* Schlechter (unpublished)

A narrow climber. Branches flexible, round, glabrous. With elliptic leaves, texture lightly leathery, penninerved with both sides glabrous 6-8 cm. x 2.5-3 cm., petiole 1 cm. (? cm.) long +/- . With the inflorescence shaped like an umbel, with the peduncles 4-8 cm. long, with the pedicels 1.25-2 cm. long, with the lobes of the calyx glabrous, margins ciliate. Corolla about 14 mm. in diameter, with lobes outside glabrous, inside puberulous, about 6 mm. x 3.25 mm.. Corona scale ovate, internal apex erect, beaked, external somewhat obtuse, above concave, below sulcate.

Casiguran *, Tayabas Province, Luzon The Philippines Type Maximo Ramos, Philippine Bureau of Science #7374 March 1909. Others studied: M. Ramos & G Edano. BS #29062, 45730. Mc Gregor BS #23173.

* This citation is incorrect. The Type is from Cagayan, Province in Northern Luzon. Casiguran is the collecting locality for Ramos & Edano's #45730. It is in Southern Luzon, Quezon Province.

Published by C. Burton in:
1987 *Phytologist* V.8 #4 Part 2 p.b.

Hoya cagayanensis Burton
Schlechter's *H. cagayanensis* (unpublisher)

Sheet #7374 (B) March 1909)

Collected by Maximo Ramos at Cagayan Province Luzon, Philippines

Hoya calycina Schlechter n. sp.

A not much branched high climbing, half-shrub. Branches threadlike, flexible, elongated, loosely leaved, round, very shortly and minutely tomentose. Leaves spreading or outspread, petiolate, broadly oval, apiculate, somewhat cordate base, coriaceous (leathery), sparsely puberulous above, very shortly tomentose below, petiole tomentose, above slightly grooved. Inflorescence shaped like an umbel, about 10 flowered, pedicels of the peduncle puberulous. Flower like *H. albiflorae* Zipp. (*albiflora*) a little smaller. Lobes of the calyx oblong, obtuse, puberulous outside, margins minutely ciliate, a little smaller than the corolla. Corolla somewhat rotate, 5 parted all the way to the middle, outside somewhat inconspicuously sparsely puberulous, inside glabrous, lobes ovate, acute. Scales of the corona above oval, apex beaked-acuminate and back ascending high, sides a little compressed, margins keeled beneath base, anther apex a little shorter. Pollinia obliquely oblong, with the translators very small, flattened, retinaculum small, rhomboid.

A high climbing clinging vine with cord like loosely leaved branches. Leaves 16-20 cm. long, near the middle 9-11 cm. wide. Petiole 3-3.5 cm. long. Inflorescence of some 10 blooms on a peduncle about 5 cm. long. Petioles fine and with short hairs, about 2.5 cm. long. Flowers smaller than those of *H. albiflora* Zipp.. Calyx for the genus strikingly large, to the apex about 0.8 cm. long. Corolla spread out, nearly 2 cm. in diameter. Corona scales from the tip to the outer edge some 3 mm. long in front and in back almost 4 mm. high.

Northeastern New Guinea: in the fog forests of the Kani Mountains about 1100 m. altitude (Schlechter #17510 - Blooming in March 1908)

A prominently recognized species which undoubtedly has as its nearest relative *H. albiflora* Zipp. but is easily recognized by its pubescent leaves, the larger sepals and the smaller bloom. Unfortunately my material is not very extensive, since the only plant I found was close to blooming out and dropped its flowers at the slightest touch. The bloom color is white with red edged calyx lobes.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.125, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya calycina Schlechter

Sheet #17510 (B) 26 March 1908

Collected by Dr. Schlechter in the Kani Mts., New Guinea

Stems, leaf, flower, calyx, petal, sepal, ovary, fruit, seed, etc.

Hoya calycina

Mano

16.7.12

Hoya cembra Kloppenburg
Hoya leucantha Schlechter (unpublished)

Epiphytic climber or terrestrial, little branched, glabrous, well leaved; flexible; leaves erect outspread briefly petiolate, narrowly elliptic with pointed apex, glabrous, lucid, texture thinly leathery, 8-10 cm. long, below the middle 2-3 cm. wide, petiole 0.5 cm. long; few white flowers in umbels; pedicels threadlike, round, glabrous, 2.5 cm. long; with the segments of the calyx lanceolate-oblong obtuse, outside ciliate, with ligules present; corolla rotate about 1.8 cm. in diameter, triangular acute, outside glabrous, inside pubescent, with scales of the corona fleshy, horizontal, ovate, interior segments touching, narrow, below channeled, outer apex obtuse, above definitely recurved, with definite umbo, anthers a little shorter.

This species is near *H. odorata* Schlechter but differs in its narrow elliptic foliage, 8-10 cm. vs. 3,5-5 cm long. The outer surface of its sepals, which are pubescent, its pubescent inner corolla surface, especially its outer lobes which are glabrous in *H. odorata* Schlechter, its distinctive channeling of the lower surface of the corona lobes, the blocky outer corona lobe with an umbo on the upper surface near the inner lobe rather than an ornate longitudinal hump as in *H. odorata* Schltr.. Its channeling, sepals, corolla and corona differ from #5618 (B).

Published by Dale Kloppenburg in:
1990 *Fraterna*, publication of the International Hoya Association, third Quarter.

Hoya cembra Kloppenburg
Schelchter's *H. leucantha* (unpublished)

Sheet #5650 (B) (November 1906)

Collected by Elmer D. Merrill at Alag River Mindoro, Philippines

Hoya aff. mortifera

Hoya Phil. 5650

Hoya chloroleuca Schlechter

A somewhat slender twining half-shrub, with few branches. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, petiolate, lanceolate or elliptic-lanceolate, acute or sub acute, thinly coriaceous. Both sides glabrous, petioles short, glabrous, above slightly grooved. Inflorescence shaped like an umbel, about 10 flowered, pedicels of the peduncle threadlike, glabrous. Flowers among the smallest of the section. Lobes of the calyx ovate-lanceolate, obtuse, glabrous, much shorter than from the corolla. Corolla rotate 5-parted all the way to third from the base, outside glabrous, inside densely and minutely papillose-puberulous, lobes oblong acute. Scales of the corona spreading, almost horizontal, inner and outer ends barely ascending, above ovate-oblong, apex shortly triangular obtuse, sides rounded, anthers a little shorter. Pollinia oblique ovate, with the translators very short, retinaculum minutely rhomboid.

An extremely pretty clinging vine with threadlike loosely leaved branches. Leaves 6-8 cm. long 2-2.3 cm. wide in the middle. Petioles 0.5-1 cm. long. Inflorescence of about 10 blooms, umbellate, on about 7 cm. long, bare peduncles. Pedicels 0.7-1 cm. long, extremely fine and bare. Blooms small. Calyx very small, tip scarcely extending beyond 1 mm.. Corolla about 1.2 cm. in diameter. Corona scales from the apex to the outer end 1.75 mm. long.

Northeastern New Guinea: on trees in the forest of the Torricelli Mountains, about 800 m. altitude (Schlechter #20314 - Blooming in September 1909).

A species fairly well distinguished by its small blooms. Otherwise it is closer to the last species mentioned before than to the following ones. The bloom coloring is white with green corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.121. (Engler's).

Hoya chloroleuca Schlechter

Sheet #20314 (B) 22 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Hoya westfalis Schlechter

Hoya chloroleuca Schlechter

Torricelli Mts.

21. IX 09

Hoya collina Schlechter

Epiphytic, twining perennial plant woody at base, branched. Branches thread like, flexible, well foliated, round, glabrous. Leaves erect spreading or widely outspread, shortly petioled, elliptic or ovate-elliptic, obtuse, wedge shaped base, fleshy, both sides glabrous, petiole fleshy, above lightly furrowed (grooved). Inflorescence pedunculate, leaves nearly equal (the same length) like an umbel, 6-12 flowered, pedicels of the peduncle glabrous. Flowers in this section among the smallest. Similar to *H. eitapensis* Schltr. but a little larger. Segments of the calyx ovate-triangular, obtuse, glabrous, much shorter than from the corolla. Corolla rotate, 5 parted to below the middle, inside shortly and densely papillose, lobes broadly ovate obtuse. Scales of the corona spreading, elliptic, with the tip somewhat stretched outwards and forward, obtusely acuminate, outside obtuse, above longitudinally slightly thickened through the middle, sides rounded, anther barely small (I assume small). Pollinia obliquely oblong, with the translators almost missing, retinaculum rhomboid, minute.

A pretty clinging vine with cord like, well leaved branches. Leaves 3.5-5.5 cm. long, in the middle or above the middle 1.8- 2.7 cm. wide. Inflorescence umbel like., 6-12 flowered, on a bare peduncle, about 4 cm. long. Pedicels very slender, bare about 1 cm. long. Blooms in the Section rather small. Calyx about 1.25 mm long, bare. Corolla 0.8 cm. in diameter. Corona scales from the forward tip to the outer edges about 1.75 mm. long.

Northeastern New Guinea: on trees and upon shrubs in the forests of the hills above the Kanbaran at the foot of the Finisterre Mountain range about 400 m. altitude (Schlechter #18114 - Blooming in August 1908).

Externally this species is distinguishable from the two described above by the fact that its branches are thicker and fleshier and the leaves are larger. It is characteristic in the blooms and the papilla covering the inner side of the corolla and the tips of the corona scales are more horizontal. The color of the blooms are greenish white.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.111, "Die Acclepiadaceen von Deutsch Neu Guinea".

Hoya collina Schlechter

Sheet #18114 (B) 30 August 1908

Collected by Dr. Schlechter above Kambaran, Finisterre Mts., New Guinea

Hoya collina Schlechter

Hoya

Fin. 22. 10. 1908

21. 8. 11.

Hoya dischorensis Schlechter

Epiphytic half shrub, few branches, climbing. Branches threadlike, flexible, loosely leaved, circular, glabrous. Leaves spreading or outspread, shortly petioled, oblong, somewhat obtuse, acuminate, base obtuse, a little fleshy, both sides glabrous, petiole short, slightly grooved above. Inflorescences umbellate. 10-15 flowered, slightly pedunculate, pedicels of the peduncle glabrous. Flowers mid sized in the section, definitely similar to *H. montana* (montanae) Schlechter. Segments of the calyx ovate, somewhat obtuse, glabrous, much smaller than from the corolla. Corolla rotate, 5 parted to just below the middle, outside glabrous, lobes ovate, acute, toward the margins densely villose, toward the center gradually papillose-puberulous, base becoming glabrous. Scales of the corona spreading, almost horizontal, almost flat above, oblong, anterior apiculate, outside obtuse, a little elongated, sides thickly rounded, apex much shorter than anthers. Pollinia obliquely oblong, toward the base gradually a little narrow, with the translators very short, retinaculum small, rhomboid.

An ornamental clinging cord like little branched vine, branches with few leaves. Leaves 6.5-11.5 cm. long, 2.8-5 cm. wide in the middle. Petioles 0.5-1 cm. long, fleshy. Inflorescences umbellate, 10-15 flowered, on peduncles 1-1.5 cm. long. Petioles very fine, bare to 2 cm. long. Calyx lobes small, 2mm. long, bare. Corolla 1.6 cm. in diameter. Corona scales, from the apex to the outer end about 3.5 mm. long.

Northeastern New Guinea: on trees in the forest of the Dischore Mountains above Dschischungari in the Wari region, about 900 m. altitude (Schlechter #19834 - blooming in June 1909).

This species is closely allied to the above mentioned *H. reticulata* Schlechter but it has different leaf form and characteristic venation of *H. reticulata* Schlechter as well as different pubescence of the blooms and much broader corona scales. The flowers are creamy-yellow in color.

Publisher by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.116, Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya dischorensis Schlechter

Sheet #19834 (B) 14 June 1909

Collected by Dr. Schlechter in the Dischore Mts., New Guinea

Hoya

Dischorensis

1909

Hoya dolichosparte Schlechter

Epiphytic, branched, branches threadlike, elongate, loosely leaved, glabrous with numerous wart like lenticels; leaves outspread, petiolate, broadly oval, obtuse, with 5 prominent primary nerves above, both sides glabrous 9-13.5 cm. long, almost 6.5-9 cm. wide at the middle, petiole fleshy 1.5-2 cm. long; cymes shaped like umbels, many flowered, peduncle and pedicels glabrous about 2 cm. long; flowers in general mid sized; with the lobes of the calyx ovate, obtuse, glabrous, outside sparsely wart like, 2mm. long; corolla somewhat rotate, about 1.3 cm. in diameter, 5 lobed all the way to above the middle, outside glabrous, inside minutely papillose-puberulous, lobes widely ovate, briefly acuminate; with the scales of the corona at the outside slightly ascending, above ovate-elliptic, tip short and obtuse, acuminate, outer somewhat acute, lateral thickly rounded, anthers small short; pollinia obliquely oblong, erect, translators very small triangular, retinaculum rhomboid, nearly 4 times smaller than the pollinia.

Celebes: on large trees near Toli-Toli, about 10 meters altitude (R. Schlechter #20642--blooming in January 1910)

A species from the *Hoya bandaensis* Schltr. Group but with strikingly long, very high climbing branches and whitish flowers with a white corona with a red center.

Published by Dr. R. Schlechter in:

1916 Biehefte zum Botanischen Centralblatt V.35 #2 p.13-14 "Neu Asclepiadaceen von Sumatra und Celebes".

Hoya dolichosparte Schlechter

Sheet #20642 (B) 15 January 1910

Collected by Dr. Schlechter near Toli-Toli, Celebes

Hoya eitapensis Schlechter

A twining perennial branched plant, woody at the base, epiphytic. Branches round, thin, flexible and glabrous, loosely leaved. Leaves erect, spreading, elliptic, rather obtuse, with wedge shaped base, fleshy, glabrous with very short petioles, almost sessile. Inflorescences shaped like an umbel, with the peduncle longer than the leaves, 20-35 flowered, with the pedicels rather slender, unequal in length. Flowers small for the section. Segments of the calyx ovate triangular, somewhat obtuse, very minutely and very sparingly puberulous and ciliate, much smaller than the of the corolla. Corolla rotate, apex reflexed, 5 parted up to 1/3 from the base, lobes ovate acute, outside glabrous, inside very minutely pimply and puberulent. Scales of the corona horizontal, oblong, interior slightly elevated, acuminate, exterior obtuse, sides rounded and keeled, anthers barely longer. Pollinia obliquely oblong, apex somewhat curved, with the translators much shorter, retinaculum rhomboid, minute.

A pretty clinging vine with threadlike loosely leaved branches. Leaves 3-5 cm. long, in the middle 1.2-3 cm. wide. Petiole hardly 2 mm. overall. Inflorescences like an umbel on about 5 cm. long peduncles. Pedicels very slender, up to 2 cm. long, toward the apex they are very shortly and sparsely pubescent. Calyx lobes about 1.75 mm. long very shortly and sparsely pubescent. Corolla 0.8 cm. in diameter, on the inside very shortly papillose. Corona scales from the tip to the outer end about 0.2 cm. long.

Northeastern New Guinea: on trees in the forest in the vicinity of Etape, about 20 meters in altitude (Schlechter #19964. -- Blooming in August 1909).

This and the following two species I have placed at the beginning of the section, since their habitat and small flower size, are closest to the section *Otostemma*. This one differs from *H. microstemma* Schlechter by the larger leaves and with shorter corolla pubescence as well as by the narrower corona scales. Its blooms are yellowish-white.

Note: This species does not belong in the *Otostemma* Section.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.109, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya eitapensis Schlechter

Sheet #19964 (B) 11 August 1908

Collected by Dr. Schlechter near Eitape, New Guinea

Hoya elmerii Schlechter (unpublished)

This species is not the same species as *Hoya elmerii* Merrill, which was collected near Sandakan in North Borneo.

