



A 04 *Alternanthera reineckii* "RED"

Red copper leafed *Alternanthera*

South-America

Characteristics: Extremely attractive stem plant with paired, lanceolate leaves of strikingly red colouration.

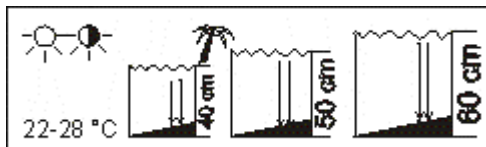
Sprout length: 25 - 50 cm.

Growth rate: 10 - 15 cm per month.

Propagation: Cuttings of approx. 25 cm.

Requirements: The more light the more intensive the colours.

Special note: Plant in groups ascending towards the back of the aquarium.





A 05 *Alternanthera reineckii* "BRONZE"

Former: *Alternanthera rosaefolia*
Copper leaved *Alternanthera*
South-America

Characteristics: Colourful alternanthera variety.
Stem plant with paired, lanceolate leaves of
bronze-red colour, underside and stem bright
violet-red.

Sprout length: 25 - 50 cm.

Growth rate: 10 – 20 cm per month.

Propagation: Cuttings of approx. 25 cm.

Requirements: Non-critical, easy to grow. The
more light the more striking the colours. Special
note: Plant in groups ascending towards the
back of the aquarium.





A 08 *Ammannia gracilis*

Large, red *Ammannia*

Tropical West-Africa

Characteristics: Stem plant with paired, narrow and wavy leaves. Depending on the light intensity the colour of the leaves varies from pale-green to bronze-brown or pale-red.

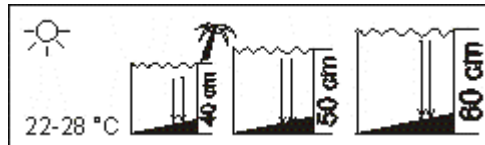
Sprout length: 25 - 50 cm. Growth rate: 10 - 20 cm per month.

Propagation: Cuttings of at least 25 cm long.

Requirements: It needs a great deal of light and nutrient-rich water.

Special note: Can also be grown from seeds.

Small, lilac-blue flowers.





A 16 *Anubias afzelii*

Narrow-leafed, small *Anubias*

Tropical West-Africa

Characteristics: Rosette plant with rhizome.

Leaf-stem 5-15 cm, leaves 15-25 cm long.

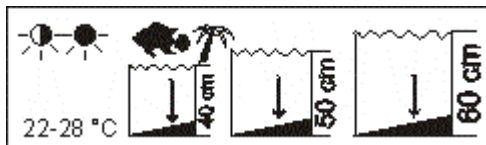
Height: In the aquarium normally 20-30 cm high.

Growth rate: Every 2 months approx. 1 leaf.

Propagation: Side shoots from the rhizome.

Requirements: Undemanding.

Special note: Is usually ignored by Cichlids.





A 18 *Anubias gracilis*

West-Africa. Particularly Liberia and Ivory-coast.

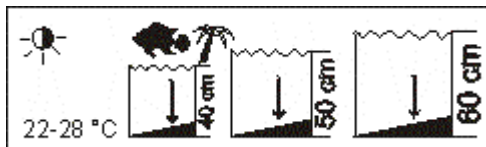
Characteristics: Rosette plant with rhizome. Leaf-stem 15-30 cm, ovate leaves 15 cm long and 10 cm wide.

Height: In the aquarium normally 20-30 cm high. Growth rate: Very slowly, 2-4 leaves a year.

Propagation: Side shoots from the rhizome.

Requirements: Undemanding.

Special note: Due to its leathery leaves suitable for the Cichlid aquarium.





A 19 Anubias spec. barteri

Broad-leafed Anubias

Tropical West-Africa

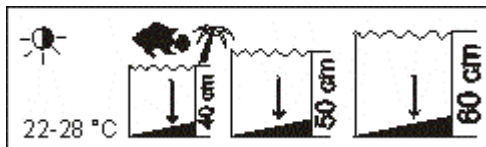
Characteristics: Stemmed, firm, leathery leaves of more or less distinct cordate shape.

Height: 15 -- 35 cm. Growth rate: 5 - 6 leaves a year.

Propagation: Side shoots from the rhizome.

Requirements: Undemanding.

Special note: The name spec.barteri is a collective denomination for a number of very similar, but difficult to distinguish, varieties of different sizes.





A 20 *Anubias congensis*

Congo-Anubias

Tropical West-Africa

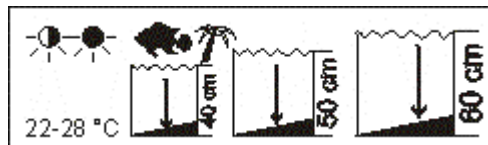
Characteristics: Rhizome with strong, leathery leaves, broader than A 22.

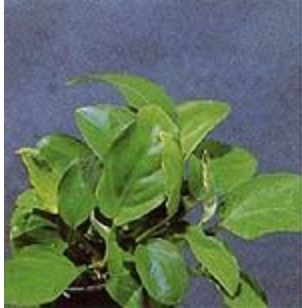
Height: 30-60 cm. Growth rate: 3 - 4 leaves a year.

Propagation: Side shoots from the rhizome.

Requirements: Undemanding.

Special note: The definition of this variety is not yet certain.





A 21 *Anubias barteri* var. *nana*

Dwarf Anubias

Tropical West-Africa. Cameroon.

Characteristics: Low growing, creeping plant.

Height: 8 - 12 cm.

Growth rate: 8 - 1- leaves a year.

Propagation: Side shoots from the rhizome.

Special note: Will also grow well tied onto rocks or bogwood.





A 22 *Anubias lanceolata*

Narrow-leafed, large *Anubias*

Tropical West-Africa

Characteristics: Stemmed, lanceolate leaves,
firm

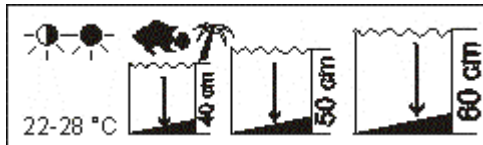
and leathery. Height: 30 - 60 cm.

Growth rate: 4 - 6 leaves a year.

Propagation: Side shoots from the rhizome.

Requirements: Undemanding.

Special note: Very easy to grow.





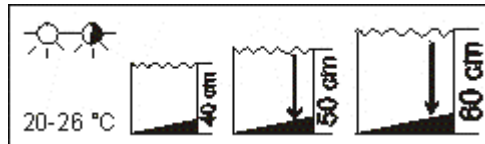
A 26 Aponogeton boivinianus

Madagascar

Characteristics: The round, flattened tuber produces a rosette of broad, elongated leaves with a highly indented surface. Colour of leaves: dark- green transparent. Height: Approx. 60 cm.

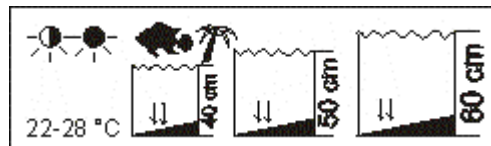
Growth rate: During the growing cycle 1-2 leaves weekly.

Propagation: Seeds. Requirements: Undemanding.





A 28 Anubias spec. 'GABUN'





A 30 Aponogeton crispus

Sri Lanka

Characteristics: The tuber produces a rosette of narrow, lanceolate leaves with wavy edges on long leaf stalks (petioles). Height: 30 - 60 cm.

Growth rate: During the growing cycle 1 leaf a week.

Propagation: Seeds. Requirements:
Undemanding.

Special note: Rest period not as distinct as in other varieties, grows very often all year round.





A 31 Aponogeton 'COMPACT'

Compact-leaf Ulvaceus

Mutation

Characteristics: Tuber with short-stemmed
Ulvaceus-type leaves. Height: 25 - 50 cm.

Growth rate: Monthly approx. 2 leaves.

Propagation: Seeds.

Requirements: Not yet exactly determined.

Reacts very positively to E15 and
PFLANZENGOLD-7.

Special note: Mutation derived from A 30,
discovered by Hans Barth, Dessau.





A 41 Aponogeton madagascariensis

Madagascar Laceplant

Characteristics: Out of a tuber grow short petioles to support long elliptical leaves, which are skeletonized. Height: Usually 20 - 40 cm.

Growth rate: Monthly 1 - 2 leaves. Propagation: Seeds.

Requirements: Not so easy to cultivate in the aquarium; likes cooler water and a shaded position.

In the actual DENNERLE plant list: yes





A 51 *Aponogeton henkelianus*

Large Laceplant

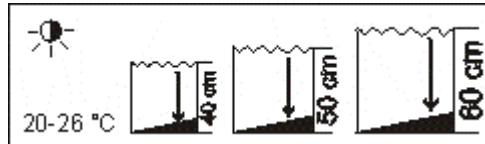
Madagascar

Characteristics: Elongated tuber with light-green leaves. Height: Up to 70 cm.

Growth rate: During the growing cycle 2-3 leaves a month. Propagation: Seeds.

Requirements: Fairly demanding. Lower temperatures and subdued light.

Special note: Needs a rest period.





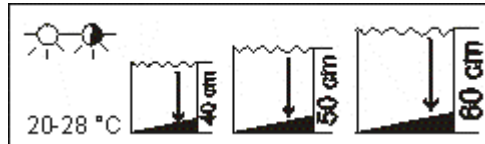
A 53 *Aponogeton longiplumulosus*

Madagascar

Characteristics: Tuber with short-stemmed, narrow, highly wavy leaves. Height: 40 - 60 cm.

Growth rate: Monthly 2 - 3 leaves. Propagation: Seeds.

Requirements: Undemanding. Special note: Rest period not very distinct.





A 55 Aponogeton natans

False Ulvaceus

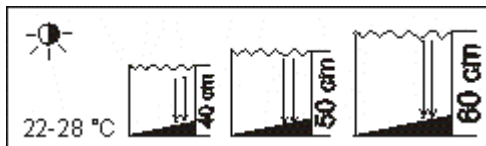
Characteristic: Tuber with stemmed, broad, transparent leaves. Height: Approx. 50 cm.

Growth rate: Fast growing. Propagation: Seeds.

Requirements: Undemanding.

Special note: Tends to grow floating leaves in high temperature, direct sunlight or daylight.

These leaves are best removed before they reach the surface.





A 61 *Aponogeton rigidifolius*

Sri Lanka

Characteristics: The elongated, slim rhizome produces cryptocoryne-type, firm, leathery, long and narrow leaves. Height: Up to 50 cm.

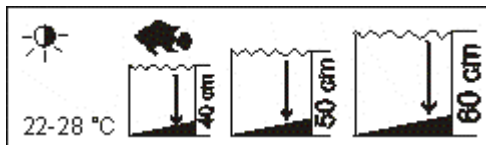
Growth rate: Approx. 1 leaf a month.

Propagation: Side shoots from rhizome.

Requirements: Not always easy to transplant.

Otherwise fairly undemanding.

Special note: No resting period, since there are no tubers.





A 70 Aponogeton ulvaceus

Madagascar

Characteristics: Tuber with stemmed, beautifully undulate, twisted leaves. Height: 50 - 70 cm. Growth rate: During the main growing cycle 2 leaves weekly.

Propagation: By seeds. Requirements: Undemanding.





A 80 *Aponogeton undulatus*

Tropical East-Asia. Sri Lanka, India.

Characteristics: Tuber with long-stemmed broad leaves with gently undulating margins. Olive-green to brownish-red colourations. Height: 50-60 cm.

Growth rate: 2-3 leaves monthly.

Propagation: By seeds or adventitious plantlets forming on the flower stem.

Requirements: Undemanding. Special note: Adventitious plant, therefore, easy to propagate.





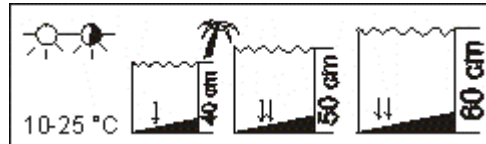
A 100 *Amoracia aquatica*

American Water Cress

North America

Characteristics: Leaves elliptical at first, later highly divided, almost fernlike.

Height: Approx. 15 cm. The flower stem grows right up to the surface. Propagation: Aerial shoots growing from the flower stem.





B 10 *Bacopa caroliniana*

Former: *Bacopa amplexicaulis*

Giant Red Bacopa

Southern North America

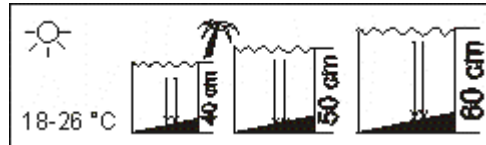
Characteristics: The thick stems bear opposite, oval, fleshy, pale green leaves which turn a coppery hue in bright light.

Sprout length: 20 - 40 cm. Growth rate:

Monthly 5 - 10 cm. Propagation: Cuttings of approx. 15 cm length.

Requirements: Fresh, clear water and nutrient-rich water.

Special note: Branches out easily.





B 32 Bacopa monnieri II

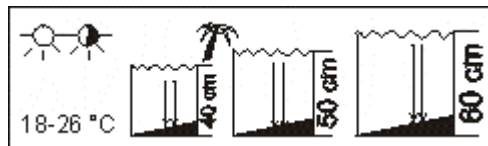
Baby Tears

West Africa

Characteristics: The stem bears opposite, fleshy, small leaves with slightly ragged edges.

Sprout length: 50 cm. Growth rate: Monthly approx. 10 cm. Propagation: Cuttings of approx. 20 cm length. Requirements: Undemanding.

Special note: B 30 is similar but with round, smooth edges at the leaves.





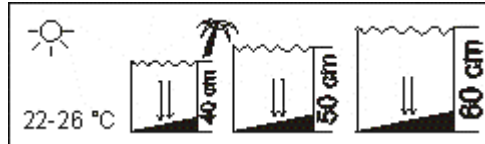
B 35 *Bacopa myriophylloides*

South America

Characteristics: The thin stem bears whorls of short, pale to mid-green leaves. Sprout length: 20 - 30 cm.

Growth rate: Monthly approx. 5 cm.

Propagation: Cuttings of at least 10 cm length.





B 40 Barclaya longifolia

Orchid Lily

Tropical East-Asia

Characteristics: The plant grows from a tuberous rhizome, producing a rosette of lanceolate leaves with undulating margins and varying colours from green over bronze-red to a dark ruby. Height: 20 - 35 cm. Growth rate:

Monthly approx. 2 leaves.

Propagation: By seeds. Requirements: Demanding aquarium plant. Needs soft, nutrient-rich water.

Special note: Reacts immediately to high Redox- respectively Oxygen values with holes in the leaves.





B 55 Bolbitis heudelotii

Congo Water Fern

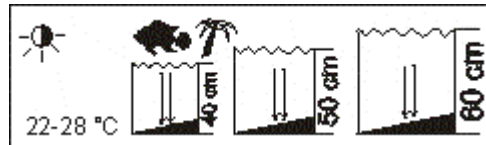
Tropical Africa

Characteristics: The creeping rhizome produces stalked, dark-green and multipinnate leaves.

Height: 40 - 50 cm. Growth rate: Every 1 - 2 months one leaf.

Propagation: By cuttings of the creeping rhizome. Choose pieces with at least 3 leaves.

Requirements: As this fern loves water-flow it is best attached onto bogwood or rocks near the filter outlet.





B 70 Blyxa japonica

Japanese Rush

Southeast Asia

Characteristics: Bushy plant with linear, sharply pointed leaves. Height: 10 cm.

Growth rate: Very slowly. Propagation: Side shoots. Requirements: Demanding. Needs a lot of light and plenty of nutrients.





C 10 Cabomba caroliniana

Green Cabomba

Middle America

Characteristics: Stem plant with finely divided leaves, carried in opposite pairs on the long, thin stem.

Sprout length: 50 cm. Growth rate: Weekly 5 - 10 cm. Propagation: Cuttings of at least 25 cm.

Requirements: Undemanding. Special note: Linear floating leaves are produced to support white flowers.





C 11 Cabomba caroliniana 'SILVER-GREEN'

Silver-green Cabomba

Characteristics: Stem plant as C 10, but the leaves grow twisted, exposing the pale underside, thus causing the silvery effect.
 Sprout length: 50 cm. Growth rate: Monthly 5 - 10 cm.

