

FRATERNA

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Unidentified Hoya species

INTERNATIONAL HOYA ASSOCIATION

(Formerly Hoya Society-West Coast)

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Back Issues

We now have the thirteen original issues of the Hoya Society -West Coast newsletter bound as one publication. The price of this bound text is \$25.00 U.S. and \$35.00 shipped surface overseas. Due to the extra pages and pictures in our new publication "Fraterna", we must, out of necessity, increase our prices for back issues of "Fraterna" to \$4.00 per issue, \$5.00 per issue shipped surface mail overseas.

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Errors of fact may occur from time to time in "Fraterna". It is the policy of the IHA to publish corrections of fact, but will not comment on matters of opinion expressed in other publications.

Catalogue Requests

The IHA office does not have dealer catalogs available. Please address your catalog requests to the individual dealers, or write to our vice president, John Scoville who will have a listing of mail order dealers available by January 1, 1994.

Please send a self addressed, stamped envelope. John's address is 651 Aram Ave., San Jose, Calif. 95128. In some instances there is a charge for these catalogs which is normally refunded with your first order.

Towards A Better Understanding

By Dale Kloppenburg

Subject: *Hoya merrillii Schlechter*

For a long time now I have been concerned over the species we have labeled as *Hoya merrillii Schlechter*. The original clone of the species in question was collected by Ted Green and myself in 1981 from Professor Juan Pancho's yard and labeled with the number 81100. Even today in the Philippines, the US and possibly elsewhere, this and similar clones are called and labeled as *H. merrillii*. Professor Juan Pancho also identifies this species as *H. merrillii*. What has perplexed and bothered me over the years is that Schlechter's drawing on the Herbarium Type sheet in the Berlin Herbarium shows a flower with raised outer coronal lobes. The coronas of the flowers on the species labeled with the number 81100 (the species we have been calling *H. merrillii Schltr.*) is essentially horizontal with the inner lobes slightly raised, differing very obviously in this respect from Schlechter's drawing.

There are three Philippine species in our living material that have similar, though different foliage as well as other characteristics. In addition the flowers on all three are yellow, of a similar shade, with the petal edges and apex rolled under. The umbels and individual flowers look remarkably alike. The three species I am referring to are #81100, which has unusually deep glossy green foliage, the plant we know as *H. sp. Cebu* and *H. pentaphlebia Merrill*. It is fairly certain that the identity of *H. pentaphlebia Merrill* is correct. That leaves only two species out of the three that are in question. A determined "Lumper" would probably say all three species are one and the same. It is clear however, on close examination that the coronas of each are distinctive and quite different in the three species. In addition the flowers and flower parts are different sizes and shapes. The pollinaria of *H. sp. Cebu* is much smaller than *H. sp. 81100*.

After much study, I have come to the conclusion that the plant we know as *H. sp. Cebu* (collected on the Philippine Island of Cebu) is *H. merrillii Schltr.* In addition, I have

determined that the other species in question (#81100 or other numbered clones of the same species) is *H. quinquinervia Warburg*. Both of these species have nice glossy foliage, and Warburg correctly observed that the foliage of *H. quinquinervia* was unique...it is in fact outstanding with a beautiful waxy gloss that appears to have been buffed to a high shine. The foliage of *H. merrillii Schltr.* (*H. sp. Cebu*) is a gorgeous glossy green when young but takes on a definite yellowish cast as it ages.

Background Data

Schlechter's description in Latin in Perkins *Fragmenta Florae Philippinae* (1904) 131, as follows:

Hoya Merrillii Schlechter n. sp.. Volubilis, scandens, epiphytica; ramis filiformibus teretibus, glabris, radicanibus, distanter foliatis, carnosulis; foliis patentibus patulisve, ovatis acuminatis, carnosius, utrinque glabris, siccis nervis 5 prominentibus donatis, 6-9 cm. longis, infra medium 5-6.5 cm. latis, petiolo brevi, carnosio, 1.5-2 cm. longo; inflorescentia subaxillaris, umbellata. 20-30 flora; pedunculo crasso ca. 2 cm. longo; rhachi incrassata abbreviata, bracteis minutis, dentiformibus; pedicellis filiformibus ca. 2 cm. longis, glabris; calycis segmentis ovato-lanceolatis, obtusis, glabris 0.1 cm. longitudine vix excedentibus; corollae rotatae alte fissae lobis oblongis acutis, subtus glabris, superne minutissime puberulis, 0.4 cm. longis, medio fere 0.2 cm. latitudine paulo excedentibus; coronae foliolis adscendentibus carnosius, depressis, lanceolatis utrinque acuminatis, apice antica suberecta, longitudine 0.3 cm. subattingentibus; antherarum appendice hyalina oblonga obtusa in stigmatis caput incurva; polliniis compressis oblique oblongis, translatoribus perbrevis dilatis, retinaculo rhomboideo latius marginato; stigmatis capite depresso, medio callo brevi conico donato.

Mindoro Isl. Pola (Merrill no. 2218; in flower in May 1903).

(German) Habituell steht die Pflanze der *H. parasitica* Wall. von Hinterinden wohl am nächsten. Sie unterscheidet sich von ihr durch die innen sehr fein und kurz behaarten Blüten und die stark aufwärts strebenden Spitzen der Koronenschuppen.

Translation: Twining, climbing, epiphytic branches round filiform, glabrous, putting forth aerial roots, with leaves far apart, fleshy, with leaves spreading outspread, ovate acuminate, fleshy, with both sides glabrous, when dry with 5 prominent nerves, 6-9 cm. long, below the middle 5-6.5 cm. wide, with the petiole short, fleshy, 1.5-2 cm. long; inflorescence almost axillary, umbellate, 20-30 flowered; with the peduncle thick about 2 cm. long; with the rachis shortly thickened with minute bracts, toothlike; with the pedicels filiform about 2 cm. long, glabrous; with the calyx segments ovate-lanceolate, obtuse glabrous, 0.1 cm. longitudinally barely exceeding; with the high

split (deeply cut) lobes of the rotate corolla oblong acute, below glabrous, above minutely puberulous, 0.4 cm. long, in the middle nearly 0.2 cm. wide somewhat extended; scales of the corona ascending fleshy, depressed, lanceolate both (ends) acuminate, with the inner apex sub erect almost reaching 0.3 cm. long; with the appendices of the anthers hyaline oblong obtuse with the head of the stigma incurved; with the pollinium compressed oblong oblique, translators very shortly expanded (widened), retinaculum rhomboid with broad margins; with the stigmatic head somewhat sunken, in the center a small hardened dome.

The plant in the photo featured below was formerly known to us only as an Unknown *Hoya* species from the Island of Cebu in the Philippines, and was labeled *H. sp. Cebu*. It has now been properly identified as *H. merrillii* Schlechter.