This species was never published so there is no Latin description. The sheet is in the Berlin Herbarium, Germany.

Hoya elmerii Schlechter (unpublished)

Sheet #88906 March 1907

collected by A.E.D. Elmer at Baguio, Province of Benguet, Luzon, Philippines

Hoya epedunculata Schlechter

A climbing epiphytic half shrub with few branches. Branches threadlike, flexible. well leaved, round, glabrous. Leaves spreading or outspread, petiolate, elliptic, acuminate, somewhat leathery, both sides glabrous, with the peduncle (petiole) glabrous, moderately thick, slightly grooved above. Inflorescences sessile, umbel like, few or several flowers (near five), on threadlike, glabrous pedicels. Flowers among the largest in the section, similar to *H. torricellensis* but much larger. Lobes of the calyx small, ovate, obtuse, margins minutely ciliate, outside covered with somewhat wart like outgrowths, much smaller than from the corolla. Corolla broadly campanulate (saucer shaped), 5 parted to near the middle, outside glabrous, inside papillose-pubescent, margins densely ciliate, lobes triangular, acuminate. Scales of the corona spreading, at the front ascending, above obovate, with the apex acute, outside very obtuse, sides scarcely thickened. Pollinia obliquely oblong, with the translators short, retinaculum rhomboid, minute.

A little branched epiphytic vine with cord like, well leaved branches. Leaves 11-18.5 cm. long, in the middle 4.5-7.5 cm. wide, petiole 1-1.3 cm long. Inflorescences umbel like, 1-5 flowered, without a common (combined) peduncle. Pedicels threadlike, bare, about 3.5 mm. long. Flowers in the section rather large. Calyx very small, about 2 mm. long, shortly ciliate. Corona flattened about 4.2 cm. in diameter, lobes at the edge thickly ciliate. Corona scales from the tip to the outer edge about 3.5 mm. long.

Northeastern New Guinea: blooming in the forests of the Torricelli Mountains about 900 m. altitude (Schlechter #20102 - Blooming in September 1909).

As was already mentioned the species is closely related to *H. torricellensis* Schlechter. The reason, that caused me to regard both plants as separate species are the following: with *H. epedunculata* Schlechter the leaves are wider, the inflorescences are sessile, the corolla is large, the calyx and the corolla lobes are ciliate and the corona scales are shorter. With *H. torricellensis* Schlechter we have smaller blooms in umbels with longer peduncles, calyx and corolla not ciliated, as well as longer corona scales, also the pollinia are wider. The blooms are rose- red with yellowish-white corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.133.

Hoya epedunculata Schlechter

Sheet #20102 (B) 8 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Det. reserved. is not second form a prothallium

Hoya exilis Schlechter

An extremely slender, small not very branched climber. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, elliptic-lanceolate, obtuse, long- acuminate, texture for the genus thin, both sides glabrous, petiole glabrous, above slightly grooved. Inflorescences shaped like an umbel, 6-15 flowered, pedicels of the peduncle very slender, threadlike, glabrous. Flowers among the smallest in the section, almost glabrous. Lobes of the calyx small, lanceolate-ovate, subacute, glabrous, much shorter than from the corolla. Corolla somewhat rotate, 5-parted all the way to one third from the base, outside glabrous, inside at the base minutely puberulous, central portion glabrous, lobes recurved, rhomboid-ovate, acute. Scales of the corona spreading, above oblong, with the apex ascending, shortly acuminate, outside obtuse, sides rounded-fleshy. Pollinia obliquely-ovate, with the translators very small, retinaculum rhomboid, minute.

An extremely pretty clinging vine with threadlike loosely leaved branches. Leaves very thin textured, 5-10 cm. long, in the middle 1.5-3.3 cm. wide. Petioles 0.4-0.7 cm. long. Inflorescences umbellate 6-15 flowered, on a very slender peduncle, 5-6 cm. long. Pedicels very fine threadlike, 1.5-2 cm. long. Calyx very small, lobes about 1 mm. long. Corolla 1.1 cm. in diameter. Corona scales short and flashy, from the apex to the outer rim barely over 2 mm.

Northeastern New Guinea: on trees along mountain brooks of the Albo, about 300 m. altitude (Schlechter #16172 - Blooming in June 1907); on trees in the Kani Mountains about 700 m. altitude (Schlechter #17865 - Blooming in June 1908).

A beautiful species easy to recognize by means of its very thin branches and the diminished, thin texture of the leaves. The small bloom size brings it near *H. chloroleuca* Schlechter, however it is very different from that one in the corolla scales, The coloring of the flowers are greenish-white.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.121, Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya exilis Schlechter

Sheet #17865 (B) 26 June 1908

Collected by Dr. Schlechter in the Kani Mts., New Guinea

Silene, 17865, 17866

Hoya

Hoya

Hoya

***Hoya flavescens* Schlechter.**

An epiphytic half shrub, branched, twining. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, oblong or lanceolate-oblong acuminate., base somewhat wedge shaped, rounded, fleshy, glabrous, petiole short, somewhat fleshy, above lightly grooved. Inflorescences slenderly pedunculate, umbellate, 10-20 flowered, peduncle and pedicels slender, glabrous. Flowers in the section midsize, similar to *H. ischnopus* Schlechter. Leaflets (lobes) of the calyx ovate, obtuse, glabrous, much shorter than from the corolla. Corolla almost ovate, 5 lobed divided to below the middle, outside glabrous, inside densely and minutely papillose, with the margins inside somewhat villose-puberulous, at the base somewhat tufted, lobes ovate, somewhat obtusely acuminate, margins slightly recurved. Scales of the corona horizontal, spreading, above elliptic-oblong, with the apex obtusely acuminate, outside obtuse, sides thickly rounded, anthers a little shorter. Pollinia obliquely oblong, with the translators very short, retinaculum rhomboid, three times shorter than pollinia.

A pretty clinging vine with cord like, loosely leaved branches, leaves 10-16 cm. long, in the middle 3.7-4.3 cm. wide. Petioles 0.5-1.5 cm. long. Inflorescences umbellate, 10-20 flowered, with peduncles 5.5-6.5 cm. long. Pedicels very fine, bare to 1.7 cm. long. Calyx lobes very small, about 1.5 mm. long. Corolla about 1.6 cm. in diameter. Corona scales from the apex to the outer end, barely 0.3 cm. long.

Northeastern New Guinea: on trees in the forest of the Kani mountains, about 800 m. altitude. (Schlechter #17623 -- blooming in April 1908) Though the thick hairs on the margins of the corolla lobes, it is related to the species *H. marginata* Schltr., but it has much narrower and with smaller leaves, the flowers on the inside are papillose and with considerable wider corona scales.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.112-113, "Die Asclepiadaceen von Neu Guinea".

Hoya flavescens Schlechter

Sheet #17623 (B) 28 April 1908

Collected by Dr. Schlechter in the Kani Mountains, New Guinea

Hoya gigas Schlechter

A high climbing branched half shrub, branches threadlike, flexible, loosely leaved, round, glabrous, minutely and softly tomentose. Leaves erect spreading or outspread, oblong or elliptic oblong, acuminate, base rounded, glabrous above, below very shortly tomentose, petiolate, with the petiole minutely tomentose, above lightly grooved. Inflorescences pedunculate, shaped like an umbel. 3-7 flowered, pedicels of the peduncle of equal length, minutely tomentose. Lobes of the calyx somewhat rounded, unequal, very shortly minutely tomentose, much shorter than from the corolla. Corolla almost rotate, largest in the Genus, 5 parted all the way to above the middle, outside sparsely puberulous, inside microscopically papillose (pimply), at the base a ring of long soft straight ascending hairs, lobes triangular acute, with ciliate margins. Scales of the corona almost round-oval, with the apex shortly beaked, in the center concave, outside very blunt (rounded). Pollinia sickle shaped, with the translators curved, a little shorter than the pollinia, retinaculum rhomboid, a little shorter than the pollinia.

A magnificent high climbing vine, with cord like, loosely leaved branches. Leaves 9-11 cm. long, in the middle 4.2-5.5 cm. wide. Petiole 1.5-2 cm. long. Inflorescences in umbels, 3-7 flowered on a 2.5-3 cm. long, very shortly tomentose peduncle. Pedicels 2.3-3 cm. long, very shortly tomentose. Blooms very large for the section, similar to *H. lauterbachii* K. Schumann, almost of equal size. Sepals approximately 6-8 mm. in diameter. Corolla very broadly bowl shaped, about 8.2 cm. in diameter when spread out. Gynostegium about 1.4 cm. high. Corona scales broad and short, from the apex to the outer rim 7 mm. long.

Northeastern New Guinea:: on trees in the forests of the Gomadjidji, on the Waria, about 450 meters altitude (Schlechter #19389 - Blooming in May 1909).

In this species there is a close relationship to *H. lauterbachii* k. Schumann with about the same size flowers (bloom dimensions). The two species are easy to tell apart, however for with *H. lauterbachii* K. Schumann, the corolla is more deeply bowl shaped and inside especially toward the middle, has thick velvet like hairs. The blooms of the specie are red with a yellow corona, with a brown band.

Published by Dr. R. Brown in:

1913 Botanische Jahrbucher V.50 p.136, "Die Asclepiadaceen von Neu Guinea".

Hoya gigas Schlechter

Sheet #19389 (B) 9 May 1909

Collected by Dr. Schlechter at Gomadjidji on the Waria River, New Guinea

Hoya glabra Schlechter

Twining high climber, branched, epiphytic; branches and branchlets threadlike, elongate, flexible, glabrous, loosely leaved; leaves outspread ovate acuminate, with the base rounded, glabrous, texture leathery, 14-16 cm. long, below the middle 7.5-9.5 cm. wide, with the 3 primary nerves especially conspicuous; petiole thick 2.5-3.2 cm. long; cymes pedunculate, shaped like umbels, 15-25 flowered,; peduncle thick, round, glabrous 5-6 cm. long, pedicels threadlike, glabrous 1.5-2 cm. long, glabrous; flowers in general midsize, purplish; with the segments of the calyx ovate obtuse, glabrous, margins to a degree only, ciliate, barely 0.2 cm. long; corolla somewhat rotate about 1 cm. in diameter, 5 lobed all the way to below the middle, lobes ovate acute, apex reflexed, with the tip to a degree only somewhat inconspicuously puberulous (downy), otherwise glabrous; with the scales of the corona fleshy, horizontal, above the middle broadly pitted; anthers trapezoidal, with the appendages hyaline, ovate obtuse, with the apex of the corona barely exceeding; pollinia oblique cuneate-oblong, exterior margin keeled, translators very short, retinaculum minute; with the head of the stigma conic.

Borneo: On trees in the Forest at Long-Wahau (Schlechter #13458, flowering in August 1911).

Most closely allied with *H. latifolia* Blume.

Published by Dr. R. Schlechter in:

1908 Botanische Jarbucher , Bieblatt V,40 #92 p.13 "Borneo Is., Molucca

Hoya glabra Schlechter

Sheet #13458 (B) 2 August 1901

Collected by Dr. Schlechter at Long-Wahau, Borneo

Bl. terminali.

Hoya glabra Schlechter

Long-Wahau JBR 1901

Hoya gracilipes Schlechter

Epiphytic on the trunks of trees, high climbing, branched, branches rebranched, threadlike, flexible, round, glabrous, loosely leaved, occasionally rooting; leaves spreading outspread, lanceolate or elliptic-lanceolate acuminate, both sides glabrous, texture leathery, shortly petiolate, 7.5-10 cm. long, below the middle 2-3 cm. wide. petiole 0.4-0.7 cm. long; with the pedicels very slender. round, glabrous, about 2 cm. long; with umbels 8-12 flowered; with the segments of the calyx oblong obtuse, margins minutely ciliate, otherwise glabrous, about 1.5 mm. long; corolla rotate 1.2 cm. in diameter, 5 lobed all the way to the middle, outside glabrous, inside densely and briefly granulous-puberulous, lobes ovate somewhat acute, margins recurved, 0.5 cm. long; corona fleshy, scales horizontal, ovate obtuse, apex short and acutely beaked, in the middle longitudinally somewhat keeled thickened, on the back ovate, longitudinally sulcate, with the anthers broadly trapezoidal, with the appendages hyaline ovate briefly acuminate; with the pollinia oblong gradually longitudinally thickened, translators small, retinaculum obtuse, base excised, many times smaller than the pollinia, with the head of the stigma conic.

Northeast New Guinea (Kaiser Wilhelmsland): On trees in the forest of the Torricelli Mountains, altitude about 1100 meters (R. Schlechter #14478 flowering in April 1902).

A very characteristic species distinguished in its slight appearance from any other species through its very slender habit and through the very thin leaves and narrowly slender peduncles of the umbel.

Published by Dr. R. Schlechter in :

1905 Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p. 363 (K. Schumann und K. Lauterbach).

Hoya gracilipes Schlechter

Sheet #20213 (B) 15 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Illustrations

Hoya

Torricelli-Mts.

18.3.09

Hoya gracilis Schlechter

Epiphytic, slender, twining, high climbing, branched; branches rebranched, threadlike, elongate, flexible, glabrous, loosely leaved, with adventitious roots (rooting); leaves outspread, briefly petiolate, lanceolate-elliptic acute or somewhat obtuse, with the base wedge-shaped glabrous, lucid, texture thickly leathery, 5.5-7.5 cm. long, near the middle 1.8-2.3 cm. wide, with the petiole moderately thick 0.5-1 cm. long, glabrous; with cymes shaped like umbels, narrowly pedunculate, 20-30 flowered, with the pedicels threadlike 1.2-2 cm. long; flowers similar to *H. lacunosa* Blume, nearly the same size; with the segments of the calyx oblong obtuse, glabrous, scarcely 1.5 mm. long; corolla somewhat rotate recurved, about 0.7 cm. in diameter, 5 lobed all the way to below the middle, outside glabrous, inside minutely papillose-puberulous, with the lobes ovate shortly acuminate; with the scale of the corona, tip and outer part, turned upward, above elliptic-lanceolate with the tip shortly beaked, with the anthers a little shorter, below along the outer side are two ascending lobes, obtuse the superior (upper) part of the scale projected well above; with the anthers trapezoidal, appendages ovate, hyaline; with the pollinia obliquely oblong, translators almost lacking, retinaculum minute rhomboid; with the head of the stigma conic; with the follicles narrowly spindle shaped, glabrous, produced gradually into a beak about 11 cm. long, in the middle almost 0.3 cm. in diameter.

Celebes: near Talisso (by a native named Sammlers) blooming in June 1886.

I present this plant in the character of (comparison) of *Hoya lacunosa*. It is divergent in the form of the longer leaves as well as in comparison somewhat of the corona.

Published by Dr. R. Schlechter in:

1908 Botanische Jahrbucher V.40 #92 p. 14, (Beiblatt zu den).

Hoya gracilis Schlechter

Sheet # s.n. 9 June 1886

Collected by Samllers at Talisso, Celebes

Hoya

Talisso

Celebes.

Hoya halconensis Kloppenburg.
H. halconensis Schlechter (unpublished)

Branches thick 0.5-0.6 cm. in diameter, glabrous, with elongated internodes 18 cm. (long) . Leaves 9-12.5 x 4-6 cm, many smaller, glabrous, ovate-elliptic apex briefly acute, acuminate, with the base widely rounded, Peduncle 3.0 cm. long, rachis enlarged about 2.0 cm. long. Pedicels hirsute,, threadlike, round. With segments of the calyx ovate, hirsute, outside 0.3 cm. long with ligules present. Corolla lobes widely ovate, acute, nearly apiculate, definitely lobed about 2 cm. in diameter. With scales of the corona obtuse, inner apex somewhat briefly beaked, outer somewhat obtuse, longitudinally ridged down the center, inner apex with a keel, below longitudinally channeled. Anther apex extended. Pollinia oblong, translators linear, retinaculum rhomboid, laterally compressed.