Propagation: Cuttings of approx. 25 cm.
 Requirements: Very difficult to cultivate in the aquarium.

Special note: Mutation. Very rare!.





C 12 Cabomba aquatica

Giant Cabomba

Middle America

Characteristics: Stem plant with very finely pinnate leaves, carried in opposite pairs on the long, thin stem.

Sprout length: Approx. 40 cm. Growth rate: 10 cm a month. Propagation: Cuttings.

Requirements: Plenty of light and clean water.

Special note: Cabombas belong to the family of the Water lilies. The C 12 grows small, linear, floating leaves to support yellow flowers.





C 20 Cabomba piauhyensis

Red Cabomba

Middle and South America

Characteristics: Stem plant with finely divided leaves, carried in opposite pairs on the long, thin stem. Growth tips usually of intensive red colour. Sprout length: Approx. 40 cm.

Growth rate: Approx. 10 cm a month.

Propagation: Cuttings of at least 20 cm length.

Requirements: Needs a plentiful and continuous nutrition supply. Special notes: Grows sometimes small floating leaves and purple flowers.



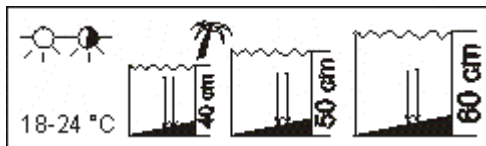


C 35 *Cardamine lyrata*

Japanese Cress

China, Japan, Korea

Characteristics: Tendril-forming, very delicate plant with small, circular to kidney-shaped leaves. Sprout length: 40 cm. Growth rate: Monthly 20 cm. Propagation: Cuttings of 20 cm length. Requirements: Needs plenty of light, otherwise undemanding. Special note: Most effective against dark background.

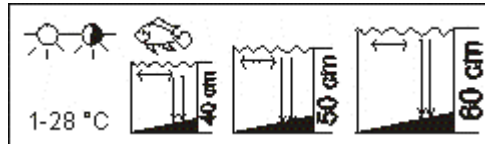




C 40 Ceratophyllum demersum Ceratophyllum submersum

Tropical Hornwort
Cosmopolitan

Characteristics: Rootless plant with thin much-branched stems bearing whorls of bristle-like foliage. Sprout length: 50 - 100 cm. Growth rate: Weekly 10 - 20 cm. Propagation: By side shoots, at least 20 cm long. Requirements: Undemanding. Special note: There are two varieties: Ceratophyllum submersum = very fine leaves, Ceratophyllum demersum = coarser leaves.



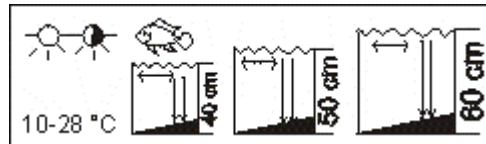


C 41 *Ceratophyllum demersum* var. MEXICO

Red Hornwort

Discovered in Mexico

Characteristics: Rootless plant with whorls of bristle-like foliage. Stems of red colour. Sprout length: 50 - 100 cm. Growth rate: Weekly 10 - 20 cm. Propagation: By side shoots, at least 20 cm long. Requirements: Undemanding. Special note: First imported in 1980.





C 45 *Ceratopteris cornuta*

Former: *Ceratopteris thalictroides*

Indian Fern

Widely distributed in tropical regions

Characteristics: The multipinnate leaves are very variable, but always distinctly broader than

C46. Height: Up to 50 cm. Growth rate:

Monthly 2 - 3 leaves. Propagation: This plant produces plenty of adventitious plants along the margins of older leaves. Special note: Grows also very well as a floating plant and is in this form particularly suitable for Cichlid aquaria.





C 46 *Ceratopteris thalictroides*

Former: *Ceratopteris thalictroides filiformis*

Sumatra Fern

Widely distributed in tropical regions

Characteristics: The multipinnate leaves are distinctly finer than C45. Height: Up to 50 cm.

Growth rate: Monthly 2 - 3 leaves. Propagation:

Adventitious plants. Requirements:

Undemanding, but needs plenty of nutrition.

Special note: Probably the most attractive *Ceratopteris* species. The floating form is well suited for the Cichlid aquarium.





C 47 *Ceratopteris froesii*

Broad-leaf Indian Fern

Assumed Cosmopolitan

Characteristics: Floating leaves usually not pinnate. Petioles of older leaves destended to floating vessels. Plant diameter: 50 cm. Root length: 25 cm.

Requirements: Undemanding.

Propagation: Adventitious plants along the leaf margins.



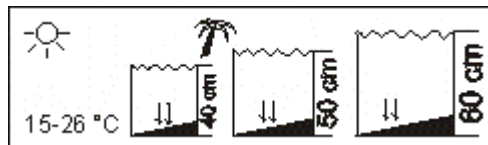


C 50 *Crassula helmsii*

Australia

Characteristics: Delicate stem plant bearing opposite, fleshy and very small leaves. Sprout length: 15 - 25 cm. Growth rate: Monthly 5 - 10 cm. Propagation: Replanting of young shoots.

Special note: Grows exuberantly when cultivated in emersed form.





C 60 *Crinum calamistratum*

Former: *Crinum natans* forma *crispus*

Cameroon

Characteristics: Onion plant with narrow, firm and leathery leaves, the margins puckered and wavy. Height: 50 - 70 cm. Growth rate:

Monthly 1 - 2 leaves. Propagation: By bulblets forming on the bulb. Requirements:

Undemanding. Special note: In the open aquarium the C 60 sometimes produces white flowers.





C 61 *Crinum natans*

African Onion Plant

West Africa

Characteristics: Onion plant with 2-3 cm wide firm and leathery leaves, strongly puckerd and wavy. Height: 30 - 45 cm. Growth rate: One leaf per month. Propagation: By bulblets from the mother plant. Requirements: Undemanding. Special note: Cichlids don't seem to like the taste.



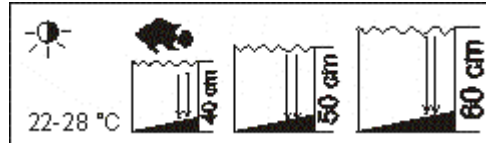


C 70 *Crinum thaianum*

Thailand Onion plant

Thailand

Characteristics: Onion plant with long, strap-like, firm and leathery leaves. Height: Length of leaves up to 1 metre. Growth rate: One leaf per month. Propagation: By bulblets from the mother plant. Requirements: Undemanding. Special note: Like with all slow growing plants, algae can settle on the leaves, particularly if the filtration is too strong and causes an increase in the Oxygen contents. (High Redox value).





C 220 *Cryptocoryne aponogetifolia*

Synonym: *Cryptocoryne usteriana*

Phillipines

Characteristics: Very long, up to 4 cm wide, middle green leaves with a highly indented surface, borne on long petioles. Height: Up to 100 cm. Growth rate: One leaf per month.

Propagation: Adult plants produce numerous runners. Requirements: Nutrient-rich water, not too high in Oxygen. Special note: Like all *Cryptocorynes* the C 220 is likely to loose all leaves after transplanting. They will usually soon grow again.

3 plants per bunch. 30 cm. Blue.



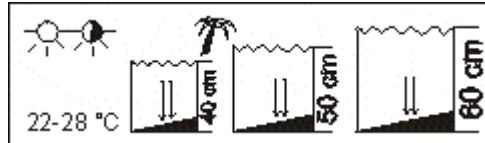


C 225 *Cryptocoryne* spec. 'LEGROI'

Sri Lanka

Characteristics: Leaves slightly bent backwards, with smooth margins. Base of leaf less cordate than *Cryptocoryne wendtii*. Height: 15 - 25 cm.

Growth rate: One leaf per month. Propagation: Runners. Requirements: Undemanding.





C 230 *Cryptocoryne balansae*

Thailand, Vietnam

Characteristics: The narrow leaves are strongly puckered with a highly indented surface. They are carried on very short petioles. Height: 30 - 45 cm. Growth rate: Well growing, approx. 8-10 leaves a year. Propagation: By frequent runners.

Very prolific. Requirements: Undemanding.

Special note: Can tolerate hard water.





C 250 *Cryptocoryne blassii*

Giant Cryp'

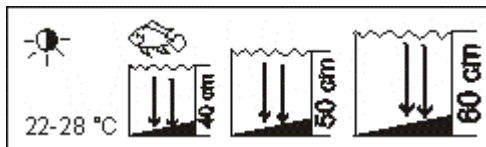
Thailand

Characteristics: The upper surface of the leaves varies from olive-green to wine-red, sometimes with black markings; the underside is deep red.

Height: 35 - 45 cm. Growth rate: Yearly 4 - 8 leaves. Propagation: Runners. Requirements:

Once established, undemanding.

Special note: Like all other *Cryptocorynes* the *blassii* will grow into a very striking plant and show its full potential if it is allowed to grow undisturbed for years in the same spot.





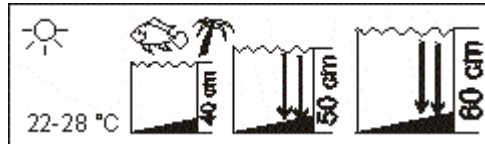
C 260 *Cryptocoryne ciliata*

Tropical Southeast Asia

Characteristics: Lanceolate, light green leaves with acute tips. Height: 40 - 50 cm. Growth rate:

Yearly 4 - 8 leaves. Propagation: By rhizome

runners. Requirements: Needs more light than other *Cryptocorynes*. Special note: Tolerates hard and even slightly brackish water.





C 320 *Cryptocoryne x willisii*

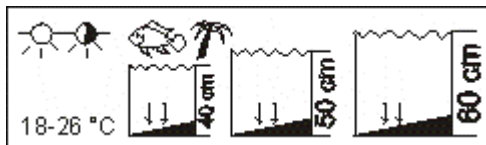
Synonym: *Cryptocoryne nevillei*

Sri Lanka

Characteristics: Firm, leathery leaves, which will in bright light form compact, flat rosettes (ground cover). Height: 8 - 15 cm. Growth rate:

One leaf per month. Propagation: Runners.

Requirements: Undemanding.





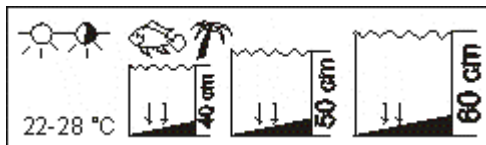
C 321 *Cryptocoryne lucens*

Sri Lanka

Characteristics: Narrow, firm and leathery leaves. Height: 10 - 20 cm. Growth rate:

Monthly 1 leaf. Propagation: Runners.

Requirements: Thrives, like many *Cryptocorynes*, in clean, fresh water filtered with long standing, dirty filters.





C 340 *Cryptocoryne parva*

Dwarf Cryp'

Sri Lanka

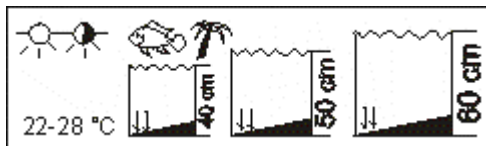
Characteristics: Small, lanceolate and narrow leaves; mostly slightly bent backwards. Colour

middle green. Height: 5 cm. Growth rate:

Yearly 5 - 8 leaves. Propagation: Runners.

Requirements: Wants to be left undisturbed.

Special note: Smallest of the *Cryptocoryne* species.



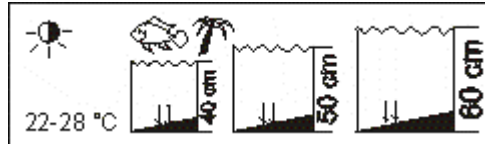


C 350 *Cryptocoryne* spec. Indonesia

Sri Lanka

Characteristics: Narrow, reddish-brown leaves, with slightly undulate margins. Height: 15 - 20 cm.

Growth rate: One leaf per month. Propagation: Runners. Requirements: Undemanding.



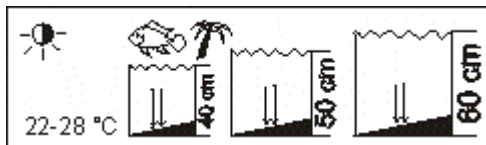


C 358 *Cryptocoryne pontederifolia*

Sumatra, Borneo

Characteristics: Long petioles bear broad cordate leaves. Height: Up to 25 cm. Growth rate: Yearly 5 - 8 leaves. Propagation: Runners.

Requirements: Undemanding. Special note: Similar to *Cryptocoryne moehlmannii* but for the colour of the flower.



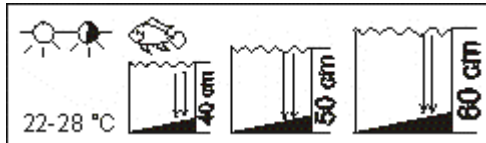


C 366 *Cryptocoryne crispatula*

Former: *Cryptocoryne retrospiralis*

Malayan peninsula

Characteristics: Long, narrow, linear to strap-like leaves. The leave blades are slightly puckered with wavy margins. Height: Up to 40 cm. Growth rate: Monthly 1 leaf. Propagation: Runners. Requirements: Undemanding. Special note: Leaves turn reddish-green in bright light.





C 367 *Cryptocoryne tonkinensis*

Thailand, Vietnam

Characteristics: Narrow (only 5 mm), linear, grass-like leaves. Height: 20 - 30 cm. Growth rate: Yearly 5-8 leaves. Propagation: Runners. Requirements: Wants, like most *Cryptocorynes*, to be left undisturbed. Will then grow well. Undemanding. Special note: Very suitable to form solitaire groups.



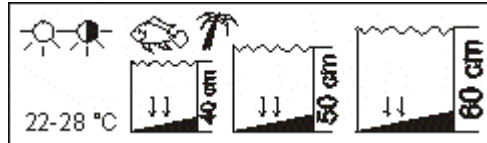


C 368 *Cryptocoryne costata*

Thailand

Characteristics: The colour of the leaves varies from pale-green to reddish-brown. Height: 15 cm.

Growth rate: 4 - 8 leaves yearly. Propagation: Runners. Requirements: Wants to be left undisturbed.





C 401 *Cryptocoryne beckettii*

Narrow leafed Wendtii

Characteristics: Lanceolate leaves, mostly of vivid green colour, interestingly "flamed" with brown. Height: 10 - 20 cm. Growth rate:

Monthly 1 - 2 leaves. Propagation: Produces runners readily.



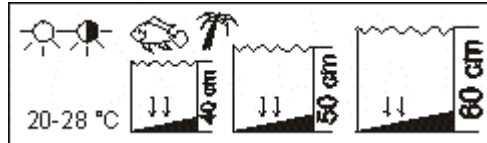


C 402 *Cryptocoryne wendtii* 402

Broad leafed Wendtii

Characteristics: Leaves broad and stocky, mostly of a deep middle-green colour, interestingly "flamed" with brown. Height: 15 - 25 cm. Growth rate: Monthly 1 - 2 leaves.

Propagation: Runners.





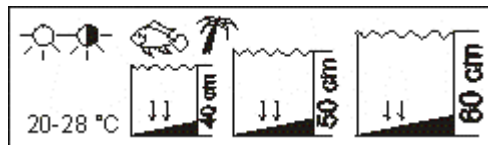
C 405 *Cryptocoryne lutea*

Dark-green Wendtii

Characteristics: Deeply green and brown "flamed" with black lines. Wavy margins.

Height: 10 - 20 cm.

Growth rate: Monthly 1 - 2 leaves. Propagation: Runners.

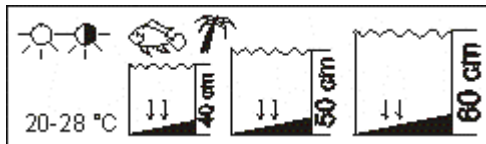




C 406 *Cryptocoryne wendtii* 406

Long stemmed Wendtii

Characteristics: Colour of leaves light-green with brown flames. Leaves acute with wavy margins. Height: 15 - 25 cm. Growth rate: Monthly 1 - 2 leaves. Propagation: Runners.





C 421 *Cryptocoryne wendtii* 421

Brown Wendtii

Characteristics: Leaves mostly chocolate-brown to olive-brown; firm and rigid. Height: 10 - 15 cm. Growth rate: Monthly 1 - 2 leaves.

