



# **AQUARIUM PLANTS – NEW PRODUCTS 2013/2014**

Experience nature underwater

# DENNERLE - Experience nature



*Plantahunter-Tour Sulawesi 2011*

## **Dennerle - experience nature...**

“Gardening” above and below water is our passion. We are active all over the world in a variety of ways, whether it be on a Plantahunter tour in Florida or Borneo or on our partner farm in Sri Lanka. Constant contact with good friends in Japan, China, Taiwan and India helps us to develop new plant products. But one or two long „forgotten“ plants are also regaining significance. Modern aquascaping in particular has significantly enhanced awareness of the needs of plants. These days, plant enthusiasts with underwater gardens no longer ask whether or not CO<sub>2</sub> fertilisation is necessary.

In addition to many new plants in pots, we have expanded our selection of in-vitro plants and established a separate product segment. In the new plant-it series there are now 22 attractive plants for various planting areas in the aquarium. The plant-it tubs are especially well suited for aquascaping. Their small size means you can insert the plants into the hardscape between stones and roots very easily.

There are also new and exciting things to discover in the decorative range. The range of products for designing magical underwater landscapes is supplemented by Bonsai Palm, Scape Wood, Coco Cave, Scaper pads and much more.

**.....now have fun „gardening“ under water!**

**Stefan Hummel**

A handwritten signature in black ink, appearing to read 'Stefan Hummel', written in a cursive style.




# NEW PRODUCTS FROM A – Z

On the following pages you will find out more about our new products from 2013/2014. As usual, the plants are described in detail with lots of hints and tips. In addition to really new plants such as *Limnophila spec. 'Vietnam'* and our *Echinodorus cultivar 'Breuni'*, there are also some well-known „classics“ such as *Rotala macrandra* and *Heteranthera zosterifolia*.

## Item key:

 Suitable for cichlids

 Recommended for Nano Cubes

 Ideal for aquascaping

 Easy-care, low-maintenance plant

 High-maintenance plant

 A rarity for plant connoisseurs

## Information about the plant labels

Often, the appearance of the plants supplied is not identical to the subsequent growth habit in the aquarium. One example is *Micranthemum*, which is supplied as a flat cushion but grows up to a height of 30 - 40 cm and is therefore suitable as a midground plant. Dennerle provides information about the growth habit in the current plant guide, Aquarium Plants – New Products 2013/2014, and on the plant labels.



- 1 Detachable barcode on the item
- 2 Illustration of the plant when emersed or submerged
- 3 Care information, including details about positioning in the aquarium
- 4 Price group
- 5 Dennerle no. (same as aquarium plant guide)
- 6 Item no.
- 7 QR code, which links to the plant database

## Alternanthera reineckii 'Red Ruby'

Item no. 30037 • PG 4 | A18



The variety 'Red Ruby' is a very pretty new cultivar which is a type of *Alternanthera reineckii*. The most noticeable feature is the ruby red venation on the leaves, which stands out clearly from the red background colour. The growth rate is a little slower than for *Alternanthera reineckii* 'Red' and 'Bronze'. This means with good lighting you can also cultivate this red beauty in a 30 l cube. In large aquaria you should plant around 15 - 20 stems to achieve an impressive group of plants, which harmonises best with „green“ neighbours.

|                   |                             |
|-------------------|-----------------------------|
| Genus:            | <i>Alternanthera</i>        |
| Species:          | <i>reineckii</i> 'Red Ruby' |
| Family:           | Amaranthaceae               |
| Origin:           | Cultivar                    |
| Area/height:      | Background up to 40 cm      |
| Light:            | high - medium               |
| Temperature:      | 22 - 28 °C                  |
| Growth:           | medium                      |
| pH:               | 5-8                         |
| Water hardness:   | soft to hard                |
| CO <sub>2</sub> : | 20 to 30 mg/l               |
| Propagation:      | Head cuttings, side shoots  |



## Ammannia gracilis

Item no. 119 • PG 4 | A08



*Ammannia gracilis* is a vibrantly coloured stem plant from West Africa. In the emersed form the plant is rather unremarkable with ovate green leaves. With good lighting, the plant displays a wonderful brown-red colouring under water. A good CO<sub>2</sub> supply and nutrient-rich substrate are certainly important requirements for it to flourish magnificently. It can grow up to 60 cm tall, making this African stem plant suitable for the middle to background. Due to its rapid growth rate, the shoot tips should be replanted regularly.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Ammannia</i>            |
| Species:          | <i>gracilis</i>            |
| Family:           | Lythraceae                 |
| Origin:           | Senegambia                 |
| Area/height:      | Background up to 60 cm     |
| Light:            | high - medium              |
| Temperature:      | 22 - 28 °C                 |
| Growth:           | rapid                      |
| pH:               | 5 - 8                      |
| Water hardness:   | soft to hard               |
| CO <sub>2</sub> : | 20 - 30 mg/l               |
| Propagation:      | Head cuttings, side shoots |



## Cryptocoryne cordata

Item no. 30018 • PG 5 | C30

PLANT-IT



*Cryptocoryne cordata* is native to South Thailand, West Malaysia, Sumatra and Borneo. The species is very variable in leaf shape and colour. This variety of *cordata* has narrower leaves than the more familiar heart-shaped variety. The underside of the leaf is slightly red and the upper leaf surface has an attractive streaked pattern. Softer water is preferable with mid to low intensity lighting. After a certain period of acclimatisation, this *cryptocoryne* can also be kept in harder water. Growing to a height of 20 cm, this variety is recommended for the middle area of the aquarium.

|                   |  |
|-------------------|--|
| Genus:            | <i>Cryptocoryne</i>                    |
| Species:          | <i>cordata</i> (narrow-leaved variety) |
| Family:           | Araceae                                |
| Origin:           | Southeast Asia                         |
| Area/height:      | Midground 20 cm                        |
| Light:            | medium - low                           |
| Temperature:      | 22 - 28 °C                             |
| Growth:           | slow                                   |
| pH:               | 4.5 - 7                                |
| Water hardness:   | very soft to medium hard               |
| CO <sub>2</sub> : | 10 - 30 mg/l                           |
| Propagation:      | Stolons                                |