The foliage of this species is similar to that of *H. mindorensis* Schlechter, although more broadly rounded at the base much like *H. cardiophylla* Merrill. It has the large pencil sized stems like *H. angustisepala* Burton, like this species its outer coronal lobes are blunt although the very apex of this species is somewhat more narrowly rounded. Like *H. bordenii* Schlechter it has a similar longitudinal ridge on the upper surface of the corona scale extending from apex to apex. It is , however, distinct from any of these species.

Mt. Halcon, Mindoro, Philippines in a mossy forest at 900 meters altitude (Merrill #5674) November 1906. Flowers with faint odor, purplish outside, yellowish within.

Published by Dale Kloppenburg in:
1990 Fraterna 3rd Quarter. Publication of the International Hoya Association.

Hoya halconensis Kloppenburg

Schlechter's *H. Halconensis* (unpublished)

Sheet #5674 (B) (November 1906)

Collected by Elmer D. Merrill on Mt. Halcon Mindoro, Philippines

Hoya

Philippina 5634.

***Hoya halophila* Schlechter.**

An epiphytic branched, twining half-shrub. Branches threadlike, flexible, well leaved, round glabrous. Leaves spreading or outspread, petiolate, broadly ovate or somewhat round-ovate, briefly acuminate, base very obtuse, both sides glabrous, lucid above, opaque below, fleshy. Cymes long, peduncled, shaped like an umbel, generally longer than the leaves, 15-25 flowered, pedicels slender, glabrous. Segments of the calyx ovate, obtuse, glabrous, margins somewhat inconspicuously ciliate, much smaller than from the corolla. Corolla revolute, 5 parted all the way to one third from the base, lobes ovate, acuminate, outside glabrous, inside papillose, except the concealed wedge shaped terminal Scales of the corona decurved, outside oblanceolate-elliptic, inner (anterior) portion acuminate, outer (posterior) portion obtuse, two oblong ears extending beyond the outer apex, anthers almost equal. Anthers small somewhat acute. Pollinia obliquely oblong, almost sickle shaped, with the translators shortly triangular, oblique, retinaculum rhomboid, minute.

An ornamental clinging vine with threadlike branches. Leaves 3.5- 5 cm. long, below the middle 2.3-3.4 cm. wide, petiole 3-4 mm. long, fleshy. Inflorescences well umbelled, with the peduncle 5-6 cm. long. Pedicels up to 1.3 cm. long. Calyx lobes about 1.5 mm. long. Corolla outspread about 9 mm. in diameter. Corona scales with gynostegium forming a broad cone, 3 mm. long.

Northeastern New Guinea: on trees in the forest along the beach at Etape, about 10 m. altitude (Schlechter #19968 - Blooming in August 1909).

So far as one is allowed to make a judgment at the present time, this species with very wide leaves is different from *Hoya litoralis* Schlechter and from *Hoya inconspicua* Hemsley. I had the experience to be sure, with the species of the same section from the Philippines, in which the leaves vary greatly in their size and width, but here the dissimilarities are too vividly apparent. It seem to me moreover, that the gynostegium of *Hoya litoralis* Schlechter is higher and the corona scales are narrower. Moreover, the reddish blooms are brighter.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.107, "Die Asclepiadaceen von Deutsch Neu Guinea ".

Hoya halophila Schlechter

Sheet #19968 (B) 17 August 1909

Collected by Dr. Schlechter at Eitape, New Guinea

Hoya

Eitape

17. VIII. 09.

Hoya hypolasia Schlechter

A high climbing half shrub with few branches. Branches threadlike, flexible, loosely leaved, round, at first minutely and softly puberulous, soon glabrous, occupied with numerous wart shaped lenticels. Leaves spreading or outspread, petiolate, lanceolate, acuminate, base somewhat cordate, leathery texture, glabrous above, lucid, shortly and densely puberulous below, petiole grooved above, very shortly and softly puberulous. Inflorescences shaped like an umbel, about 10 flowered, long pedunculate, peduncle glabrous, with the pedicels very slender. Lobes of the calyx small, ovate, obtuse, margins shortly ciliate, much shorter than from the corolla. Corolla recurved, 5 parted all the way to one third from the basal area, glabrous outside, very minutely papillose inside, lobes broadly rhomboid-ovate, acute. Scales of the corolla compressed above, thickly keeled above, scales visibly obliquely squared, apex shortly acute, anthers somewhat short. Pollinia obovoid-oblong like, with the translators short over- all, retinaculum oblong like.

A high climbing clinging vine with slender cord like, loosely leaved branches. Leaves 12-20 cm. wide. Petiole very short, softly pubescent, about 1 cm. long. Inflorescences umbellate, about 10 flowered, on a 5 cm. long, shortly hirsute peduncle. Pedicels bare, about 5 cm. long. Flowers like those of the previous species. Calyx small about 2 mm. long. Corolla spread out, about 2.1 cm. in diameter. Corona scales, from the tip to the outer edge 3 mm. long, at the front 3.5 mm. high.

Northeastern New Guinea: on trees in the forest of the hills of the Wabe river at the foot of the Finisterre Mountains, about 400 m. altitude (Schlechter #18075 - Blooming in July 1908).

Indeed the species is distinguished from *H. piestolepis* Schlechter through the pubescence, branches subsequently covered with many lenticels and by the long narrow thickened leaves, whose undersides are thickly covered with short hairs. In the corolla, both species are similar but in the corona scales completely different, for in the ones in hand, they are by far not so strongly compressed and are much smaller than those of *H. piestolepis* Schlechter. The flowers are yellowish-white, outside lightly overlaid with red.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.123-124, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya hypolasia Schlechter

Sheet #18075 (B) 27 July 1908

Collected by Dr. Schlechter on Wabe River, New Guinea

Hoya incurvula Schlechter

Epiphytic or terrestrial, branched, twining, branches threadlike, loosely leaved; leaves outspread petiolate, ovate elliptic, obtuse, fleshy, glabrous, margins thickened below, 2.5-4 cm. long, above the middle 1.2-2 cm. wide, petiole fleshy, thick 3-5 mm. long; cymes shaped like umbels, multiflowered, peduncle about 3-4 cm. long, with the pedicels 5-12 mm. long, threadlike, glabrous, with the lobes of the calyx ovate obtuse, glabrous, outside sparsely warty, 1.5 mm. long; corolla recurved with the tips rolled up, flattened about 7 mm. in diameter, deeply 5 lobed, outside glabrous, lobes ovate acute, inside apex turned back, protected (concealed), with exceptional dense papilla; with the scale of the corona decurved, nearly oblong, above oval apiculate, lobes below scaly tongue like, apex (i.e. back) incurved obtuse, leaflet longitudinally extended nearly double; with the leaflets of the anthers distinct, apex over topping; with the pollinia obliquely oblong; translators small, retinaculum minute, narrowly rhomboid.

Celebes: on trees in the forest at the foot of Lokon (Minahassa) about 800 meters altitude (R. Schlechter #20451 Type) flowering in Nov. 1909.

Related to *H. halophyla* Schlechter and *H. intermedia* Schlechter recognized from the other species of *Otostemma* Section through the auricle of the corona scales bent inwards at the points.

Note: This species does not conform to the *Otostemma* Section.

Published by Dr. R. Schlechter in:

1916 Beihefte zum Botanischen Centralblatt V.34 #2 p.14 "Neu Asclepiadaceen von Sumatra und Celebes".

Hoya incurvula Schlechter

Sheet #20451 (B) 20 November 1909

Collected by Dr. Schlechter on Lokon River, Celebes

Hoya

Kakassien

27. X 69.

***Hoya intermedia* Schlechter (unpublished)**

This name is mentioned by Dr. Schlechter in the type description of *H. incurvula* Schlechter and placed in the *Otostemma* section along with *H. halophylla* Schlechter. These species do not belong to the *Otostemma* Section. They are in the *Acanthostemma* Section or a closely related section.

Dr. A. D. E. Elmer in Leaflets of Philippine Botany (1938) p. 3574 mentions in his description of *H. angustifolia* Elmer "The foliage of our proposed new species is very similar to that of various specimens in the herbarium named *Hoya intermedia* Schlechter an unpublished species".

Hoya intermedia Schlechter (unpublished)

Sheet #5177 (B) 1906

Collected by W.I. Hutchinson at Zamboanga Province Mindanao, Philippines

Hoya ischnopus Schlechter - *Dischidia hellwigii* Warburg in Engl. Bot. Jahr. XVIII (1893) p. 205.

Northeastern New Guinea: on trees in the forest in the neighborhood of Eitape, about 20 m above sea level (Schlechter #19965 -- blooming in August 1909). On trees of the beach forests at Bulu, about 10 m above sea level (Schlechter #16128 -- blooming in May 1907); epiphytic in secondary forests at Kelel, in the Minjem Valley about 150 m altitude (Schlechter #16228 -- blooming in July 1907); in trees on the banks of the Maiyen at Marakum and Meireka, about 50-100 m altitude (Schlechter #17923 -- blooming in July 1908) on trees and beach at Kedam not far from Finchhaven (F.C. Hellwig #384 -- blooming in March 1889).

I believe I am not mistaken when I identify all the numbers here introduced with the original of *Dischidia hellwigii* Warburg. The original in the Berlin museum shows distinctly that Warburg described and proposed the species from an incomplete *Hoya* specimen. The parts at hand all agree so well with the numbers here introduced, that I have no question but to declare my plants a Warburg species (not a *Dischidia*).

Because a *H. hellwigii* Warb. already exists, I have found it necessary to choose an entirely new name.

To the Warburg description may be added the following explanation: Segments of the calyx ovate, obtuse, glabrous, much shorter than from the corolla. Corolla rotate, 5 parted to below the middle, about 1.2 cm. in diameter, lobes ovate acute, densely papillose-puberulous, base and middle glabrous. Scales of the corona horizontal, elliptic, apex subacute, otherwise obtuse, anthers much shorter. Pollinia obliquely obovate-oblong, with the translators very much smaller, retinaculum rhomboid very minute.

Throughout the main portion and middle the corolla section is bare, moreover the rest on the inside (surface) is broadly and thickly pubescent. The corolla appears to be surrounded by a complete pubescent rim. Similar phenomena are also known among other species. e.g. *H. marginata* Schlechter. The blooms are brown yellow at times light flesh colored or salmon with bright rose middle and a light yellow corona.

Note: This is not the original description of this species. The original was made by Dr. Warburg in Botanische Jahrbucher V.18 in 1883 p. 205-206 as *Dischidia helwigii* Warburg.

Hoya ischnopus Schlechter

Sheet #19965 (B) 12 August 1909

Collected by Dr. Schlechter near Eitape, New Guinea

Hoya ischnopus

Hoya

Eitape

12 Aug 09

Hoya kenejiana Schlechter

An epiphytic half shrub, with twining branches. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, petiolate, narrowly oblong, somewhat obtuse, base rounded, fleshy, both sides glabrous, with a short petiole, lightly grooved above. Inflorescences pedunculate, shaped like an umbel, 15-25 flowered, pedicels very slender, glabrous. Flowers medium sized in the section, definitely similar to *H. ischnopus* Schlechter. Segments of the calyx ovate, obtuse, glabrous, much shorter than from the corolla. Corolla rotate, 5 lobed to below the middle, lobes ovate, somewhat acute, toward the margins densely papillose- puberulous, otherwise glabrous. Scales of the corona horizontally spreading, ovate-elliptic above, center slightly concave, with the apex shortly acuminate, outside obtuse, toward the exterior margins somewhat attenuate, laterally rounded, anthers somewhat shorter. Pollinia obliquely oblong, base somewhat narrow, with the translators almost non existent, very short, retinaculum minutely rhomboid.

A pretty clinging vine cord like, loosely leaved branches. Leaves 6-10 cm. long, in the middle 2-2.8 cm. wide. Petioles 0.5-0.8 cm. long. Inflorescences formed like an umbel, 15-25 flowered on a naked peduncles 2-3.5 cm. long. Pedicels very slender, bare, up to 2.5 cm. long. Calyx lobe (tip) small, about 1.75 mm. long. Flowers flattened (spread out) about 1.4 cm. in diameter. Corona scales 3 mm. long from the apex to the outer end.

Northeastern New guinea: blooming in the Galerie forest by Kenejia, about 150 m. altitude (Schlechter #18393 - blooming in October 1908).

From the latter species mentioned above, this one differs in that its pubescence areas on the edge of the corolla lobes is not sharply defined towards the middle, but goes gradually over into the naked part of the lobes. The species also resembles *H. ischnopus* Schlechter but has shorter peduncles and smaller narrower leaves. The coloring of the blooms is bright greenish-yellow.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V. 50 p.114 "Die Asclepiadaceen von Deutsch Neu Guinea"

Hoya kenejiana Schlechter

Sheet #18393 (B) 14 October 1908

Collected by Dr. Schlechter in Galerie Forest near Kenejia, New Guinea

Rit. L. K. g. w. h. M. g. p. d. h.

Hoya

Ac-¹/₁₇ E. n. p. p.

M. I. S.

Hoya leucorhoda Schlechter

A high climbing branched half-shrub. Branches threadlike, flexible with lax foliage. Leaves spreading or outspread, petiolate, ovate acuminate, base rounded, texture leathery, both sides glabrous. Inflorescences shaped like an umbel, subglobose, 20-30 flowered, peduncle almost two times longer than the pedicels, pedicels threadlike glabrous. Flowers among the largest in the section. Lobes of the calyx ovate obtuse, glabrous, much shorter than from the corolla. Corolla somewhat rotate, five parted one third from the base, outside glabrous, inside minutely and densely papillose- puberulous, center toward the base somewhat glabrous, lobes ovate acute. Scales of the corona spreading, ascending slightly toward the exterior margins, ovate above, center minutely pitted, with the apex obtusely acuminate, outside obtuse, sides rounded, anthers much shorter. Pollinia obliquely ovoid-oblong, with the translators short, retinaculum small, rhomboid.

An elegant vine with cord like loosely leaved branches. Leaves 7- 11 cm. long, 4.5-6 cm. wide in the middle. Petiole bare, upper side slightly furrowed, 1.5-2 (cm.) long. Inflorescences in umbels, 20-30 flowered almost spherical, on a slender, 3-4.5 cm. long peduncle. Pedicels bare, threadlike, about 2 cm. long. Calyx lobes very small, hardly 2.5 mm. long. Corolla remarkably prominent for the section, widespread about 2 cm. in diameter. Corona scales from the apex to the outer end, about 3.5 mm. long.

Northeastern New Guinea: in the forest of the Finisterre Mountains, about 1200 m. altitude (Schlechter #18212 - Blooming in September 1908).