Propagation: Runners. Requirements: Undemanding.

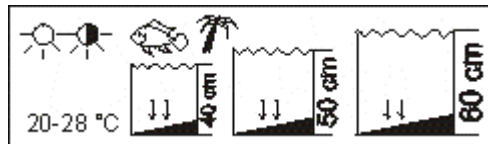




C 422 *Cryptocoryne wendtii* 422

Characteristics: Leaves mainly green with reddish- brown lines. Height: 15 - 25 cm.

Growth rate: Monthly 1 - 2 leaves. Propagation: Runners.



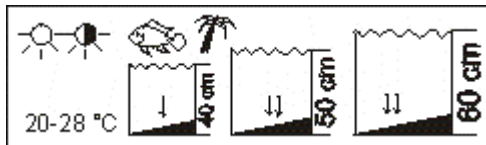


C 480 *Cryptocoryne* spec. 'Sri Lanka'

Sri Lanka

Characteristics: Long petioles bear narrow, lanceolate leaves of intensive pale-green colour with brown lines. Height: 25 cm. Growth rate:

Monthly 1 - 2 leaves. Propagation: Runners.



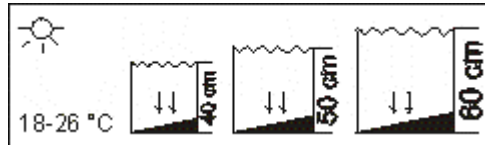


D 10 *Didiplis diandra*

Water Hedge

Southern North America

Sprout length: 20-35 cm. Growth rate: Monthly
10 cm. Propagation: Cuttings. Requirements:
Bright light and ample nutrition.





E 20 *Echinodorus amazonicus*

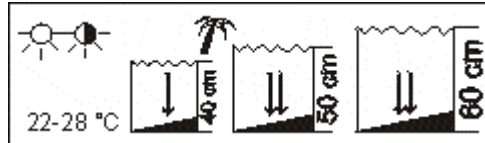
Former: *Echinodorus brevipedicellatus*

Slender-leafed Amazon Sword

Tropical South America

Characteristics: Rosette plant. Mature specimen can have up to 50 lanceolate leaves. Height: 50 cm. Growth rate: Monthly 2 - 3 leaves.

Propagation: Adventitious plants on flower stem. Requirements: Needs regular iron fertilization.





E 26 *Echinodorus argentinensis*

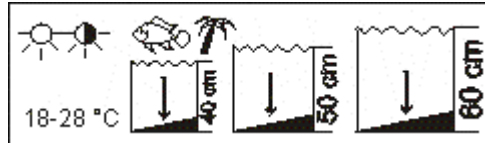
Argentine Radicans

Argentina, Brazil, Uruguay

Characteristics: Submersed leaves are lanceolate egg-shaped. Height: 30 cm (sometimes up to 40 cm) Growth rate: Monthly 1 leaf. Propagation:

Adventitious plants on flower stem.

Requirements: Undemanding. Special note: The plant tends to grow longer stems and smaller leaves if the water is hard.



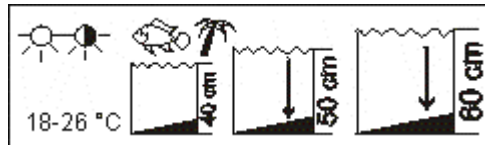


E 30 *Echinodorus cordifolius*

Former: *Echinodorus radicans*
 Radicans Sword or Elephant Ear
 Middle America

Characteristics: Leaves can reach 30 cm diameter. Height: In excess of 60 cm. Growth rate: Monthly 1 leaf. Propagation: Adventitious plant on flower stem. Requirements:

Undemanding. Special note: To control the growth rate in tall growing plants like this, plant them into a pot with meager substrate (e.g. washed riversand) and the plant will grow slowly and stay smaller.



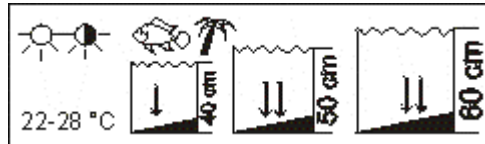


E 31 Echinodorus cord. 'MINI'

Mini Radicans

South America Characteristics: Pale-green, stemmed, heart-shaped leaves. Small growing.

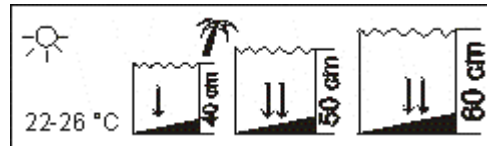
Height: 15 - 25 cm. Growth rate: Monthly 1 leaf. Propagation: The flower stems with their adventitious plantlets spread over the bottom where the daughter plants will take root.





E 32 *Echinodorus cordifolius* 'HARBICH'

Characteristics: Short stemmed rosette plant with egg-shaped leaves. No spot-markings. Small growing. Height: 10 - 20 cm. Growth rate: Yearly 6 - 12 leaves. Special note: Mutation derived from E 30. Much treasured variety.





E 33 Echinodorus cord. 'YELLOW'

Yellow Radicans

Cardinal form: Middle America

Characteristics: Only grows to medium height, leaves rounded to egg-shaped. Young, new leaves are usually yellowish with reddish spot-markings. Height: 20 - 30 cm. Growth rate: Monthly 1 leaf. Propagation: Adventitious plants. Special note: The colouration and the stocky growth is probably due to the "Rosanervis-colour virus". Much treasured variety.





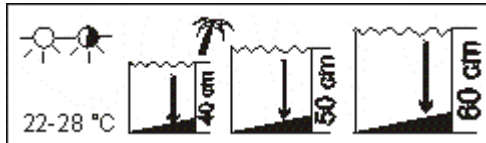
E 35 Echinodorus cordifolius E 35

Presumably South and Middle America

Characteristics: Long-stemmed, heart-shaped leaves. Height: 40 - 60 cm.

Growth rate: Monthly approx. 2 leaves.

Propagation: Adventitious plants on flower stem. Special note: If the lighting duration exceeds 12 hours the E 35 grows, like most large radicans, out of the aquarium.





E 38 Echinodorus 'SINGAPORE'

Singapore Radican

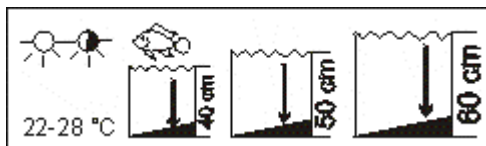
Presumably Middle America

Characteristics: Medium large variety. Height: 30 - 60 cm. Growth rate: Monthly 1 - 2 leaves.

Propagation: Adventitious plants on flower stem.

Requirements: Undemanding.

Special note: Has a tendency to grow floating leaves. To avoid this reduce lighting duration to less than 12 hours.





E 50 Echinodorus inpai

Presumably Middle America

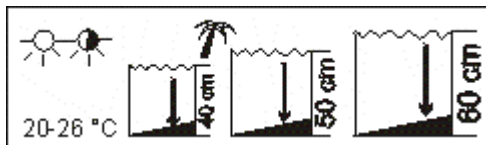
Characteristics: Lanceolate leaves on long stems. Young leaves have very often a slight bronze tinge. Height: Approx. 50 cm.

Growth rate: Monthly approx. 2 leaves.

Propagation: Grows many adventitious plants on the flower stem which root readily.

Requirements: Frequent iron fertilization.

Special note: Very prolific. Recently discovered novelty.





E 75 Echinodorus horizontalis

Tropical South America

Characteristics: Slightly acute heart-shaped leaves grow horizontally on long stems.

Height: 35 cm. Growth rate: One leaf every month.

Propagation: Adventitious plants on flower stem.

Requirements: Very difficult to establish in the aquarium; needs regular iron fertilization.

Spezial note: Propagation not easy, hence still comparatively expensive.





E 80 Echinodorus major

Former: Echinodorus martii

Ruffled Amazon Sword

Brazil

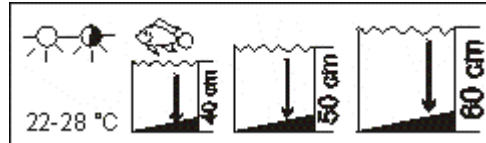
Characteristics: Well established specimen can have more than 30 broad, lanceolate, pale green leaves with highly undulate margins.

Height: 40 - 60 cm.

Growth rate: Monthly 1 - 2 leaves.

Propagation: Adventitious plants.

Special note: Reacts immediately to iron deficiency and leaves turn yellow very quickly.





E 85 Echinodorus muricatus

Giant Radican

Middle America

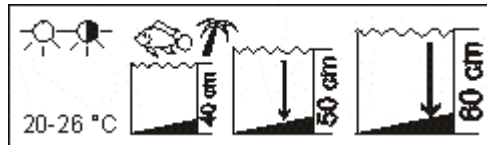
Characteristics: Likes to grow emersed leaves above the water surface. New leaves with irregular brown spot-like markings. Height: 50 - 100 cm.

Growth rate: 2 - 3 leaves per month.

Propagation: Adventitious plants on flower stems.

Requirements: Undemanding, but needs frequent fertilization.

Special note: If you want to keep the plant small and submersed place it in a plant pot with washed riversand and reduce the lighting duration to less than 12 hours.





E 100 Echinodorus bleheri

Former: Echinodorus paniculatus

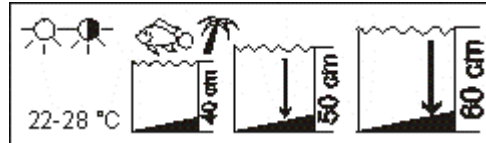
Broad-leaf Amazon Sword

South America

Characteristics: Lanceolate leaves, up to 5 cm wide, borne on medium long petioles. Height: Up to 50 cm. Growth rate: Weekly 1 leaf. Well established plants can have up to 50 leaves.

Propagation: Grows very frequently adventitious plant on flower stem.

Requirements: Undemanding. Special note: One of the most popular solitaire plants.





E 110 Echinodorus parviflorus

Former: Echinodorus peruensis

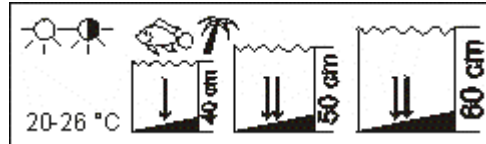
Black Amazon Sword

South America

Characteristics: New leaves with black veins.
Height: 25 cm. (When densely planted up to 45 cm). Growth rate: Weekly 1 leaf. Propagation:

Adventitious plants. Requirements:

Undemanding. Special note: Very suitable plant for middleground.





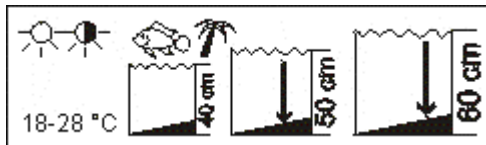
E 125 *Echinodorus rigidifolius*

Southern part of South America

Characteristics: Long petioles support broad, lanceolate leaves. Grows well spaced. Height: 60 cm. Growth rate: Monthly 2 - 3 leaves.

Propagation: Adventitious plants.

Requirements: Undemanding. Special note: Robust, fast growing plant.





E 130 Echinodorus osiris

Red Amazon

Southern part of South America

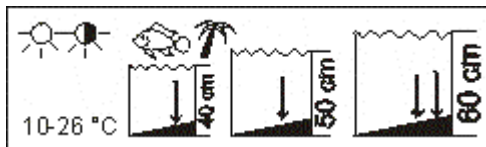
Characteristics: Loosely growing plant with stemmed lanceolate leaves. Young leaves are red to bronze-red. Height: Up to 50 cm.

Growth rate: 2 - 3 leaves per month.

Propagation: Adventitious plants on flower stem.

Requirements: Undemanding. Will grow in almost any aquarium.

Special note: Can be planted in groups in larger aquaria.





E 131 Echinodorus 'ROSE' (PINK)

Cichlid Osiris

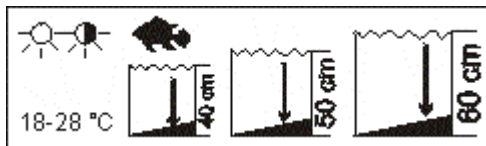
Cross between E 75 and E 141

Characteristics: Similar to E 130 but larger. The youngest leaf is nearly always of a pink colour and even spotted in bright light. Height: 50-70 cm.

Growth rate: Monthly 2 - 3 leaves.

Requirements: Undemanding.

Special note: Ideal plant for the Cichlid aquarium as Cichlids seem to dislike the taste, besides: the leaves grow back very fast indeed.





E 132 Echinodorus barthii

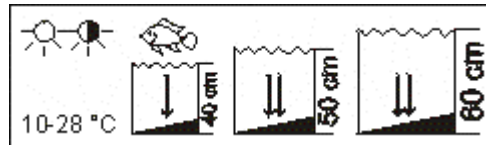
Double-red Osiris

Probably a mutation.

Characteristics: Similar to E 130 but distinctly smaller. The 5 - 8 leaves, forming the inner rosette, are usually intensively dark red to golden

brown. Height: 15 - 25 cm. Growth rate: 1 leaf per month.

Propagation: Adventitious plants. Special note: Origin not quite clearly established. Presumably a cross between E 130 and E 141.



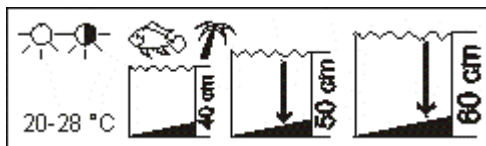


E 136 Echinodorus spec. E 136

Long-stemmed Amazon Sword

Presumably Middle America

Characteristics: Lanceolate, narrow leaves growing on long stems. Fountain-like appearance. Height: Up to 70 cm. Growth rate: Monthly 2 leaves. Propagation: Adventitious plants. Requirements: Undemanding, but needs frequent iron fertilization. Special note: Not quite clearly defined variety.





E 137 Echinodorus parv. 'TROPICA'

Former: Echinodorus mucronatus

Samolus Sword

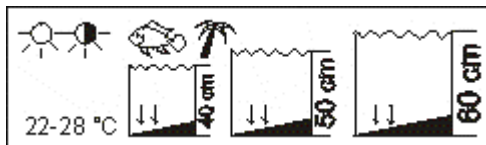
Probably tropical South America

Characteristics: Compact rosette plant with dark green leaves on very short petioles. Young leaves with black veins. Height: 10 - 15 cm.

Growth rate: Monthly 1 - 2 leaves. Propagation:

Adventitious plants.

Special note: A much treasured novelty. Sub-species of Echinodorus parviflorus E 110.





E 140 Echinodorus horemanii 'GREEN'

Dark-green Amazon
Southern South America

Characteristics: Stiff, parchment-like, dark green leaves, with slightly wavy margins.

Height: Approx. 50 cm. Growth rate: Monthly 1 leaf. Propagation: Side shoots on the rhizome.

Mature and strong plants sometimes grow a flower stem with adventitious plants.

Requirements: Undemanding. Special note: Will during the summer also grow outdoors.





E 141 Echinodorus horemanii 'RED'

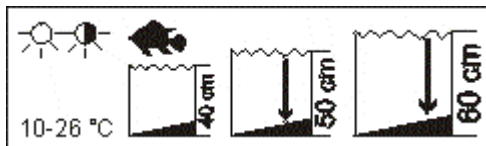
Black-red Amazon

Southern South America

Characteristics: Colour of leaves highly variable: outer leaves usually black-green, changing towards the middle to green-brown; young leaves in the centre mostly of a transparent wine red.

Height: 50 - 70 cm. Growth rate: Monthly 2 - 3 leaves. Propagation: Side shoots on the rhizome.

Strong and mature plants sometimes grow a flower stem with adventitious plants. Special note: Will during the summer also grow outdoors.





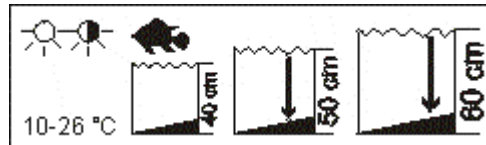
E 150 *Echinodorus uruguayensis*

Uruguay

Characteristics: Long, strap-like, narrow leaves of deep green colour. Fountain-like appearance.