## Cryptocoryne lutea 'Hobbit'

Item no. 30031 • PG 5 | C240



*Cryptocoryne lutea* is one of the easiest *Cryptocoryne* species from Sri Lanka to care for. The new dwarf form, Hobbit, was isolated from a normal sized plant in the greenhouse and further propagated in the laboratory. Growing to a height of just a few centimetres, this *Cryptocoryne* is ideal for even the smallest aquaria. The growth rate is also significantly slower than that of the stem form. With good lighting, the leaves become a deep purplish-brown colour and make a nice contrast to other green foreground plants.

|                   |                       |
|-------------------|-----------------------|
| Genus:            | <i>Cryptocoryne</i>   |
| Species:          | <i>lutea</i> 'Hobbit' |
| Family:           | Araceae               |
| Origin:           | Cultivar              |
| Area/height:      | Foreground up to 5 cm |
| Light:            | high – medium         |
| Temperature:      | 20 – 28 °C            |
| Growth:           | very slow             |
| pH:               | 5-8                   |
| Water hardness:   | very soft to hard     |
| CO <sub>2</sub> : | 10 -20 mg/l           |
| Propagation:      | Stolons               |



## Cryptocoryne usteriana

Item no. 30016 • PG 5 | C221

PLANT-IT



*Cryptocoryne usteriana* is an impressive plant from the Philippines. Unlike many other *Cryptocoryne* species, it grows permanently under water and is therefore not suitable for emersed cultivation in the greenhouse. For this reason it is very rarely found commercially. The bullate leaves are up to 70 cm long and the leaves are bright mid-green with a reddish underside. With medium lighting, *Cryptocoryne usteriana* grows best in hard, alkaline water and is therefore ideal for cichlids from Lake Malawi and Lake Tanganyika. Even with a low CO<sub>2</sub> supply the plant still grows rather well and is very easy to care for. The more familiar *Cryptocoryne aponogetifolia* looks confusingly similar.

|                   |                     |
|-------------------|---------------------|
| Genus:            | <i>Cryptocoryne</i> |
| Species:          | <i>usteriana</i>    |
| Family:           | Araceae             |
| Origin:           | Philippines         |
| Area/height:      | Background 70 cm    |
| Light:            | medium – low        |
| Temperature:      | 22 – 26 °C          |
| Growth:           | slow                |
| pH:               | 6 -8                |
| Water hardness:   | medium-hard to hard |
| CO <sub>2</sub> : | 5 – 30 mg/l         |
| Propagation:      | Stolons             |



## Cryptocoryne x purpurea

Item no. 30019 • PG 5 | C222

PLANT-IT



*Cryptocoryne x purpurea* is a rarity from Southeast Asia. It is a natural hybrid between *Cryptocoryne griffithii* and *Cryptocoryne cordata*. The variety described here comes from Borneo and has remarkable marbling on the leaf blades. The growth is significantly slower than other *Cryptocoryne* species that are well known in aquatics. Growing to a height of around 10 cm (previous experience of cultivation in an aquarium), it remains relatively small in size and, depending on the size of the tank, can therefore also be used in the foreground. As with all *Cryptocorynes*, a nutrient-rich substrate is very important, as a lot of nutrients are absorbed by the roots.

|                   |                                    |
|-------------------|------------------------------------|
| Genus:            | <i>Cryptocoryne</i>                |
| Species:          | <i>x purpurea</i> (natural hybrid) |
| Family:           | Araceae                            |
| Origin:           | Borneo                             |
| Area/height:      | Foreground 10 cm                   |
| Light:            | high – medium                      |
| Temperature:      | 22 – 28 °C                         |
| Growth:           | slow                               |
| pH:               | 5 – 7                              |
| Water hardness:   | soft to neutral                    |
| CO <sub>2</sub> : | 10 – 30 mg/l                       |
| Propagation:      | Stolons                            |





# PLANT-IT!

## In-vitro plants in tubs

A logical further development of tissue culture plants is the marketing of little mini-tubs for aquatics fans. This originated at Dennerle from the problem of cultivating a plant and marketing it. *Cryptocoryne spec. 'Flamingo'* was found in a clump of *Cryptocoryne wendtii 'Braun'*. This striking pink coloured plant was propagated in the laboratory and, like all other *Cryptocorynes*, was to be grown on in pots for several months until it reached sale size. Unfortunately, all attempts at cultivation above water failed, while the plants in the aquarium continued to grow steadily. As a result, we decided to market this rarity in mini tubs directly from the laboratory.

From these beginnings Dennerle developed a new range of plants: plant-it, in-vitro plants in mini tubs. The range includes various types of plant such as the ground-cover plant *Hemianthus callitrichoides 'Cuba'* and the new *Micranthemum spec. 'Montecarlo'*, foreground and middle ground plants such as *Rotala indica* (syn. *Ammannia spec. Bonsai*) and *Staurogyne repens*, as well as a few rarities like *Eichhornia diversifolia* and the uncommon *Cryptocorynes usteriana* and *Cryptocoryne x purpurea*.

### All of these plants have one thing in common:



30018 | C30  
*Cryptocoryne cordata*



945 | C444  
*Cryptocoryne spec. 'Flamingo'*

- They are all cultivated under sterile conditions, which means there are no pest infestations and no pathogens
- No algae growth
- No snails or snail eggs
- Very compact and highly branched plants
- The submerged habit eliminates the changeover phase from emersed to submerged in the aquarium



30016 | C221  
*Cryptocoryne usteriana*



30019 | C222  
*Cryptocoryne x purpurea*



30014 | E410  
*Eichhornia diversifolia*



139 | E400  
*Eleocharis pusilla*



800 | G50  
*Glossostigma elatinoides*



30013 | H220  
*Helanthium tenellum 'Broad Leaf'*



30042 | H11  
*Hemianthus callitrichoides 'Cuba'*



30011 | H10  
*Heteranthera zosterifolia*



30009 | J10  
*Juncus repens*



30043 | L60  
*Ludwigia arcuata*

The plant-it tubs are especially well suited to aquascaping. Their small size means you can insert the plants into the hardscape between stones and roots very easily. However, you have to be quite patient, as the plants are significantly smaller than aquarium plants that are cultivated conventionally in pots.

