




# **Climbing Plants**

**West End Horticultural Society  
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Christie Lovat**

The image features two potted ivy plants. The plant on the left is in a white ceramic pot with a matching saucer, sitting on a reflective white surface. The plant on the right is in a wooden-textured pot. The background is a bright, slightly blurred white. A central text box with a black border contains the main title.

# **What IS a Climbing Plant?**





**Clematis**

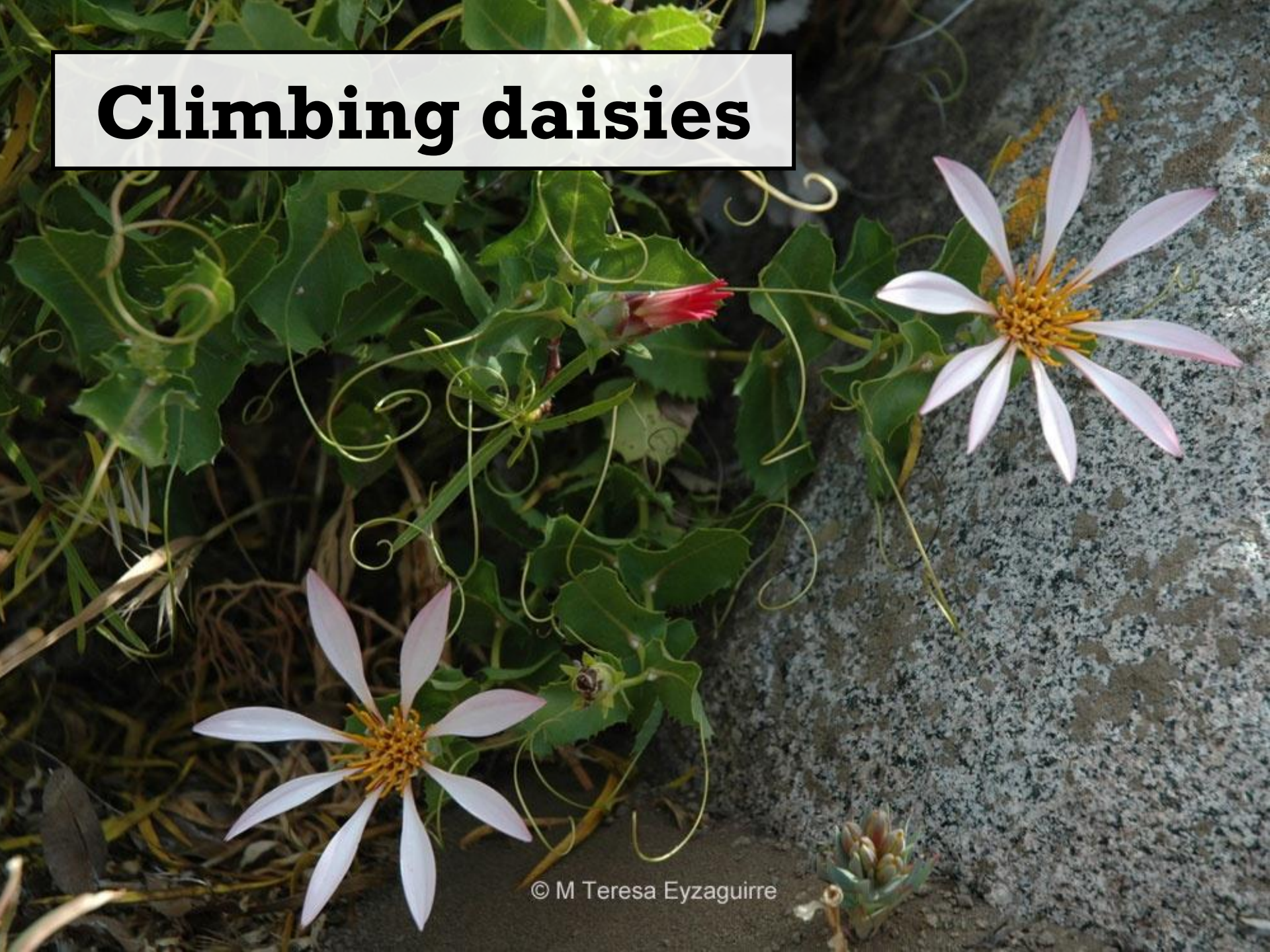