Height: Approx. 60 cm. Growth rate: Monthly 2 - 3 leaves. Propagation: Adventitious plants.

Side shoots on rhizome. Requirements: Nutritious substrate, nutrient-rich water. Special note: Will during the summer also grow outdoors.

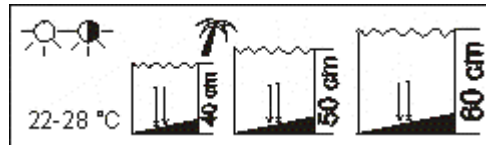




E 176 *Echinodorus schlueteri*

Presumably Middle America

Characteristics: Compact rosette plant with pale green lanceolate, oval shaped leaves. Young leaves with brown spots. Height: Up to 25 cm, usually only 10 - 15 cm. Growth rate: Monthly 2 leaves. Propagation: Adventitious plants on flower stem. Requirements: Undemanding, but needs regular fertilization with E 15. Special note: Highly valued recent novelty.



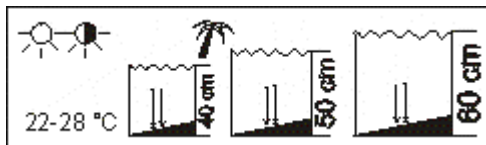


E 177 Echinodorus schlueteri 'GREEN LEOPARD'

Cardinal form presumably Middle America

Characteristics: Like E 176 but the 4 - 8 uppermost leaves with distinctive brown spots.

A compact, small growing plant. Height: Normally only 10-15cm. Growth rate: Monthly 1 - 2 leaves. Propagation: Adventitious plants on flower stem. Requirements: The more light, the more intensive the brown spots. Special note: Very valuable mutation.





E 200 Echinodorus spec. grisebachii

Dwarf Amazon Sword

Characteristics: Rosette plant with up to 1,5 cm wide, 10-15 cm long lanceolate leaves on short petioles. Provides groundcover through very prolific runners. Height: Approx. 10 cm.

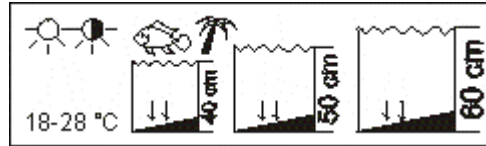
Growth rate: Weekly 1 leaf.





E 205 Echinodorus spec. 205

Characteristics: Rosette plant with narrow, strap-like leaves. Grows runners quickly and prolifically. Height: 15 - 20 cm. Growth rate: Weekly 1 leaf.





E 210 Echinodorus latifolius

Broad-leaved Dwarf Amazon Sword

South America

Characteristics: Rosette plant with lanceolate leaves on petioles. Produces runners.

Height: Approx. 15 cm. Growth rate: Weekly 1 leaf.





E 230 Echinodorus tenellus

Pygmy Chain Swordplant

Characteristics: Rosette plant with 1-2 mm wide, grasslike leaves. Height: 5-8 cm. Growth rate: Weekly 2 runners. Very prolific. Special note: Ideal groundcover plant. Colour in shaded areas green, in bright light reddish.





E 260 Eichhornia azurea

South America

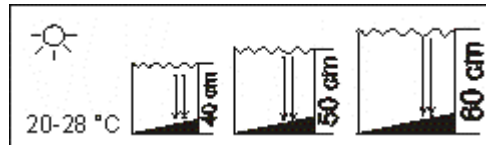
Characteristics: Stem plant with the appearance of a palm tree leaf. Sprout length: Up to 60 cm.

Growth rate: Weekly approx. 5 cm.

Propagation: Top cuttings. The plant will then grow

side shoots. Requirements: Very nutrient-rich water, with very low carbonate hardness.

Special note: The plant should be trimmed before it reaches the water surface as it will otherwise grow floating leaves.



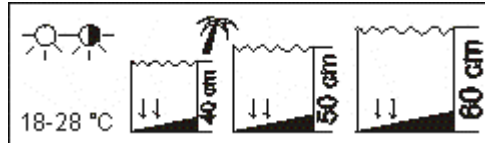


E 300 *Eleocharis acicularis*

Hairgrass

Cosmopolit

Characteristics: Grasslike plant with hair-fine leaves. Produces numerous runners and soon forms a thick turf. Height: 15 - 25 cm. Growth rate: Weekly 1 - 2 runners. Requirements: Undemanding.



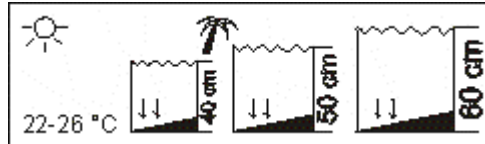


E 301 *Eleocharis parvulus*

Dwarf Hairgrass

Southern Europe

Characteristics: Grasslike plant with hair-fine leaves. Produces numerous runners and soon forms a thick turf. Height: 10 - 15 cm. Growth rate: Weekly 1 - 2 runners. Requirements: Very demanding. Needs plenty of light and nutrient iron.





E 310 *Eleocharis vivipara*

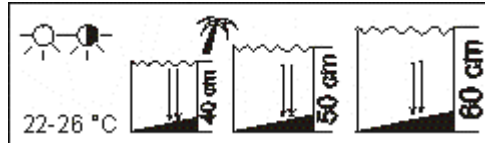
Umbrella Hairgrass

Southern North America

Characteristics: Hair-fine grasslike leaves which produce adventitious plants at their tips. Height:

Approx. 40 cm. Growth rate: Weekly 1 - 2 leaves. Propagation: Take daughter plants off and plant into gravel bed.

Requirements: Undemanding. Special note: Very extraordinary aquarium plant.





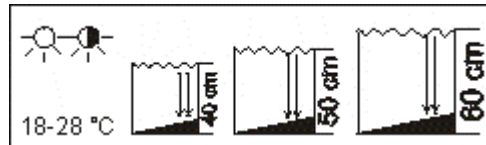
E 320 *Egeria densa*

Former: *Elodea densa*

Giant Elodea

Presumably America. Naturalized in Asia.

Characteristics: Stem plant with 3 - 5 narrowly lanceolate leaves arranged in whorls. Sprout length: 60 cm and more. Growth rate: Weekly 10 cm. The lower the Redox-value the faster the growth rate. Propagation: Top cuttings. The E 320 will then grow side shoots which can be detached and planted when they reach a length of 20 cm. Requirements: Undemanding.





E 321 *Egeria densa*

Former: *Elodea densa*

Pond Weed

Presumably USA. Naturalized in Europe.

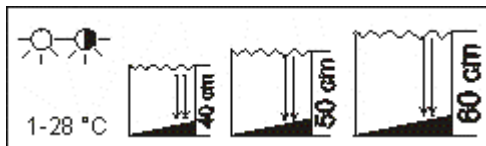
Characteristics: Stem plant with 3 - 5 leaves arranged in whorls. Sprout length: 60cm and more. Growth rate: 10 cm weekly. Propagation:

Top cuttings of approx. 20 cm length.

Requirements: Undemanding. Special note:

Grows equally well in cold or warm water.

Densely leafed form of *Egeria*. Good oxygenator.





E 350 *Egeria najas*

Discovered in the Lago San Bernardino.
Paraguay.

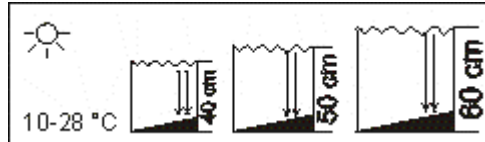
Characteristics: Whorls of narrow, ragged
leaves. Sprout length: 50 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings at least 20 cm long.

Requirements: High demands in light and
nutrition.

Special note: Will during the summer also grow
outdoors.





E 375 *Egeria nuttallii*

Small Elodea. Former E 330.

North and Middle America. Naturalized in Europe.

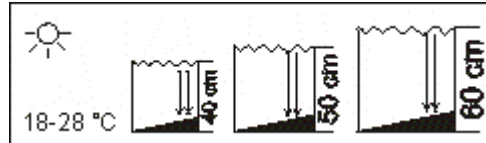
Characteristics: Stem plant with whorls of 3 - 5 leaves; whorl diameter 10-15mm. Sprout length: 40 cm. Growth rate: 5 cm per week.

Propagation: Top cuttings at least 20 cm long.

The E 375 will then grow many side shoots.

Requirements: Undemanding, but needs plenty of light.

Special note: Oxygenating plant.





E 400 Eusteralis stellata

Star-Rotala

Asia, Australia

Characteristics: The thick stem bears dense whorls, up to 10 cm in diameter, of pale green leaves with deep lilac-red underside.

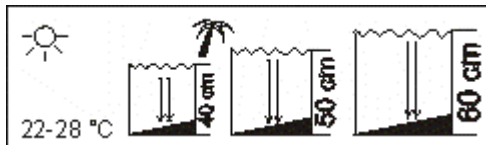
Sprout length: 30 - 40 cm.

Growth rate: Weekly 5 cm.

Propagation: Strong top cuttings.

Requirements: Demanding plant - needs very bright light, nutrient-rich, soft water and plenty of CO₂.

Special note: Splendid aquarium plant, well worth the special effort.





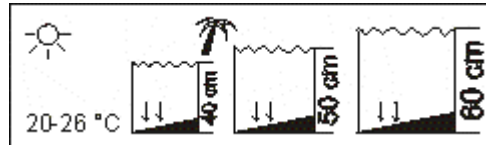
G 50 Glossostigma elatinoides

Australia, New Zealand

Characteristics: Small, carpet forming plant.

Height: 1 cm.

Requirements: Demanding. Plenty of light (also at the tank bottom!), soft, nutrient-rich water.





G 60 *Gymnocoronis spilanthoides*

Spade-leaf Plant

Asia

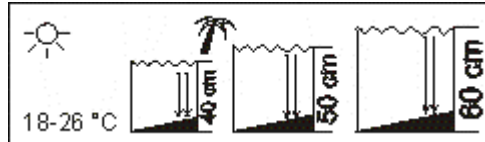
Characteristics: Herbaceous stem plant with bright green, opposite leaves. Sprout length: 60 cm.

Growth rate: Up to 25 cm weekly.

Propagation: Top cuttings of at least 20 cm.

Requirements: Undemanding.

Special note: One of the fastest growing aquarium plants.





H 10 *Heteranthera zosteraefolia*

Water Stargrass

South America

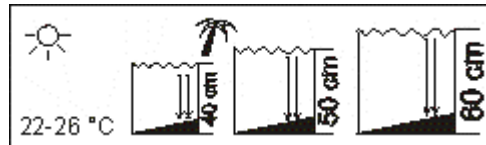
Characteristics: Stem plant with bright green, lanceolate leaves.

Sprout length: 50 cm.

Growth rate: Weekly approx. 5 cm.

Propagation: Top cuttings at least 10 cm long.

Requirements: Frequent fertilization with E15 and V30. Otherwise undemanding.





H 15 Hottonia inflata

Tropical Water Violet

Southern North America

Characteristics: Multibranched stem plant with alternate pinnate leaves.

Sprouth length: Approx. 20 cm.

Growth rate: Monthly 3 - 4 cm.

Propagation: Top cuttings.

Requirements: Demanding: Plenty of light, soft water, frequent fertilization.

Special note: Possibly an anual plant when cultivated in the aquarium.





H 18 *Hydrilla verticillata*

Cosmopolitan

Characteristics: Stem plant with whorls of 3 - 9 leaves; dia. 10-15 mm.

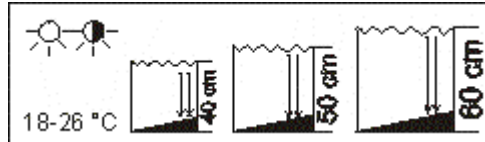
Sprout length: 40 cm.

Growth rate: 5 cm per week.

Propagation: Top cuttings of at least 20 cm.

Requirements: Undemanding.

Special note: Grows many side shoots and water roots.





H 20 *Hydrocotyle leucocephala*

Brasilian Water Ivy

Brasil

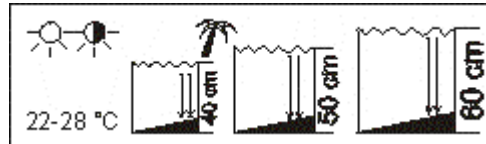
Characteristics: Long tendrils with light green, circular leaves with crenate margins.

Sprout length: 60 cm. Growth rate: 10 cm per week.

Propagation: Side sprouts.

Requirements: Undemanding.

Special note: Grows very well as a floating plant too.





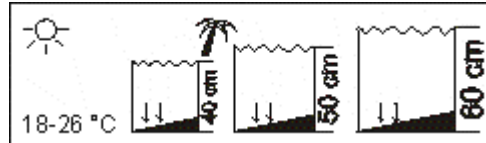
H 30 *Hydrocotyle verticillata*

Pennywort; Umbrella plant

North and Middle America

Height: 15-25 cm. The brighter the light the shorter the stems.

Growth rate: Weekly one leaf. Propagation:
Side shoots.





H 40 *Hygrophila angustifolia*

Giant Hygrophila

Assumed South-East Asia

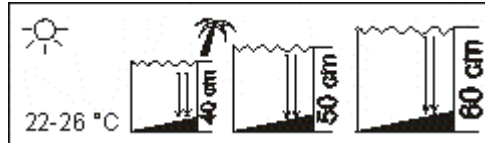
Characteristics: The lanceolate leaves grow in opposite pairs, in the aquarium very close above each other, almost rosette-like. Emerged leaves slightly hairy.

Sprout length: 30 - 40 cm.

Growth rate: 2 - 3 leaves per month.

Propagation: Top cuttings, side shoots.

Requirements: Bright light and nutrient-rich water.





H 55 *Hygrophila lacustris*

Assumed U.S.A.

Characteristics: The lanceolate, very slender leaves grow in opposite pairs, in the aquarium very close above each other, almost rosette-like.

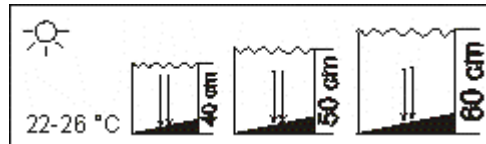
Emerised leaves slightly hairy.

Sprout length: 15 - 25 cm.

Growth rate: 2 - 3 leaves monthly.

Propagation: Top cuttings, side shoots. slow growing.

Requirements: Bright light and nourishment.





H 60 *Hygrophila polysperma*

Dwarf *Hygrophila*

India

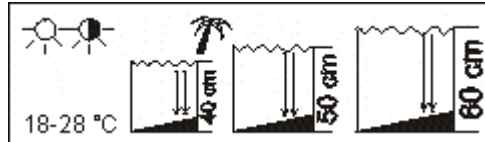
Characteristics: Attractive stem plant with pale green, broadly lanceolate leaves.

Sprout length: 50 cm. Growth rate: Weekly 10 cm.

Propagation: Top cuttings at least 15 cm long.

Requirements: Undemanding.

Special note: Grows very well in coldwater aquaria too.





H 61 *Hygrophila polysperma* 'Sunset'

Sunset Hygrophila

Mutation. The stunning colour of the leaves is presumably caused by the "Rosanervis" colour virus.

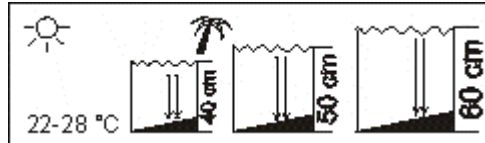
Characteristics: Similar to H 60, but leaves with attractive white or pink veins.

Sprout length: 40 - 50 cm.

Growth rate: 10 cm weekly.

Propagation: Top cuttings, side shoots.

Requirements: Nutrient-rich water.





H 65 *Hygrophila polysperma* 'GOLDEN-BROWN'

Former: *Hygrophila spec. guyanensis* H 50
Golden-brown *Hygrophila*
Assumed South-East Asia

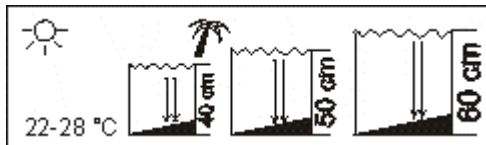
Characteristics: Leaf margins slightly wavy.
The uppermost leaves are of an attractive
golden-brown colour. Sprout length: 50 cm.