Plant-it plants are also a good way for shrimp enthusiasts to add new plants to already well-established aquaria containing shrimp. It is not necessary to water the plants for several days as usual. The gelatinous nutrient medium should simply be carefully washed off. As a general rule, the plant cushion should then be divided into small pieces and planted at intervals in the substrate.

### Just as the slogan says:

**Clean it!**



**Cut it!**



**Plant it!**



137 | M90  
*Marsilea hirsuta*



30038 | M100  
*Micranthemum spec.*  
*'Montecarlo'*



30041 | P11  
*Pogostemon erectus*



30040 | P13  
*Pogostemon stellatus*  
*'Adelaide River'*



374 | R80  
*Riccia fluitans*



30047 | R40  
*Rotala indica*



30046 | R15  
*Rotala macrandra*



30044 | S40  
*Staurogyne repens*



30045 | T60  
*Taxiphyllum barbieri*



360 | U01  
*Utricularia graminifolia*

# Echinodorus 'Breuni Red'

Item no. 123 • PG 5 | E40



*Echinodorus 'Breuni Red'* originated from a second generation range of cultivars of our Dschungelstars varieties. The somewhat peculiar name relates to the company Breuning. The variety was presented and named during an aquatics event in one of the large shopping centres. With its characteristics, the new *Echinodorus* fits seamlessly into the Dschungelstar range. 'Breuni Red' grows well and is easy to care for. A nutrient-rich substrate and adequate CO<sub>2</sub> supply guarantee lush growth. With good lighting, the new inner leaves are bright red and make a nice contrast to the older, olive-green leaves. Growing to a height of 40 - 50 cm, the plant makes a very eye-catching specimen.

|                   |                                       |
|-------------------|---------------------------------------|
| Genus:            | <i>Echinodorus</i>                    |
| Species:          | Cultivar 'Breuni Red'                 |
| Family:           | Alismataceae                          |
| Origin:           | Cultivar                              |
| Area/height:      | Midground up to 50 cm                 |
| Light:            | high – medium                         |
| Temperature:      | 22 – 28 °C                            |
| Growth:           | medium                                |
| pH:               | 5 – 8                                 |
| Water hardness:   | soft to hard                          |
| CO <sub>2</sub> : | 20 – 30 mg/l                          |
| Propagation:      | Adventitious plantlets on the pedicel |



# Eichhornia diversifolia

Item no. 30014 • PG 5 | E410

PLANT-IT



*Eichhornia diversifolia* is a decorative stem plant from the water hyacinth or *Pontederiaceae* family. The submerged shoots form leaves around 10 cm long on the stems. *Eichhornia diversifolia* grows relatively quickly and should therefore be trimmed regularly. If the stems reach the water surface, less decorative simple floating leaves form. A good supply of nutrients and CO<sub>2</sub> is absolutely essential for this beauty from South America. Slightly acidic to neutral water also promotes healthy, strong growth. *Eichhornia diversifolia* is one of the most magnificent stem plants and it should therefore be positioned in the middle or background of an underwater landscape as a specimen plant.

|                   |                                |
|-------------------|--------------------------------|
| Genus:            | <i>Eichhornia</i>              |
| Species:          | <i>diversifolia</i>            |
| Family:           | <i>Pontederiaceae</i>          |
| Origin:           | Central America, South America |
| Area/height:      | Background 60 cm               |
| Light:            | high                           |
| Temperature:      | 18 – 30 °C                     |
| Growth:           | rapid                          |
| pH:               | 5 – 7                          |
| Water hardness:   | soft to neutral                |
| CO <sub>2</sub> : | 20 – 30 mg/l                   |
| Propagation:      | Head cuttings                  |



# Eleocharis pusilla

Item no. 139 • PG 5 | E400

PLANT-IT



The dwarf spikerush, *Eleocharis pusilla*, is native to Australia and New Zealand and inhabits wetlands with different water levels. In contrast to *Eleocharis acicularis*, the growth height is significantly shorter, usually only a few centimetres high. Another distinguishing feature are the light green, slightly curved stems of the dwarf spikerush. This grass grows best in cooler water, it cannot tolerate permanently high temperatures over 25° C. This delicate beauty is ideal for stone layouts in the Iwagumi style, as it results in a fresh „summer meadow“. Like *Echidonorus acicularis*, the dwarf spikerush can also be cut well back, which makes the plant even denser and more compact.

|                   |                        |
|-------------------|------------------------|
| Genus:            | <i>Eleocharis</i>      |
| Species:          | <i>pusilla</i>         |
| Family:           | <i>Cyperaceae</i>      |
| Origin:           | Australia, New Zealand |
| Area/height:      | Foreground 3 – 6 cm    |
| Light:            | high – medium          |
| Temperature:      | 12 – 26 °C             |
| Growth:           | medium                 |
| pH:               | 5 – 7                  |
| Water hardness:   | soft to medium-hard    |
| CO <sub>2</sub> : | 10 – 30 mg/l           |
| Propagation:      | Stolons, division      |





# Floscopa scandens

Item no. 124 • PG 4 | F10



Plants from the dayflower or *Commelinaceae* family are recognised more as house plants than aquatic plants. The origin of *Floscopa scandens* is unknown, it was probably imported from Asia. The habit of the plant is somewhat reminiscent of a bamboo plant, which explains the commercial name, water bamboo. *Floscopa* grows significantly faster when cultivated above water than when it is living submerged. A nutrient-rich substrate, good lighting and adequate CO<sub>2</sub> are absolutely essential for stems with strong leaves to form. Its slow growth rate also makes water bamboo suitable for Nano Cubes.

|                   |                        |
|-------------------|------------------------|
| Genus:            | <i>Floscopa</i>        |
| Species:          | <i>scandens</i>        |
| Family:           | <i>Commelinaceae</i>   |
| Origin:           | possibly tropical Asia |
| Area/height:      | Midground up to 30 cm  |
| Light:            | high - medium          |
| Temperature:      | 20 - 26 °C             |
| Growth:           | slow                   |
| pH:               | 5 - 7                  |
| Water hardness:   | soft to neutral        |
| CO <sub>2</sub> : | 20 - 30 mg/l           |
| Propagation:      | Head cuttings          |