H. merrillii Schlechter

Photo sponsored by "Our Advertisers"

Hoya merrillii Schlechter

Measurements from Type description

Leaf: 5 prominent veins, 6-9 cm. long x 5-6.5 cm. wide

Petiole: Short 1.5-2 cm. long

Inflorescence: 20-30 flowered

Peduncle: Thick, 2 cm. long

Rachis: With minute bracts

Pedicel: 2 cm. long

Sepals: Ovate-lanceolate, obtuse, glabrous 0.1 cm. narrowly ovate-lanceolate, rounded long

Corolla: Oblong acute glabrous below, above minutely puberulous 0.4 cm. long, in the middle nearly 0.2 cm. wide

Corona: Both ends acuminate, inner apex sub erect reaching 0.3 cm. long

Hoya sp. Cebu

As flowered at Fresno, CA

Leaf: 5-9 prominent veins, yellow green, 6-12 cm. long x 5-7.7 cm. wide

Petiole: 2.0-3.0 cm. long x 0.05 cm. diameter

Inflorescence: Same

Peduncle: Same

Rachis: Same

Pedicel: Same

Sepals: Same

Corolla: Same 0.45 cm. long widest 0.4 cm.

Corona: Same 0.23 cm. long

H. quinquinervia Warburg



H. quinquinervia Warburg

(formerly labeled H. merrillii Schltr.)

Dr. Warburg's description of Hoya quinquinervia is found in Perkins, Florae Philippinae 1 (1904) 132 as follows:

Hoya quinquinervia Warb. n. sp. Folio unico exstante coriaceo glabro late ovato 6.5 cm. longo 4 cm. lato apice breviter acuminato acuto basi rotundato 5-nervis, nervio internis apicem fere attingentibus, reticulo nervorum subdistincto; petiolo 15 mm. longo 3 mm. crasso; pedunculo 2 cm. longo 2 mm. crasso, parte florifera 4 mm. crassa cylindrica, pedicello 15 mm. longo 1/3 mm. crasso, glabro sepalis 1 mm. longis ovatis acutis glabris margine minutissime ciliolatis, corolla 7-8 mm. in diametro extus glabra intus papillosa, coronae stamineae lobis patulis late lanceolatis concavis apice interno erecto acuto, apice externo haud recurvato acuminato.

North Luzon, Prov. Isabela, Malunu (Warburg #11956). Wohl verwandt hiemit ist #14386 aus Sud-Mindanao, Davao, ein Art mit gleichfalls 5 nervigen, aber mehr elliptischen und nicht spitzen, sondern apikulaten Blättern, sowie etwa 10 cm. langen und 1 mm, dicken Blütenstandsstielen, leider sind die Blüten beim Trocknen abgefallen und verschwunden.

Translation: Leaf unique, standing out, coriaceous glabrous broadly ovate 6.5 cm. long 4 cm. wide, apex shortly acuminate acute with the base rounded, 5 nerved, inner nerves almost reaching the apex, nerve reticulations somewhat distinct; with the petiole 15 mm. long 3 mm. wide; with the peduncle 2 cm. long 2 mm. wide, flowering portion 4 mm. wide cylindrical, with the pedicel 15 mm. long 1/3 mm. wide, glabrous, sepals 1 mm. long ovate acute glabrous with the margins minutely ciliate, corolla 7-8 mm. in diameter outside glabrous inside papillose, lobes of the staminal corona wide spread, concave internal apex erect acute, external apex acuminate, not at all recurved.

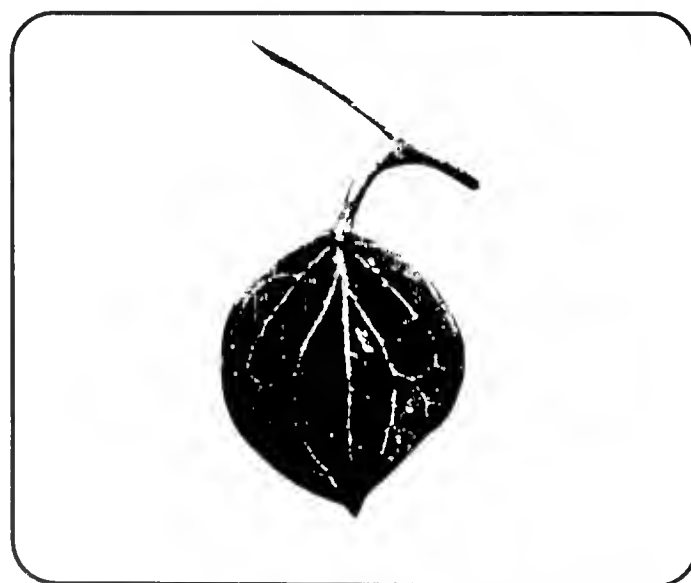
Northern Luzon, Province of Isabella, Malunu (Warburg # 11956).

Closely related is # 14386 from Southern Mindanao Davao, a species likewise with leaves 5 nerved, but more elliptical and not pointed but apiculate, as well as nearly 10 cm. long and with the peduncle 1 mm. thick, unfortunately the flowers were dry having fallen and became damaged.

Discussion

I feel that the key word in the beginning of this description is "unique". The foliage of our #81100 and similar clones are unique in the glossiness and deep green waxy foliage that certainly stands-out. These species are easy to distinguish because of this character, they immediately stand out from other Philippine species, even other hoyas species. It has been inferred that the species was based on too little material. The misreading of Warburg's German reference to a species from Davao, Philippines in which the flowers had dropped to the ground i.e. Herbarium sheet #14386, has led to this incorrect conclusion. It is evident that Warburg had access to sufficient live material and gave a rather detailed description with adequate measurements and comments.

The flowers are yellow minutely sprinkled with purple as stated by A.D.E. Elmer in Leaflets of Philippine Botany 10 (1938) 35991.



Questions & Answers

Question: What causes the purple rings and freckle-like spots on the backside of many of my hoya leaves, is this some type of disease that I should worry about? D.W.

Answer: I had to ask this same question awhile back, because I didn't know what caused it either. I was told that it is caused by a spilling over or overflow from an excess of chemicals that are absorbed by the plant, either from the soil itself or from chemicals that are added in the form of fertilizer or micro nutrients. The chemical most commonly to blame is magnesium.

Question: I have a shooting star hoya that has been beautiful and has bloomed almost constantly for over two years. It is now getting so tall and lanky that the plant is no longer pretty, but still keeps blooming. Should I prune it while it is in bloom...and if so, how far should I cut it back? N.S.

Answer: By all means, prune it right away. It can be cut back to within a few inches of the soil line, but allow several sets of leaves to remain on the plant. This will force new growth in the form of side branches. Your plant will be bushier and in time will have all these new branches to form flower buds. By the way...don't throw those cuttings away, reroot them and grow them into flowering size plants for your own enjoyment or for gifts, plant raffles or whatever.

Question: I'm having a terrible problem with spider mites this year. I can spend all day swabbing their webs out of my plants but within a few days most of them have all been rebuilt. My plants look terrible and the hot house looks like something out of a halloween movie with spider webs everywhere. What can I use to get rid of these pests? W.J.