With this group begins another subgroup of the *Eu-Hoya* section, which is distinguished by the leathery, non fleshy leaves. The species in this subgroup is distinguished by broad leaves and remarkable prominent flower umbels of up to 30 flowers. The flowers are pure white with a purplish-red corona. The species deserves to be introduced into European gardens.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 "Die Asclepiadaceen von Deutsch Neu Guinea" p.119

Hoya leucorhoda Schlechter

Sheet #18212 (B) 6 September 1908

Collected by Dr. Schlechter in the Finestere Mts., New Guinea

***Hoya litoralis* Schlechter**

Epiphytic on the trunks and branches of trees, high climbing, branched, branches rebranched, threadlike, flexible, round, glabrous, loosely leaved, with aerial roots; leaves outspread, spreading, elliptic-lanceolate, acuminate, with the base generally narrowing to the petiole, both surfaces glabrous, texture thickly leathery, 4.5-7 cm. long, near the middle 1.3-2.2 cm. wide, petiole about 0.7 cm long with the peduncles slender, round, glabrous 7-8 cm. long, rachis thickened at length cylindrical; with the pedicels threadlike, about 1.5 cm. long, glabrous; umbels of 10-20 flowers; flowers in general among the midsize ones, like the flower of a single rose, about 0.7 cm in diameter; with the segments of the calyx ovate-oblong, obtuse, glabrous, longitudinally barely exceeding by 0.1 cm.; corolla recurved 0.4 cm. long, 5 lobed all the way to below the middle, outside glabrous, inside apex excepted minutely and densely puberulous, lobes ovate acute, with the margin minutely ciliate, with the scales of the corona fleshy, descending toward the apex, above lanceolate, with the base briefly excised, in the middle rhomboid, horizontally expanded, apex acute, anthers trapezoidal, appendages hyaline ovate acute; with the pollinia obliquely somewhat cycle shaped oblong, with the exterior margin narrowly keeled, translators very small wedge shaped, retinaculum rhomboid, minute; with the head of the stigma conic; follicle somewhat spindle shaped, beaked, glabrous, about 10 cm. long, below the middle 0.6 cm. in diameter.

Northeast New Guinea (Kaiser Wilhamsland): On trees an the beach by Potsdam harbor (R. Schlechter #13675 blooming in October 1901).

I am very surprised that this one, that is certainly not rare on the beaches of New Guinea from Berlin Harbor to Constantine Harbor and distinguished through the small blooms, has not already become known.

Published by Dr. R. Schlechter in:

1905 Nachtrage zur Flora der Deutschen Schutzgebeiten in der Sudsee p.363-364.

Hoya littoralis Schlechter

Sheet #13675 (B) 16 October 1901

Collected by Dr. Schlechter at Potsdam Harbor, New Guinea

Stylidium - small, in bud only

Hoya

Palaeoloma Halpern.

K. I. 1791.

Hoya luzonica Schlechter

A twining climber branched with branches round glabrous, very fleshy, leaves far apart; with the leaves outspread oblong obtuse or acute; both surfaces glabrous, leathery-fleshy about 9-13 cm. long, in the middle almost 5-6 cm. wide, petiole somewhat fleshy, glabrous 1.5-2 cm. long; flowers in many flowered umbels at alternating axils, erect, peduncle fleshy, round, very glabrous 0.8 cm. long, with pedicels fleshy erect, threadlike, glabrous, 1-1.5 cm. long, after flower opening thickening; with the segments of the calyx broadly ovate-oblong obtuse, or somewhat orbicular, glabrous. 0.3 cm. long, about 1/2 smaller than the corolla; corolla somewhat rotate 11 mm. in diameter, lobes broadly triangular, outside glabrous, inside densely papillose 0.6 cm. long, with the base connate, with the scales of the corona broadly elliptic, spreading, from the base deltoid-lanceolate, toward the apex attenuate-obtuse, anthers barely longer; with anthers somewhat 4-sided, margins cartilaginous, at the base barely enlarged, obtuse, very conspicuous, with the appendages hyaline, broadly oblong obtuse inflexed toward the stigma, marginal cavity thickened, briefly emarginate. With the capsule 12 cm. long 7 mm. wide, seeds lanceolate, flattened 6 mm. long 1.5 cm. wide; coma white 1.5 mm. long.

Luzon Island, Province Bataan, Mount Meravales., Laniao River (Merrill #2565): Province Zambales (Warburg #13765, Type).

I have no difficulty recognizing this species with the completely glabrous plant with the umbel held upright on a long peduncle. The species is known through the large calyx and the circumference of the nearly triangular corona scales.

Published by Dr. R. Schlechter in:

1904 Fragmenta of the Florae of the Philippines V.1 p.130-131 (Perkins).

Dr. E.D. Merrill in "Species Blancoanae (1918) p.318 Bureau of Science Manila, placed this species into Synonym (comb. nov.) with *Hoya meliflua* (Blanco) Merrill.

Hoya luzonica Schlechter

Sheet #13765 (B) ?

Collected by Dr. O. Warburg, Zambales Province, Luzon, Philippines

Hoya madulidii Kloppenburg
H. coronarioides Schlechter unpublished

An epiphytic climber, vigorous grower, with few branches, branches fleshy, ciliate (pubescent) thick, round, with internodes elongated, 13 cm. long, nodes broadened, leaves deciduous, leaving a noticeable circular scar. Petiole about 2.3 cm. long, thick, straight or curved, channeled above. Leaves spread, hanging down opposite, broadly sunken below (moderately concave), margins recurved, below ciliate (pubescent) and with the prominent midrib densely ciliate, above sparsely ciliate, broadly ovate, base broadly rounded, apex obtuse, apiculate 9-13 cm. long by 7 cm. wide, midrib thick and straight, prominent, below pubescent, above depressed, nerves obscure; with erect peduncles densely pubescent, fleshy about 2-2.5 cm. long, pedicels fleshy, round, thicker near the flower, subtended by earlike bracts on the rachis, densely ciliate. With the segments of the calyx overlapping $\frac{2}{3}$, 0.4 cm. long and wide (round), with no ligules, outside densely ciliate, inside cup shaped and glabrous, cilia 0.04 cm. long. Corolla inside glabrous, punctate, reflexed, outside pubescent, black, margins recurved with the apex acute, not inflexed; column elongated about 0.7 cm. long.

Caningag Creek, Surigao Province, Mindanao, Philippines (#357 Bolster) May-June 1906. Found at 400' altitude, a 60 foot vine hanging from trees over the river at the top of a falls.

This species differs from *H. ciliata* Elmer ex Burton in having a distinctly strong long staminal column, whereas *H. ciliata*'s is very short and thick, it differs from *H. pulgarensis* Elmer for the same reason. The column of the species is so distinctive that it is a character that no taxonomist would overlook in a description. This species is in the *Eriostemma* section. This species has a different color crown angle, shape and stigma type, with a distinctive retinaculum. This species is mistakenly sold in commerce as *H. ciliata* a very rare species not found in most herbaria.

Published by Dale Kloppenburg in:
1990 *Fraterna* (Journal of the International Hoya Association) 3rd Quarter.

Hoya madulidii Kloppenburg
(Schlechter's *H. coronarioides* unpublished)

Sheet #357 (B) (May-June 1906)

Collected by F.H. Bolster at Surigao Province Mindanao, Philippines

***Hoya marginata* Schlechter.**

Epiphytic on the branches and trunks of trees, high climbing, branched, branches rebranched, elongate, threadlike, round, glabrous, flexible, loosely leaved, with aerial roots; leaves outspread elliptic-ovate acuminate, both sides glabrous, texture thick, leathery, embellished with 5 -7 nerves somewhat fan shaped 13-17 cm. long, near the middle, 5.5-10 cm. long, petiole thick up to 4 cm. long; peduncle generally hanging down, round, glabrous, 4-5 cm. long, with the rachis thickened ; umbel of up to 20 flowers; flowers in general among the midsize, about 1.3 cm. in diameter; corolla rotate, 5 lobed all the way to near the middle, 0.6 cm. long, outside glabrous, lobes ovate- triangular, with the margins and apex recurved, margin a little thickened, minutely and densely puberulous, in the center glabrous; with the lobes of the corona fleshy, horizontal, above elliptic obtuse, tip beaked-acuminate, in the middle a little excavated (concave), apex calloused below, given a obscure point (probably a shape broadest in the middle tapering to each end, with a length to width about 3 to 1 i.e. narrowly -elliptic) below elliptic, longitudinally definitely minutely pitted; with the anthers broadly trapezoidal, appendages hyaline, lanceolate, somewhat acuminate; with the pollinia obliquely oblong, translators oblique wedge shaped, very small, retinaculum rhomboid minute; with the head of the stigma conic, obtuse.

New Britain: On high trees in the forest of the Beining Mountains, altitude about 200 meters (R. Schlechter #13688 - Blooming in October 1901). I regret that in addition to the branches, I only have at my disposal the corolla, which I found on the primary forest floor, so I am not able to accurately describe at this time the pedicels and the calyx.

Published by Dr. R. Schlechter in:

1905 Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p.364.

Hoya marginata Schlechter

Sheet #13688 (B) 30 October 1901

Collected by Dr. Schlechter on New Britain, Beining. Mts. at Karo Falls, New Guinea

~~Blattst.~~

Hoya

Karo Falls

~~Blattst.~~

***Hoya mcgregorii* Schlechter.**

A high climbing epiphyte, much branched; stalks and branches threadlike, elongate, flexible, glabrous, with aerial roots, loosely leaved; leaves spreading, outspread, lanceolate-elliptic, acuminate, glabrous, texture glabrous 7-11 cm. long, near the middle 2.5-3.5 cm. wide, with the petiole very round fleshy, 1-1.5 cm. long, cymes pedunculate, shaped like umbels, many flowered, peduncle round, glabrous, about 4 cm. long, pedicels slender, threadlike, 1.3-1.8 cm. long, glabrous; flowers like those of *H. merrillii* Schlechter, similar and nearly equal size, rosy; with the segments of the calyx ovate obtuse, glabrous, about 0.1 cm. long; corolla rotate, about 0.6 cm. in diameter, 5 lobed all the way to near the middle, outside glabrous, inside towards the lobe margins minutely granulose-papillose, central portion glabrous, lobes ovate-triangular, acuminate; with the scales of the corona above briefly excised, rounded a little near the inner apex (cheek-like), below longitudinally pitted; with the anther leaflet a little extended, margins cartilaginous, cycle shaped; with the pollinia obliquely clavate, translators very small, retinaculum minutely oblong.

Mindoro, Baco River (191, Mc Gregor) April-May 1905.

An ally of *Hoya merrillii* Schlechter, but distinguished from the species by its corona scales.

Published by Dr. R. Schlechter in:
1906 Philippine Journal of Science 1 p.302 Supplement.

Hoya macgregorii Schlechter

Sheet #191 (B) April-May 1905

Collected by R.C. McGregor on Baco River Mindoro, Philippines

MacGregor 1905

Hoya merrillii Schlechter

A twining epiphytic climber; with branches threadlike, round, glabrous, with aerial roots, leaves far apart, slightly fleshy; leaves spreading outward, ovate acuminate, fleshy, both sides glabrous, showing 5 prominent nerves when dried, 6-9 cm. long, near the middle 5-6.5 cm. wide, petiole short, fleshy, 1.5-2 cm. long; inflorescence almost axillary, umbellate, 20-30 flowered; peduncle thick about 2 cm. long; with the rachis thickened short, with minute bracts, tooth like; with the pedicels threadlike about 2 cm. long, glabrous, with the segments of the calyx ovate-lanceolate, obtuse, glabrous, hardly exceeding 0.1 cm. longitudinally; lobes of the corolla rotate deeply divided oblong acute, below glabrous, above minutely puberulous, 0.4 cm. long, near the middle extended a little over 0.2 cm. laterally, with the scales of the corona ascending, fleshy, depressed, lanceolate and acuminate on both ends, inner apex nearly erect, longitudinally almost attaining 0.3 cm.; anther appendage hyaline oblong obtuse incurved upon the stigma head; with the pollinia compressed obliquely oblong, translators very short and wide, retinaculum rhomboid broadly margined; stigma head depressed, in the middle with a short conic head.

Mindoro Island, Palo (Merrill #2218; in flower in May 1903).

In habit the plant stands near *Hoya parasitica* Wallich. It is distinguished from it through the very fine and short hairs on the inside of the blooms and the strong erect tips of the corona scales.

Published by Dr. R. Schlechter in:

1904 Fragmentia of the Florae Philippinae V.1 p.131 (Perkins) R. Schlechter & O. Warburg.

Hoya merrillii Schlechter

Sheet #2218 May 1895

Collected at Palo, Mindoro Island, Philippines

Hoya Merrillii n. sp.

***Hoya microphylla* Schlechter**

A very slender epiphytic half shrub with few branches. Branches threadlike, flexible, loosely leaved, round, sparsely puberulous. Leaves erect, spreading, ovate, somewhat obtuse, margins recurved, reticulately nerved, leathery, both sides glabrous. Petiole puberulous, above slightly grooved. Inflorescences slenderly pedunculate, umbel like, about 6 flowered, with the peduncle puberulous, pedicels threadlike, glabrous. Flowers among the smallest in the section. Lobes of the calyx small, ovate, somewhat obtuse, glabrous, much smaller than those of the corolla. Corolla broadly campanulate, 5 parted all the way to the middle, outside glabrous, inside toward the margins of the lobes minutely puberulous, otherwise glabrous, lobes somewhat orbicular, shortly acuminate. Scales of the corona spreading, somewhat horizontal, above oval, with the apex slightly acuminate, below the middle concave underneath smooth margined, anthers very small. Pollinia oblong, toward the base slightly attenuate, with the translators very small, retinaculum rhomboid, minute.

A small epiphytic vine with threadlike loosely leaved branches. Leaves 1.2-1.7 cm. long, below the middle 0.7-1.2 cm. wide. Petioles 2-3 mm. long. Inflorescences in umbels of about 6 flowers on very a slender, shortly haired peduncle, about 3 cm. long. Pedicels threadlike, glabrous (bare) about 2 cm. long. Blooms for the section rather small. Calyx very small, lobes 1.5 mm. long. Corolla wide, bell shaped, extended 2 cm. in diameter. Corona scales from tip to the outer edge scarcely over 2 mm.

Northeastern New Guinea: on trees in the forests of the Bismarck Mountains, about 1100 meters altitude (Schlechter #18614 - Blooming in November 1908).

A charming small species which is closely related to the two following ones. Its leaves are more like that of a *Dischidia* and are smaller than any other of the species in the section, in this area. The blooms are snow white with dark violet coronas.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.127

Hoya microphylla Schlechter

Sheet #18614 (B) 2 November 1908

Collected by Dr. Schlechter in Bismark Mts., New Guinea

Bl. weiss, Corolla & caliculi-loben weiss.

Hoya

Bismark Mts.

L. XII. 22.

Hoya microstemma Schlechter

A twining perennial plant woody at the base, epiphytic. Branches round, slender, flexible, glabrous, loosely leaved. Leaves spreading or outspread, shortly petioled, elliptic, obtuse, with a wedge shaped base, fleshy, both sides glabrous. Inflorescences shaped like an umbel, pedunculate, 8-15 flowered, with the leaves double or almost double the length of the peduncle, glabrous, with the pedicels slender and sparsely puberulous. Flowers in general small like *H. eitapensis* Schlechter, similar but a little smaller. Segments of the calyx ovate- triangular obtuse, sparsely and minutely puberulous and ciliate, much shorter than those of the corolla. Corolla rotate, 5-parted to below the middle, lobes ovate, acute, margins and apex recurved, outside glabrous, inside minutely and densely puberulous. Scales of the corona outspread, elliptic, with the apex somewhat acute, outside obtuse, above definitely somewhat keeled with the anterior divided through the middle, lateral margins keeled. Pollinia oblong-oblique, with the translators very short, retinaculum minute, rhomboid.

A pretty clinging vine with cord like loosely leaved branches. Leaves 2-3.3 cm. long in the middle 0.8-1.5 cm. wide. Petioles hardly extend beyond 2 mm.. Inflorescences umbellate, 8-15 flowered on a peduncle about 4 cm. long. Pedicels up to 0.7 cm. long. Calyx lobes very small, about 1 mm. long. Corolla spread flat about 0.7 cm. in diameter. Corona scales from the apex to the outer tip about 1.5 mm. long, at the apex scarcely shorter than the anthers.