# Helanthium tenellum 'Broad Leaf'

Item no. 30013 • PG 5 | H220



We found this grass-like beauty on our Florida Plantahunter tour in winter 2012. At first glance it looks very similar to *Helanthium tenellum* (former name: *Echinodorus tenellus*) and is easily confused. The difference lies in the colour and width of the leaves and the growth height appears to be somewhat smaller. We named this plant 'Broad Leaf' due to the width of the leaf blades being up to 2.5 mm. The colour of the leaves stays bright mid-green, so it combines well with colourful plants such as *Hygrophila pinnatifida*, for example. Care needs are similar to the standard *Helanthium tenellum*. Lawn formation is encouraged by vigorous pruning.

|                   |                              |
|-------------------|------------------------------|
| Genus:            | <i>Helanthium</i>            |
| Species:          | <i>tenellum</i> 'Broad Leaf' |
| Family:           | <i>Alismataceae</i>          |
| Origin:           | North America                |
| Area/height:      | Foreground 4 -6 cm           |
| Light:            | high - medium                |
| Temperature:      | 20 - 28 °C                   |
| Growth:           | medium                       |
| pH:               | 5 - 8                        |
| Water hardness:   | soft to hard                 |
| CO <sub>2</sub> : | 20 - 30 mg/l                 |
| Propagation:      | Stolons                      |



# Heteranthera zosterifolia

Item no. 30011 • PG 5 | H10



The stem plant *Heteranthera zosterifolia* is a stunning beauty in the aquarium. The bright light-green leaves are up to 5 cm long and grow in an alternating leaf formation. Its requirements are relatively minimal, with good lighting and CO<sub>2</sub> fertilisation, growth is compact and fast. It is therefore recommended that the shoots are trimmed regularly. On our Plantahunter tour in Brazil, we saw the plant in the Rio da Prata over several kilometres of river. In fact, we even encountered lush plants in the crystal clear water where it was 2 m deep. The *Heteranthera* is a plant that is rich in contrast for the midground to background and works especially well in combination with colourful plants such as *Rotala rotundifolia*.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Heteranthera</i>        |
| Species:          | <i>zosterifolia</i>        |
| Family:           | <i>Pontederiaceae</i>      |
| Origin:           | Brazil, Argentina, Bolivia |
| Area/height:      | Midground 30-40 cm         |
| Light:            | high - medium              |
| Temperature:      | 20 - 26 °C                 |
| Growth:           | rapid                      |
| pH:               | 5 - 8                      |
| Water hardness:   | soft - hard                |
| CO <sub>2</sub> : | 20 - 30 mg/l               |
| Propagation:      | Head cuttings              |



# Juncus repens

Item no. 30009 • PG 5 | J10



*Juncus repens* is a grass-like marsh plant, which also grows when permanently under water. This small species of rush is native to southern and eastern USA and inhabits marshy shallow water. In the aquarium, *Juncus repens* is easy to care for and resilient. Softer water with a good CO<sub>2</sub> supply promotes the best growth. In combination with other grass-like plants, you can design decorative meadow landscapes. However, this creeping rush also makes an attractive feature as a „filler plant“ between stones. With strong lighting and a good supply of micro-nutrients, the shoots can also become slightly reddish in colour.

|                   |                  |
|-------------------|------------------|
| Genus:            | <i>Juncus</i>    |
| Species:          | <i>repens</i>    |
| Family:           | <i>Juncaceae</i> |
| Origin:           | USA, Cuba        |
| Area/height:      | Midground        |
| Light:            | high – medium    |
| Temperature:      | 10 – 28 °C       |
| Growth:           | medium           |
| pH:               | 5 – 7            |
| Water hardness:   | soft to neutral  |
| CO <sub>2</sub> : | 20 -30 mg/l      |
| Propagation:      | Head cuttings    |



# Limnophila spec. 'Vietnam'

Item no. 125 • PG 4 | L10



The genus *Limnophila*, from the figwort [*Scrophulariaceae*] family, has been well known in aquatics for a long time and is also commonly used. A new and rare plant is the as yet undefined *Limnophila spec. 'Vietnam'*. Like almost all species, the leaflets, which are just 1-2 cm long, sit radially on the stem. With a leaf width of just a few millimetres, the plant looks particularly delicate and decorative. With adequate lighting the plant displays considerable creeping growth and is ideal for the foreground to midground. Vigorously trimming the plants into shape enables the growth of wonderful, harmonious cushions. *Limnophila spec. 'Vietnam'* is highly recommended for designs with hills and mountains.

|                   |                         |
|-------------------|-------------------------|
| Genus:            | <i>Limnophila</i>       |
| Species:          | <i>spec. 'Vietnam'</i>  |
| Family:           | <i>Scrophulariaceae</i> |
| Origin:           | Southeast Asia          |
| Area/height:      | Midground 20 cm         |
| Light:            | high                    |
| Temperature:      | 18 - 28 °C              |
| Growth:           | medium                  |
| pH:               | 5 – 7                   |
| Water hardness:   | soft to medium-hard     |
| CO <sub>2</sub> : | 20 -30 mg/l             |
| Propagation:      | Head cuttings           |



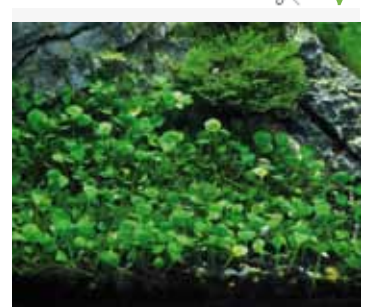
# Marsilea hirsuta

Item no. 137 • PG 5 | M90



*Marsilea hirsuta* belongs to the water clover family and is native to Australia. Due to its small size it is also known as dwarf four leaf clover. In marsh conditions, the plant forms small clover shaped leaflets when out of the water; under water ovate leaflets usually form, which are strongly reminiscent of the *Glossostigma* plant. The dwarf four leaf clover, however, is much easier to cultivate and very low maintenance. It does take a certain amount of time for the young plant to acclimatise to the aquarium, but it gradually forms an attractive carpet. Ideally the emerged shoots should be completely cut off before planting; new submerged shoots will gradually form.