# Mounding Clematis





# Climbing daisies



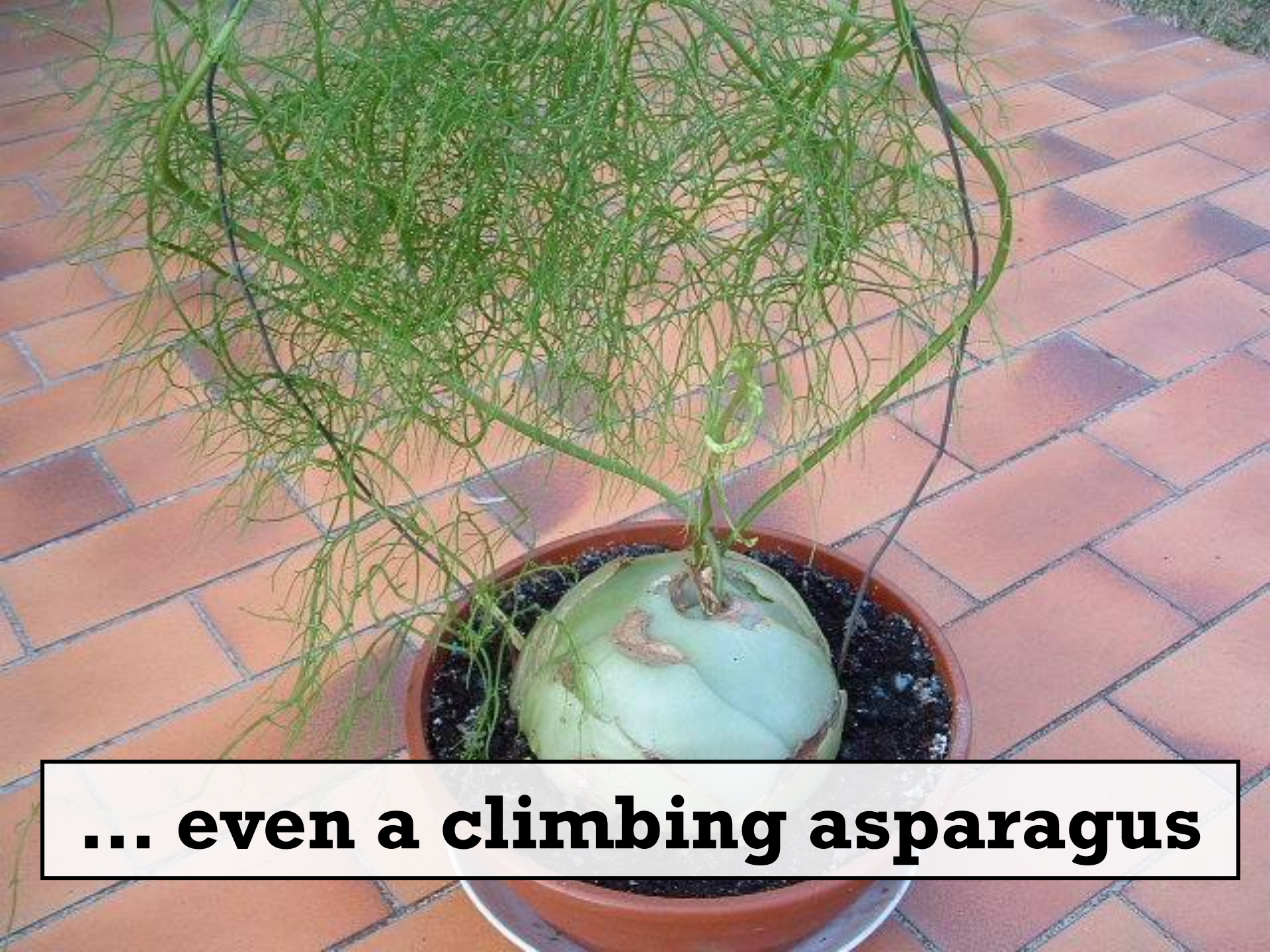
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**Climbing cacti**





**... even a climbing asparagus**





# What is a Climbing Plant?

- In most plant families, all species grow the same way.
  - Maple family (Aceraceae) are all trees or shrubs!
- Climbing plants are an exception.
  - Climbing plants found in many different families alongside compact plants!