Answer: You may very well have some spider mites...but I can tell you without even giving it much thought that spider mites isn't the guilty party that is building webs all over your hot house. If you had enough spider mites to build as many webs as you indicate there are, you wouldn't have one single plant left alive. Furthermore...spider mites build extremely fine, very small webs without any pattern to them at all. They actually look more like shredded fiber glass than webs, and you can usually see mite excrement in them. Spider mites use these small webs to get from one part of a single plant to another part of that same plant. On the other hand, regular old everyday eight

legged spiders of most species can and do build huge blocks of very intricate webs to trap their prey and to get from one side of a building to the other side very quickly without having to go over and around every obstacle that might be in their way. I suspect the real culprit in your case is some very common garden spiders...maybe several different kinds. They probably moved into your hot house to take advantage of any easy meal that happens to venture into their webs. I am a gardener who had to learn to live with spiders because I know the good that they do for us by eating harmful pests that would otherwise destroy our plants. I know they are strictly carnivorous, they don't eat plants or flowers, just bugs and each other...they are probably the best friends a gardener can have and I can give others good sound advice for letting them live but heaven help me...I would literally rather run into a snake than a spider.

Question: I've heard a lot about preserving hoya flowers for study. I guess these are wanted by the scientists and the people involved in research. I'm perfectly willing to share my flowers with others who want to study them but I don't know where to start. Are there particular flowers that are wanted? How long should they be open before they are picked off for preserving, and what do I preserve them in? Who should I send them to? C.P.

Answer: Let's take first things first...Yes particular flowers are wanted and needed. Hopefully I will soon have a list of flowers that have yet to be examined. When I do, I will list them in *Fraterna*. They should be picked within 24 hours of opening and placed in a few drops of preserving solution in a tightly capped bottle. Some use Isopropyl alcohol (plain rubbing alcohol). I prefer a solution of 10% formalin that most pharmacists will make up for you. The trick is to use only a few drops of whatever you're using...that is all that is necessary. Too much solution will make the flowers soggy and hard to work with, it will also remove all the color from them, and we want them as close to the natural color as possible. If the umbels are very small, it would be nice to have the entire umbel. If the flowers are large, a few of them will do nicely, try to get the full length of pedicel so we can get the measurements. You can send them to the IHA office at P.O. Box 5130, Central Point, OR 97502. I will disperse them to whoever wants them for study.

Just Little Clay Pebbles

Anytime I hear about a miracle plant cure, a marvelous potting mix, an aphid eradicator, or something that will bring on a bloom bonanza...I always Just Gotta Try It! Well, almost always.

A couple of years ago I was talking to member Richard Dobson on the phone and he happened to mention a product that he had been using to grow some of the very difficult hoyas. When I say difficult...I mean difficult for me. Some growers have phenomenal success with plants that die if I even look at them. I'd hate to tell you how many *H. darwinii*, *H. linearis*, *H. microphylla*, *H. campanulata*, *H. imbricata* and *H. curtisii* I have killed over the years yet I have seen beautiful specimens of all these plants growing beautifully for others. I told Richard that I would give anything if I could just grow some of these challenging plants to maturity even if I never saw a bloom. That's when he told me about this product that he called Leica Stones (or Leca Stones) and said he had experienced very good results with it. We struck up a bargain and did some trading...plants for Leica Stones. I guess in my mind I had envisioned fascinating shaped stones pulsing with some kind of strange energy that would catapult my plants to "Jack & the Beanstalk" sized plants overnight.

Sure enough, within a few days my sack of Leica Stones arrived as promised. I tore open the package and had to laugh. They were just little clay pebbles and I didn't know what to do with them, so I stuck them in a cupboard and forgot about them. Now Vicki Graves of "Vicki's Exotic Plants" is more of a phone talker than I am. She had been talking to Richard also and talked long enough to find out what to do with her sack of stones. A few months later she was over visiting and I mentioned that I needed some starts of plants that I had lost. Since her and I usually have trouble with the same plants, I hadn't thought about asking her if she had them, I just assumed that I would have to order them from someone else. When she told me she had nice sized plants of all those that I needed to replace I was surprised. How in the world could she get them to grow when neither one of us ever could before. Her answer...Oh, I grow them in Leica Stones now. With me sputtering...you mean those little clay pebbles? How? what do you do with them? Right then I got a lesson on how to grow plants in little clay pebbles.

The method is purely hydroponic or water gardening but with a twist. You must use a clay pot for this method because the pot must be able to breathe and also take water and nutrients in through the pot walls as well as through the bottom. Soak your pots and the Leica Stones in water overnight. Fill your pots almost full with the stones then place your cuttings into the pot making sure that at least one pair of nodes is covered by the stones. Place your pots in a shallow container of water in a bright but not sunny position. Do not let the container go dry while your plants are rooting. As soon as your plants have a good root, you may move your plants to a brighter area and start using a very mild fertilizer solution in your bottom container (I recommend a few drops of Schultz liquid in a quart of warm water). When your plant is growing well, it will not hurt to let the container dry out for a few days...the stones will still contain enough moisture to keep your plants from wilting. Occasionally you will need to run clear water through the pots to remove fertilizer salts.

I can honestly say that I have never seen plants take hold and root and grow as well as they have using these little clay pebbles. I have not lost one single plant or even one unrooted cutting with this method. I now have *H. linearis*, *H. campanulata*, *H. schneei*, *H. curtisii*, *H. vitiensis*, *H. megalantha* and some others that I'm not sure of their identification. With this method I may get to see some blooms soon, then perhaps we can identify them.

I called the company that sells them to get some prices and other information. The company is Fensmore Inc. Plant Systems, P.O. Box 2188, Apopka, Florida, 32704-2188. Phone (407) 886-2367. The retail price of a 5 quart bucket at present is \$9.95 postage paid, they will accept Visa or Master Card. They also sell wholesale to dealers with fed ID # in minimum quantities of 45 liters, the freight on this quantity is double the price of the product.

From the literature that came with my order, I gathered that they also sell special pots, plant nutrients etc. You may want to inquire about other items that they sell.

Ann Wayman



H. waymaniae *Kloppenburg*

Hoya waymaniae *Kloppenburg* sp. nova

Typus cultivated at Fresno, CA., USA from clone obtained from the Sydney Botanical Garden by Ted Green in 1988 or there about. Holotype: UC # 11. Section *Acanthostemma* (Blume) *Kloppenburg*. This species fits the delineations for the Subsection *Angusticarinata* *Kloppenburg* "corona foliola lateribus rotundato anguste carinata". The side lobes are exceptionally narrow, however the corona segments are very different from the long narrow segments of the subsection type *Hoya diptera* *Seemann*, *Hoya eitapensis* *Schlechter* or *Hoya flavida* *Forster & Liddle*. Here the segments are oval, broad and short, the outer apex is obtuse to subcordate.

Frutex epiphyticus, ramis pubescentibus; folia opposita, succulenta, ovata, utrinque pubescentia; petiolo ca. 1.5 cm. longo, pubescentia; umbellae axillares; pedicellis 2.7 cm. longo, pubescentia; corollae lobis revoluta, intus pubescentibus; coronae segmentis erectis; floribus aurantiacis.

Hoya waymaniae like *Hoya diptera* *Seemann* has narrow side lobes but differs in having ovate coronal segments and the side lobes do not meet at the outer apex but do meet lower down on the outer surface at which point the lower channeled groove begins. In addition the corolla here is

revolute like the species in the Subsection *Externatae* *Kloppenburg* thus differing from *Hoya diptera* *Seemann*.

Stem: stout, rigid, succulent, pubescent, terete, rooting especially near the center of the internodes, rusty pink colored. Nodes enlarged, somewhat flat; internodes 2-10 cm. long; copious milky latex present.

Leaf Blade: thick, rigid, succulent, both surfaces finely pubescent especially so with the lower surface. 5-9 cm. long, margins very undulate 3-5 cm. wide, enervis, edges rough with small bumpy thickened protrusions, much pinkish pigmentation. With a linear imbedded leaf gland present.

Petiole: heavy, 1.5 cm. long x .4 cm. diam., twisted, somewhat flattened on the upper surface (but not grooved) otherwise terete, pubescent.

Pedicel: 2.0 cm. long x 0.14 cm. diameter, terete, curved with scattered hairs and fine pubescence.

Calyx: elliptic triangular. 0.8 cm. x 0.16 cm. at widest portion near the base, surface glabrous, outer punctate, ligules present.

Ovaries: dome shaped 0.19 cm. tall with the paired base 0.12 cm. broad, glabrous, shiny.

Corolla: revolute, outside glabrous, inside finely pubescent with apex glabrous, pentagonally thickened and sunken under the corona with stellate hairs around the extremely short tube, deep orange in color. Sinus to sinus 0.50 cm.; sinus to apex 0.57 cm.; sinus to center 0.40 cm.; apex to center 0.82 cm., making the flattened flower diameter 1.6 cm.; widest 0.45 cm.

Corona: Very thick and upright, ovate, outer lobe of segment very broadly rounded to subcordate, inner lobe very short laterally compressed (dentate), narrow bilobed side extensions well down on side of segment meeting below the outer apex with sides forming the coronal lower groove. Anthers membranaceous, triangular long, exposed in the center of the flower, stylar column usually visible in the center. Apex to apex 0.22 cm.; apex to center 0.30 cm.; 0.18 cm. wide near outer apex; thick ca. 0.18 cm.; color clear deep orange. Stylar head broad dome shaped.

Pollinarium: long narrow upright pollinia 0.43 mm. long x 0.11 mm. at widest, with sterile pellucid edge from the inner apex all the way to the translators, with narrow triangular vacuole widest at the base; translators 0.27 mm. long arising at right angles to the retinaculum bending upward at right angles 0.07 mm. from attachment point, variable in thickness but generally ca. 0.04 mm. on the exposed side, cupped (on inner end around the pollinium), granular surface; caudicle clear, linear (long and narrow) with a semi bulbous end ca. 0.05 mm. diameter; the retinaculum is relatively very small ca. 0.1 mm. long including the bifid extensions, head 0.45 mm. wide.

Hoya Waymaniae Kloppenburg has a very distinctive pollinarium, it could be separated from all other hoyas species on this character alone.

It is an honor to name this distinctive and beautiful hoyas species for Ann Wayman, editor of the International Hoya Association's official quarterly bulletin, "Fraterna". Her presentations in this publication are carried out in a professional manner, always thoughtful and thorough in content. She is a superior plant person, constantly bringing those difficult hoyas into bloom, and finally capturing their beauty on camera for all to enjoy a hundred years from now.

Dale Kloppenburg

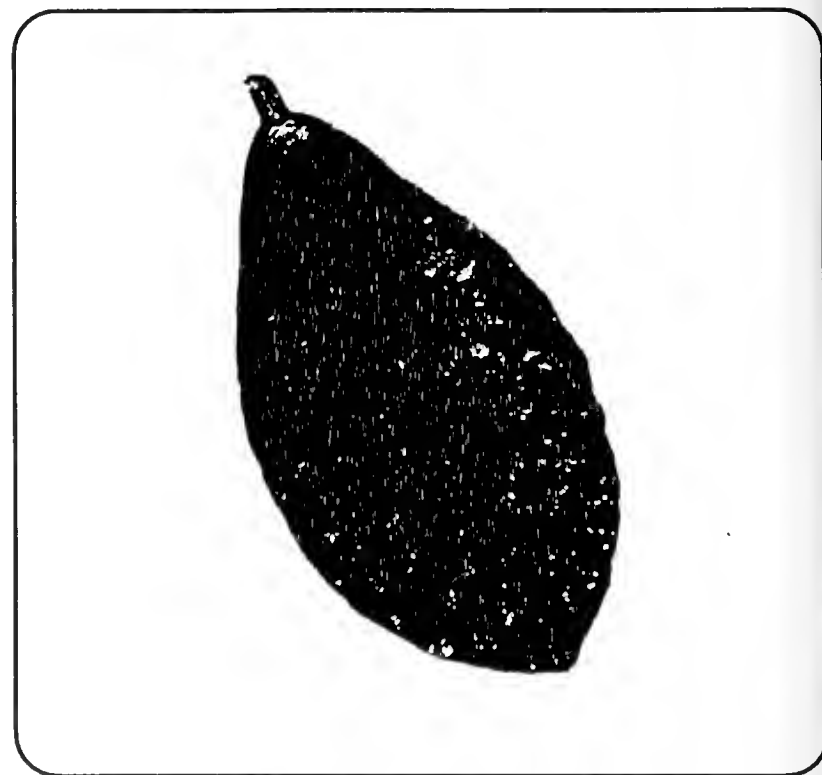
Editors Note: The flowers of this species were a photo feature in "Fraterna" 1st quarter 1995. In the article that accompanied the photo, I mis-stated that the original clone of this plant (H. sp. 85-1981) was collected by Ted Green in Borneo in 1985. I have since received a letter from Ted straightening me out on the real story behind the acquisition of this plant. A.W.

Ted says... "I didn't collect this plant in Borneo - I saw it there later, but my original piece came from the Sydney Botanical Garden, about 1988 or so. Ben Wallace got it in 1985 from the collection at the Tenom Orchid Center in Sabah and his number was 85 (the year) and his collection number was 1981. Despite all of this collection talk it is a honey and really flowers for me. Michael Miyashiro is trying to cross it with several other things that have the same type of flower".