|                   |                     |
|-------------------|---------------------|
| Genus:            | <i>Marsilea</i>     |
| Species:          | <i>hirsuta</i>      |
| Family:           | <i>Marsileaceae</i> |
| Origin:           | Australia           |
| Area/height:      | Foreground 1-3 cm   |
| Light:            | high – medium       |
| Temperature:      | 20 – 26 °C          |
| Growth:           | medium              |
| pH:               | 5 – 8               |
| Water hardness:   | soft to hard        |
| CO <sub>2</sub> : | 10 -30 mg/l         |
| Propagation:      | Stolons, division   |





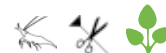
# Micranthemum spec. 'Montecarlo' Item no. 30033 • PG 4 | 30038 plant-it • PG 5 | M100

PLANT-IT



*Micranthemum spec. 'Montecarlo'* is a new, promising foreground plant. The name of this variety comes from the Argentinian city of Montecarlo in the province of Misiones. In contrast with *M. umbrosum*, this plant does not grow upright, but creeps along the bottom as a cushion. This makes this new variety a very good alternative to *Hemianthus callitrichoides 'Cuba'*, with much better growth habits. This new pearl grass is ideally suited for aquascaping and perfect for Nano Cubes.

|                   |                           |
|-------------------|---------------------------|
| Genus:            | <i>Micranthemum</i>       |
| Species:          | <i>spec. 'Montecarlo'</i> |
| Family:           | Scrophulariaceae          |
| Origin:           | Argentina                 |
| Area/height:      | Foreground 3-5 cm         |
| Light:            | high – medium             |
| Temperature:      | 20 – 26 °C                |
| Growth:           | medium                    |
| pH:               | 5 -7                      |
| Water hardness:   | very soft to medium       |
| CO <sub>2</sub> : | 20 -30 mg/l               |
| Propagation:      | Division                  |



# Myriophyllum mattogrossense Item no. 126 • PG 4 | M80



The Mato Grosso milfoil is a species from the *Myriophyllum* genus that is particularly easy to care for. It is found in Ecuador, Brazil and Bolivia. This plant inhabits fast-flowing, cooler waters. The pinnate submerged leaves are bright light-green and contrast very well with other green or coloured plants. In terms of care you should make sure there is a good supply of nutrients, especially good iron fertilisation. If there is an iron deficiency the shoot tips become much lighter to whitish. *Myriophyllum mattogrossense* also grows relatively well with medium lighting and is therefore also ideal for aquascaping beginners. Due to its potential height, this plant is recommended for the midground to background.

|                   |                          |
|-------------------|--------------------------|
| Genus:            | <i>Myriophyllum</i>      |
| Species:          | <i>mattogrossense</i>    |
| Family:           | Haloragaceae             |
| Origin:           | Ecuador, Brazil, Bolivia |
| Area/height:      | Background               |
| Light:            | high – medium            |
| Temperature:      | 18 – 28 °C               |
| Growth:           | rapid                    |
| pH value:         | 5 – 8                    |
| Water hardness:   | soft to hard             |
| CO <sub>2</sub> : | 10 – 30 mg/l             |
| Propagation:      | Head cuttings            |



# Najas graminea Item no. 127 • PG 5 | N40



Chris Lukhaup brought this delicate beauty from Lake Sentani in Papua New Guinea. Unlike other water-nymphs, *Najas graminea* is much more robust and the stems are not as fragile. Like all stem plants, several individual stems should always be used as group planting. The plants should be trimmed regularly as they are quite vigorous. When doing so the strong head cuttings can be replanted in a layered arrangement. In Lake Sentani this plant grows at almost 30 °C in the water, so *Najas graminea* is also highly recommended for discus aquaria.

|                   |                             |
|-------------------|-----------------------------|
| Genus:            | <i>Najas</i>                |
| Species:          | <i>graminea</i>             |
| Family:           | Najadaceae                  |
| Origin:           | Papua New Guinea, Indonesia |
| Area/height:      | Midground up to 40 cm       |
| Light:            | high – medium               |
| Temperature:      | 22 – 30 °C                  |
| Growth:           | rapid                       |
| pH:               | 5 – 7.5                     |
| Water hardness:   | soft to medium-hard         |
| CO <sub>2</sub> : | 10 – 30 mg/l                |
| Propagation:      | Head cuttings, side shoots  |





# Pogostemon quadrifolius

Item no. 30035 • PG 4 | P12

*Pogostemon quadrifolius* is a new water starwort from Laos. This species is closely related to *Pogostemon stellatus*. This new stem plant is sometimes also referred to as *Pogostemon stellatus* 'Octopus'. It is very easy to care for and grows very strongly. For this reason, the stock of plants should be frequently replanted by means of head cuttings. The side shoots can also be used, they grow somewhat slower and are therefore also recommended for Nano Cubes.



|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Pogostemon</i>          |
| Species:          | <i>quadrifolius</i>        |
| Family:           | <i>Lamiaceae</i>           |
| Origin:           | Laos, Southeast Asia       |
| Area/height:      | Background up to 50 cm     |
| Light:            | high – medium              |
| Temperature:      | 20 – 28 °C                 |
| Growth:           | very rapid                 |
| pH:               | 5 -7.5                     |
| Water hardness:   | soft to medium-hard        |
| CO <sub>2</sub> : | 10 -30 mg/l                |
| Propagation:      | Head cuttings, side shoots |



# Pogostemon stellatus 'Adelaide River'

Item no. 30040 • PG 5 | P13

This new stem plant is most probably a type of *Pogostemon stellatus*, which is highly variable in form. The name 'Adelaide River' refers to its Australian native home in the Northern Territory. Good lighting and balanced nutrition are also important requirements for cultivating this variety. This plant's growth is compact and particularly delicate and it is easily propagated by taking head cuttings. With good lighting, the shoot tips become coloured in various shades of red to purple.