Growth rate: 10 cm weekly.

Propagation: Top cuttings of at least 20 cm
length.

Special note: The brighter the light, the more
intensive the colour.

8 plants per bunch. 15 cm. Yellow.





H 68 *Hygrophila polysperma* var. CEYLON

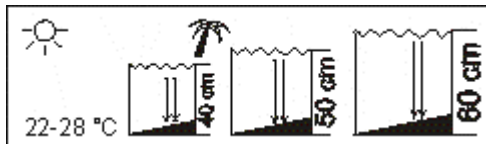
Ceylonese Hygrophila
Sri Lanka

Characteristics: Submersed leaves distinctly longer and more slender as in H 60. Leaf margins slightly wavy. Sprout length: Over 50 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings at least 20 cm long.

Special note: Discovered 1980 in a lake near Sigiriya.





H 70 *Hygrophila salicifolia*

Willow-leaf Hygrophila

Assumed South-East Asia

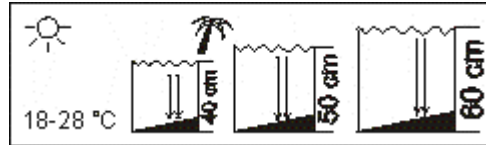
Slender, lanceolate leaves on firm, strong stems.

Sprout length: 60 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings, side shoots.

Requirements: Plenty of CO₂.





H 100 *Hygrophila longifolia*

Narrow-leaf Hygrophila

Assumed South-East Asia

Characteristics: The pale green leaves reach in the aquarium up to 25 cm.

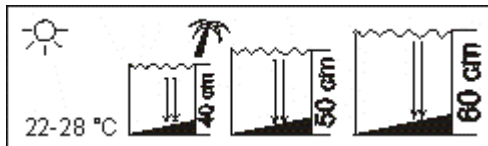
Sprout length: 50 cm. Growth rate: 2 pairs of leaves per month.

Propagation: Top cuttings at least 20 cm long.

Requirements: Demanding. Plenty of CO₂.

Frequent fertilization.

Special note: Bright light; penetration has to reach bottom leaves.





H 125 *Hygrophila violacea*

Assumed South America

Characteristics: Leaves of emersed form: dark green and shaped regularly. Leaves of submersed form: bright green, irregularly bent sideways or down.

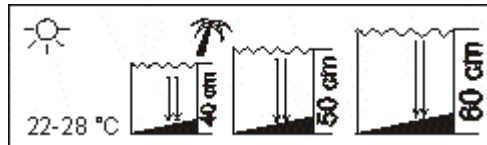
Grows loosely. Sprout length: 40 cm.

Growth rate: 5 cm weekly.

Propagation: Top cuttings, side shoots.

Requirements: Plenty of CO₂, light and nourishment.

Special note: Grows loosely.





H 126 Hygrophila viol. 'WHITE-GREEN'

Mutation. Probably caused by the "Rosanervis"-colour virus.

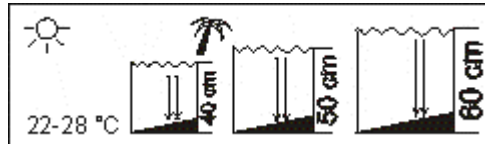
Characteristics: Leaves as in H 125 but with white and pale green spots. Sprout length: 40 cm.

Growth rate: 5 cm weekly.

Propagation: Top cuttings at least 10 cm long. They will then grow side shoots.

Requirements: Plenty of CO₂, light and nourishment.

Special note: Grows loosely.





H 134 *Hygrophila stricta* THAILAND

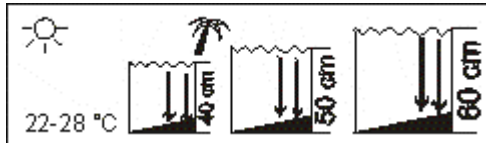
Narrow-leaf Giant Stricta
Thailand

Characteristics: Similar to H 135 but generally smaller. Height: Up to 60 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings, side shoots.

Requirements: Plenty of light and nourishment, soft water.





H 135 *Hygrophila stricta*

Former: *Nomaphila spec. angustifolia* N 35

Green Stricta

South-East Asia

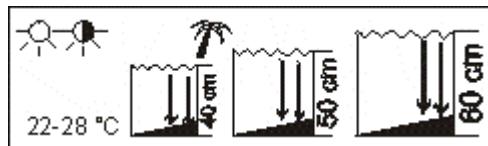
Characteristics: Emerse leaves dark green.

Submerse leaves bright green. They grow in opposite pairs very close above each other on the stem, almost rosette-like.

Growth rate: Weekly approx. 5 cm. Height up to 50 cm.

Propagation: Top cuttings, side shoots.

Requirements: Plenty of light and nourishment, soft water.





H 140 *Hygrophila corymbosa*

Former: *Nomaphila stricta* N 40

Cherry-leaf Stricta

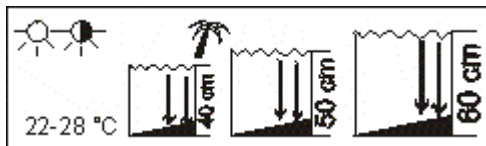
South-East Asia

Characteristics: Broadly lanceolate leaves, loosely growing. Sprout length: 40 - 60 cm.

Growth rate: Weekly 5 - 10 cm.

Propagation: Top cuttings, side shoots.

Special note: After taking top cuttings, the plant grows many side shoots. The H 140 likes to grow out of the aquarium and flowers readily above surface.





H 141 *Hygrophila corymbosa* var. *glabra*

Former: *Nomaphila spec. stricta glabra* N 41

Broad-leaf Giant Stricta

Asia

Characteristics: Similar to H 140 but generally larger. Uppermost leaves under good light often with reddish-brown veins.

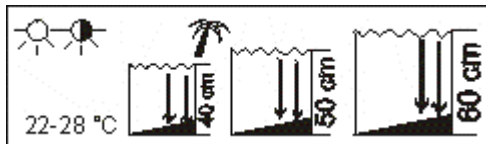
Sprout length: 50 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings, side shoots.

Requirements: Needs regular iron fertilization.

Special note: Likes to grow out of the aquarium and flowers readily above surface.





H 170 *Hygrophila difformis*

Former: *Synnema triflorum* S 70

Water Wisteria

South-East Asia

Characteristics: Highly pinnate, light green leaves. Sprout length: 50 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings, side shoots.

Requirements: Bright light, rich nutrition.

Special note: Don't plant too closely, allow the light to penetrate down to the bottom leaves.





H 171 Hygrophila diff. 'WEISS-GRÜN'

Mutation. Probably caused by the "Rosanervis"-
colour virus.

Characteristics: The white veins in the leaves
are most distinct when the plant is "hungry". If
over- nourished the plant turns completely
green.





I 10 *Isoetes velata* var. *sicula*

Mediterranean Countries

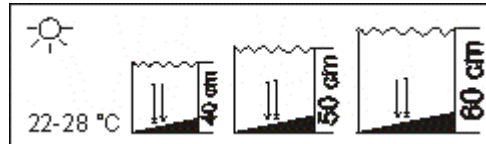
Characteristics: Not unlike hairgrass, but with stiff and thick leaves.

Height: 15-25 cm. Growth rate: Monthly 1 leaf.

Propagation: Difficult, through spores only.

Requirements: Plenty of CO₂ and light.

Special note: Related to fern.





L 04 Lagarosiphon madagascariensis

Madagascar Water Weed

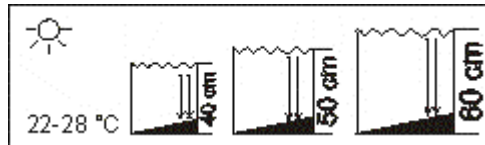
Madagascar

Characteristics: The almost whorly growing leaves are very thin and delicate. Sprout length: 50 cm.

Growth rate: 5 cm weekly.

Propagation: Top cuttings, approx. 20 cm long. The old stem will then grow many side shoots.

Requirements: Nutrient-rich water.





L 06 Lagarosiphon major

African Water Weed

South Africa

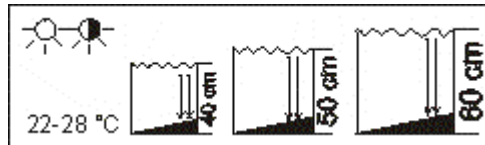
Characteristics: The almost whorly growing leaves are distinctly turned downwards.

Sprout length: 50 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings, at least 20 cm long. The old stem will then grow many side shoots.

Requirements: Nutrient-rich water.





L 10 Lagenandra ovata

Sri Lanka

Characteristics: Cryptocoryne-like, but very tall growing plant. Height: In the aquarium 60 - 100 cm.

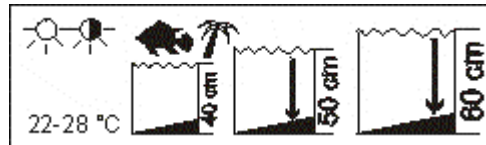
In the greenhouse up to 250 cm.

Growth rate: Yearly 5 - 6 leaves.

Propagation: By rhizome runners.

Requirements: Undemanding.

Special note: To keep the plant small it should be placed in a small container with washed sand.





L 17 *Lilaeopsis novae zelandiae*

New Zealand Grass Plant

Characteristics: Short stemmed, ribbon-like leaves.

Height: 5-8 cm. Growth rate: Weekly 1 - 2 leaves per sprout.

Propagation: Runners.

Requirements: Very bright light, not to be shaded by other plants.





L 30 *Limnophila sessiliflora*

Dwarf Ambulia

South-East Asia

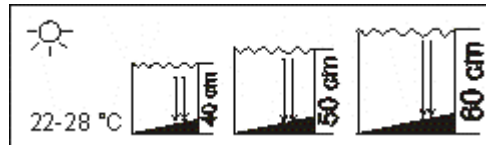
Characteristics: Light green pinnate leaves,
arranged in whorls of 4-5 cm dia.

Sprout length: 50 cm. Growth rate: Weekly 15
cm.

Propagation: Top cuttings, side shoots.

Requirements: Undemanding, apart from bright
light, plenty of CO₂ and nourishment.

Special note: The internodes between the whorls
are shorter in very bright light.





L 35 *Limnophila spec. australis*

Australian Ambulia

South-East Asia

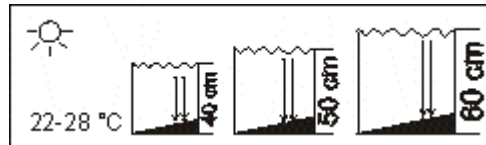
Characteristics: Stem plant with very fine pinnate leaves arranged in whorls of up to 5 cm dia.

Sprout length: 50 cm. Growth rate: Weekly 8 cm.

Propagation: Top cuttings, side shoots.

Requirements: Undemanding, apart from bright light and plenty of CO₂ and nourishment.

Special note: Prefers clear water.





L 38 *Limnophila aquatica*

Giant Ambulia

South-East Asia

Characteristics: The thick stem supports very fine pinnate leaves arranged in whorls of up to 12 cm diameter.

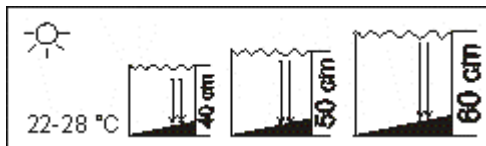
Sprout length: 50 cm. Growth rate: 5 cm weekly.

Propagation: Top cuttings at least 25 cm long.
The

old stem will then branch very well.

Requirements: Very soft water, frequent iron fertilization.

Special note: The more light, the shorter the internodes between the whorls.





L 50 Lobelia cardinalis

Cardinals Flower

North and Middle America

Characteristics: Emerse leaves dark green to reddish. Sprout length: 5-30 cm. Does not mind regular cutting. Growth rate: Monthly 5 cm.

Ideal plant for ascending "streets".





L 60 *Ludwigia arcuata*

Narrow-leaf Ludwigia

East coast of North America

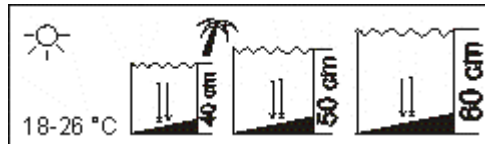
Characteristics: The leaves grow in opposite pairs on a long stem. Sprout length: 30 cm.

Growth rate: Monthly 10 cm.

Propagation: Top cuttings 15 cm long. The old stem will then grow side sprouts.

Requirements: Plenty of light.

Special note: Give ample amounts of E 15, the leaves will then show a deeper red.





L 63 *Ludwigia brevipes*

East coast of North America

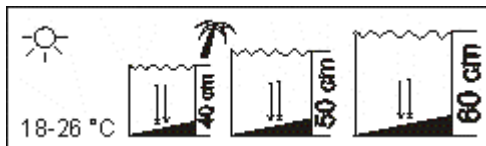
Characteristics: Similar to L 60 but grows taller.

Sprout length: 40 cm. Growth rate: 10 cm monthly.

Requirements: Plenty of light.

Propagation: Top cuttings 15 cm long. The old stem will then grow side sprouts.

Special note: Grows more compact in lower temperatures.





L 70 *Ludwigia mullertii*

Red Ludwigia

North America

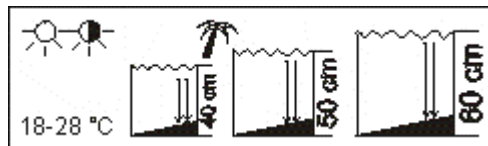
Characteristics: Leaves green with slightly reddish underside. Sprouth length: 50 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings of 15 cm. The old stem will grow side sprouts.

Requirements: Undemanding.

Special note: Hybrid of *Ludwigia palustris* and *Ludwigia repens*. In bright light the top leaves turn yellowish-red.





L 71 *Ludwigia palustris* 'GREEN'

Green Ludwigia

Assumed U.S.A.

Characteristics: The plant sustains its radiant bright green colour in the aquarium.

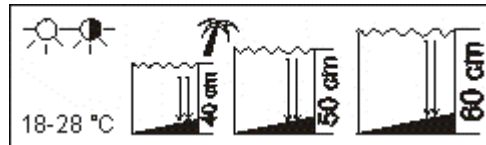
Sprout length: 50 cm. Growth rate: Weekly 5 cm.

Requirements: Undemanding.

Propagation: Top cuttings at least 15 cm long.

The old stem will grow many side shoots.

Special note: The many water roots provide ideal shelter for fry.





L 72 *Ludwigia palustris* MEXICO

Large-leafed Ludwigia

Found in Mexico

Characteristics: Similar to *Ludwigia mullertii* but grows taller in the aquarium.

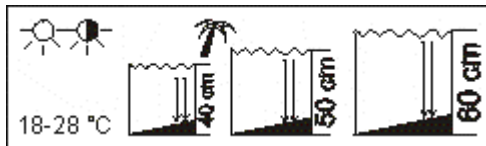
Sprout length: 50 cm. Growth rate: Weekly 5 cm.

Requirements: Undemanding.

Propagation: Top cuttings at least 15 cm long.

The old stem grows then many side shoots.

Special note: New leaves in bright light very often greenish-orange yellow.





L 73 *Ludwigia palustris* 'RED 3'

Red Ludwigia

Assumed U.S.A.

Characteristics: Stem and leaf veins red.

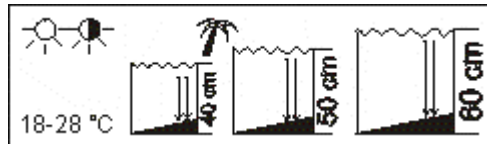
Sprout length: 50 cm. Growth rate: 5 cm weekly.

Requirements: Undemanding.

Propagation: Top cuttings at least 15 cm long.

The old stem grows then many side shoots.

Special note: In bright light the entire plant can assume a deep red colour.





L 75 Ludwigia repens

Narrow-leaved Ludwigia

Southern U.S.A., Middle America

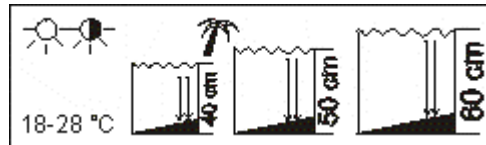
Characteristics: Leaves very narrow and closer together than in the other species.