Northeastern New Guinea: on trees in the forest of the Torricelli Mountains, about 880 meters altitude (Schlechter #20190 - Blooming in September 1908)

This species always has leaves and blooms smaller than *H. eitapensis* Schltr., moreover the pubescence on the inside of the corolla is different. *H. microstemma* Schltr. is the smallest species of the section, in the area, and one we are knowledgeable of. Its blooms are flesh colored with rose-red corona.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.110 "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya microstemma Schlechter

Sheet #20190 (B) 14 September 1909

Collected by Dr. Schlechter in Torricelli Mts. 800 m.

Sis. f. microstemma Schlechter.

Hoya

Torricelli Mts.

14. 8. 09

Hoya minahassae Schlechter

A branched epiphytic, with branches threadlike, flexible, fleshy, loosely leaved; leaves petiolate, outspread, elliptic or lanceolate-elliptic, obtuse or somewhat obtuse, with the base wedge shaped, fleshy, both surfaces glabrous 4-7 cm. long, near the middle 1.5-2.5 cm. wide, petiole thick 7-10 mm. long; with the cymes shaped like abbreviated umbels; multiflowered, peduncle and pedicels glabrous 1.5-2 cm. long; flowers in the section barely among the midsize; with the leaflets of the calyx ovate, obtuse, with the margins densely ciliate, 2 mm. long; corolla somewhat rotate 1.3 cm. in diameter, deeply 5 divided, outside glabrous, inside except for the base and the apex themselves very minutely papillose-puberulous, lobes ovate acute, apex recurved; with the scales of the corona horizontal, above elliptic 3.5 mm long, apex triangular somewhat acute, anthers shorter by a little than the inner coronal lobe, outside somewhat obtuse, sides rounded; anther broadly triangular-trapezoidal, appendage hyaline acute; with the pollinia obliquely oblong, with the translators very short, with the retinaculum minute.

Celebes: Epiphytic on trees near Tomohom (Minahassa) about 800 meters elevation (R. Schlechter #20434 -- Blooming in November 1909).

One small characteristic species of the Section *Eu-Hoya* (Hoya) which in addition to *H. collinia* Schlechter of New Guinea to which it is distinctly related.

Published by Dr. R. Schlechter in:

1916 Beihefte zum Botanischen Centralblatt V.34 #2 p.15, Neu Asclepiadaceen von Sumatra und Celebes".

Hoya minahassae Schlechter

Sheet #20434 (B) 19 November 1909

Collected by Dr. Schlechter near Tomohon, Celebes

***Hoya mindorensis* Schlechter**

Epiphytic, few branched, with the stems having roots from the branches, circular, glabrous (not hairy), loosely leaved, with the leaves outspread or spreading, oblanceolate-elliptic, shortly acuminate, glabrous, leathery textured 9-12 cm. long, above the middle 3.5-4.5 cm. wide, with the petiole thick, somewhat terete (circular), 2-2.5 cm. long, with the cymes broad more or less flat topped, determinate flower cluster, pedunculate, shaped like umbels, many flowered, peduncle circular, glabrous, about 2 cm. long, with the pedicels threadlike, glabrous, thin about 1.5 cm. long; with the flowers mid sized for the genus. Segments of the calyx ovate, obtuse, minutely ciliate, around 1.5 mm. long; corolla approximately 0.9 cm. in diameter, broadly curved backward, 5 lobed all the way to the middle, outside glabrous, inside with the lower half downy (with very short hairs), with the lobes felt like sparsely hispid (stiff hairs), ovate, rather obtuse, with the base on both sides obtusely eared, with the tip furnished with an ear like appendage, and reflexed. Scales of the corona horizontal, above narrowly elliptic, inner tip tapering to a point, outer tip acute, with a longitudinally narrow keel between the two tips, minutely pitted below; leaflets of the anther with the tips a little exceeding, with margins flexible but firm and tough, decidedly shaped like a sickle; pollinia oblong like, with the translators linear, almost three times smaller, with the retinaculum rhomboid, laterally compressed with the translators a little smaller.

Mindoro, Baco River (332 Mc Gregor) April-May, 1905.

This species is very remarkable in the two auricles that exist between the corolla lobes. The pollinia too are rather unusual for the Genus.

The above description was published in Latin in the Philippine Journal of Science Vol. I p. 302, Supplement (1906).

Hoya mindorensis Schlechter

Sheet # 332 (B) April-May 1905

Collected by R.C. McGregor at Baco River Mindoro, Philippines

McGregor 332

Hoya montana Schlechter

An Epiphytic half shrub, not very branched, climbing. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves erect spreading or outspread, shortly petioled, oblong-elliptic, short and obtusely acuminate, base obtuse, succulent, both sides glabrous, petiole very short, slightly grooved above, fleshy. Inflorescence umbellate 8-15 flowered, shortly and thickly pedunculate, with pedicels narrow, threadlike, glabrous. Flowers medium size for the section, definitely similar to *H. marginata* Schlechter. Segments of the calyx ovate, obtuse, glabrous, very much smaller than those of the corolla. Corolla rotate, 5 parted to below the middle, outside glabrous, inner lobes minutely and densely papillose, glabrous toward the base, lobes ovate, subacute, margins and apex recurved. Corona scales spreading, almost horizontal, above oblong, barely concave in the middle, with the apex almost acute, outside obtuse, laterally broadly rounded, anthers not quite as long. Pollinia obliquely oblong, with the translators very short, retinaculum rhomboid, small.

A pretty clinging vine with cord like twining stems, with few branches, and few leaves on the branches. Leaves 7.5-11 cm. long, in the middle 3.5-5 cm. wide. Petioles 0.8-1.3 cm. long, fleshy. Inflorescences shaped like an umbel, 8-15 blooms, with a moderately thick 1.5-3 cm. long peduncle. Pedicels fine, bare, about 2 cm. long. Calyx lobes small, 2 mm. long. Corolla flattened about 1.7 cm. in diameter. Corona scale about 4 mm. long.

Northeastern New Guinea: on trees in the forest of the Kani Mountains, about 600 m. altitude (Schlechter #17859 - blooming in June 1908).

This species is similar to *H. marginata* Schlechter but with much smaller leaves, with different venation and the inner corolla segments with distinguishable papillose. The corona scales are less horizontal and thicker on the sides and the retinaculum of the pollinia is moderately larger. The blooms are yellowish-white with a red ring at the base of the corolla.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.114, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya montana Schlechter

Sheet #17859 (B) 29 June 1908

Collected by Dr. Schlechter in the Kani Mts. , New Guinea

Hoya montana Schlechter

Hoya naumanii Schlechter - in Engl. Bot. Jahrb. XL (1908) Supplement 92, p. 15. *H. australis* in Engl. Bot. Jahrb. VII (1886) p. 471 (not of R. Brown)

Bismarck - Archipelago, Solomon Islands: in coastal forests of Bougainville ((Nauman s.n. (without number)) - Blooming in August 1875).

I do not hold at this time that this species may be allied with *H. cominsii* Hemsley. However, it is necessary to compare both species with each other before the question can be resolved. Unfortunately I am not in that situation at present. Blooms of this species are larger than those of related species.

Hoya naumanii Schlechter n. sp.

Twining, high climbing, branched, branches rebranched, threadlike, elongate, flexible, glabrous, fleshy, loosely leaved; leaves petiolate spreading outspread, broadly elliptic, widely apiculate, with the base somewhat cordate-rounded both sides glabrous, about 10 cm. long, near the middle about 7.5 cm. wide, petiole somewhat thickened, about 2 cm. long; with the cymes shaped like umbels, briefly pedunculate, multi (15-25) flowered; peduncle 0.7-1 cm. long, glabrous; with the pedicels thread like, sparsely pilose, about 2 cm. long; flowers in general mid sized, about 2.5 mm. long; corona somewhat rotate, 5 lobed all the way to below the middle, about 1.2 cm. in diameter, outside sparsely puberulous, inside minutely and densely papillose, lobe ovate, triangular acute, ciliate; with the scales of the corona, before the flower fully opens, short, above wide rhomboid-oblong, sulcate longitudinally in the middle; with the pollinia oblongly oblong, with the exterior margin keel- margined, translators very short, retinaculum rhomboid with the base acute, nearly 2 times shorter than the pollinia, with the head of the stigma conic.

New Guinea; Solomon Islands: Bougainville in the coastal forest (Naumann, blooming an 26 August 1875).

This species is from Engler in his treatment of the Plants of the Gazelle Expedition determined as "*Hoya australis*", it is again distinct from this and the allied species through the foliage and the short wide corona scales.

Published by Dr. R. Schlechter in"
1908 Beiblatt zu den Botanischen Jahrbucher, #92 V.40 p. 15.

Hoya naumannii Schlechter

Sheet # (B) July 1896

Collected by F.C. Dahl on the Island of Credner Island (Bismark Arch.) New Guinea

Hoya Naumannii.

***Hoya neocaledonica* Schlechter**

Epiphytic, climbing more or less branched, with the branches forming rootlets from the stem, threadlike, elongate, round, glabrous, loosely leaved, with the leaves erect-spreading very outspread, ovate or ovate-oblong acuminate, both sides glabrous, texture fleshy, 3 primary nerves very conspicuous above on the herbarium specimen (dried), petiolate, blade 5-9 cm long, in the middle and below the middle 3-5 cm. wide, petiole fleshy, round 1-2 cm. long; with the umbels pedunculate, as many as 25 flowers; with the peduncle round, glabrous, 3-6 cm. long, with the rachis cylindrical, thick; with the pedicels glabrous, about 2 cm. long; flowers similar to those of *H. carnosa* R. Brown, almost the same size; with the segments of the calyx ovate-lanceolate, obtuse, back sparsely pilose, margin sparsely ciliate, about 2.5 mm. long; corolla rotate, 5 lobed all the way to below the middle, flattened 1.3 cm. in diameter, outside glabrous, inside minutely and densely papillose-puberulous, lobes ovate acute, apex reflexed; with the scales of the corona horizontally spreading, fleshy, above elliptic, in front acute, at the back obtuse acuminate, a little deflexed, below longitudinally sulcate, 0.4 cm. long; with the anthers trapezoidal, appendages hyaline ovate acute; with the pollinia obliquely oblong, with the exterior margin a little keeled, translators very short, retinaculum rounded-pear shaped, 3-4 times shorter than the pollinia.

North Region: On trees in the forest of the mountains near Outatche about 600 meters altitude, #15396 blooming in December 1902.

This plant possesses a certain resemblance to *H. australis* R. Brown, it is recognized, however, through the calyx and corona.

Published by Dr., R. Schlechter in:

1906 Botanische Jahrbucher V.39 p.245, "Die Asclepiadaceen von Neu-Caledonia".

Hoya neocaledonica Schlechter

Sheet #15396 (B) 12 December 1902

Collected by Dr. Schlechter at Outactche, New Caledonia

~~H. neocaledonica Schlechter, Bot. Zeit. 1903, 23: 200~~

Hoya odorata Schlechter

Epiphytic, few branched, branches and stalks round, glabrous, more or less flexible, well leaved; leaves erect-spreading, short petioled, elliptic or lanceolate-elliptic, acuminate, glabrous, lucid, texture thinly leathery 3.5-5 cm. long, below the middle 1.3-2.2 cm. wide; flowers white in few flowered umbels, perfumed, pedicels threadlike, thin, glabrous about 2 cm. long; with segments of the calyx lanceolate-oblong obtuse, with the margins sparsely ciliate 0.2 cm. long; corolla rotate, about 1.7 cm. in diameter, with 5 lobes all the way to below the middle, outside glabrous, inside somewhat inconspicuously mealy-papillose below the middle, lobes ovate triangular acute or subacute; with the scales of the corona fleshy, horizontal ovate, inner apex acute briefly ascending, outer apex very obtuse with a longitudinal hump above the middle, below channeled, 0.4 cm. long; anther apex leaflet not at all exceeding, margins cartilaginous, cycle shaped; with the pollinia oblique oblong club shaped, translators very small, retinaculum a little rhomboid, smaller.

Luzon, Province of Bataan, Mount Mariveles (3220 Merrill) January 1904. In the mossy forest at 1300 meters, rare.

A very distinct species with elliptic-lanceolate rather thin leaves and rather large flowers. The material is rather scanty and I have seen but two flowers; accordingly the inflorescence will have to be more fully described later when other material is available.

Published by Dr. R. Schlechter in:
1906 The Philippine Journal of Science V.1 Suppl. p. 303.

Hoya odorata Schlechter

Sheet #3203 (B) January 1904

Collected by Elmer D. Merrill on Mt. Meraviles, Bataan Province Luzon, Philippines

Merrill 2203

Hoya oleoides Schlechter

A climbing epiphytic half shrub, not very branched. Branches threadlike, flexible, well leaved, somewhat round (circular), glabrous. Leaves erect spreading or outspread, petiolate, elliptic obtusely acuminate, leathery, both sides glabrous, petiole short, somewhat thick, above lightly grooved. Inflorescences pedunculate, shaped like an umbel with few flowers, peduncle round, glabrous, pedicels threadlike, glabrous. Flowers in the section barely medium size. Calyx very small, with the lobes ovate, obtuse, glabrous, outside sparsely covered with small wart like outgrowths, much smaller than from the corolla. Corolla broadly campanulate, 5 parted almost to the middle, outside glabrous, inside densely papillose, lobes ovate-triangular, shortly acuminate, margins papillose-ciliate. Scales of the corona fleshy, spreading, almost horizontal, above elliptic, with the apex acute, outside obtuse, sides thickly-rounded. Pollinia obliquely oblong, with the translators very short, retinaculum rhomboid, minute.

An epiphytic climber, well leaved with few branches. Leaves 5.5- 7.4 cm. long, in the middle 2.3-3.5 cm. wide. Petioles bare, about 0.5 cm. long. Inflorescences umbel like with few blooms and a bare peduncle about 4.5 cm. long. Pedicels threadlike, bare about 2.5 cm. long. Flowers in the section barely medium large. Calyx very small, lobes about 4.5 mm. long. Corolla about 1.5 cm. in diameter, widely bell shaped (campanulate). Corona scales from the tip to the outer edge 3.25 mm. long.

Northeastern New Guinea: on trees in the forests of the Dischore Mountains on the Govidjoa, about 1300 meters altitude (Schlechter #19781 - Blooming in June 1909).

In the form and texture of the leaves, the species reminds one of a few olive and ligustrum species. Its branches are more densely leaved than in most of the other species of the section, for in the examples brought back the leaves are always longer than the internodes. The rather small blooms are reddish outside and greenish-white inside.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V. 50 p.131, Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya oleoides Schlechter

Sheet #19781 (B) 10 June 1909

Collected by Dr. Schlechter, Dischore Mts. Govidjoa, New Guinea

Hoya

oleoides

12. VI. 09.

Hoya oligantha Schlechter

A climbing epiphytic half shrub. Branches threadlike, flexible, densely leaved, round, minutely puberulous. Leaves erect-spreading or outspread, shortly petioled, narrowly lanceolate, minutely apiculate or somewhat acute, base rounded, leathery texture, both sides glabrous, petiole lightly grooved above, glabrous, very short. Inflorescences somewhat sessile, few flowers, 1-2 flowered, peduncle almost non existent, with the pedicels threadlike, glabrous. Flowers among the largest in the section. Lobes of the calyx small, ovate-triangular, obtuse, glabrous, much smaller than from the corolla. Corolla broadly campanulate, 5 parted nearly as far as the middle. lobes broadly triangular, acute. Scales of the corona spreading, with the apex and back lightly ascending, above oval, below the apex and above the middle having a small hump, apex short somewhat apiculate, outside obtuse. Pollinia obliquely oblong, with the translators very short, retinaculum ellipsoidal, minute.