PLANT-IT



|                   |                               |
|-------------------|-------------------------------|
| Genus:            | <i>Pogostemon</i>             |
| Species:          | <i>spec. 'Adelaide River'</i> |
| Family:           | <i>Lamiaceae</i>              |
| Origin:           | Australia                     |
| Area/height:      | Background up to 40 cm        |
| Light:            | high – medium                 |
| Temperature:      | 22 – 28 °C                    |
| Growth:           | medium                        |
| pH:               | 5 -7                          |
| Water hardness:   | very soft to medium hard      |
| CO <sub>2</sub> : | 20 -30 mg/l                   |
| Propagation:      | Head cuttings, side shoots    |



# Pogostemon stellatus 'Broad Leaf'

Item no. 128 • PG 4 | P50

*Pogostemon species* are now very popular in aquatics, especially in aquascaping. The older designation *Eusteralis stellata* is still more commonly found commercially. *Pogostemon stellatus* is a very variable species with a variety of leaf shapes and colours. The name 'Broad Leaf' refers to the appearance of the wider leaf shape. Interestingly this variety is not as sensitive as the stem form, which frequently forms stunted shoot tips. Very good lighting, a constant CO<sub>2</sub> supply and intense fertilisation of the water guarantee lush, colourful plants in an underwater landscape.



|                   |                               |
|-------------------|-------------------------------|
| Genus:            | <i>Pogostemon</i>             |
| Species:          | <i>stellatus 'Broad Leaf'</i> |
| Family:           | <i>Lamiaceae</i>              |
| Origin:           | Australia, Papua New Guinea   |
| Area/height:      | Midground up to 40 cm         |
| Light:            | high                          |
| Temperature:      | 20 – 28 °C                    |
| Growth:           | medium                        |
| pH:               | 5 – 7                         |
| Water hardness:   | soft to neutral               |
| CO <sub>2</sub> : | 20 – 30 mg/l                  |
| Propagation:      | Head cuttings, side shoots    |



## Ranunculus inundatus

Item no. 118 • PG 4 | R20



The river buttercup, *Ranunculus inundatus*, is a very decorative plant which is new to aquatics. In its natural site in Australia, this plant grows in damp locations, in some cases in the shallow water of ponds and lakes. Its most striking feature are the wonderfully formed leaves which are shaped like a slotted umbrella. Like *Hydrocotyle* species, this plant constantly forms stolon shoots. They generally creep along the substrate and form new leaf stems at the nodes. This gradually results in beautiful groups of plants with a very ornamental appearance. *Ranunculus inundatus* is a plant that needs strong lighting and therefore also requires a higher nutrient supply.

|                   |                     |
|-------------------|---------------------|
| Genus:            | <i>Ranunculus</i>   |
| Species:          | <i>inundatus</i>    |
| Family:           | Ranunculaceae       |
| Origin:           | Australia           |
| Area/height:      | Midground 10-15 cm  |
| Light:            | high – medium       |
| Temperature:      | 20 – 28 °C          |
| Growth:           | rapid               |
| pH:               | 5 – 7               |
| Water hardness:   | soft to medium-hard |
| CO <sub>2</sub> : | 20 – 30 mg/l        |
| Propagation:      | Stolons, division   |



## Rotala indica

Item no. 130 • PG4 | 30047 plant-it • PG 5 | R40



This new arrival was known as *Ammania spec. Bonsai*, but it is actually the „real“ *Rotala indica*. This name was mistakenly used as a synonym for *Rotala rotundifolia* for decades. Unlike *Rotala rotundifolia*, the differences between the emersed and submerged leaves of this plant are hard to see. The oval to circular leaflets are densely packed on the stem and give a very ornamental appearance. The growth is always upright, which provides interesting design possibilities. The slow growth also favours placing it in the foreground or the mid-zone of an underwater landscape. A free standing group in a *Hemianthus* carpet looks particularly impressive.

|                   |                       |
|-------------------|-----------------------|
| Genus:            | <i>Rotala</i>         |
| Species:          | <i>indica</i>         |
| Family:           | Lythraceae            |
| Origin:           | India, Southeast Asia |
| Area/height:      | Midground 30-40 cm    |
| Light:            | high – medium         |
| Temperature:      | 22 – 28 °C            |
| Growth:           | medium                |
| pH:               | 5 -7                  |
| Water hardness:   | soft to medium-hard   |
| CO <sub>2</sub> : | 20 – 30 mg/l          |
| Propagation:      | Head cuttings         |



## Rotala macrandra 'Green'

Item no. 131 • PG 4 | R15



*Rotala macrandra* has a very variable appearance with many colours and leaf shapes. The emersed leaflets are round, whereas in water the leaves are narrow and elliptical with a light green colour. With good lighting, the shoot tips become slightly reddish in places, resulting in a striking appearance. This variety is easier to cultivate than the pure red stem form. The growth rate is average, so this variety is highly recommended for the background in Nano Cubes. This delicate stem plant is also well suited for use in aquascaping layouts.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Rotala</i>              |
| Species:          | <i>macrandra</i> 'Green'   |
| Family:           | Lythraceae                 |
| Origin:           | Southeast Asia             |
| Area/height:      | Background                 |
| Light:            | high – medium              |
| Temperature:      | 22 – 28 °C                 |
| Growth:           | medium                     |
| pH:               | 5-7                        |
| Water hardness:   | very soft to medium hard   |
| CO <sub>2</sub> : | 20 -30 mg/l                |
| Propagation:      | Head cuttings, side shoots |





## Staurogyne spec. 'Bihar'

Item no. 30032 • PG 4 | S50



The acanthus *Staurogyne spec. 'Bihar'* is a new arrival in aquatics. In contrast to the well-known foreground species *S. repens* and *S. spec. 'Porto Vehlo'*, it is a plant for the background. It grows well and is easy to care for. Due to its rapid growth, the stems should be trimmed regularly. The leaves on the shoot tips are usually slightly slotted and are strongly reminiscent of the well-known *Hygrophila pinnatifida*. With good lighting the plant becomes brownish red with slightly pink coloured undersides of the leaves.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Staurogyne</i>          |
| Species:          | <i>spec. 'Bihar'</i>       |
| Family:           | <i>Acanthaceae</i>         |
| Origin:           | India                      |
| Area/height:      | Background                 |
| Light:            | high – medium              |
| Temperature:      | 22 – 28 °C                 |
| Growth:           | rapid                      |
| pH:               | 5-8                        |
| Water hardness:   | soft to hard               |
| CO <sub>2</sub> : | 20 -30 mg/l                |
| Propagation:      | Head cuttings, side shoots |