# What is a Climbing Plant?

- Why did climbing evolve so many times?
- The sun is far from the ground
- Lots of energy goes into growing a tall strong stem to get the most sunlight
  - Think trees





# What is a Climbing Plant?

- Climbing plants are nature's slackers
- Evolved to grow up taller plants
  - More sun for less growth!
- So successful, evolved many different times in many different families





# What is a Climbing Plant?

- Not all climbing plants are created equal
- Different climbing methods:
  - Tendrils
  - Twiners
  - Scramblers
  - Adhesive
  - Stem-roots
  - Haustoria
- Each very different
- Each requires specific considerations when growing

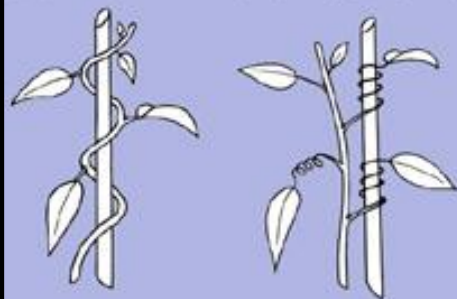




# Tendrils

- Tendrils most common
  - Think grapes, peas
- Tendrils wrap around structures
  - Harden to become woody
- Actively search for structures to climb
  - Seem to be able to “sense” shadows to find structures
- Easiest to grow indoors
  - Will climb on anything
- Outdoors
  - Siding: can pry apart
  - Brick/stone: generally non-destructive
  - In the garden: Will girdle other plants with tendrils





twining stems

twining petioles



tendrils



# Twining Plants

- Twining plants:
  - No special structures
  - Use leaves or stems to wrap around structures
  - Think clematis, morning glory
- Indoors
  - Has difficulty wrapping around large structures
  - Provide a thin trellis
- Outdoors:
  - Cannot climb up walls on their own
  - Needs a structure to twine around



# Scrambler Plants

- Scrambler plants:
  - Can't climb on their own
  - Grows by leaning on other plants
    - May use thorns to help it climb
  - Are mostly heavy shrub-like climbers
    - Think climbing roses
- Outdoors:
  - Won't harm walls
    - Needs a strong trellis!
    - Secure yourself
  - Can pull itself down with its own weight!





# Adhesive Plants

- Adhesive plants:
  - Has tendrils
    - But tendrils don't wrap around objects to climb
    - Use adhesive pads on the ends!
      - Synthesize nanoparticles which actually hydrogen bond to the wall!
  - Boston Ivy
- Adhesive pads:
  - Leave stains on walls inside and out
  - Very strongly attached
    - Will damage walls if forcibly removed
    - Should not be grown indoors







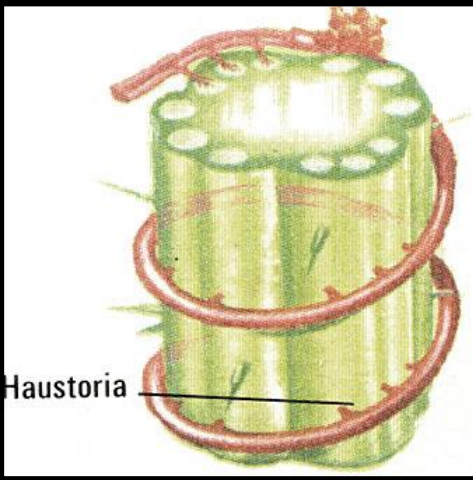
# Stem Root Plants

- Stem Root Plants:
  - Grows gripping roots right from the stem
  - Include:
    - English Ivy
    - Poison ivy
- Gripping roots function as real roots!
  - Take up water and minerals
- Very difficult to grow indoors
  - Some (English ivy) can grow as a hanging plant!
- Outdoors:
  - WILL harm any type of exterior wall if forcibly removed
  - Difficult to grow on a trellis
    - Has a habit of using the wall instead!
  - Grows well up established trees



# Haustoria Plants

- Haustoria plants:
  - Parasitic plants!
- Cannot make enough of their own food
  - Must steal it from other plants!
- Like a snake:
  - Coils around a host stem, squeezing it
- Inserts haustoria into host, extracts what it needs like a vampire
- Dodder vine
  - Very invasive plant!





The image features two climbing plants in white ceramic pots. The plants have lush green leaves, some with variegation. They are supported by a rustic wooden log stand. The background is a soft, out-of-focus white, and the entire scene is reflected on a glossy white surface below. A central text box with a black border contains the title.

# **Climbing Plant Care**



# Unique Biology

- Most plants:
  - Have a maximum size
    - A tree can only get so big
- Climbing plants:
  - Never stop growing!
- Why is growth important?
  - Need to learn to manage infinite roots and infinite shoots!





# Establishment

- Take a long time to become established
  - Some take years!
- Keep them watered, fertilized and free of weeds during this time
  - High phosphorus and potassium fertilizer promotes root growth
- Once established, most vines are unstoppable





# Mastering the Roots

- A houseplant problem
- Climbing plants are deceptive
  - Lots of shoot in a little space!
  - More shoot = more root
  - