Bromelcairns

Bimonthly Newsletter of *Cairns Bromeliad Society Inc.*
P.O. Box 28 Cairns Queensland 4870 Australia

2012 # 5

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Aims of the Society
Promote and Develop Interest in Bromeliads through Friendship
To Co-operate with similar Clubs throughout the World

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Membership Fee: $15 Single, $25 Family, Country Member $25.
$7.50 junior (if not in family membership)

Meetings start at 1.pm sharp first Saturday of the month.
Please bring a cup and a chair.

Library: All books & magazines borrowed are to be returned in good order to the following meeting. If not on wait list, they may be rebooked.

Plant Display/Sales: To participate, a member must be financial and circumstances permitting, have attended at least three meetings in the past six months.
Where the society is charged a stall fee - 20% of sales are deducted for club funds.
No charge venue & meetings - 10% of sales is deducted.
All plants to be clean, free of disease, named and price tagged.

Show Plants: Must be the property of and in the custody of the entrant for the past three months. For Society Shows the entrant must be financial and have attended at least three meetings during the past six months.

Pens, Plant Tags & Pots: available at each meeting.

If reprinting article, wholly or in part, please acknowledge Author & Newsletter.
Any article &/or Bromelcairns will be Emailed on request to

lynnie@ledanet.com.au or lynnhudson@bromeliadsdownunder.com

Previous issues are on www.bromeliadsdownunder.com.au

September: Our Learning Weekend replaced our normal meeting.

'Bloomin Broms' September 2012

62 excited bromeliad lovers assembled to hear **Harry Luther** speak on **Gardens by the Bay** & **Epiphytes**, **George Stamatis** on **Alcantareas** and **Nigel Thomson** on **Feeding Bromeliads**.

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Harry Luther - Assistant Director Research at "Gardens by The Bay", Singapore

Harry opened the day showing us the construction of the 'gardens'. We saw it from beginning to the final transformation. It covers almost 250 acres! 18 huge manmade solar powered 'supertrees' - towers designed to collect rainwater, generate solar power and act as ventilator ducts for the conservatories. Outwardly they are planted vertically with a mixture of colourful plants, including bromeliads. The towers are interlaced with walkways both at ground level and high above to give amazing views. Two ginormous domed conservatories, themed and climate controlled to simulate natural habitats. They also have suspended walkways to allow visitors closer views of everything.

Plants including huge mature trees were imported from all around the world, shipped and incorporated into the exhibitions. It is impossible to portray here the mind blowing vistas Harry showed us as we journeyed through this majestic wonderland. I was surprised by the Delegates silent attention - I think maybe their mouths were agape in fascination - too involved to ohh & ahh! They did ask questions after the pics.

We have been further spoiled by Harry - we have 2 books depicting construction of the gardens and every member will have the opportunity to read these books.

View of part of one conservatory

'Supertrees'

 Epiphytes - an overview. Presentation by **Harry Luther** at Cairns, 2012.

Epiphytic plants use other plants for physical support. True or holo-epiphytes spend their entire life perched on a host.
At least 10% of the species of all vascular plants are epiphytes, ie. at least 25,000.

Most species of epiphytes are native to warm, wet forests, while most are small or compact, some grow very large. Epiphytes may be very numerous on certain hosts and even small trees may bear a heavy epiphyte load.
Even warm temperate rain forests may support a few vascular epiphytes. In regions subject to freezing, many epiphytes are restricted to swamps and riverine habitats. A few kinds of epiphytes can even tolerate periods of below freezing weather.

This tillandsia grows in a salty mangrove swamp.

Hydric forests in Florida can be an airplant paradise.

At the opposite climate extreme, some epiphytes thrive in near desert conditions. Where trees are scarce, structures such as buildings, fences etc. will often support epiphytes. Epiphytes in very dry regions are often small but can produce large colonies and they are able to exist (and thrive) in extreme habitats.

< This Peruvian tillandsia grows at over 3400 meters elevation, not far below the snow line.

> Cool (not cold) cloud forests usually support the richest epiphyte loads.

 Under certain conditions, epiphytes have taken to growing on rocks. Normally an epiphyte, *Aechmea nudicaulis* has been seen growing in a well drained terrestrial habitat - on an Atlantic Ocean beach. The Brazilian endemic genus Alcantarea, grow as lithophytes, or rock dwellers.