A epiphytic, rather compact clinging vine with thickly leaved branches. Leaves 2.3-3 cm. long, above the base, 0.5-0.8 cm. wide, petioles very short, 1.5-2.5 mm. long. Inflorescences almost sessile, very shortened, 1-2 flowered. Pedicels threadlike, bare, about 1.5 cm. long. Calyx very small, lamina (lobes) scarcely over 1 mm.. Corolla broadly bell shaped (campanulate) about 2.7 cm. in diameter, both sides bare. Corona scales from the tip to the outer edge about 3 mm. long.

Northeastern New Guinea: on trees in the forests of the Torricelli Mountains, about 800 meters altitude (Schlechter #20176 - Blooming in September 1909).

This species is completely distinct from the others in the section by virtue of its thickly leaved branches. In the form of its leaves it is midway between *H. stenophylla* Schlechter and *H. venusta* Schlechter. Very notable are the shortened peduncles that remind one of a *Dischidia*, so that the plant in a non blooming state, understandably could be taken for a specie of that genus. The blooms are creamy-yellow with reddish-brown corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.130.

Hoya oligantha Schlechter

Sheet #20176 (B) 13 September 1909

Collected by Dr. Schlechter on Torricelli Mts., New Guinea

H. crenatoloba, Corolla not in flower

Hoya

Torricelli-Joh.

B. D. P.

Hoya oreostemma Schlechter

Epiphytic half shrub with climbing branches. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, petiolate. lanceolate elliptic or elliptic, acuminate, base rounded, leathery texture, both sides glabrous, lucid above (shiny), below opaque, petiole glabrous, above slightly grooved. Inflorescences with a slender peduncle, umbel like, 6-20 flowered, pedicels threadlike, toward the apex minutely puberulous. Flowers, in the genus medium sized. Lobes of the calyx ovate, obtuse, glabrous, much smaller than from the corolla. Corolla reflexed, 5 parted all the way to one fifth from the base, outside glabrous, inside minutely and reversed papillose-puberulous, lobes oblong somewhat acuminate, margins recurved. Scales of the corona erect, above cylindrically columnar, a little thickened toward the base, in front oblong, both ends obtuse, base outside two keeled, gynostegium nearly twice as tall. Pollinia obliquely oblong, a little attenuate toward the base, with the translators very short and flattened (horizontally expanded), retinaculum rhomboid, small (puny).

A pretty epiphytic vine with cord like loosely leaved branches. Leaves 6.5-17 cm. long, near the middle 1.5-4.3 cm. wide. Petiole 0.3-0.8 cm. long, bare. Inflorescences like an umbel, 6-20 flowered, on a very slender, bare peduncle, 4-8 cm. long. Pedicels 1.5-2 cm. long, fine and bare. Flower mid sized for the genus. Calyx very small, with the lobes 1.5 mm. long. Corolla reflexed, very deeply parted, exterior bare, interior covered with hairs directed toward the base, about 1.4 cm in diameter. Corona scales from the apex to the outer edge 2.75 mm. long, in the back 4.5 mm. high.

Northeastern New Guinea: on trees in the forests of the Kani Mountains about 1000 meters altitude (Schlechter #18887 - Blooming in November 1908).

The characteristics of this species that is different from the others, are connected with the sectional traits themselves. I have never seen the plants together in a great quantity of specimens, rather always only isolated and always on high trees where the roots were in the forks of branches or in branch cavities. The examination of the bud material show that the stretching and lengthening of the corona scales is executed (accomplished) in the last stages of the bloom before opening. The bloom coloring is bright rose red with a white corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.26, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya oreostemma Schlechter

Sheet #17668 (B) 10 May 1908

Collected by Dr. Schlechter in the Kani Mts., New Guinea

96. Hoya oreostemma Schlechter, Coronaria 1913.
 1913. 1913.

Hoya

Kani.

H. Y. O.

Hoya padangensis Schlechter

A climbing branched epiphyte; branches threadlike, flexible, loosely leaved, glabrous; leaves spreading outspread, narrowly elliptic-lanceolate, acute or acuminate, 7-10 cm. long, near the middle 1.3-2 cm. wide, fleshy, glabrous with the petiole fleshy about 5 mm. long; with the cymes like abbreviated umbels, narrowly pedunculate; with the pedicels about 4-5 cm. long, with the pedicels threadlike, glabrous about 1.5 cm. long; with the lobes of the calyx ovate, obtuse, glabrous, 2.5 mm. long; corolla somewhat rotate, deeply 5 divided, outside glabrous, inside minutely papillose, about 1.3 cm. in diameter, lobes obovate, somewhat obtusely acuminate; with the lobes of the corona laterally compressed, back somewhat descending, above elliptic, acuminate, apex ascending a little, shorter than the anther, back obtuse incurved, sides somewhat flat, 2 mm. long; with the pollinia obliquely oblong, translators very abbreviated, triangular, retinaculum rhomboid, nearly 5 times shorter than the pollinia.

Sumatra: On trees near Padang Pandjana about 900 meters altitude (R. Schlechter #15916 - Blooming in January 1907)

A slender species in the *Section Eu-Hoya* (Hoya). It is distinguished from its nearest kin, *H. subglabra* Schlechter through the thicker leaves. The blooms are bright rose with whitish corona.

Published by Dr. R. Schlechter in:

1916 Beihefte zum Botanischen Centralblatt V.34 #2 p.15, "Neu Asclepiadaceen von Sumatra und Celebes".

Hoya padangensis Schlechter

Sheet #15916 (B) 20 January 1907

Collected by Dr. Schlechter by Padang Pandjang, Sumatra

Hoya palawanica Kloppenburg.

H. palawanica Schlechter (unpublished)

An epiphytic twining half shrub. Branches flexible with lax foliage, round, glabrous. Leaves spreading or outspread, petiolate lanceolate acuminate, texture leathery, with both surfaces glabrous 13.2-14.5 cm. long, in the middle 3.8-4.2 cm. wide, deciduous with 5 nerve, inner ones nearly reaching the apex with distinct reticulations. Petiole about 1.8 cm. long, 0.6 cm. in diameter, glabrous, grooved above. Peduncle thin, axillary about 0.4 cm. long. Pedicels thin, threadlike, glabrous, straight, round 1.5 cm. long. Inflorescence shaped like an umbel 10-15 flowered. Flowers about 1.0 cm. in diameter, glabrous ? . With segments of the calyx ovate obtuse, much smaller than the corolla. Corolla rotate, 5 lobed to below the middle. With the scales of the corona outspread, horizontal, above narrowly elliptic, both apices acute outer one slightly bilobed, above with a longitudinal ridge, below with a full longitudinal fold, sulcate. Pollinia oblique narrowly oblong, translators short, retinaculum rhomboid small.

Palawan, Philippines on the borders of mangrove swamps (#834 Foxworthy) May 1906.

This species has very distinctive leaves with venation similar to *H. finlaysonii* Wight, with looping inner pairs anastomosing. The calyx scales are broadly rounded with obtuse apices and ligules present at their union. The crown is essentially horizontal but slopes outward slightly and is split at the outer apex. The coronal scales are relatively narrow, longitudinally ridged above and fully channeled below. The anther appendages slightly exceed the inner coronal lobes. The staminal column is short to medium in length. It has been compared with *H. incrassata* Warburg, from which it differs in leaves having acuminate bases, with sepals not being ciliate, more narrow elliptic corona lobes and with a longitudinal ridge extending from apex to apex on the coronal lobe, and finally with the split outer corona apex and differing pollinarium.

Published by Dale Kloppenburg in:

1990 *Fraterna*, Journal of the International Hoya Association, 3rd Quarter.

Hoya palawanica Kloppenburg

Sheet # 834 (B) (May 1906)

Collected by F.W. Foxworthy on Palawan Island, Philippines

Physostelma papuanum Schlechter.

Hoya papuana Schlechter

A twining, high climber, branched at the base; branches rebranched, threadlike, flexible, round, glabrous, loosely leaved; with the leaves lanceolate-elliptic, longly acuminate, both sides glabrous, texture thinly leathery, 6-8 cm. long, below the middle 1-2.3 cm. wide, petiole short, glabrous 0.5-0.7 cm. long; with the rachis very short cylindrical, about the same length as the petiole, 1-few flowered; with the pedicel threadlike, slender, round, glabrous about 2 cm. long; with flowers like *H. campanulata* Decaisne but smaller 2.2-2.4 cm. in diameter, like a single rose; with the segment of the calyx lanceolate obtuse, glabrous, barely 1.5 mm. long; corolla cup shaped campanulate, both sides glabrous, lightly 5 lobed, 1.2 cm. long, lobes triangular acute or somewhat acuminate, with the base on both sides minutely earlike, 0.4 cm. long; corona shortly stalked, with the scales ascending, fleshy, above oblong obtuse, with the apex beaked, slightly concave in the middle, below the back oblong in the middle longitudinally (channeled) minutely pitted, about 0.2 cm. long; with the anthers somewhat 4 sided, appendage hyaline oblong obtuse; with the pollinia obliquely pear shaped, translators very short, retinaculum obtuse, much smaller than the pollinia; with the head of the stigma shortly conic, shortly beaked.

Northeast New Guinea: in thickets amongst the bushes on the stream banks in the Toricelli Mountains, altitude about 500 meters (R. Schlechter #14400, blooming in April 1902)

Near *P. campanulatum* Schlechter, distinct through the small rose red blooms and the leaf.

Published by Dr. R. Schlechter in:

1905 Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p. 361.

Hoya papuana Schlechter

Sheet #14400 (B) 24 April 1902

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Bl. papuana

***Hoya parvifolia* Schlechter.**

A very slender epiphyte, very little branched, twining, with stems and branches threadlike, elongated, flexible densely and shortly hispid, loosely leaved, having aerial roots; with the leaves shortly petiolate oblong or oblong-elliptic, very obtuse, both surfaces densely and shortly hispid, 1.2-1.7 cm. long, 0.8-1 cm. wide, petiole hispid about 0.3 cm. long; with cymes shaped like umbels, 15-20 flowered, narrowly pedunculate, peduncle hispid 4-5 cm. long, with the pedicels glabrous 0.7-1.2 cm. long; with flowers pale yellow, like *H. lacunosa* Blume nearly the same size; with segments of the calyx ovate obtuse, with the margins minutely ciliate, center glabrous, 0.2 cm. long; corolla recurved 0.7 cm. in diameter, 5 lobed all the way to below the middle, outside glabrous, inside densely pure white hispid, with lobes ovate acute, apex reflexed; with scales of the corona apex ascending. above elliptic with a hump in the middle with oblong beaked apex, below extended into 2 lobes; with the anthers trapezoidal, appendages hyaline, triangular; with the pollinia erect, obliquely oblong, with the outside base horny-lobed, translators very short; retinaculum ellipsoidal nearly 5 times smaller than the pollinia, with the head of the stigma conic.

Sumatra: on trees by Danau Kotta in the Indagri District (R. Schlechter #13307, blooming in June 1901).

Without blooms this plant looks like a *Dischidia* rather than a *Hoya*.

Published by Dr. R. Schlechter in:
1908 Beiblatt zu den Botanischen Jahrbücher #92 V.40 p.15.

Hoya parvifolia Schlechter

#13307 (B) Sheet 9 May 1901

Collected by Dr. Schlechter at Danau Kotta, Sumatra

Hoya patella Schlechter

A very slender branched epiphytic half shrub. branches threadlike, flexible, loosely leaved, round, minutely and sparsely pubescent. Leaves spreading or outspread, briefly petiolate, oblong-elliptic, somewhat obtusely acuminate, below pubescent, petiole pubescent, above slightly grooved. Inflorescences shortly pedunculate, umbel of a few flowers, with the peduncle short, minutely pubescent, with the pedicels threadlike, glabrous. Flowers among the largest in the section. Calyx very small, with the leaflets (lobes) ovate-lanceolate, obtuse, glabrous, much smaller than from the corolla. Corolla broadly campanulate (saucer shaped), outside glabrous, inside upper half minutely papillose, lobes broadly triangular, shortly acuminate. Leaflets (scales) of the corona spreading, acuminate, outside obtuse, sides thickly rounded, Pollinia obliquely oblong, apex a little attenuate, with the translators very short, retinaculum rhomboid, minute.

A very ornamental, epiphytic clinging vine with threadlike, loosely leaved branches. Leaves 6.5-9 cm. long, in the middle 2.7-3.4 cm. wide. Petioles 0.5-0.7 cm. long. Inflorescences umbel like, with a few flowers on a short pubescent peduncle, about 0.7-1 cm. long. Pedicels threadlike, bare, 3 cm. long. Flowers are among the largest in the section. Calyx very small, lobes about 2 mm. long. Corolla widely bell shaped, extended about 3 cm. in diameter. Corona scales extended, star shaped, from the apex to the outer edge about 6 mm. long.

Northeastern New Guinea: on trees in the forests of the mountains of the Wobbe in the Minjem Valley, about 300 meters altitude (Schlechter #16375 - Blooming in August 1907).

In this lies one of the few species of the area which occurs outside of the mist forest formation (rainforests). The species is mildly distinguishable from its allies through its bloom color and the narrow, small corona scales. The bloom coloring is bright rose-red with carmine-red corona.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.132 "Die Asclepiadaceen von Deutsche Neu Guinea"

Hoya patella Schlechter

Sheet #16375 (B) 6 August 1907

Collected by Dr. Schlechter in Minjem Valley, Wobbe Mts., New Guinea

~~All. vanderk. Linn. vanderk.~~

Hoya (Physocarpus)

Minjem

6.12.72

Hoya paziae Kloppenburg.

H. eugenioides Schlechter (unpublished)

Epiphytic or terrestrial, with few branches, stems and branches round, glabrous, flexible, well leaved; leaves erect outspreading, shortly petiolate, elliptic or obtuse, glabrous, lucid, texture thin and leathery. 6-7 cm. long, below the middle 2.5-3 cm. wide; internodes about 4.5 cm. long; white flowers in umbels of few flowers with the centers (corona) purple, not perfumed; pedicels threadlike, round, glabrous, about 1.5-2 cm. long; segments of the calyx linear, narrowly oblong, margins ciliate, ligules present. Corolla rotate about 1.4-1.6 cm. in diameter, 5 lobed to below the middle, margins curved back and ciliate, outside glabrous, inside finely papillose; with the scales of the corona fleshy, somewhat flat, oblong-ovate, interior segments touching, narrowly extended, below sulcate, outer apex obtuse, sides with crests, anther interior apex definitely exceeding.

Mount Halcon, Mindoro, Philippines (Merrill #5618, November 1906) in mossy forest at 900 meters altitude.

This species is near *Hoya odorata* Schlechter but differs in its more lengthy leaf apex, larger longer leaves, odorless flowers, purplish corona, ciliation on the corolla edges and turned under lobes, with a more narrowly linear calyx, more narrowly linear inner coronal lobes, full channeling below and its umbo near the outer apex.

Published by Dale Kloppenburg in:

1990 Fraterna, International Hoya Association Pub., 3rd. Quarter.

Hoya paziae Kloppenburg

Schlechter's *H. eugenioides* (unpublished)

Sheet #5618 (B) November 1906

Collected by Elmer D. Merrill on Mt. Halcon Mindanao, Philippines

Hoya piestolepis Schlechter

A half-shrub with few branches, high climbing. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, petiolate oblong or elliptic, acuminate, base briefly cordate, texture leathery, both sides glabrous. Inflorescence shaped like an umbel, about 10 flowered, on a slender peduncle, pedicels of the peduncle threadlike, glabrous. Flowers among the largest of the section. Lobes of the calyx ovate-triangular, shortly obtuse, glabrous, much shorter than those of the corolla. Corolla reflexed, 5-parted all the way to the middle, outside glabrous, inside densely and minutely papillose. Scales of the corona outspread, sides very compressed, sides seen from above somewhat oval, inner apex short, slightly ascending, above narrowly linear, anthers somewhat shorter. Pollinia obliquely oblong, with the translators very short, retinaculum small, rhomboid.

A high climbing vine with cord like loosely leaved branches. Leaves 12-15 cm. long, in the middle 5.5-7 cm. wide. Petiole 1-1.5 cm. long. Inflorescence umbellate, about 10 flowered, on a peduncle about 6 cm. long. Pedicels very slender, bare, 4-4.5 cm. long. Flowers rather prominent. Calyx lobes very small, to the end 2 mm. long. Corolla outspread, 2.4 cm. in diameter, outside bare, inside very shortly papillose. Corona scales from the tip to the outer edge 0.5 cm. long, some 4 mm. high.

Northeastern New Guinea: on trees in the forest of the Gomadjidji, in the Waria Valley, about 450 meters altitude (Schlechter #19376 -- Blooming in May 1909).

Amongst the small number of species which we know in this section, at the present time, they are individually easy to characterize. *Hoya piestolepis* Schlechter differs from the reminder through the strongly laterally compressed corona scales. The flowers are wine-red inside with short white hairs.

Hoya pistolepis Schlechter

Sheet #19376 (B) 8 May 1909

Collected by Dr. Schlechter in Waria Valley, Gomadjidji Mts., New Guinea

Illustration of the plant and its parts.

Hoya pulchella Schlechter

A climbing epiphytic half shrub, not much branched. Branches threadlike, flexible, loosely leaved, round, minutely pubescent. Leaves erect, spreading or outspread, petiolate, small, ovate, obtuse, slightly leathery, both sides glabrous, petiole minutely pubescent, above slightly grooved. Inflorescences slenderly pedunculate, umbel like, 4-6 flowered, peduncle minutely pubescent, pedicels threadlike, glabrous. Flowers medium sized in the section, small and beautiful. Lobes of the calyx small, narrowly ovate, somewhat obtuse, margins ciliate,, much smaller than from the corolla. Corolla broadly campanulate, 5 parted almost to the middle, outside glabrous, inside towards the margins densely pubescent, in the middle toward the base gradually minutely papillose-pubescent, base glabrous, lobes ovate-triangular, acute with the margins and apex recurved. Scales of the corona spreading, short, above broadly obovate, with the tip shortly acuminate, middle rounded, grooved, outside very obtuse, back lightly two-ribbed. Pollinia obliquely and narrowly oblong like, a little attenuate toward the apexes, with the translators very short, retinaculum, minute.

A very ornamental, extremely elegant, epiphytic clinging vine with threadlike loosely leaved branches. Leaves 1.7-2.2 cm. long, below the middle 0.9-1.3 cm. wide, petioles 0.3-0.5 cm. long, shortly pubescent. Inflorescences umbel like, 4-6 flowered, on a very slender, finely pubescent peduncle, 4.5-8 cm. long. Pedicels threadlike, thin, bare, 2-2.7 cm. long. Flowers rather prominent, medium-large for the section. Calyx lobes very small about 1.5 mm. long. Corolla widely bell shaped, about 2.5 cm. in diameter flattened. Corona scales spreading, short from the apex to the outer edge 2.5 mm. long.

Northeastern New Guinea: on trees in the forests of the Torricelli Mountains about 900 meters altitude (Schlechter #20103 - Blooming in September 1909).

Among the small leaved *Physostelma* species this species is one of the most charming. In its foliage it strongly resembles *H. microphylla* Schlechter, but its blooms are significantly larger and on the inner surface more pubescent and the corona scales are still wider. The blooms are pure white with dark carmine-red corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.128, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya puchella Schlechter

Sheet #20103 (B) 8 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

L. 31. Hoya 1089
 hyla. B H. puchella Schlechter. 31/10/12 J. Poh

***Hoya reticulata* Schlechter**

A twining half shrub, not very branched, climbing. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, shortly petioled, elliptic, somewhat obtuse, fleshy coriaceous, both sides glabrous, reticulately nerved below, petiole short,, lightly grooved above. Inflorescence shaped like an umbel, globose, 20-30 flowered, pedunculate, pedicels of the peduncle glabrous. Flowers medium sized in the section. Segments of the calyx oval, very obtuse, somewhat warty-punctate (dotted), much smaller than from the corolla. Corolla rotate, 5 parted to just below the middle, outside glabrous, inside densely and microscopically papillose, lobes rhomboid, ovate, somewhat obtuse. Leaflets (scales) of the corona outspread, horizontal, rhomboid-ovate above, with the apex apiculate, somewhat acute outside. Pollinia obliquely oblong, with the translators very small, retinaculum very minutely rhomboid.

A clinging vine, with cord like, little branched, few leaves on branches. Leaves 6.5-10 cm. long in the middle 3-5 cm. wide. Petioles 0.6-1 cm. long, fleshy. Inflorescence in umbels, almost spherical, 20-30 flowered, on a peduncle about 2.5 cm. long, bare. Pedicels very fine, equally long, about 2 cm. long, bare. Calyx lobes 1.5 mm. long. Corolla about 1.4 cm. in diameter. Corona scales about 4 mm. long from apex to the outer end.

Northeastern New Guinea: on trees in the forest at the foot of the Bismarck mountains, near Saugueti Etappe, about 300 m. altitude. (Schlechter #18517 - blooming in October 1908).

With a superficial examination the species reminds one of *H. ischnopus* Schlechter, but the form of the leaves and obvious venation of the undersides of the leaves are different. The blooms on the inside have a barely visible papillose covering on the corolla, which in this form, I am familiar with in no other species. The peduncle of the almost spherical umbels are moderately short.

Notation: Since another species of *Hoya* had previously been given this name. The name for this specie became invalid. In 1984 in "Bulletin of Botanical Research, Harbin China,, V.4 #1 p.121 it was given the new name of ***Hoya chunii* Li** by the author P.T Li.

Originally published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V. 50 p.115.

Hoya reticulata Schlechter

Sheet # 18517 (B) 28 October 1908

Collected by Dr. Schlechter Bismarck Mts., near Saugueti-Etappe, New Guinea

Hoya

28-10-1908

Hoya rhodostemma Schlechter

A few branched climbing half shrub. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves erect outspread, broadly elliptic, acuminate, base wedge shaped, leathery, both sides glabrous, above lucid, below opaque, petiole glabrous, above slightly grooved. Inflorescences with long peduncles, umbel like, 4-10 flowered, with the peduncle slender, and pedicels threadlike, glabrous. Flowers among the largest in the section, similar to *H. puchella* Schlechter. Lobes of the calyx small, ovate oblong, obtuse, glabrous, much smaller than from the corolla. Corolla broadly campanulate, saucer shaped, 5 parted nearly all the way to the middle, outside glabrous, lobes broadly triangular, shortly acuminate, inside most minutely papillose, near the base glabrous, margins with minute incurved hairs. Scales of the corona somewhat thick, tip of apex slightly ascending, above broadly oval, acuminate, outside very obtuse, sides somewhat keel-folded (or pleated). Pollinia obliquely oblong, with the translators very short, retinaculum minute, rhomboid.

An epiphytic vine, not much branched, with loosely leaved branches. Leaves 9-14 cm. long, in the middle 4.2-7.4 cm. wide, petioles bare, 1.5-2.2 cm. long. Inflorescences umbel like, 4-10 flowered, on a slender, bare peduncle 9-14 cm long. Pedicels threadlike, bare 3.4-4.5 cm. long. Calyx very small, lobes scarcely 2 mm. long. Corolla broadly bell shaped (campanulate) or bowl shaped, flattened, about 2 cm. in diameter. Corona scales from the tip to the outer edge about 2.75 mm. long.

Northeastern New Guinea: on trees in the forests of the Dischore Mountains in the Waria District, about 1200 meters altitude (Schlechter #19627 - Blooming in May 1909); on trees in the forests of the Maboro-Mountains, in the Waria District, about 1100 meters altitude (Schlechter #19857. - Blooming in June 1909).

This magnificent species seems to be confined to the mountains of the Waria District. It is closely allied to *H. epedunculata* Schlechter, but is distinguished by means of the long peduncles of the umbels, the bloom coloring and the shorter corona scales. The blooms are snow-white with a cherry-red corona.

Published by Dr. R. Schlechter in:
1913\ Botanische Jahrbucher V.50 p. 134. "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya rhodostemma Schlechter

Sheet #19627 (B) 30 May 1909

Collected by Dr. Schlechter in the Discore Mts., Waria Dist., New Guinea

Bl. weiss, Kelch & Corolla kirschrot.

Hoya (Hygostemma)

Discore

30.8.09.

Hoya rubida Schlechter.

A much branched epiphyte upon tree trunks and branches; branches and branchlets threadlike, elongate, flexible, glabrous, round, with aerial roots, loosely leaved; with leaves generally spreading, ovate or ovate-elliptic, shortly acuminate, both sides glabrous, texture thickly puberulous *, 4-6 cm. long, 2-3 cm. wide below the middle, petiole glabrous above slightly grooved, about 1 cm long; peduncle 3-7 cm. long, round, glabrous, with the rachis thickened at length cylindrical; umbels of 15-25 flowers, with the pedicels 2-2.5 cm. long, very narrow, glabrous; with the segments of the calyx ovate, somewhat obtuse, margin minutely ciliate, center glabrous, 0.2 cm. long; corolla rotate, red (clear red), 5 lobed all the way to near the middle; 1.2 cm. in diameter, outside glabrous, inside except for the middle of the lobes minutely and densely papillose-puberulous, lobes ovate somewhat obtuse; with the scales of the corona above ovate, with the apex shortly acuminate, in the middle with a low hump like swelling, below ovate, in the middle longitudinally grooved; with the anthers trapezoidal, the corner of the base incurved-crescent shaped, appendages hyaline ovate, obtuse; with the pollinia obliquely oblong, translators very short, retinaculum minutely rhomboid, many times smaller than the pollinia; with the stigma head conic.

New Britain (New Pommern): on trees by the seaside between Massawa and Cape Lambert (R. Schlechter #137111, blooming in November 1901).

It is distinguished through the relatively small leaves and reddish blooms. In the length of the peduncle which seem to be more variable than is the case with other species of the genus.

*I believe he may have meant "leathery" here, since he already sated they were glabrous.

Published by Dr. R. Schlechter in:
1905 Nachtrage zur Flora die Deutschen Schutzgebiete in der Sudsee p. 366.

Hoya rubida Schlechter

Sheet #13711 (B) 3 November 1901

Collected by Dr. Schlechter on New Britain Island, New Guinea

near the fruit common in the Wet, Corvus area

Hoya schneei Schlechter

A branched half shrub, high climbing, with branches threadlike, flexible, loosely leaved, round, glabrous, leaves spreading or erect outspread, petiolate, elliptic, acuminate, with a wedge shaped base, leathery glabrous, above lucid, with cymes axillary, shaped like umbels, many flowered as a genus slenderly pedunculate; with minute triangular bracts, with the pedicels threadlike, glabrous, peduncle very short. Flowers in general midsize, according to the collector white. Calyx 5 parted all the way to the base, very small, segments ovate, somewhat obtuse, margin minutely ciliate, center glabrous. Corolla rotate, 5 lobed all the way to the middle, lobes triangular-ovate, above densely papillose-puberulous, towards the base papillose or glabrous, with the lobes of the corona spreading, somewhat horizontal, above the middle slightly concave, with an obscure raised hump below the apex, nearly ovate, towards the beak awl shaped, a little obtuse, projected over the top of the apex of the stigma head, back obtuse, sides thickened, rounded, much shorter than the apex of the anther. Anthers generally trapezoidal, appendage hyaline, oblong-ovate obtuse. Pollinia flat, obliquely oblong-ovate, outside thinly marginate, translators very short, retinaculum rhomboid, narrowing toward the base, 3 times shorter than the pollinia, with the head of the stigma pentagonally circular acute, depressed with a hump in the center of the apex, briefly obtuse.

A likely epiphyte or half epiphytic twining climber, threadlike as long as 6 meters. Leaves 8-11 cm. long, near the middle 3-4.5 cm. wide, petiole close to 7-10 mm. Peduncle at 3-4-3.5 cm. long. Pedicels 2-2.5 cm. long. Flowers about 1.7-1.8 cm. in diameter, white or greenish white. Calyx segments about 2 mm. long. Corolla somewhat rotate, from the base to the tip the lobes are 9 mm. long. The scales of the corona from the tip to the other end about 3.5 mm long.

Karolinea : (Caroline Islands): Ponape (Dr. Schnee - blooming in the year 1909 on the road near the bathhouse near the station by Ponapae (Charles Gibbson #1044 - blooming in August 1914 in the low standing forest near Tol on Ponapae) (C. Ledermann #13262 - blooming in November 1913) also near Angaben, on Ponapae (C. Ledermann #13300a, 13384, 13384 a, 12710a - blooming and fruiting in November- December 1913.

This species is related to *H. ischnopus* Schlechter from Papuasias (New Guinea) but distinguished from the other through the margin of the thicker and longer hairs on the corolla and the somewhat slightly larger blooms. After being given "The Plants of Ponapae. "checklist"

One specimen of Ledermann's has a fruit from a living plant. This is as from all the other species, very narrow and spindle shaped, here 15-18 cm. long and near the middle 5-6 mm. in diameter.

Published by Dr. R. Schlechter in:
1921 Botanische Jahrbucher V.56 p.567-568

Hoya schneei Schlechter

Sheet # s.n. (B) 1909

Collected by Dr. Schnee on Ponapae, Karolinen Islands

Hoya schneei

***H. solaniflora* Schlechter**

A slender twining, branched half-shrub. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, petiolate, lanceolate, acuminate, texture thinly coriaceous, both sides glabrous, petiole glabrous, slightly grooved above. Inflorescences shaped like an umbel, 10-15 flowered, pedicels of the peduncle very slender, glabrous. Flowers beautiful, among the largest of the section. Lobes of the calyx ovate-lanceolate, somewhat obtuse, glabrous, much shorter than that of the corolla. Corolla somewhat rotate, 5- parted all the way to one third from the base, outside glabrous, inside toward the margins very minutely papillose-puberulous, center and base glabrous, lobes ovate shortly acuminate, margins recurved. Scales of the corona spreading almost horizontal, with the apex barely ascending, moderately short and moderately thick, above broadly ovate, center concave, inner lobe acuminate, outer very obtuse, sides rounded, middle mildly interwoven, anthers somewhat shortened. Pollinia obovoid- oblong, with the translators very short, retinaculum minutely rhomboid.

A very beautiful clinging vine with threadlike, very loosely leaved branches. Leaves 4.5-9 cm. long, below the middle 1.3-2.8 cm. wide. Petiole 0.4 -0.7 cm. long. Inflorescences very ornamental, in umbels, 10-15 flowered, on a 4-5 cm. long peduncle. Pedicels very fine, threadlike, bare, about 2.5 cm. long. Calyx very small, lobes are about 1.5 mm. long. Corolla radial, about 2 cm. in diameter. Corona scales short and wide 2.5 mm. long.

Northeastern New Guinea: in the forest of the Finisterre Mountains about 1200 m. altitude (Schlechter #18214 - Blooming in September 1908).

Usually this very elegant species ordinarily thrives in union with *H. leucorhoda* Schlechter, with which it is closely related, but, nevertheless specifically departs from it. On the other hand it is nearest to *H. gracilipes* Schlechter from the Torricelli Mountains., but the other has white blooms and rather different corona lobes.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p. 120, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya solanifera Schlechter

Sheet #18214 (B) 6 September 1908

Collected by Dr. Schlechter in the Finiserra Mts., New Guinea

Hoya solanifera Schlechter, Finiserra Mts., New Guinea

67257.

Hoya stenophylla Schlechter

A climbing branched epiphytic half shrub. Branches threadlike, elongated, flexible, briefly petioled, narrowly linear, base rounded, margins commonly recurved, leathery, both sides glabrous, with the petiole pubescent, short, above slightly grooved. Inflorescences thinly pedunculate, umbel like, about 10 flowered, peduncle somewhat threadlike, very minutely puberulous, with the pedicels threadlike, glabrous, densely leaved, round, minutely puberulous. Leaves spreading or outspread. Flowers in the section medium sized, beautiful and little. Calyx very small, with the lobes lanceolate, somewhat obtuse, glabrous, much smaller than from the corolla. Corolla broadly campanulate, 5 parted to above the middle, both sides glabrous, lobes ovate-triangular, somewhat acuminate, margins minutely ciliate. Scales of the corona spreading almost horizontal, above oblong, apex triangular, somewhat shortly acuminate, outside obtuse, below broadly grooved. Pollinia obliquely oblong, with the translators short, retinaculum rhomboid, small.

An elegant ornamental epiphytic clinging vine with threadlike, well leaved branches. Leaves narrowly linear, 6-8 cm. long, in the middle 3.5-4.5 mm. wide. Petiole 2-3 mm. long. Inflorescences in umbels about 10 flowered, on a very thin slender peduncle. Pedicels threadlike, bare, about 2 cm. long. Calyx very small, lobes about 1.5 mm. long. Corolla extended about 2.3 cm. in diameter. Corona scales from the apex to the outer edge, barely 3 mm long.

Northeastern New Guinea: on trees in the forests of the Torricelli Mountains, about 800 meters altitude (Schlechter #20066 - Blooming in September 1909).

Among the species of the area, this one along with *H. wariana* Schlechter has the narrowest leaves. In respect to the bloom it is closest to the above described, moreover delineated through the very short ciliation on the margins of the corolla lobes, but otherwise bare. The flower is light cream-yellow, towards the base of the corolla light rose.

Published by Dr. Schlechter in:
1913 Botanische Jahrbucher V.50 p.130 "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya stenophylla Schlechter

Sheet #20066 (B) 6 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Hoya subglabra Schlechter

A twining branched half-shrub. Branches threadlike, elongate. loose foliated, round glabrous. Leaves spreading or outspread, petiolate, elliptic, acuminate, leathery textured, both sides glabrous, petiole glabrous, lightly grooved above. Inflorescences umbellate (like an umbel), 10-15 flowered, narrowly pedunculate, pedicels of the peduncle glabrous, threadlike. Flowers showy, similar to *H. leucorhoda* (*leucorhodae*) Schlechter and almost equal in size. Segments of the calyx lanceolate-ovate, obtuse, glabrous, much shorter than those of the corolla. Corolla rotate 5- parted as far as a third from the base, outside glabrous, inside with the apices almost inconspicuously papillose, otherwise glabrous, lobes ovate acute. Scales of the corona spreading, oblong above, acuminate, slightly concave in the center, above the middle is a indistinct hump, outside obtuse, apex slightly ascending, anthers much shorter. Pollinia obliquely oblong, with the translators short, retinaculum minute, rhomboid.

A pretty clinging vine with threadlike loosely leaved branches. Leaves 9-13.5 cm. long, in the middle 3.5-5.5 cm. wide. Petioles 0.8-1.5 cm. long. Inflorescences in umbels, 10-15 flowered, on a very slender peduncle about 7-8 cm. long. Pedicels threadlike, bare, 3-3.5 cm. long. Calyx lobes very small, about 2.5 mm. long. Corolla radial, about 2mm. (2 cm.?) in diameter. Corona scales, from the apex to the outer edge about 3.5 mm. long.

Northeastern New Guinea: on trees in the forest of the upper Maijen, at the foot of the Finisterre Mountains, about 450 m. altitude (Schlechter #18060 - Blooming in July 1908).

In this species there is an obvious relationship to *H. leucorhoda* Schlechter. It differs from it by its more narrow leaves (smaller), the much more slender peduncle of the inflorescence and the flower, the lesser pubescence of the corolla and the different corona scales. The flowers are likewise white with a red corona.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.119, "Die Asclepiadaceen von Deutsch Neu Guinea".

Hoya subglabra Schlechter

Sheet #18060 (B) 23 July 1908

Collected by Dr. Schlechter on the Majjem, Finestire Mts., New Guinea

Bl. weig. coronat.

Hoya

Schlechter Sch.

S. W.

Hoya torricellensis Schlechter

A very slender little branched climbing half shrub. Branches threadlike, flexible, loosely leaved, round, glabrous. Leaves spreading or outspread, elliptic, acuminate, leathery, glabrous, petiole glabrous, slightly grooved. Inflorescences on slender peduncles, umbel of few flowers, with the peduncle glabrous, with the pedicels threadlike, glabrous. Flower average sized for the section, similar to *H. epedunculata* Schlechter, but much smaller. Lobes of the calyx small, lobes ovate-oblong, obtuse, without cilia, glabrous, much smaller than that of the corolla. Corolla broadly campanulate, 5 parted nearly to the middle, outside glabrous, margins without cilia, inside densely papillose- puberulous, lobes ovate triangular, acute. Scales of the corona spreading, apex somewhat erect, above oblong, apex acute, outside obtuse, sides thickly rounded. Pollinia obliquely oblong, toward the base a little attenuate, with the translators very short, retinaculum rhomboid, minute.

A very ornamental (elegant, pretty fine etc.) epiphytic vine with cord like, loosely leaved branches. Leaves 9-14 cm. long, in the middle 4-4.3 cm. wide. Inflorescences umbel like. few flowered, on a bare, slender peduncle about 3 cm. long. Pedicels threadlike, bare about 2.3 cm. long. Blooms midsize in the section. Calyx very small, lobes about 1.5 mm. long. Corolla broadly bowl shaped (campanulate) wide spread about 2.6 cm. in diameter, not ciliated on the edge. Corona scales from the tip to the edge about 0.4 cm. long.

Northeastern New Guinea: on trees in the Torricelli Mountains, about 800 meters altitude (Schlechter #20315 - Blooming in September 1909).

For a long time I was undecided about this species compared to the following, whether it is to be acknowledged as a single species or not. I was then obliged to consider it was a special species, since several distinct features lead to this conclusion. I will go into proving them further in the description of *H. epedunculata* Schlechter. The bloom coloring of the above species is bright wine-red, the corona scales are yellowish with red tips.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.132, "Asclepiadaceen von Deutsch Neu Guinea".

Hoya torricellensis Schlechter

Sheet #20315 (B) 22 September 1909

Collected by Dr. Schlechter in the Torricelli Mts., New Guinea

Hoya treubiana Schlechter

A branched high climbing twiner; branches and branchlets threadlike elongate, flexible, glabrous, loosely leaved; with the leaves petiolate, oblong obtuse, glabrous, thickly leathery, nerves not at all conspicuous, with the margins revolute, 13-18 cm. long, in the middle nearly 4.5-5.5 cm. wide, petiole fleshy, 1-1.5 cm. long; with the cymes pedunculate, shaped like umbels, multiflowered; peduncle round, glabrous, about 7 cm. long; pedicels threadlike, glabrous, about 2.5 cm. long; with the segments of the calyx oblong obtuse, glabrous, 3.5 mm. long, corolla somewhat recurved, 5 lobed all the way to near the middle, 0.9 cm. long, outside glabrous, inside densely velvety-puberulous, lobes ovate acute, with the margins revolute; scales of the corona horizontal fleshy, towards the back a little ascending, above broadly elliptic, concave, apex towards being beaked, below longitudinally minutely pitted, ovate obtuse, with the pollinia obliquely oblong, with the exterior margins mildly keel-margined, translators small a little thickened towards the apex, retinaculum rhomboid, translators barely longer.

Netherlands Indies: cultivated in the botanical garden at Beutenzorg.

At first glance the principle characteristics of the species are without doubt the long, thick leaves with the completely invisible nerves.

Published by Dr. R. Schlechter in:
1908 Bieblatt zu den Botanischen Jahrbucher #92 V.40 p.16

Hoya treubiana Schlechter

Sheet # s.n. (B) 1908

Collected from the Buitenzorg Garden, Java by Dr. Schlechter

Hoya Treubiana

T. S. L.

Hoya trigonolobos Schlechter

Epiphytic on the branches and trunks of trees, high climbing; branched and rebranched, threadlike-elongate, round glabrous, loosely leaved, producing aerial roots; leaves spreading ovate or ovate-oblong, acute or briefly acuminate, both sides glabrous, texture fleshy-leathery, about 14 cm long, in the middle or below the middle about 7 cm. wide, petiole thick, short, 0.5-0.7 cm. long; peduncle slender, round, glabrous about 6.5 cm. long, with the rachis thickened, eventually cylindrical; umbels 10-20 flowered, with the pedicels threadlike, round glabrous, about 3.5 cm. long; with the segments of the calyx ovate obtuse, glabrous, with the margin minutely ciliate, barely 0.2 cm. long; corolla rotate, 5 lobed all the way to near the center, about 1 cm in diameter, outside glabrous, lobes triangular acute, inside very minutely puberulous, with the connate part of the corona glabrous; with scales of the corona fleshy, horizontal, above oblong, apex beaked acuminate, in the center lightly concave, with a minute hump. below sulcate; anthers wide trapezoidal, appendages hyaline triangular, somewhat obtuse; with the pollinia obliquely oblong, translators very short, retinaculum rhomboid, much shorter than the pollinia, with the head of the stigma a short cone.

New Britain on trees in the forest near Mandres, altitude about 50 meters (R. Schlechter #13763, blooming November 1901).

The closest alliance is with *H. marginata* Schlechter again through the good characteristics of the bloom.

Published by Dr. Schlechter in:

1905 Nachtrage zur Flora der Deutschen Schutzgebiete in der Sudsee p. 366-367.

Hoya trigonolobos Schlechter

Sheet #13763 (B) 5 November 1901

Collected by Dr. Schlechter on New Britain at Madres, New Guinea

Hoya venusta Schlechter

A climbing epiphytic half shrub, not much branched. Branches threadlike, flexible, loosely leaved, round, sparsely puberulous. Leaves spreading or outspread, petiolate, lanceolate or elliptic-lanceolate, obtuse, acuminate, leathery, both sides glabrous, reticulately veined, shortly petioled, sparsely puberulous, above slightly grooved. Inflorescences shaped like an umbel, 6-10 flowered, with the peduncle round, puberulous, with the pedicels filiform, glabrous. Flower very small for the section, *H. microphylla* Schlechter is similar and almost of equal size. Lobes of the calyx ovate, somewhat obtuse, glabrous, much smaller than those of the corolla. Campanulate, 5 parted almost to the middle, outside glabrous, inside minutely and densely papillose-puberulous, lobes ovate triangular, glabrous, acute. Scales of the corona spreading, horizontal, above oblong, apex triangular, shortly acute, outside obtuse, longitudinally grooved through the middle, along with an obscure hump above the center. Pollinia obliquely oblong, with the translators very small, retinaculum rhomboid, minute.

A epiphytic very ornamental and elegant clinging vine with threadlike loosely leaved branches. Leaves 3-5 cm. long, below the middle 0.9-1.7 cm. wide, petioles 0.2-0.4 cm. long. Inflorescences umbellate, 6-10 flowered, on a peduncle slightly pubescent and 1.5-2.7 cm. long, pedicels very fine and slender, bare, 1.7- 2.3 cm. long. Flowers rather small for the section, similar to those of *H. microphylla* Schlechter. Calyx lobes small 1.5 mm. long. Corolla when spread out (flattened) 2 cm. in diameter . Corona scales from the tip to the outer edge about 3.5 mm. long.

Northeastern New Guinea: on trees in the forests of the Bismarck mountains, about 2200 meters altitude (Schlechter #18764 - Blooming in November 1908).

Undoubtedly this species is to be regarded as closely allied to *H. microphylla* Schlechter, however, it is recognized from the other through the long lanceolate leaves with long attenuate ends. Moreover, the whole corolla inside has short and thick papillose hairs and the corona scales are dissimilar, narrower and longer. The blooms are white with purple-red corona.

Published by Dr. R. Schlechter in:
1913 Botanische Jahrbucher V.50 p.128, "die Asclepiadaceen von Deutsch Neu Guinea".

Hoya venusta Schlechter

Sheet #18764 (B) 13 November 1908

Collected by Dr. Schlechter in Bismark Mts., New Guinea

Bismark-Schl.

13.11.1908

Hoya wariana Schlechter

A very slender, little branched half-shrub. Branches threadlike, flexible, well leaved, round, glabrous. Leaves spreading or somewhat outspread, shortly petioled, strap shaped, linear, acute or apiculate, base obtuse, thin leathery texture, both sides glabrous. Inflorescences shaped like an umbel, 10-15 flowered, narrowly pedunculate, pedicels of the peduncle glabrous, thread like. Flowers among the smallest in the section. Lobes of the calyx ovate, obtuse, glabrous, much shorter than from the corolla. Corolla rotate, 5 parted all the way to one third from the basal area, lobes ovate acute, margins densely ciliate, otherwise entirely glabrous. Scales of the corona ascending, above rhomboid obovate, apex acute, outside very obtuse, below two gills (thin plates of tissue) extend down and adnate to the scale. Pollinia obliquely oblong, with the translators very small, retinaculum narrowly rhomboid.

A very pretty small clinging vine with thread like well leaved branches, up to 3 m. high. Leaves 2.2-5.5 cm. long, in the middle 3.5-5.5 mm. broad, petiole short, slightly furrowed above, barely 2 mm. long. Inflorescences umbellate, 10-15 flowered, on a threadlike slender peduncle about 6 cm. long. Pedicels threadlike, bare 1.3-1.5 cm. long. Flowers in the section remarkably small. Calyx very small, about 1.5 mm. long. Corolla radial, about 0.8 cm. on diameter. Corona scales obviously very short, an on the specimens that are not fully developed, they barely exceed 1.5 mm. from apex to the extreme outer edge.

Northeastern New Guinea: among shrubs (bushes) on the Dscheregi in the Waria Valley, about 400 m. altitude (Schlechter #17430 - In bud March 1908); between shrubs climbing in the Mountain forests near Pema in the Waria valley approximately 400 meters altitude, (Schlechter #19410 - in bud in May 1909).

The appropriateness of the species in this section *Eu-Hoya* is not entirely certain. The material found by me was still in the bud stage. The corona scales in this condition more closely resemble the section *Otostemma*, but I believe that with complete development it will prove to be a true (real) *Eu-Hoya*. If not, it naturally belongs to *Otostemma* where it would stay more isolated than in *Eu-Hoya*. I have described this species, as a consequence of its characteristically narrow leaves and even in the non blooming condition can be mistaken with no other. The blooms are obviously greenish-white.

Published by Dr. R. Schlechter in:

1913 Botanische Jahrbucher V.50 p.123, "Die Asclepiadaceen von Der Deutsch Neu Guinea"

Hoya wariana Schlechter

Sheet #17430 (B) 11 March 1908

Collected by Dr. Schlechter on the Dscheregi, Waria Valley, New Guinea

Hoya longiloba var.

Mimosa

H. w.

Hoya warburgii Schlechter

Sheet #17494 (B) unpublished

Collected by Dr. V. Warburg

17494

Hoya rubida Schlechter

Sheet #19948 (B) 5 July 1909

Collected by Dr. Schlechter on Waria River, New Guinea

Hoya rubida Schlechter

Hoya

Waria-Nor

J.V. 1909

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