Sprout length: 50 cm. Growth rate: Weekly 4 cm.

Propagation: Top cuttings 15 cm. The old stem will grow many new side shoots.

Requirements: Undemanding.

Special note: The top leaves are of reddish colour bright light.





L 77 Ludwigia palustris "HEIDENREICH"

Broad-leafed Ludwigia

Cardinal form assumed U.S.A.

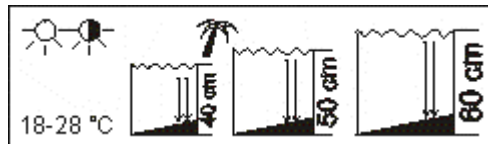
Characteristics: Leaves green-red with deep red underside; broader and more deeply coloured than

L 70. Sprout length: 50 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings 15 cm. The old stem grows many side shoots.

Special note: Particularly beautiful in soft water.





L 78 *Ludwigia repens* x *arcuata*

Assumed U.S.A.

Characteristics: The leaves are in sufficiently bright light always of an intensive golden-brown

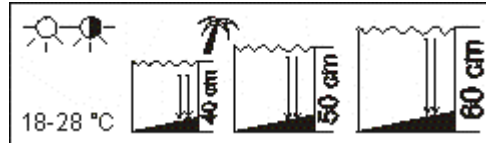
colour. Sprout length: Up to 50 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings 15 cm. The old stem grows many side shoots.

Requirements: Undemanding.

Special note: Fast growing, very colourful variety.





L 88 *Ludwigia glandulosa*

Red Star-Ludwigia

India

Characteristics: The leaves are arranged in star form and grow very close together.

Sprout length: 15 - 30 cm.

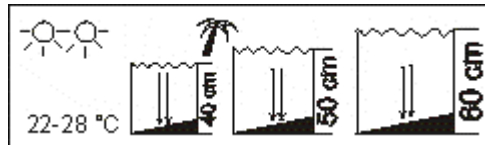
Growth rate: Monthly 5 cm.

Propagation: Top cuttings.

Requirements: Very demanding. Needs bright light allround.

Special note: Difficult but splendid species. If the plant doesn't want to grow in the aquarium, cultivate it emersed for some time.

7 plants per bunch. 15 cm. Red.





L 90 *Lysimachia nummularia*

Europe, North America, Japan

Characteristics: Green stem plant with small, round leaves. Sprout length: 40 cm.

Growth rate: 5 cm weekly.

Requirements: Undemanding.

Propagation: Top cuttings at least 15 cm.

Branches readily.

Special note: Suitable for outdoors too, will overwinter.





L 100 *Lysimachia nummularia* 'AUREA'

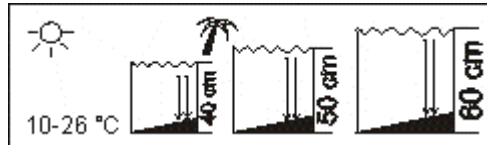
Cardinal form: Europe, North America, Japan

Characteristics: Stem plant with small, round leaves; light yellow. Sprout length: 40 cm.

Growth rate: 3 cm weekly.

Propagation: Top cuttings at least 15 cm long; branches readily.

Requirements: Undemanding.





M 20 *Mayaca fluviatilis*

Former: *Mayaca vandelli*

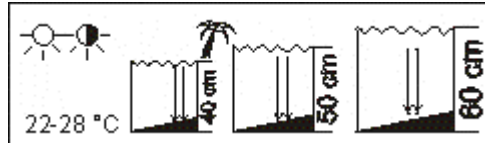
South America

Characteristics: Hair-like, tiny leaves, only 5 mm long. Sprout length: 40 cm.

Growth rate: Monthly 5 cm.

Propagation: Top cuttings; branches readily.

Requirements: Regular fertilization with E 15.





M 30 Micranthemum umbrosum

Helzine

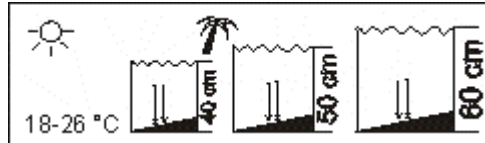
Middle America

Characteristics: Small, round leaves.

Growth rate: Monthly 5 - 10 cm. Up to 30 cm high.

Propagation: Side sprouts.

Special note: Also suitable as floating plant.





M 31 *Micranthemum micranthemoides*

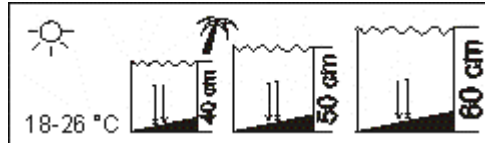
Small Helzine

America

Characteristics: Lanceolate leaves. Forms dense hedges. M 32, a similar variety found in Cuba, grows more loosely. Height: 40-50 cm.

Growth rate: Monthly 10 - 20 cm.

Propagation: Cut side sprouts and re-plant.





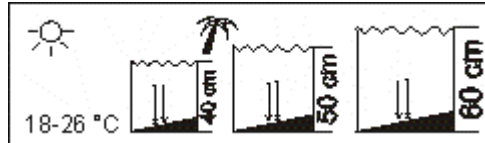
M 33 Micranthemum spec.

Dwarf Helzine

Characteristics: Similar to M 31, but leaves first small and round, later lanceolate. Grows more loosely than M 31. Height: 20 cm.

Growth rate: 10 - 20 cm monthly.

Propagation: Side sprouts.





M 40 *Microsorium pteropus*

Java Fern

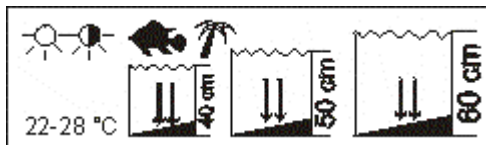
South-East Asia

Characteristics: Dark green, irregular fronds up to 25 cm. Growth rate: Monthly 1 leaf.

Propagation: M 40 grows daughter plants from the rhizome and on the leaves.

Requirements: Undemanding.

Aquarium use: Attach the rhizome to bogwood or rocks using a Nylon thread until roots have taken hold.





M 57 *Myriophyllum aquaticum*

Former: *Myriophyllum brasiliense*

Parrot's Feather

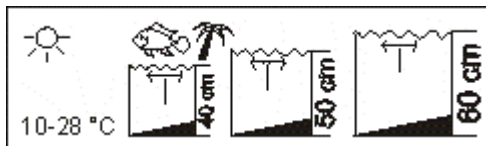
South America, naturalized in almost all the
Tropics and Subtropics

Characteristics: The emerald green, emerge
leaves have the appearance of small fir trees.

Sprout length: 40 cm. Root Length: 15 cm.

Propagation: Side sprout.

Special note: Also suitable for outdoors.





M 60 Myriophyllum elatinoides

Water milfoil, Christmas Tree Plant

Assumed South America.

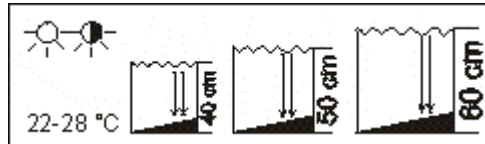
Characteristics: Delicate whorls of rich, green colour. Sprout length: 50 cm and more.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings at least 20 cm long.

The old stem will then grow side shoots.

Requirements: Plenty of nourishment.





M 65 Myriophyllum hippuroides

Water milfoil, Green Myriophyllum

North and Middle America

Characteristics: Very fine, pinnate whorls of leaves. Sprout length: 50 cm.

Growth rate: Weekly 10 cm. Propagation: Top cuttings at least 20 cm long. The old stem will then grow many side shoots.

Requirements: Undemanding.

Special note: Ideal hiding place for fry.





M 66 Myriophyllum spec.

North and Middle America

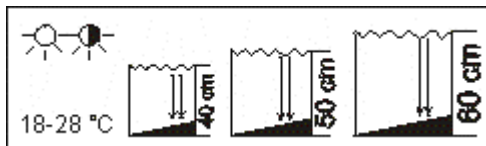
Characteristics: Similar to M 65. The whorls are very finely pinnate. Sprout length: 60 cm.

Growth rate: Monthly 10 cm.

Propagation: Top cuttings 20 cm. Side shoots.

Requirements: Plenty of light.

Special note: Ideal hiding place for fry.





M 70 *Myriophyllum mattogrossense*

Red Myriophyllum

South America

Characteristics: The whorls of finely pinnate leaves are brown-red to golden-brown.

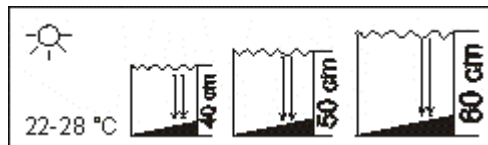
Sprout length: Up to 60 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings, side shoots.

Requirements: Very much light.

Special note: Very bright light and frequent iron fertilization enhance the intensity of colour.





N 03 Nesaea crassicaulis

Tropical Africa

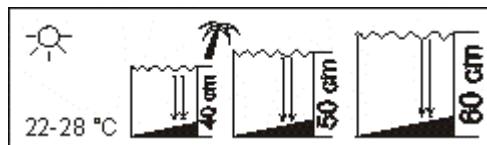
Characteristics: Thick, fleshy stem with opposite pairs of leaves. The top leaves will be red under bright light. Sprout length: 50 cm.

Growth rate: Weekly 10 cm.

Propagation: Top cuttings, side shoots.

Requirements: Very much light.

Special note: Plant individually and slightly apart to ensure that the light reaches the lower leaves as well.





N 07 Nesaea pedicellata

Tropical East Africa

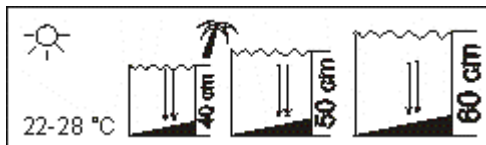
Characteristics: The submersed leaves are wavy and stand in opposite pairs. Colour of leaves yellowish-green. Sprout length: 30 cm.

Growth rate: Weekly 5 cm.

Propagation: Top cuttings at least 15 cm. Side shoots.

Requirements: Nutrient-rich, soft water.

Special note: If planted too close together the leaves near the bottom will turn black.





N 10 Nesaea spec.

Red Nesaea

Tropical Africa

Characteristics: The colour of the leaves is in strong sunlight red to reddish-brown; in the aquarium mostly green. Sprout length: 30 cm.

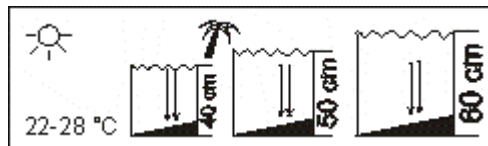
Growth rate: Monthly 5 cm.

Propagation: Difficult. Top cuttings.

Requirements: Soft, nutrient-rich water.

Demanding.

Special note: Plenty of light and iron fertilizer promote the colour intensity.





N 45 Nuphar japonica

Spatterdock

East Asia

Characteristics: Thick, green rhizome. Splendid transparent leaves of light green colour.

Height: 30 cm. Growth rate: Monthly 1-2 leaves.

Propagation: Difficult. Side shoots from the rhizome.

Requirements: Regular fertilization. Free standing position.

Special note: If it grows the odd floating leaf, cut this off before it reaches the surface.





N 48 Nymphaea spec. Ceylon

Ceylon Lotus

Sri Lanka

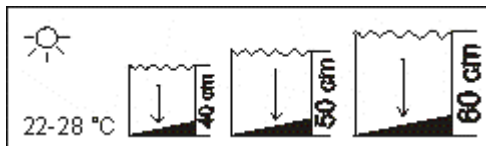
Characteristics: Very thin and delicate leaves of variable colour from light green to golden-bronze.

Height: 40 cm. Growth rate: Monthly 1 - 2 leaves.

Propagation: From seeds. So far not yet achieved in the aquarium.

Requirements: Demanding. Very soft, nutrient-rich water.

Special note: Difficult but very elegant solitaire plant.





N 49 Nymphaea spec. Madagascar

Madagarcar Water Lily

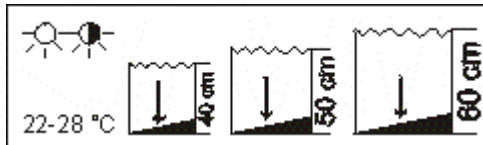
Characteristics: Similar to N 48, but the leaves are of a bright green colour on top.

Height: 30 cm. Growth rate: Monthly 1 - 2 leaves.

Propagation: From seeds.

Requirements: Soft, nutrient-rich water.

Special note: Slightly demanding but very interesting new variety.





N 50 *Nymphaea rubra*

Red Water Lily

Tropical Asia

Characteristics: The young, sprouting leaves are triangular with acute tips. Older leaves circular, green to dark red.

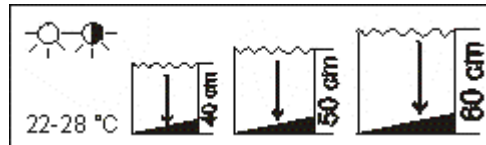
Height: Grows up to the surface.

Growth rate: Weekly 1 leaf.

Propagation: Several daughter plants grow from the tuber.

Requirements: The more light the more compact the plant will grow.

Special note: If the plant grows floating leaves, they should be removed before reaching the surface.





N 51 *Nymphaea stellata*

Red and Blue Water Lily

India, Sri Lanka

Characteristics: Tuber with arrow-shaped leaves of brown-red to dark-red colour.

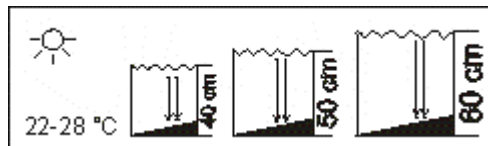
Height: Submerge leaves 40 - 50 cm.

Growth rate: Weekly 1 leaf.

Propagation: Several daughter plants grow from the tuber.

Requirements: Soft, nutrient-rich water.

Special note: Remove any floating leaves before they reach the surface. *Nymphaea stellata* will then grow submerge leaves again.





N 55 *Nymphaea lotus* var. *rubra*

Red Tiger Lotus

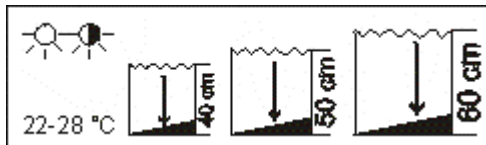
Africa, Asia

Characteristics: The leaves are rounded with a deep indentation at the base; colour red to reddish-brown with dark brown spots and lighter coloured veins. Height: 30 - 50 cm.

Growth rate: Weekly 1 leaf.

Propagation: Grows daughter plants from the tuber.

Special note: The red and the green form are both found in Africa. This accounts for natural hybrids in various colour shades.





N 55 *Nymphaea lotus* var. *viridis*

Nymphaea lotus var. *viridis*

Green Tiger Lotus

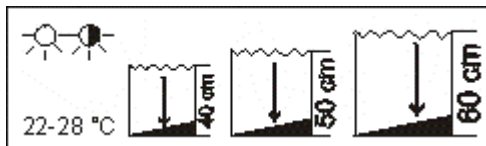
West Africa

Characteristics: Bright green, rounded leaves with reddish-brown spots. Height: Up to the water surface. Growth rate: Weekly 1 leaf.

Propagation: Grows daughter plants from the tuber.

Requirements: Free standing position. Remove any floating leaves before they reach the surface.

Special note: Splendid, dominating specimen plant in the aquarium. Rare.





N 58 *Nymphaea* spec. SWAZILAND

Freckled Tiger Lotus

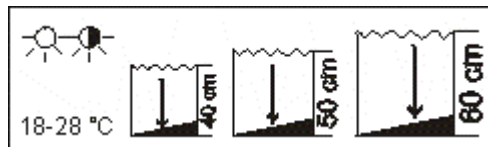
Africa, Swaziland

Characteristics: Large, transparent, arrow-shaped leaves, reddish-brown with small spots.
Height: Up to 50 cm. Growth rate: Monthly 2-3 leaves.

Requirements: Soft, nutrient-rich water. Free standing position.