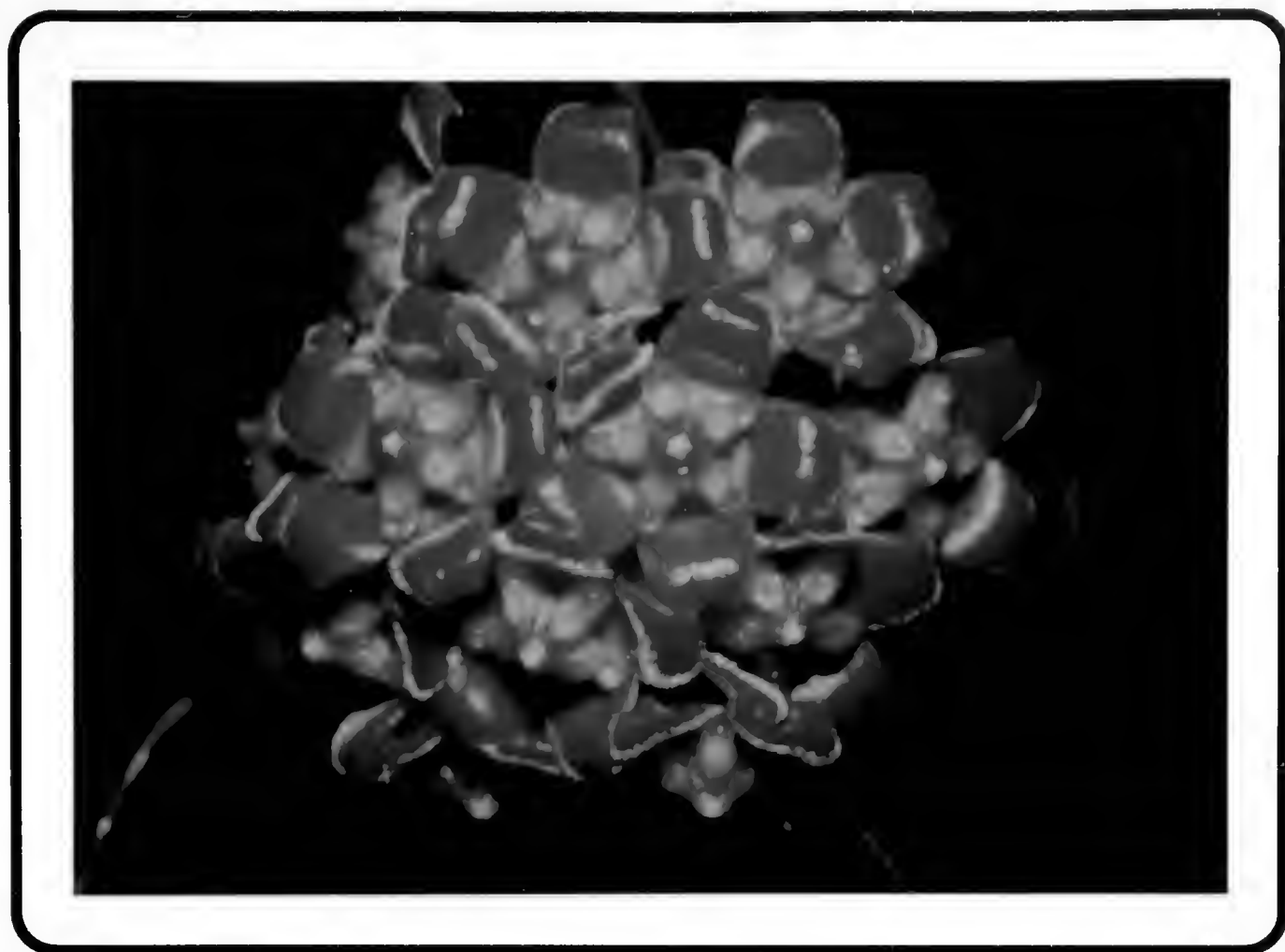
"While we are on the subject of correcting errors, I forgot to include the one important sentence in my description of *H. meliflua* Merrill ssp. *fraterna* Green as published on page 2, *Fraterna*, IHA Bulletin, 1st quarter 1995. The sentence should read as follows:

The Type: The picture as shown in Curtis' *Botanical Magazine*, Tab. 4684, 1, December 1852".

Ted Green



Photocopy: leaf of *H. waymaniae*



***H. davidcummingii* Kloppenburg sp. nova.**

Type sheet #9 (BISH); isotype (UC), discovered by David Cumming 1.5 Km. from Lake Bulusan turn off towards the lake at the forest edge, when coming from Irosin, elevation ca. 500'. This specimen he labeled 3232.

Epiphytic, gracilis, scandens, ramosa; ramis ramulisque filiformibus, flexuosis, glabris vel sparsis, lax foliatis; radicantibus; foliis patulis breviter petiolatis, lanceolato-ellipticus acutis vel obtusiusculis basi cuneatis, glabris, apice recurvis, textura crasse coriaceis ca. 5-7.5 cm. longis 2-2.5 cm. latis; petiolo 0.5-1.2 cm. longo, glabro; cymis umbelliformibus, 10-30 floris; pedunculo glabro 3-6 cm. longo; pedicellus filiformibus ca. 0.85 cm. longo, quam ligulae presenta; corolla subrotata recurvula 1.30 cm. diametiente, extus glabra punctata, intus dense pubescenta; coronae foliola dorsa erecta, subtus in ligulas 2 oblongas foliolium superantes extensa; corona ca. 0.60 cm. diametiente.

Stems: twining branched and rebranched, brown becoming woody, flexible and mostly glabrous but with occasional hair cells especially when young, frequently rooting on the basal side of the nodes.

Internodes: ca. + /- 8 cm. long, somewhat enlarged.

Petiole: Twisted (with slight curve) round, not grooved, with a small gland at upper blade attachment. 1 cm. long by 0.18 cm. in diameter.

LeafBlade: spreading lanceolate-elliptic, upper surface deep green even olivaceous, glabrous with fine granulations, edges rounded and slightly thickened, lighter green below; apex mostly acute turning down, base cuneate, overall thickened and coriaceous 5-7.5 cm. long, widest about the middle 2-2.5 cm.

Peduncle: straight tapering slightly, larger toward both ends; 0.21 cm. in diameter (0.30 at rachis base), rachis 0.07 cm. long x 0.30 cm. diameter.

Pedicel: round with a slight curve, filiform, yellowish, mostly glabrous 0.85 cm. long.

Calyx: glabrous shiny inside, ligules present but difficult to see, outside glabrous and granular especially near the rachis. Lobes triangular 0.10 cm. long x 0.09 cm. at base with 1/4 or less overlap.

Ovaries: in pairs, bottle shaped 0.17 cm. tall with the paired base 0.11 cm. wide.

Corolla: tends to be patent soon becoming revolute, outside glabrous punctate with scattered yellow spots, base rose; with acute apical lobes, ends revolute and glabrous inner surface with very heavy white pubescent cell structure, otherwise rose to deep rose. Sinus to sinus 0.35 cm.; center to sinus 0.35 cm.; center to apex (flattened) 0.65 cm, making the flower diameter 1.30 cm.; sinus to apex 0.40 cm.; with the widest portion of the corolla lobe 0.35 cm. just outward from the sinus.