Araceae, the aroid family, contains many epiphytes. *Anthurium andreanum* is native to very wet rainforests in SW Colombia and NW Ecuador. Some anthuriums produce a rosette of foliage to channel water and debris to their root system. Other Araceae, such as philodendron are scandent hemiepiphytes that spend only part of their life disconnected to the ground.

Asclepiadaceae, the milkweed family, has many species of epiphytic Hoya. The succulent foliage and adventitous roots of many hoyas make life on a limb possible. Members of the genus **Dischidia**, a close relative of hoya, often produce specialized foliage to house ants that protect and "feed" them.

The begonia family **Begoniaceae** contains over 100 species of epiphytes and scandent hemiepiphytes. The succulent *Begonia loranthoides* is native to African rainforests.

Bromeliaceae is one of the most studied and best known family with many epiphytic members. Tank epiphytes are best represented in wet forests. Some tank bromeliads can reach massive size and are important components of the local ecosystem.

The hot, wet lowlands of Amazonian South America are home to a number of much cultivated, ornamental bromeliad species, eg *Aechmea chantinii*. Bromeliad tanks can support dozens of species, both plants and animals, and have been called "biodiversity multipliers" and "keystone" species.

In many habitats, bromeliads provide the only still, open water for a variety of biota.

To the surprise of many, new species of bromeliads are discovered every year. In wet Neotropical forests, bromeliads are conspicuous and beautiful additions to the landscape.

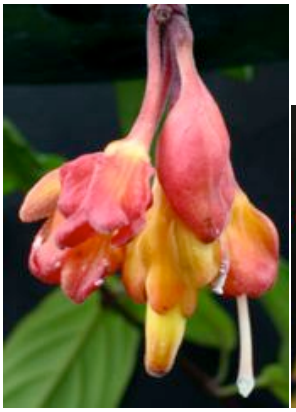
A few bromeliads, such as a pitcairnia in Ecuador, are hemiepiphytic vines, not the usual limb perching epiphyte.

Tillandsia, with over 400 species, is the largest genus in the bromeliad family, and inhabits nearly the entire range of the family. Tillandsias inhabit some very stressful habitats such as the Atacama desert in Peru, and are are also common epiphytes in dry forests.


Peru Desert


Dry Forest


Colour


Colomnea drymonia


Colom. arguta

Bromeliads are important to animals for food, shelter and water. The bright colors appreciated by horticulturists are also attractive to birds which are important in vectors of pollen and seed.

Cactaceae is not often thought of when epiphytes are discussed but over 100 species make their living in trees. *Zygocactus*, the holiday cactus, are often found as twig epiphytes in Brazilian cloud forests. The night flowering *selenicereus* is found in dry forests in Central America.

Ericaceae, the blueberry family, has many species of epiphytes in both the new and old world tropics.

There are over 500 species of epiphytic **Rhododendron** in East and SE Asia, mostly in cool cloud forests.

The **Pteridophytes**, a number of distinct families, have hundreds of epiphytic species. Among the best known and widely cultivated members of the genus **Platycerium** are the staghorn ferns.

Species of **Polypodium** and related genera are often epiphytes. Birdnest ferns from many areas of the tropics and subtropics are usually epiphytic, mimicking tank bromeliads in form and function.

Many epiphytes are ant associated, ferns being no exception. The hollow rhizomes of the *Lecanopteris* house ant colonies in its native rainforest canopy.

Some fern allies such as *Huperzia* are obligate epiphytes, unable to survive long on the forest floor.

The **Gesneriaceae**, a mostly tropical family is mainly restricted to wet habitats. Some of the most spectacular Gesneriads are restricted to ever-wet cloud forests. The *Colomnea arguta* is native to the mountains of Panama. The flowers of *drymonia* are produced on long, slender peduncles, perhaps to get clear of the foliage and debris on the branches of the rainforest tree which is its home.




Clusia Marcgraviaceae Pachycentria *Nepenthe truncata* *Hillia sp.*

The genus *Clusia* in the family **Guttiferae** is widespread in tropical American forests. Many species are hemiepihytic stranglers.

The **Marcgraviaceae** is a little known family of epiphytes and hemiepiphytes restricted to the Neotropics. The **Melastomataceae** family has a pantropical distribution with hundreds of epiphytic species. The tropical Asian genus *medinilla* alone has nearly five hundred species many of which are epiphytes.

The genus *Blakea* from the American tropics also contains hundreds of species of epiphytes. A few species from the SE Asian **Pachycentria** are ant associated epiphytes. The **Nepenthaceae**, the old world tropical pitcher plants, have a few epiphytic species such as *N. truncata.*

The **Orchidaceae** is one of the largest families of flowering plants and contains the greatest number of epiphytes. The majority of orchids are compact and small to tiny. Orchids usually produce a flower with a distinct petal called a labellum often with some sort of guide markings. Often orchid flowers are so modified in shape it is difficult to identify the parts. The roots of many orchids are not attached to any substrate; this is most common on small twig orchids. Orchids are found on all continents except Antarctica but are most diverse and numerous in the wet tropics. Orchids, like many other groups of epiphytes, also have associations with ants. *Myrmecophila* has hollow pseudobulbs to house its ant colony.

Peperomiaceae contains over five hundred species most of which are epiphytes.

Rubiaceae has a number of epiphytic taxa such as the Brazilian *Hillia* sp. *Hydnophytum mosleyanum* an 'Ant Plant' with a hollow caudex that houses ants.

The ginger family, **Zingiberaceae** is not usually thought to contain epiphytes but several dozen species grow on trees in SE Asia.

In conclusion, epiphytism is widespread among vascular plants, in at least 100 families and at least 25,000 species most commonly in warm moist regions.//



Hydnophytum mosleyanum & cross section ^ *Myrmecodia beccarii, Aust. native*

A. geniculata

A. glazouiana

A. nahoumii

A. 'Lynnie'

All about Alcantareas - presention by George Stamatis

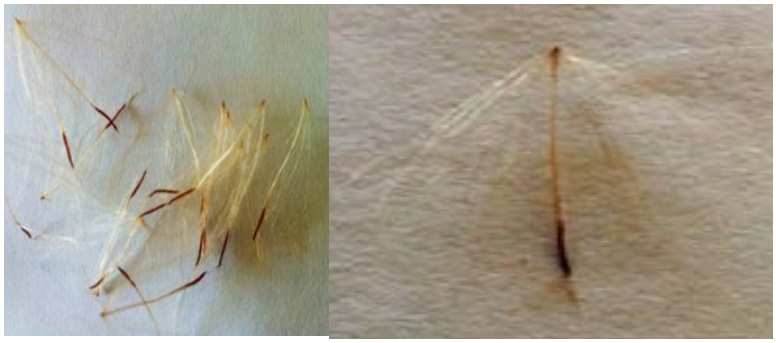
Alcantareas are in the Tillandsioideae sub family of Bromeliaceae and they occur naturally in Brazil in a range of habitats. They are found beside the seaside on sandy plains; in grasslands and scrub and growing lithophytically on inselbergs. They have adapted to rocky or sandy substrates, seasonal rainfall and limited nutrient availability. These varied habitats show how versatile alcantareas are - they are generally very hardy to a range of conditions and to a wide range of climates, except frost. They make great additions to gardens.

Most alcantareas grow to over a metre in diameter but a few small species do exist. They form large rosettes, holding water between the leaves and in the centre.

Some have a simple inflorescence, some with few branches, but typically they are tall and branched with multiple spikes and usually colourful. Flowers have large recurved petals, often fragrant and have large protruding anthers and pistil.

As with other tillandsioideae, the seeds have hairy pappus but alcantarea pappus are much coarser and less parachute-like. They do not seem to be well designed for wind dispersal.

Alcantarea seed, poorly developed parachute



Vriesea seed, developed parachute.

imperalis

odorata

heloisae

All alcantarea produce adventitious offsets or hair pups before flowering and sometimes after flowering. Most produce offsets within the rosette after flowering but a few are monocarpic, ie., no offsets. The only way to reproduce monocarpic plants is by growing from seed.

Conservation Issues

Clearing of land creates habitat destruction and fragmentation. Many alcantareas will be lost before they are ever seen. It is estimated that approximately 250 species exist and many are undiscovered and therefore undescribed.

There is great diversity in the same species and many local or regional varieties from different wild populations. This means the best are still to come, but sadly many will become extinct before anyone even knows they exist. Conservation is vital, finding and describing new species is vital, and getting as many species as possible into cultivation is vital - conservation through cultivation.

Cultivation

In tropical, subtropical and warm-temperate climates alcantarea cultivating is easy and trouble free but they need some seasonal change to initiate flowering. They tolerate cold but not frost. Bark, gravel, sand and loam are suitable components for growing medium as it must be open and free-draining.

Light: They grow best in as much light as they will take, some do better with a little shade for all or part of the day eg., *geniculata, regina* and *odorata* Trial and error in your own location is needed.

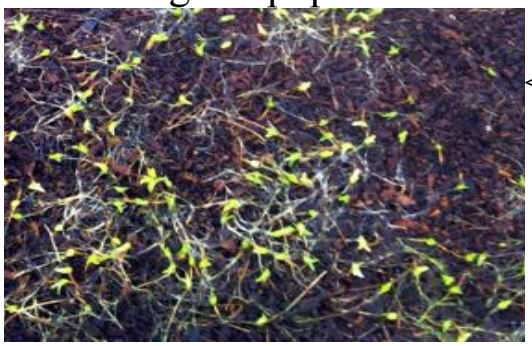
Water: In habitat they are adapted to seasonal rainfall, so they can tolerate some dry weather but do not let the tank and leaf axils dry out. Naturally soft water is best and when they are growing in free draining mix they will cope with lots of rain.

Humidity: As they are tropical and subtropical plants some humidity is essential for them to thrive and persistent dry air will burn leaf tips and edges.

Feeding: For variegated alcantareas only, heavy feeding throughout their life is recommended. For others feed with all purpose slow release fertilizer only at time of potting or planting. Let them become chunky, hardy and colourful. Feeding after the initial growth spurt results in poor form and colour, and in some cases early flowering. Do not do it unless you need lots of offsets fast.

Propagation 1. Sexual propagation by seed. 2. Asexual propagation by offsets.

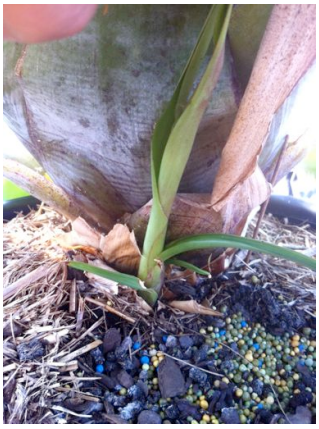
By Seed. Most will self-pollinate without human assistance. Place on an open mix that must be moist but not soggy, using composted bark, coco peat and chips. Light shade and humid conditions are ideal for germination. At first seedlings are succulent, harden them off as soon as possible, they can be potted as soon as they resemble grass pups.

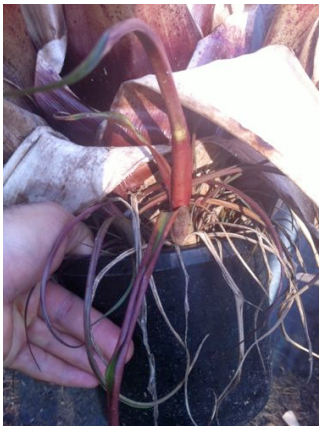


< Germinated seed

Stabbed variegated plant showing new offset >

9 By Offset - Adventitious offsets and regular offsets (after flowering).
Adventitious offsets - remove very carefully with a knife, dip the base in soft wood grade root hormone. Place in equal parts coc peat and perlite. Once growth starts, pot as normal and feed with slow release.






Regular offsets - Remove enough of the parent foliage to get a clear view of what you are doing. When half grown use a sharp knife to remove very carefully. It is very easy to damage both the offset and the mother and it is often best to leave them and when the mother withers, split the clump. Dip the base in medium wood grade root hormone, allow the wound to dry, then pot in adult mix and add slow release fertilizer.

Stabbing: Do not risk it if you have only one plant and practice on other plants. It is best for stabilizing variegated plants. Use a sharp wooden stake or picket and stab into the centre of the rosette. The central meristem must be destroyed to initiate lateral buds that will grow to offsets. Carefully remove when big enough and more offsets should be produced.

Landscaping: Alcantareas are stunningly majestic additions to gardens whether massed or single they complement ferns, palms, cycads etc along driveways, around ponds.

Cultivars: Marginated and variegated plants have slowly released to the market.

Hybrids: Some of John Arden's intergeneric hybrids are pictured in Bromelcairns #3, and George's *Alcantarea* 'Lynnie' is in #2, below there are more.

Conservation: Grow alcantarea species varieties as well as hybrids.
Maintain pure species from offsets and seeds.//

George's hybrids *xVriecantarea* 'Dimitra' *Alc.*'Lynnie'




^ *xVriecantarea* 'Yellow Gigant' & 'Red Gigant' & 'Bursting Wings' John Arden hybrids

'Bloomin Broms' September 2012

Dave Weston, George Stamatis, Nigel Thomson, Lynn, Harry Luther

-A few attendees wrote comments.

Gail: My first Bloomin Broms and I loved the lectures, learnt so much. My favourite quotes: Talking to Harry during a break I asked about the enormous task of removing dead leaves and flower heads from the bromeliads at Gardens by The Bay, and I quote his reply "a dirty brom is a happy brom". Because this is how they are in their natural habitat, collecting all sorts of leaf mulch etc for their nutrients. Nigel – Three main problems with growing bromeliads are "Space, Time & Money" how true. Lovely lunch, great variety of plants for sale. Thanks to Lynn for organizing this day.

Maria: I throughly enjoyed the amazing speakers - each presentation so different and entertaining. Harry showed us the stunning progress at Gardens and the Epiphytes was engrossing. George's presentations on Alcantareas - well thought out and the information is invaluable. Nigel's 'The Good, Bad & the Ugly' a great sense of humour plus his vast knowledge of bromeliads. Congratulations Lynn & Bob for such a success, without their dedication, we wouldn't have these amazing events to learn from and enjoy. Thank you growers for the sale plants - I'm sure we all bought plants that we have been coveting for some time. I went home happy, but maybe a little poorer. It was fun helping with the sales both days - didn't know I had it in me to be a 'salesgirl'.

Greg Oldano: Thanks for an enjoyable Brom Saturday, the lectures and speakers were great. I enjoyed the whole event, as well as catching up with old friends. Thanks Lynn.

Frances: Well done Lynn, congratulations. It was a resounding success, and almost as many visitors as members. Well organized and best of all, the talks were fascinating. Incredible engineering in the Gardens by the Bay. Lots of sale plants in beautiful condition.

Bob: What a great week-end!!! Where in Australia could you attend an event like this?? Lynn has really created a great event and it showed with 62 registrants that attended to hear and learn from the excellent speakers who delivered a diverse range of topics.

Paul: The speakers, organizing and catering were all excellent.

Kath: Very interesting and informative. Lots of dream plants.

June: Informative speakers and very good event.

Moyneen: I really enjoyed the extremely interesting day, the expertise of the speakers and their topics. I learned so much, thanks for the opportunity to hear Harry Luther.

Pam Plos & Lynn Morgan: Great day, very informative, thanks to everyone involved.

Nothing just happens or just gets done,
Someone has to make it happen or do it.

Club Activities & Around the Members

OCTOBER: Bringing excellent plants our happy group turned up, still full of chatter about Bloomin Broms. Welcome to **New Members Shirley Stitt** & **Liz Leonardi**. We hope you enjoy our company while you learn.

*Beautiful plants - Brendan's outstanding *Vriesea* 'Galaxy' was perfect and had uniform markings, some adventitous offsets had striations, sometimes they develop later.

* Dave's *Werauhia kupperiana* was large and perfect, as was his *Tillandsia* 'Creation' - what a beauty, the paddles bright pink, the purple flowers a rich contrast. Members were desire stricken but chances of flowering 'Creation' here in Cairns is very low. Our colder winter has given us many delights, flowerings we have never previously seen.

* The vriesea Bernice showed had excellent colour and markings and will get brighter. Her guzmania was crimson and perfect, a seedling from Brian Surman.

* Frances showed the reddest *Alcantarea vinicolor* I have ever seen, it had been in full winter sun and was glowing. Now it is hotter it will not take our midday sun.

* Gail's *Cryptanthus* 'San Juan' clump was shiny brown and healthy.

Well done all of you.