Propagation: Grows daughter plants from the large tuber.

Special note: Remove any floating leaves before they reach the surface.



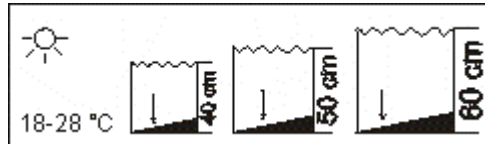


N 80 *Nymphaodes aquatica*

Banana Plant
Southern U.S.A.

Height: 5-10 cm. Growth rate: Monthly 1 - 2 leaves.

Requirements: Do not bury the "bananas", only push the fine roots into the gravel. After 6 - 9 months in the aquarium the N 80 should be cultivated emerge for some time.





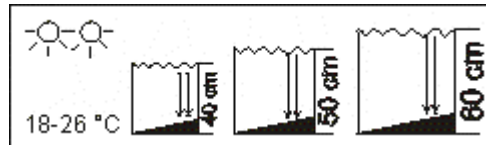
P 30 Polygonum spec.

Characteristics: Firm, solid, lanceolate leaves growing alternately; slightly heart-shaped at the base. Leaves with dark spot. New leaves red.

Sprout length: 30 cm. Growth rate: Monthly 5 cm.

Requirements: Very much light, high demand in nutrition.

Special note: There are 2 forms: P 30 with small leaves. P 10 with distinctively larger leaves; topside light green, underside reddish. Likes to grow trailing on the surface.





P 70 Potamogeton gayi

South America

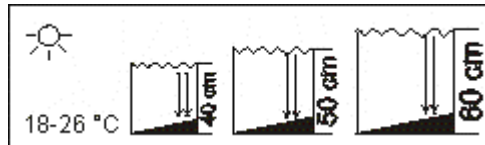
Characteristics: Alternate delicate leaves, only 4 mm wide. Sprout length: 40 cm.

Growth rate: Monthly 5 cm.

Propagation: Runners, cuttings.

Requirements: Demanding. Plenty of light and soft water.

Special note: The top leaves will be red under sufficiently bright light.





P 80 Patomogeton spec. VIETNAM

Found in Vietnam

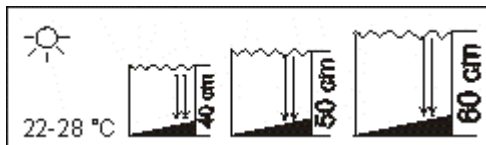
Characteristics: Leaves dark green transparent with slightly wavy margins. Sprout length: 50-70 cm.

Growth rate: Weekly 10 - 15 cm.

Propagation: Runners, cuttings.

Requirements: Undemanding.

Special note: Very effective when growing as a small bunch out of a group of small carpet forming plants.





R 10 *Rotala rotundifolia*

Small Rotala

South-East Asia

Characteristics: Leaves grow in opposite pairs.

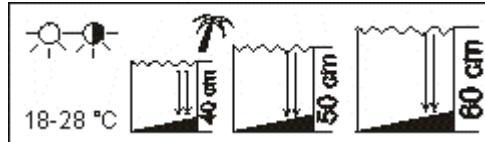
Growth tips yellow to red.

Sprout length: 50 cm. Growth rate: Weekly 5 cm.

Propagation: Side shoots, top cuttings.

Requirements: Undemanding.

Special note: The more light the more intensive the colour.





R 11 *Rotala rotundifolia* 'Colorata'

Small Red Rotala

Assumed South-East Asia

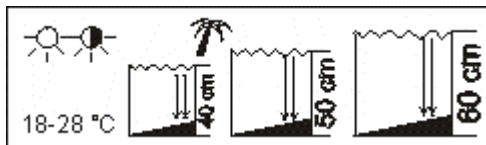
Characteristics: Very similar to R 10 but of a deeper red at the growth tips.

Sprout length: 50 cm. Growth rate: Weekly 3-4 cm.

Propagation: Side shoots, top cuttings.

Requirements: Prefers soft water.

Special note: Probably a more colour intensive form of R 10.





R 15 *Rotala macrandra*

Giant Red Rotala

India

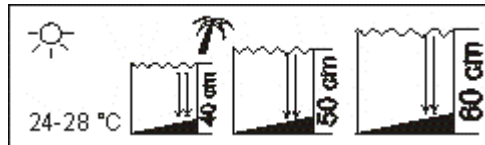
Characteristics: Delicate leaves, very short internodes. Upperside of leaves bronze- to golden-red.

Sprout length: 50 cm. Growth rate: 10-20 cm monthly.

Propagation: Top cuttings, at least 20 cm long.

Requirements: Demanding. Needs very much light, good supply of nourishment, biological filtration.

Special note: Plant individual strands slightly apart to ensure that the lower leaves get enough light.





R 20 *Rotala macranda* 'FLORIDA'

Narrow-leafed Red Rotala

Mutation of R 15. Found in Florida.

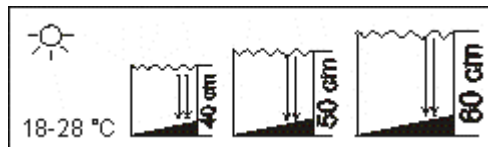
Characteristics: Delicate, narrow leaves; very short internodes. Upperside of leaves bronze- to golden-red.

Sprout length: 40 cm. Growth rate: Monthly 10-20 cm.

Propagation: Top cuttings, at least 20 cm long.

The old stem will then grow side shoots.

Requirements: Not as demanding as R 15. The more light the brighter the colour and the longer the leaves.





R 30 *Rotala wallichii*

South-East Asia

Characteristics: Whorls of small leaves growing closely above each other.

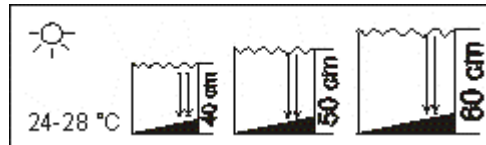
Sprout length: 40 cm. Growth rate: Monthly 10-20 cm.

Propagation: Top cuttings, side shoots.

Requirements: Demanding. Needs plenty of light, very soft and nutrient-rich water.

Special note: Colour varies between red and green.

The growth tips are usually deep red if brightly lit.





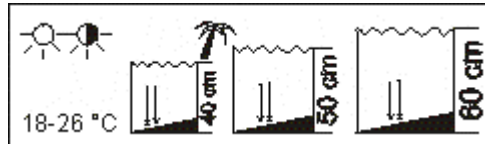
S 10 *Sagittaria platyphylla*

Giant Sagittaria

North America, South-East Asia

Characteristics: Leaves approx. 1 cm wide and 20 cm long. Carpet forming. Height: Up to 15 cm.

Growth rate: Monthly 2 - 4 leaves and approx. 1 runner.





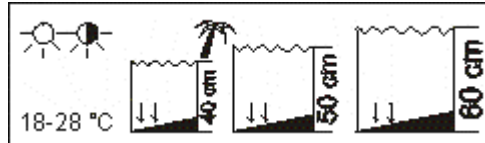
S 30 *Sagittaria pusilla*

Dwarf Sagittaria

Middle America

Characteristics: Rosette plant with approx. 6 mm wide and 20 cm long leaves. Carpet forming.

Height: 10-15 cm. Growth rate: Monthly 2 - 3 leaves and approx. 1 runner.





S 35 *Sagittaria subulata*

Needle Sagittaria

North and Middle America

Characteristics: Rosette plant with approx. 6 mm wide and 30-40 cm long leaves.

Height: Up to 40 cm.

Growth rate: Monthly approx 2-3 leaves and 1 runner. Carpet forming.

Requirements: Undemanding. Disturb as little as possible.





S 50 *Samolus valerandi*

Former: *Samolus parviflorus*

Water Cabbage

Europe

Characteristics: Rosette plant, resembling a small cabbage.

Height: 5-8 cm. Growth rate: Monthly 1 leaf.

Propagation: By seeds. Available from November to March.





S 60 Saururus cernuus

Lizard's Tail

North America

Characteristics: Rounded to heart-shaped leaves.

The S 60 is usually planted resembling an ascending staircase. ("Street")

Height: 5 - 20 cm. Growth rate: Monthly 1 leaf.

Propagation: Top cuttings. Ideal plant for "streets".





S 65 *Spiranthes cernua*

Water Orchid

Florida, Southern U.S.A.

Characteristics: The flower stem grows out of the water. Height: Leaves approx. 15 cm.

Flower stem approx. 60 cm. Growth rate: Very slowly.

Propagation: Plantlets on the root tips.





S 90 *Sium floridanum*

Water Rose

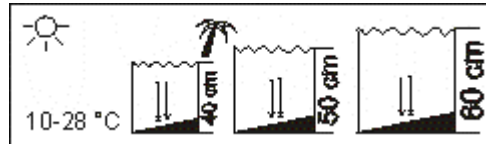
Florida

Characteristics: Leaves resemble the leaves of a rose bush.

Height: Foliage 25 cm; flower stem 80 cm.

Growth rate: Monthly 1 leaf.

Propagation: Adventitious plants on the flower stem or by seeds.





S180 *Shinnersia rivularis*

Former: *Trichocoronis rivularis* T 80

Mexican Oak Leaf

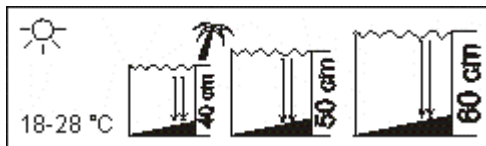
Found in Mexico

Characteristics: The thick, fleshy stem bears opposite leaves, resembling an oak leaf.

Sprout length: 60 cm. Growth rate: Weekly 20 cm.

Propagation: Top cuttings. Stems, allowed to trail on the surface, produce very strong cuttings.

Special note: One of the fastest growing aquarium plants.





S 185 Shinnersia riv. 'WHITE-GREEN'

Mexican Oak Leaf "WHITE-GREEN"

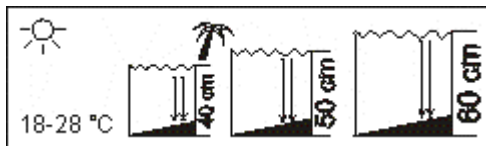
Cardinal form found in Mexico

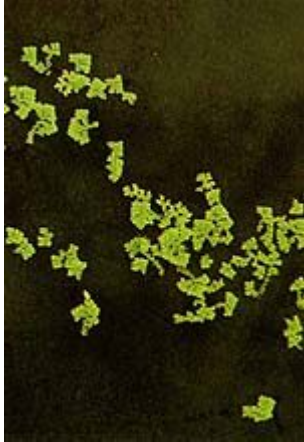
Characteristics: The thick, fleshy stem bears opposite, green leaves with white veins, resembling an oak leaf.

Sprout length: 60 cm. Growth rate: Weekly 20 cm.

Propagation: Top cuttings. Stems, allowed to trail on the surface, produce very strong cuttings.

Special note: Colour mutation discovered by DENNERLE. If the plant is "starved" the white veins are more intensive.





SCH 10 *Azolla filiculoides*

Moss Fern

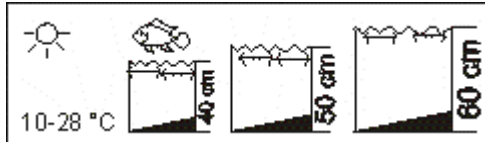
Characteristics: Small leaves overlap like roof tiles.

Diameter: Single plant 3 - 5 cm. *Azolla* is rootless. The submerse growing leaf, which gives the impression of a root, is 3 cm long.

Propagation: Side sprout.

Requirements: Undemanding.

Special note: Becomes bright red in natural sunlight.





SCH 35 *Eichhornia crassipes*

Water Hyacinth

Cosmopolitan

Characteristics: Petioles destended to floating vessels. Diameter: 15 - 25 cm. Root length: 30 cm.

Propagation: Grows during the summer months many plantlets.

Requirements: Needs natural sunlight, e.g. window or outdoor pond.

Special note: Blue, Hyacinth-like flowers.





SCH 38 Hydroryza aristata

Floating Grass

Asia

Characteristics: Floating tendrils with alternate leaves. Sprout length: 100 cm and more.

Growth rate: Weekly 10 cm. Root length: 10 cm.

Propagation: Side sprout.

Requirements: Undemanding, but keep brightly lit.

Special note: Also suitable for outdoors.





SCH 40 Lemna minor

Duck Weed

Characteristics: Tiny oval leaves, 3 - 4 mm long.

Root length: 5 mm.

Propagation: By division.

Requirements: Undemanding. Can easily become a plague. Has to be netted off frequently!

Special note: Iron-indicator plant. If the colour turns yellowish, iron fertilization is advisable.





SCH 60 *Limnobium laevigatum*

Amazon Frogbit

South America

Characteristics: Round, thick leaves with floating vessels. Diameter: Up to 15 cm. In the aquarium smaller. Root length: 30 cm.

Propagation: By division of the numerous runners.

Requirements: Undemanding.





SCH 70 *Pistia stratiotes*

Water Lettuce

Tropical Cosmopolitan

Characteristics: Hairy leaves.

Diameter: In sunlight up to 15 cm; in artificial light approx. 5 cm. Root length: 30-40 cm.

Propagation: By detaching daughter plants on runners.





SCH 80 Riccia fluitans

Crystalwort

Cosmopolitan

Characteristics: The plant body, or thallus, floats just below the water surface.

Diameter: Approx. 20 cm. The plant forks in all directions. Rootless.

Propagation: By division of the thallus.

Requirements: Nutrition-rich water.

Special note: Can also be cultivated emerge in damp conditions. A similar variety is Riccia rhenana. This species is finer and can also anchor the thallus to the substrate.





SCH 91 *Salvinia auriculata*

Butterfly Fern

America

Characteristics: The floating leaves grow on horizontal shoots; length of shoots: 15 cm. *Salvinia* is rootless. The submerge growing leaf, which gives the impression of a root, is 4 cm long. Propagation: Side shoot.

Requirements: Undemanding.

Special note: Other, similar floating ferns are often offered under the same name.





SCH 97 Utricularia spec.

South-East Asia

Characteristics: Floating stem plant with finely pinnate leaves.

Sprout length: Up to 70 cm. Utricularia is rootless. Propagation: Side sprout.

Requirements: Nutrient-rich water.

Special notes: Carnivorous plant. Forms small blisters on the leaves with which it traps infusoria and other micro-organisms. Not suitable for the breeding tank as it also traps fry.





SU 10 *Acorus gramineus*

Japanese Rush

Characteristics: Lethery, firm, grasslike leaves with a smooth surface.

Height: 35 cm.

Duration of submerge life: 12 months and more.

Propagation: Cutting of side sprout.

Special note: Content with subdued light.





SU 20 *Acorus gramineus* var. *variegatus*

Variegated Japanese Rush

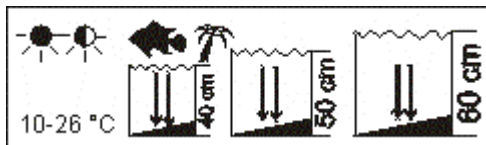
Characteristics: Leathery, firm leaves with a smooth surface. Green with white stripes.

Height: 35 cm.

Duration of submerge life: 12 months and more.

Propagation: Cutting of side sprout.

Special note: There is a similar variety: SU 21 *Acorus gramineus* var. *aureovariegatus*, but green with yellow stripes.





SU 30 *Acorus gramineus* var. *pusillus*

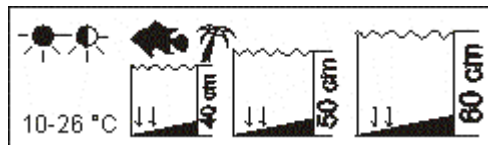
Dwarf Japanes Rush

Characteristics: Leathery, firm and smooth leaves.

Height: 5 - 10 cm.

Duration of submerse life: 12 months and more.

Propagation: Cutting of side sprout.





SU 40 *Ophiopogon japonicum*

Fountain Plant

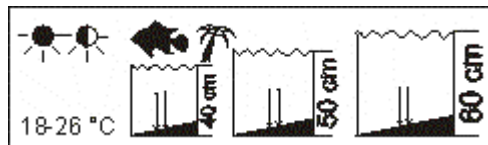
Characteristics: Leathery, firm and narrow leaves; bent back to give impression of fountain.