Corona: fairly upright, inner apex of lobes spatulate and upon drying turn outward at a 90° angle to the central axis, anther apices triangular, membranaceous extending well above the stylar head, prominent and visible, outer apex broadly obtuse; scale saddle shaped in cross section, broad on top with a central ridge, yellow centrally rose; two long broad bilobes from side and under scale incurving at apical ends especially near maturity and on drying. Apex to apex 0.18 cm; apex to end 0.26 cm.; center to apex 0.22 cm.; widest part of scale top 0.12 cm.; anther wing apex to anther wing apex 0.17 cm; retinaculum (inner apex) to retinaculum 0.07 cm..

Pollinarium: very distinctive and different. Pollinia broad, short and coarse textured within, 0.035 cm. long, 0.017 cm. wide, with long vacuole adjacent to the sterile edge, this edge extends from 1/2 of the top down the outer edge to one sixth from the base where it curves under becoming very narrow. Caudicles are bulbous and translucent about 0.01 cm. in diameter at pollinia attachment. Translators are broadly wedge shaped with a wide flat external edge about 0.01 cm wide; narrowing toward the retinaculum which is long and somewhat linear, with no definite head, waist, or hip protrusions. Inner apex narrow and slightly rounded, outer apex more so with slender bifid extensions to the stigma and covered with a clear membrane. Inner apex to outer apex 0.02 cm. long; inner apex to bifid ends about 0.03 cm. long, widest portion 0.009 cm.

This new species has been thought to be a variety or subspecies of *Hoya gracilis* Schlechter. The *hoya* species in the section *Acanthostemma* (Bl.) Kloppenburg can be divided into two broad groups based on the conformation of the inner coronal lobe. One group including this new species have a spatulate inner lobe. The lobe is horizontally much wider than it is thick. *Hoya bilobata* Schlechter and *Hoya loheri* Kloppenburg also belong in this division. The other more

prevalent form for the inner lobe has been referred to as "dentate". Here the inner lobe is laterally compressed, thus it is thicker than broad occupying a vertical position in relation to the scale plane. *Hoya gracilis* Schlechter, *Hoya wayetii* Kloppenburg and *Hoya micrantha* Hemsley among others exhibit this type of inner coronal lobe. The inner coronal lobes of *Hoya gracilis* Schlechter well overlaps (covers up) the anther appendages at the flower center whereas with this new species the anther appendages are longer than the inner coronal lobes and are readily visible in the flower center.

Another marked difference between the two species is the shape of the stylar head. In *Hoya gracilis* Schlechter it is conic whereas in *Hoya davidcummingii* Kloppenburg the apex is expanded into a bulbous head atop the penta columnar base. A major difference exists in the pollinaria of the two species. *Hoya gracilis* Schlechter has translators "almost lacking" with "very small" retinaculum and relatively narrow finely grained pollinia. The pollinarium of this new species exhibit distinctive very truncated, short, wide pollinia, enlarged prominent translator arms and a relatively long narrow retinaculum. The pollinarium among other differences set this species apart from other Philippine *hoya* species and all other Section *Acanthostemma* species.

This species is named in honor of David Cumming who is an avid plantsman. David has collected extensively in the Philippines and elsewhere and has contributed many clones to living *hoya* inventories. He is a conservative collector, taking cuttings only for propagation, leaving the major portion of wild *hoya* vines to continue growth in their native habitat.

Dale Kloppenburg



Hoya greenii Kloppenburg sp. nova.

Affinis *Hoya darwinii* Loher a qua folium nervis perpendicularis cum coroniae lobis interiora spatulatae, et pollinia margine exteriori differt. Cultivated at Green: Plant Research, Kaaawa, Hawaii (ex clone collected by Ted Green, TG93132mMtApo, Mindanao, Philippines at 4000' elevation, on trail to hot springs lake, 30 October, 1993. Holotype BISH. #7.

Suffrutex, epiphyticus parum ramosus, scandens. Rami filiformibus, flexuosi, laxe foliati, teretes, glabri. Folia erecto-patentia vel patula, elliptica oblonga 15-20 cm. longa; 5-6 cm. lata, glabra, coriacea, nervis non conspicuis, breviter petiolata, umbellae multiflorae, flores magni 2 cm. diametere; corolla profunde lobata, collar prebrevi, lobi cordata-ovati, reflexi; coronae foliola erecta, magma triquetra-conica, subtus caniculata; styli mutico incumbentes, affinis *Hoya darwinii* Loher.

An ornamental climbing vine with leaves similar to *Hoya darwinii* Loher but darker green (almost blackish) in color; more leathery and of only one type. In addition the venation of the leaves of this species is perpendicular to the midrib and finely reticulate, whereas those of *Hoya darwinii* Loher are at 45 degrees to the midrib, venation in neither is prominent. The flower size here is slightly smaller, the inner is more spatulate than dentate (as is *Hoya darwinii*). The pollinia on this new species has a full sterile pellucid edge, differing markedly from *H. darwinii*'s rather short rudimentary sterile edge. The peduncle bears approximately 50 buff pink with red centered flowers on equal pedicels; creating a hemispherical umbel. The sap is milky white.

Stem: terete, glabrous, 0.4-0.5 cm. in diameter, green lenticled, becoming woody-corky; internodes ca. 3-4 cm. long but varying widely in length.

Leaf blade: 12-15 cm. long x 3-4 cm. wide, narrowly elliptic, both surfaces glabrous, dull, very dark green, above slightly channeled along the midrib area, lighter green below. 10+/- pairs of veins perpendicular to the midrib, somewhat obscure, with fine secondary reticulate venation with the base tapered acuminate, outer apex curved under acuminate, rigid.

Petiole: Lighter green ca. 1.5 cm. long with definite groove above, otherwise terete.

Pedicel: Straight, terete, 2.7 cm. long x 0.10 cm. diameter, glabrous with fine granular lenticels, orange colored.

Calyx: Ciliate (as opposed to *H. darwinii* Loher) cupped inward with slightly overlapping sepals, 0.12 cm. long

wides 0.11 cm., apex rounded, with distinct ligules present.

Ovaries: Somewhat bottle shaped 0.22 cm. tall, rose apex otherwise pale lemon colored, base of pair 0.12 cm. wide.

Corolla: Sharply reflexed with apex revolute, outside glossy glabrous, inside with a very fine pubescence, with long hairs under the corona around the collar area. Deeply lobed. Sinus to sinus 0.40 cm., sinus to apex 0.85 cm., apex to center 1.15 cm. thus making the flattened flower 2.30 cm. in diameter, widest 0.60 cm. just outward from the sinus. Collar (tube) 0.05 cm. tall, opening 0.15 cm.

Corona: Inner lobe narrowly spatulate touching in the center, reddish with very fine sulcations, outer lobe much raised, a very columnar corona. Outer lobe narrow but thick, fully channeled below, glossy waxy appearance except for inner lobes. Apex to apex (not flattened) 0.43 cm.; outer apex slightly hooked. Outer apex of anther wings protrude, anther wing to anther wing 0.23 cm.; retinaculum to retinaculum 0.12 cm.; center to anther wing inner apex 0.14 cm.; retinaculum outer apex to anther wing apex 0.12 cm. (anther wing length). Styler columnar with head subcapitate, with pentagonal table edges raised (thickened); fused stigmas distinct above.