## Staurogyne spec. 'Porto Vehlo'

Item no. 133 • PG 5 | S20



*Staurogyne spec. 'Porto Vehlo'* from Brazil is still a little known species in Europe. It is named after the capital of the state of Rondonia in the western part of Brazil. This plant from the acanthus family (like *Hygrophila*) has very narrow, pointed leaves. Good lighting promotes creeping growth and even a light purple colouring to the leaves. After settling in, the plants grow into dense cushions. Occasional thinning of the shoots promotes a strong plant. There is little experience of cultivation, but the growth is slower than the *Staurogyne repens*. A good CO<sub>2</sub> supply and adequate micro-nutrients are absolutely essential.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Staurogyne</i>          |
| Species:          | <i>spec. 'Porto Vehlo'</i> |
| Family:           | <i>Acanthaceae</i>         |
| Origin:           | Brazil                     |
| Area/height:      | Foreground 3-5 cm          |
| Light:            | high – medium              |
| Temperature:      | 22 – 28 °C                 |
| Growth:           | slow                       |
| pH:               | 5 -7.5                     |
| Water hardness:   | soft to medium-hard        |
| CO <sub>2</sub> : | 20 – 30 mg/l               |
| Propagation:      | Head cuttings              |



## Vesicularia ferriei – Weeping Moos

Item no. 30029 • PG 3 | MP14



Hardly any other moss is as popular as the *Java moss*, *Vesicularia ferriei*. The commercial name 'Weeping Moos' refers to the drooping fronds of this attractive moss. Ideally the moss is attached to roots or stones, where it quickly takes hold with fine holdfast roots. By trimming the moss cushion regularly, wonderful layouts can be created. Little miniature trees made of delicate roots and the weeping moss as the „treetop“ are a particular art form. This beautiful moss is very easy to care for and resilient.

|                   |                          |
|-------------------|--------------------------|
| Genus:            | <i>Vesicularia</i>       |
| Species:          | <i>ferriei</i>           |
| Family:           | <i>Hypnaceae</i>         |
| Origin:           | China, Japan             |
| Area/height:      | Foreground               |
| Light:            | medium - low             |
| Temperature:      | 22 – 28 °C               |
| Growth:           | slow                     |
| pH:               | 5 -7                     |
| Water hardness:   | very soft to medium hard |
| CO <sub>2</sub> : | 20 -30 mg/l              |
| Propagation:      | Division                 |





# The rarity from the Plantahunter tour, Brazil!



## Taxiphyllum spec. 'Bonito'

Item no. 30051 • PG 3 | MP15

We discovered the new Bonito moss on our Plantahunter tour in Brazil and propagated it in our greenhouses. It forms dense, elongated, palmate fronds with an intensive green colour. Like most mosses, it is very easy to care for in the aquarium. Vigorous pruning promotes especially compact moss cushions. The growth is hugely influenced by changing the water regularly, fresh, clear water and the CO<sub>2</sub> supply. Ideally this new moss from Brazil grows attached to roots or stones.



|                   |                        |
|-------------------|------------------------|
| Genus:            | <i>Taxiphyllum</i>     |
| Species:          | spec. 'Bonito'         |
| Family:           | <i>Hypnaceae</i>       |
| Origin:           | Brazil                 |
| Area/height:      | Foreground up to 10 cm |
| Light:            | medium - low           |
| Temperature:      | 18 – 26 °C             |
| Growth:           | slow                   |
| pH:               | 5 – 8                  |
| Water hardness:   | soft to hard           |
| CO <sub>2</sub> : | 0 – 20 mg/l            |
| Propagation:      | Division               |



# DECORATIVE ELEMENTS

Many well-known aquarium plants grow naturally in the spray of streams, rivers, and waterfalls. Rocks and cliffs, roots and dead tree trunks are overgrown with these epiphytes. Anubias, Microsorium, Bolbitis and mosses are interesting plants that all possess this same growth habit.

With our new decorative additions, magically beautiful underwater landscapes are possible in any size of aquarium.

---



*Taxiphyllum barbieri* on root  
with suckers  
30015 | PG9 | T60



*Pogostemon helferi* on stone  
30017 | PG8 | P10



Coco Cave with *Anubias nana*  
30020 | PG9 | CC01



Bonsai Palme with *Anubias nana*  
30028 | PG8 | A21.3



*Hydrocotyle cf. tripartita* on stone  
30039 | PG8 | H35



Aegagrophila Scape Wood  
30025 | PG24 | A40

# SCAPER PADS

Aquascaping is a modern variety of aquarium design. The use of stones and roots has a particularly important role in aquascaping. With this in mind we developed Scaper pads.

With the new mini size you can „green“ every small gap between the stones and roots with ease.

---



*Monosolenium tenerum*  
Scaper pad  
30021 | PG3 | MP11



*Vesicularia spec.*  
Triangelmoos Scaper pad  
30023 | PG3 | MP12



*Taxiphyllum barbieri*  
Scaper pad  
30024 | PG3 | MP13



*Lilaeopsis brasiliensis*  
Scaper pad  
30026 | PG3 | L17



# SPECIMEN PLANTS

In our Dennerle greenhouses, we lovingly care for and cultivate extra-large plants for months on end. These „specimens“ are made for large aquarium setups and designs, since they immediately give the impression of a mature, long-standing landscape. There are now XXL plants for larger aquaria from the stem plant range too.