Height: 20 cm.

Duration of submerge life: 12 months and more.

Propagation: Cutting of side sprout.

Special note: Content with subdued light.





SU 41 *Ophiopogon japonicum* var. *giganteum*

Giant Fountain Plant

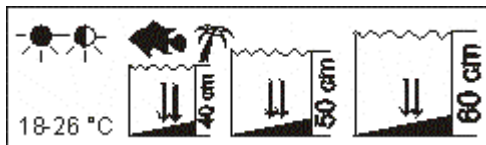
Characteristics: Leathery, firm leaves which are bent back.

Height: 35 cm.

Duration of submerge life: 12 months and more.

Propagation: Cutting of side sprout.

Special note: Content with subdued light.





SU 42 *Ophiopogon japonicum* var. *variegatum*

Variegated Fountain Plant

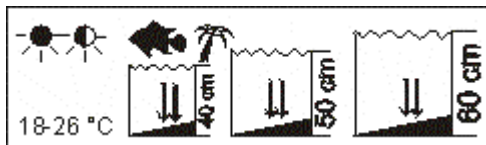
Characteristics: Lethery, firm leaves which are bent back; colour green with white stripes.

Height: 35 cm.

Duration of submerse life: 12 months and more.

Propagation: Cutting of side sprout.

Special note: Content with subdued light.





SU 43 Ophiopogon 'KYOTO'

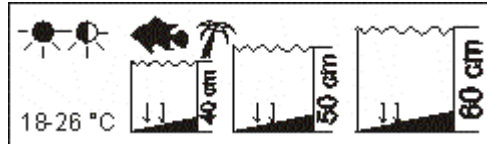
Dwarf Fountain Plant

Characteristics: Leathery, firm and short leaves which are bent back.

Height: 10 cm.

Duration of submerge life: 12 months and more.

Propagation: Cutting of side sprout.





SU 44 Pelioanthes spec.

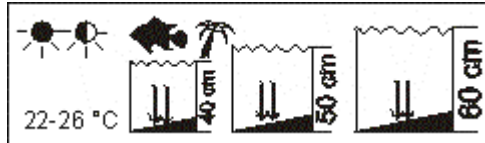
Characteristics: Leathery, firm and broad leaves
on petioles.

Height: 25 cm.

Duration of submerse life: 6 months and more.

Special note: Content with subdued light.

Exact identification not yet certain.





SU 50 Aglaonema 'SILVER QUEEN'

Malayan Sword "SILVER QUEEN"

Characteristics: Fleshy, dark green leaves with light, silvery-green variegation.

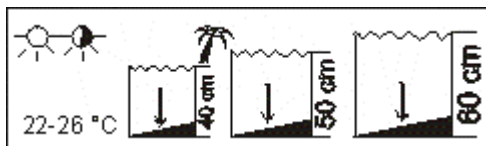
Height: 40 cm.

Duration of submerge life: 2 - 4 months.

Propagation: Emerse cuttings, the rhizome grows new shoots.

Special note: There are many splendid hybrids.

The natural form SU 52 has dark green, leathery, firm, often glossy leaves.





SU 62 *Caladium bicolor*

Characteristics: Three-lobed leaves on long petioles. Height: 30 - 40 cm.

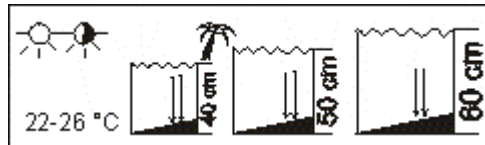
Duration of submerse life: 1 - 2 months.

Propagation: Daughter plants from the tuber.

Requirements: Has a rest period of 3 months.

Keep dark with very little water.

Special note: There are many interesting hybrids, some with a deep red centre or with colourful markings.





SU 65 *Chlorophytum bichetii*

Pongol Sword Plant

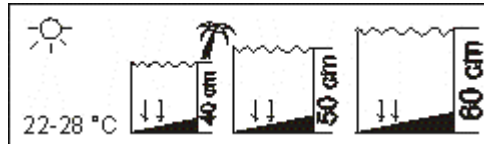
Characteristics: Curved, grasslike, green leaves with white stripes.

Height: Up to 15 cm.

Duration of submerse life: 2 months.

Propagation: Division of rhizome.

Special note: Do not shade plant in emerse situation.





SU 68 *Cyperus alternifolius*

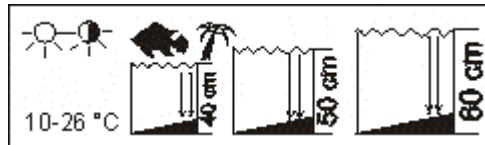
Umbrella Plant

Characteristics: Whorls of straplike leaves borne on long stems. Height: 50 - 80 cm.

Duration of submerse life: 2 months and more.

Propagation: Cut the whorls and place them upside-down in water until they grow roots and leaves. Then plant in damp peat.

Special note: Very suitable as marginal pond plant in the summer.





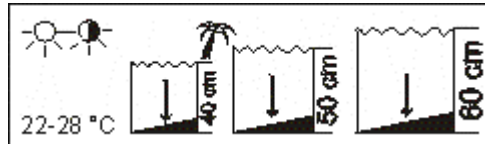
SU 74 Dieffenbachia seguine

Spotted Dieffenbachia

Characteristics: Solid, bright green leaves with dark green and white spots. Height: 50 cm.

Duration of submerse life: Approx. 2 - 4 months.

Propagation: Emerse top cuttings with at least 2 leaves. Stem will sprout again.





SU 76 Dieffenbachia 'R. Roehrs'

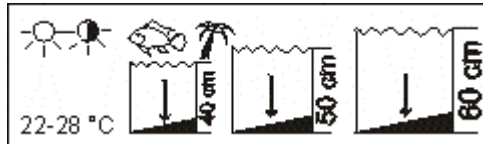
White Dieffenbachia

Characteristics: Leaves almost completely with white colouration. Height: 50 cm.

Duration of submerge life: 2 - 4 months.

Propagation: Emerse top cuttings with at least 2 leaves. Stem will sprout again.

Special note: Does very well in subdued light when grown emerse.





SU 77 *Dieffenbachia maculata*

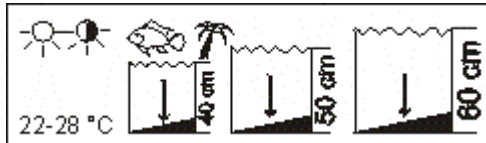
Characteristics: Leaves with more or less large patches of yellowish to pale green colour.

Height: 50 cm.

Duration of submerse life: 2 - 4 months.

Propagation: Emerse top cuttings with at least 2 leaves. Stem will sprout again.

Special note: Does very well in subdued light when grown emerse.





SU 80 *Dracena sanderiana*

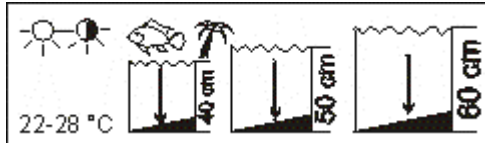
Striped Dragon Plant

Characteristics: Leathery, firm leaves.

Height: 50 cm.

Duration of submerge life: 4 months.

Propagation: Place emerse top cuttings in water until roots are growing.





SU 81 *Dracaena deremensis*

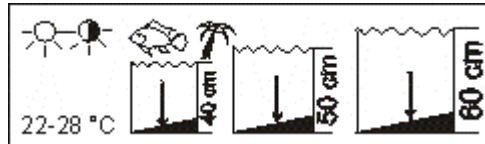
Green Dragon Plant

Characteristics: Leathery, firm leaves; dark green, sometimes with lighter coloured stripes.

Height: 50 cm.

Duration of submerge life: 3 months.

Propagation: Place emerge top cuttings in water until roots are growing, then plant in damp peat.





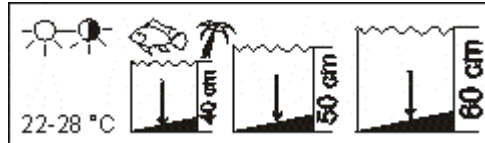
SU 82 *Dracena* variegata

Variegated Dragon Plant

Characteristics: Leathery, firm leaves;
yellowish- green variegated. Height: 50 cm.

Duration of submerge life: 2 - 3 months.

Propagation: Place emerse top cuttings in water
until roots are growing, then plant in damp peat.





SU 83 Dracenae 'FIREBRAND'

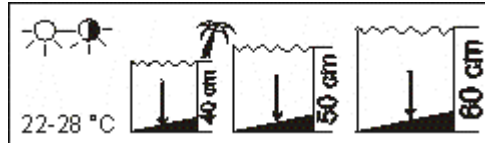
Red Dragon Plant

Characteristics: Fibrous, firm, broad leaves of dark red colour, growing close together.

Height: 40 cm.

Duration of submersed life: 1 - 2 months.

Propagation: Place emerge top cuttings in water until roots are growing.





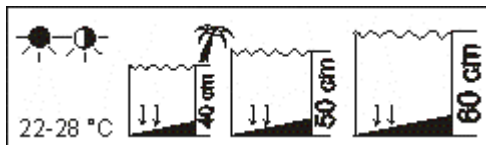
SU 95 *Fittonia argyronauta* 'Mini'

Characteristics: Small, bright green leaves with white veins. Height: 10 cm.

Duration of submerge life: 4 - 6 weeks.

Propagation: Cut emerge side shoots and plant in damp peat to root.

Special note: Prefers shaded position.





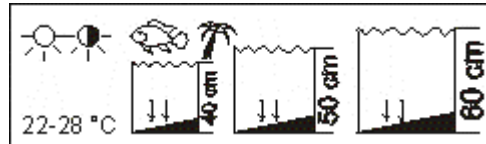
SU 100 *Hemigraphis colorata*

Characteristics: Highly indented leaves; dark green colour, underside intensively lilac-red.

Height: 20 cm.

Duration of submerge life: 12 months and longer.

Propagation: Cut emerge side shoots and plant in damp peat to root.





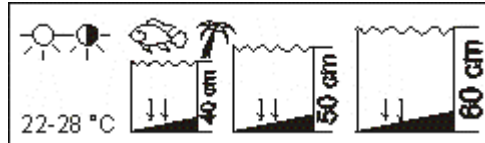
SU 102 Hemigraphis spec.

Characteristics: Narrow, irregular growing leaves.

Height 25 cm.

Duration of submerge life: Up to 12 months.

Propagation: Cut emerge side shoots and plant in damp peat to root.





SU 130 *Spatiphyllum wallisii*

Peace Lily

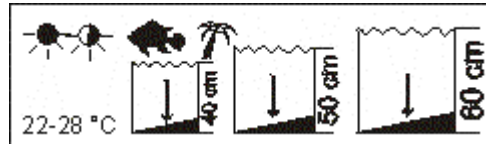
Characteristics: Glossy green, leathery, firm leaves. Height: 40-50 cm.

Duration of submerse life: Several years.

Changes slightly during submersion: older plants grow more compact and only 20 cm high.

Propagation: Daughter plants.

Special note: Still grows in the deepest shade.





SU 150 *Syngonium podophyllum*

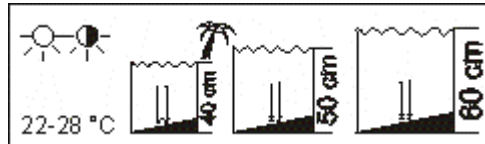
Stardust Ivy

Characteristics: Three-lobed leaves borne on long petioles. Height: 30 cm.

Duration of submerse life: 2 months and more.

Propagation: Division of emerse tendrils; roots grow on every node.

Special note: Grows very long tendrils.





SU 151 Syngonium 'WHITE BUTTERFLY'

White Butterfly Ivy

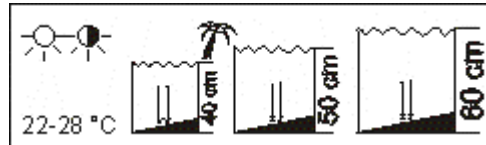
Characteristics: Three-lobed leaves with large white patches borne on long petioles.

Height: 20 cm.

Duration of submerge life: 2 months.

Propagation: Division of emerse tendrils; roots grow on every node.

Special note: Forms tendrils.





V 10 Vallisneria gigantea

Giant Vallisneria

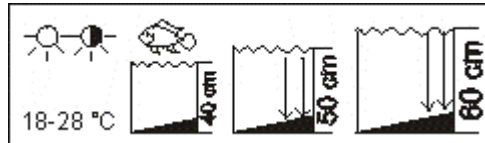
Phillipines

Characteristics: Green, straplike leaves, 1 - 2 metres long. Growth rate: Monthly approx. 2 leaves.

Propagation: By readily produced runners.

Requirements: Undemanding.

Special note: The variety Red Giant Vallisneria (*Vallisneria neotropalis*) has similar growth qualities.





V 30 Vallisneria spiralis

Straight Vallisneria

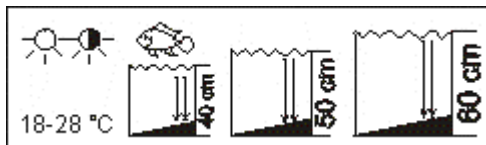
Tropical cosmopolitan

Characteristics: Green, straplike leaves, up to 1 metre long. Growth rate: Monthly approx. 2 leaves.

Propagation: By runners, which are produced in abundance.

Requirements: Undemanding.

Special note: The correct name is probably Valisneria natans.





V 31 Vallisneria gracilis

Needle Vallisneria

Found in Australia

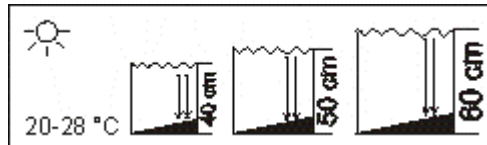
Characteristics: Green, narrow, straplike leaves, up to 40 cm long.

Growth rate: Monthly approx. 2 leaves and 1 – 2 runners.

Propagation: Runners.

Requirements: Undemanding, but needs much light.

Special note: Very prolific.





V 40 Vallisneria tortifolia

Twisted Vallisneria

Assumed South-East Asia

Characteristics: Spiralled, green, straplike
leaves, up to 25 cm long.

Growth rate: Monthly approx. 2 leaves.

Propagation: Runners.

Requirements: Undemanding.

Special note: Very prolific.





V 41 Vallisneria americana

Large Twisted Vallisneria

Assumed Middle America

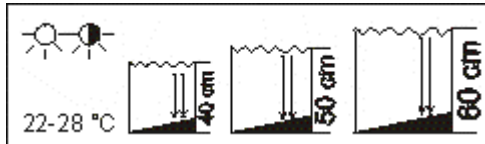
Characteristics: Spiralled, green, straplike
leaves, up to 40 cm long.

Growth rate: Monthly approx. 2 leaves.

Propagation: Runners.

Requirements: Undemanding.

Special note: Very prolific.





V 50 Vallisneria asiatica var. biwaensis

Former: Vallisneria "CONTORTIONIST"

Giant Twisted Vallisneria

Characteristics: Very tightly spiralled, green, straplike leaves, up to 60 cm long.

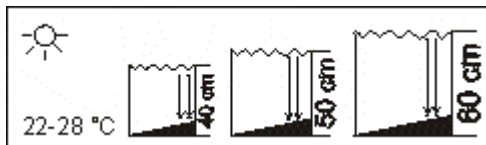
Growth rate: Monthly approx. 2 leaves.

Propagation: Runners.

Requirements: Plenty of light and nourishment.

Prefers slightly hard water.

Special note: Also known as Corcscrew Vallisneria.



www.persianfish.com



V 60 Vesicularia dubyana

Java Moss

South-East Asia

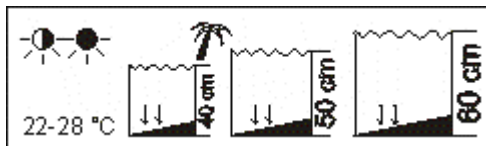
Characteristics: Forms dark green, tangled masses of intensively branched foliage.

Growth rate: Slow growing.

Propagation: By dividing the clumps of moss.

Requirements: Prefers mature water.

Special note: Grows on rock, bogwood and other aquarium decoration.



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