Pollinarium: Pollinia 0.074 cm. long rounded apices with long pellucid sterile edge and extending to outer curve where attached to caudicle; with a prominent vacuole. Translators narrow and long 0.18 cm. x 0.028 cm., granular. Caudicle subclear, comma shaped with bulb 0.09 cm. diameter. Retinaculum with distinct inner horns on a broad head 0.15 mm. wide; waist ca. 0.095 mm., 0.19 mm. long with 0.07 mm. hip area at attachment of translators and caudicle 0.09 mm. wide.

Follicle: Linear lanceolate with a truncate outer apex 9 x 0.8 cm. which bear approximately 150 seed.

I take great pleasure in naming this hoyia species for its collector Ted Green. Ted has collected extensively over a long period of time. He is responsible for the introduction of more hoyia species and clones into commerce than any other single collector. His collecting has been carried out in the Fiji islands, Vanuatu (when it was called The New Hebrides), the Solomon islands, Indonesia, Singapore, Malaysia, Thailand, Borneo and the Philippines. Ted and I have been personal friends since childhood, a long fruitful relationship of more than sixty two years.

Dale Kloppenburg

More About Hoya greenii Kloppenburg

Whether this new hoya is a variety, or subspecies of *H. darwinii* or an individual species in its own right has not been determined. It is however an easy plant to root and grow...at least for me. Since I have been the leading, number 1 killer of *H. darwinii* plants and cuttings for the past eight years, I consider any plant a major find that is a close relative or near look-alike of *H. darwinii*, and at the same time easy to grow.

When I first received this cutting from Ted Green, it was not too long out of the jungle, or in this case out of the mountains, as Ted discovered it on Mount Apo in the Philippines. Ted had not seen any flowers at that time, but he told me that it struck roots very easily and appeared to be a good strong grower. Since I had no idea what to expect in the way of growth or what the flowers would be like I was very complacent...even nonchalant. I stuck it in my usual rooting mix of 1/2 perlite and 1/2 vermiculite, placed it on my rooting table that has bottom heat and kept it barely moist. Had I known that it was a close relative of *H. darwinii*, I would have been as nervous as a cat on a hot

tin roof. I didn't know, however, so perhaps that's what saved its life. I think we all have a tendency to hover and maybe pamper to death those plants that have a reputation for being difficult.

Keep your plant care routine simple with this plant. It is perfectly happy in ordinary potting soil as long as the drainage is good. It likes warmth and bright light but has rather thin leaves so keep it out of direct sun. With proper care you can expect to see flowers within 18 to 24 months from a small cutting.

Ted was kind enough to send me a picture of this plants first flowering with a very close-up view of a leaf in the foreground. My plant is growing, as John Scoville puts it "like Gangbusters" but I have yet to see any bloom. When I do, I will get some close up photos of the flowers to share with you all.

Ann Wayman



H. greenii Kloppenburg

Photo sponsored by Ann Wayman

BIRD TRACKS

Robin # 3, January 1995, Dale Kloppenburg, Calif... Last summer I made cuttings of every plant I had so will need to pot all of them up along with the new things that I received last year. A big job...but one I look forward to. I have been seriously thinking about selling off all my mature plants that have already bloomed and that I have studied and have photograph records of. That would cut a lot of my stock so I could concentrate on the unflowered things and all the new acquisitions coming along. There are so many new things being collected that it is almost overwhelming. After 6 months of work, I finally finished my "Dictionary of Hoya Terms" and I will never tackle another project that complex again.

The article on Miquel's *Sperlingia* section will be published in the spring issue of *Blumea*. In writing the book on hoyas sections I discovered that Miquel had made a mistake in using Vahl's *Sperlingia*, placing it into synonymy with Blume's genus *Acanthostemma* (that was way back in 1857). No one had caught the mistake in all that intervening time. Vahl's species it turns out were in the section *Hoya*. Dr. Veldkamp at Leiden was able to get the original herbarium sheets and confirm my findings. The correct name, by priority for our *H. acuta*, *parasitica*, *alba* etc. now becomes *H. verticillata* (Vahl) G. Don.

Ted Green and I were collecting in Sulawesi in November and December of last year, and collected many new things. When we found something new we had to look over every inch of stem to find flowers and seed pods for study. *H. incurvula* grew like a weed down there, some trees were literally smothered by this species. Most often it was found growing with *Dischidia imbricata* and *D. nummularia*. We found a lot of *H. maxima* which may turn out to be the same species as *H. imbricata* from the Philippines.

Robin # 3, March 1995, Bill Crews, Georgia...Most of my hoyas are hanging in there and I know they will be glad to see me get out into the greenhouse and get on with my springtime chores. I plan to root fresh cuttings this spring of all my old baskets and start them anew. Some of them have not been repotted or restarted for several years and are looking pretty bad. When they get so pot bound and the media has deteriorated I find they don't do as well for me. Also some of them are in very large baskets and I want to go back to the 6" size as they don't take up so much space and I can control them better. I'm also going to reduce the number of different species as I find some more desirable than others. For instance...some with jungle growth and no blooms are on their way out.



Others that I really enjoy like *H. lacunosa* which I've lost, will be replaced. It's about time for the aphids and mealybugs to return so that battle will begin anew.

I'm sure most of you have heard about the new organic pesticide being produced from the seed of the Neem tree (India). It came out in recent years and was quite expensive. I found a product called BioNeem which must have been somewhat reasonably priced or I wouldn't have a bottle of my own. It's not effective on adult insects but it acts to interrupt the molting process in the development of the insect. I will be using a lot of that this year to see if it will help my insect problems.

Robin # 5, November 1994, Carita Forsberg-Heikkila, Porvoo, Finland...Do you know much about Finland? Maybe I will tell you a bit about it, if you don't mind. First the weather. I envied Harriette when she wrote "today it is a lovely warm day (75 degrees F.) Here in Finland today we have -3 degrees C. It's drizzly, cold, snowing and raining at the same time, and it's dark almost all day long. In other words it's winter. This season starts in October/November and ends in March. I agree with John, this cold climate and long winter months are really miserable. John wished that all our robins could be in Hawaii...So do I! but when the summer comes, you can enjoy the sunlight all night long, especially in Northern Finland. And it is sometimes even warm, over +30 degrees C...about 54 degrees Fahrenheit.