## Alternanthera reineckii 'Red' XXL

Item no. 110 • PG 9 | A04



Hardly any other stem plant is as vividly coloured as this variety. The stems and upper and lower surface of the leaves are brown-red to cherry red in colour. To ensure that you get the most intense colours, this plant needs good lighting and an adequate supply of CO<sub>2</sub>. The growth rate is average, which means the stems should be trimmed or pruned every 6-8 weeks. In discus aquariums this South American plant adds a splash of colour when combined with sword plants.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Alternanthera</i>       |
| Species:          | <i>reineckii</i> 'Rot'     |
| Family:           | <i>Amaranthaceae</i>       |
| Origin:           | South America              |
| Area/height:      | Background up to 50 cm     |
| Light:            | high – medium              |
| Temperature:      | 22 – 28 °C                 |
| Growth:           | medium                     |
| pH:               | 5-8                        |
| Water hardness:   | soft to hard               |
| CO <sub>2</sub> : | 20 to 30 mg/l              |
| Propagation:      | Head cuttings, side shoots |



## Bacopa caroliniana XXL

Item no. 30022 • PG 9 | B10



A stem plant that is one of the classic aquarium plants. It grows much more slowly than other stem plants, and needs a well-lit location to help it produce the pretty brown-coloured leaves. Emerged plants are pure green and display obvious hairs on the stems. It is most effective in a larger group; ideally the stems should be planted in stages rising towards the back. This results in a harmonious sight for the observer.

|                   |                            |
|-------------------|----------------------------|
| Genus:            | <i>Bacopa</i>              |
| Species:          | <i>caroliniana</i>         |
| Family:           | <i>Scrophulariaceae</i>    |
| Origin:           | America                    |
| Area/height:      | Background up to 40 cm     |
| Light:            | high                       |
| Temperature:      | 18 – 26 °C                 |
| pH:               | 6-8                        |
| Water hardness:   | soft to hard               |
| CO <sub>2</sub> : | 10 to 20 mg/l              |
| Propagation:      | Head cuttings, side shoots |



## Hygrophila corymbosa XXL

Item no. 30008 • PG 9 | H135



*Hygrophila corymbosa* is a common stem plant in Southeast Asia. There are several varieties, each of which has a different leaf shape. Generally the leaves above water are much darker in colour than when submerged. Giant Hygro is a good beginner plant for the background. Rapid growth means that excess nutrients are removed, eliminating the food source for any algae. As soon as the shoots reach the water's surface they should be trimmed back to half their length. A stepped arrangement of the stems is recommended for this.

|                   |                        |
|-------------------|------------------------|
| Genus:            | <i>Hygrophila</i>      |
| Species:          | <i>corymbosa</i>       |
| Family:           | <i>Acanthaceae</i>     |
| Origin:           | Southeast Asia         |
| Area/height:      | Background up to 50 cm |
| Light:            | high – medium          |
| Temperature:      | 22 – 28 °C             |
| Growth:           | rapid                  |
| pH:               | 5-8                    |
| Water hardness:   | very soft to very hard |
| CO <sub>2</sub> : | 20 to 30 mg/l          |
| Propagation:      | Head cuttings          |





# DISCONTINUED PLANTS 2013/2014

| Item no. | Item description                          |
|----------|---|
| 112      | Anubias congensis                         |
| 120      | Anubias heterophylla                      |
| 106      | Asplenium cf. normale                     |
| 612      | Bacopa monierii                           |
| 105      | Bolbitis heteroclita „Difformis“          |
| 611      | Bacopa caroliniana, submers               |
| 647      | Cryptocoryne spec. Indonesia              |
| 621      | Cryptocoryne wendtii Brown XL             |
| 639      | Cryptocoryne wendtii Brown XXL            |
| 665      | Cryptocoryne wendtii Green XXL            |
| 276      | Cyperus helferi                           |
| 658      | Didiplis diandra                          |
| 162      | Echinodorus cordifolius                   |
| 710      | Echinodorus Dschungelstar Nr. 4 XXL       |
| 681      | Glossostigma elatinoides                  |
| 700      | Hyophila involuta                         |
| 640      | Microsorium pteropus 'Trident'            |
| 401      | Rorippa aquatica                          |
| 735      | Rotala spec. Enie                         |
| 931      | Taxiphyllum spec. Spiky Moos              |
| 920      | Coco Shell with M40                       |
| 921      | Coco Shell with M50                       |
| 798      | Coco Shell with T60                       |
| 981      | Nano Bridge with A21                      |
| 225      | Lysimchia nummularia                      |
| 252      | Anubias barteri XL                        |
| 284      | Anubias Bonsai on stone                   |
| 135      | Cryptocoryne cordata, Blister             |
| 136      | Cryptocoryne x purpurea, Blister          |
| 350      | Cryptocoryne usteriana, Blister           |
| 140      | Heteranthera zosterifolia, Blister        |
| 141      | Eichhornia diversifolia, Blister          |
| 143      | Juncus repens, Blister                    |
| 147      | Helanthium tenellum 'Broad Leaf', Blister |
| 231      | Mayaca fluviatilis                        |

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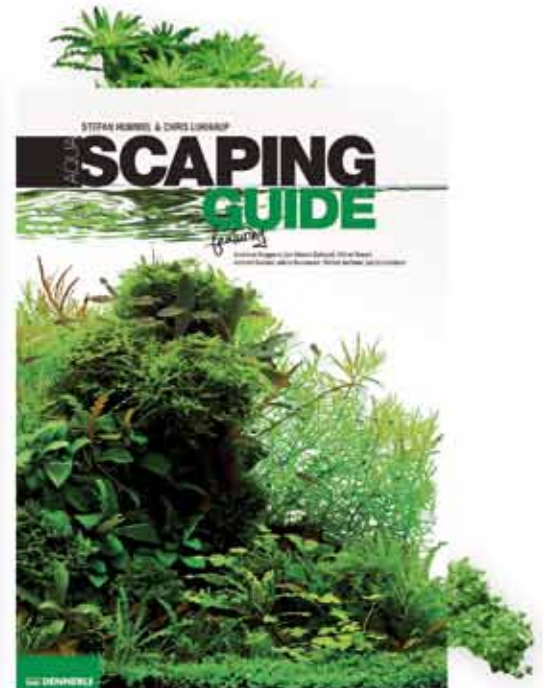


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Item no. 2522/1014