Guz musaica, lingulata var. cardinalis

MINI SHOW – Guzmania, Vriesea, Werauhia

1st *Guzmania* 'Neecee' - Bernice Mark
2nd *Guzmania* 'Theresa' - Dave Weston
3rd *Guzmania 'lingulata* var *cardinalis* - June McGlew
1st *Vriesea* 'Galaxy' - Brendan Leishman
2nd *Vriesea* 'Angela' x 'Red Chestnut' - Bernice Mark
3rd *Vriesea* "White Cloud' - Dave Weston
1st *Werauhia kupperiana* - Dave Weston

POPULAR VOTE:

NOVICE - Bromeliad:

1st *Guzmania 'lingulata* var *cardinalis* - June McGlew
2nd *Werauhia sanguinolenta* - Paul Venturi

Crypthanthus Nil entries

Tillandsia

1st *Tillandsia variabilis* - Paul Venturi

OPEN - Bromeliad

1st *Vriesea* 'Galaxy' - Brendan Leishman
2nd. *Werauhia kupperiana* - Dave Weston
2nd *Vriesea* 'White Cloud' - Dave Weston

Cryptanthus

1st *Cryptanthus* 'San Juan' - Gail Taifalos
1st *Cryptanthus* 'Starlite' - Lynn Hudson

Tillandsia

1st *Tillandsia 'Creation'* - Dave Weston
2nd *Tillandsia ionantha* - Marguerite Sexton
3rd. *Tillandsia ionantha* - Bob Hudson

Guzmania 'Olive'

Tillandsia 'Creation'


Vale Harry Luther


We considered we were very lucky to have Harry Luther come from Singapore to Cairns as our Special Guest Speaker. We were shocked and saddened to hear Harry had died suddenly on 17th. October at only 60 years young. I don't know how many times I have tried to write this page .. Harry was so close so recently, larger than life. He enjoyed his time here, loved the area and was more relaxed than I had ever seen before. He planned to come back next June. He couldn't believe we had such a young group - he said many plant groups are 'pick up a granny' median age group!

My thoughts have been with Linda & Dennis Cathcart and Anton Van Der Shans - these were his closest 'family'- plant lovers were the rest of his family. As there have been many tributes to Harry flying around cyberspace, I have copied a couple here. I have put all that I received on my Bromeliads Down Under website.

Dennis Cathcart: "In a world full of experts, there are very few authorities but Harry was one. ... The loss of Harry Luther to the scientific community is immeasurable; where will we turn now for information, for plant descriptions for clarity in the confusing world of plant taxonomy? But ever so much more, the loss of a beloved friend, so suddenly, is deeply shocking. As a dear and longtime friend of Harry's; Mike Bush put it "the world is a bit smaller today…"

Sadly for us at Tropiflora his loss is so great because Harry was more than a font of knowledge; he was a true and dear friend. I have known Harry since he was a very young man, in the early 70's ... Even back then Harry was the local authority and was considered a 'wunderkind' by most of the senior members that included Dr. Dexter, Dr. Logue, Jinks Watkins and other experienced growers of the day. I immediately became friends with Harry, a friendship that grew deeper and truer over the many years since."

Harry and Linda had a special friendship, Linda ensured Harry was healthy and OK. "How lucky for you to have been among the last to see Harry. How lucky for Harry that he got to spend time with folks who loved and respected him as much as you Aussies did. I think having you all so relatively close and accessible made Harry's last couple of years in Singapore much more enjoyable for him. He always expressed his pleasure about his experiences in Oz. For this we are particularly grateful."

Ivón Ramírez Morillo: "I clearly remember one night in December 1990 when I was having a walk with my husband and daughter in the Selby Garden grounds, around midnight. Then, all of a sudden, a large, tall and intimidating figure came out of the mist and shadows, it was you - Harry!!!. I, a graduate student at the time, felt fearful to work with you. But in a few minutes, after saying few words, I discovered a shy, noble, charitable, clever, humorous, kind, and warm human being. You helped me a lot in my career by being my mentor in things bromeliaceous. I was astonished by your knowledge of bromeliads and of many other plant groups that you lovingly grew and took care of at Selby. Your knowledge was amazing, much larger than that of many people holding a diploma. I always told you that: a title does not make us more clever, instead, love, knowledge and experience do! And those you got! Have a good time wherever it is you go now, and as they say here in the land of the Mayas when a good friend dies, "you parted ahead of us"! (Mérida, Yucatán, México.)