Well let me now tell you how I became interested in hoyas. Everything started about 18 years ago when I got my first *H. bella* from my aunt. It became bigger

and bigger and flowered eagerly every year. I liked it very much and had it almost 10 years before it died. Now my oldest hoya, *H. carnososa* is 15 years old, and with it I have learned something about hoyas. I have always like *H. carnososa* because it is so easy to grow and its flowers are so beautiful. However, the first time I saw pictures of *H. macgillivrayi* and *H. imperialis* I lost my heart to hoyas (that happened in 1987). I just wanted to have different hoyas, but when I asked the Finish nurseries if they had *Hoya imperialis* they just looked at me and said "Hoya what???? Sorry we don't have it and we're not going to get it because it costs more than 20 Fmk...nobody here wants to pay so much for a plant. It took me over 7 years to get one and now I think I may be the only hoya lover in Finland.

Last spring I bought 15 different hoyas from Liddle's Nursery and now I have pots of plants in every room. I don't have a greenhouse so my hoyas are in my living room. All cuttings are alive and most of them are growing.

Robin # 5, November 1994, Maria Blom, Sweden...My passion is plants (both indoor and outdoor kinds). Then there are a lot of potted plants indoors and those that require low temperatures during winter live in our garage. In order to get more space in the house, my husband built me some light stands, where I grow a few gesneriads and hoyas as well but I am not sure that the hoyas get enough light there. Have any of you had experience growing under fluorescent light? If so how, how much fertilizer do they require? The ones I have growing in the windowsill get fertilized very seldom, just a couple of times in the spring as they are dormant for such a long time.

Do you know where Sweden is situated? If you look at a globe of the world you will find it at the same latitude as Alaska and the Southern parts of Greenland. It is not as cold here as it is in Alaska...Thanks to the gulf stream, but the light, or

rather the absence of light during the winter is the same. If I don't consider my plants, I actually like the winter. I like the cold, crisp air and find the twilight quite cozy.

Hoyas are my absolute favorites, but I have not grown them for such a long time. My first hoya was a *carnososa* which seems to have been around forever...it tolerates anything. My second hoya, *H. bella* is also old and quite big by now but a lot fuzzier. Mine likes it when it gets hot indoors. My third one was *H. linearis* which I started from a small cutting that I got at a botanical garden. I thought I had never seen such a weird looking plant before. Now it is my favorite and although the flowers are not spectacular the fragrance is wonderful. Recently it bloomed from 20 spurs.

Five years ago I read an article about a woman who had almost 100 different hoyas. I never knew there were so many of them. I wrote to her (Berit Carlgren) and that is how it all started. I got a few cuttings from her, an *H. nicholsoniae* among others that has grown big but has not bloomed and another one called *H. siamica*. It looks a bit like *H. longifolia* with fragranced, hairy white flowers with a touch of carmine under the corolla, but the leaves are thinner.

Three years ago I got in touch with Eva-Karin Wiberg who has now started a Swedish Hoya Society. She has taught me a lot and has given me cuttings from many hoya species. Now I have about 150 different species and cultivars. Some of them look the same although they have different names, but then the confusion seems to be big in the world of hoyas. Many of them are small yet and it will probably be awhile before all of them bloom, if they ever do. But if I look at the leaves my favorites are the tiny *H. engleriana*, *H. caudata* and *H. thomsonii*, and then *magnifica* of course which is in bloom now. I find the flowers very beautiful but the odor is too heavy for my liking.

Our Cover Photo

Photo by Ted Green

What can one possibly say about a flower this beautiful that we know nothing about?

All I know for sure, is that it is a hoya in the *Eriostemma* section. It grows very well if some extra lime is added to the potting medium and it likes warm temperatures and bright light. I believe Ted told me

that he collected it in the Philippines in 1993, but please don't hold me to that statement...I've been known to get my tang tongueled up, then Ted has to correct me. The cutting that I have of this plant came to me with Ted's Number 94027 in case anyone would like to order one for their own collection.

A.W.



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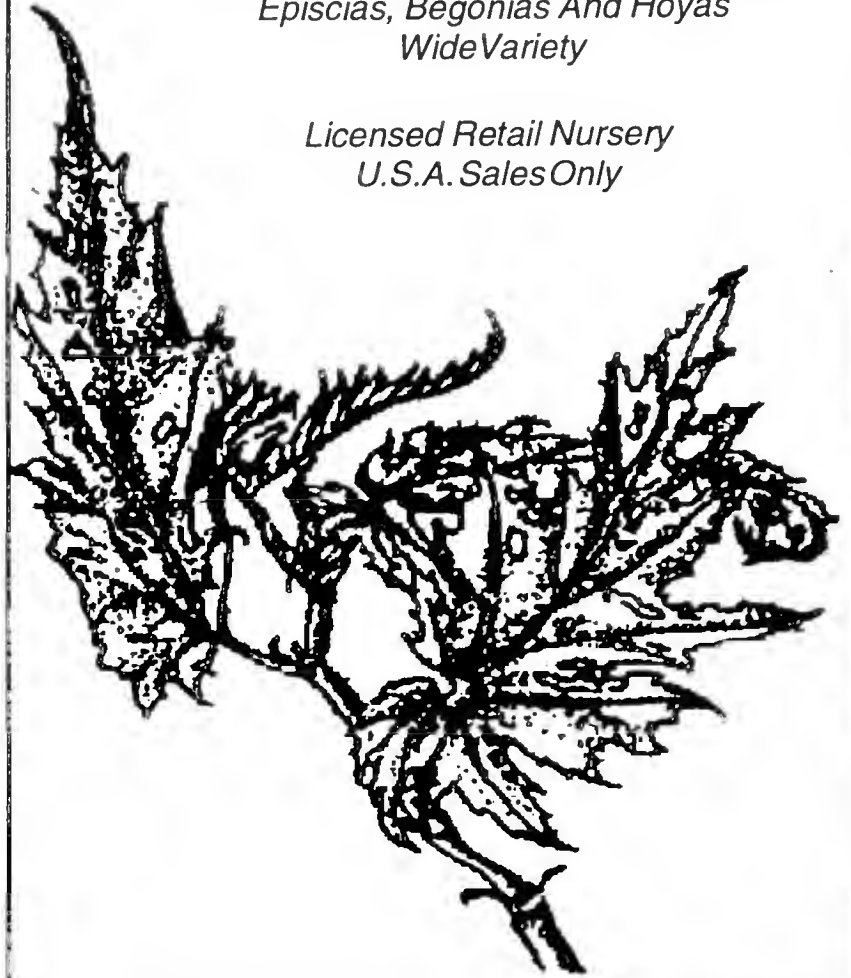
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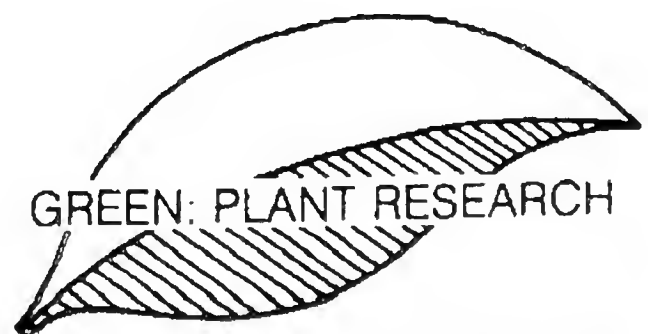
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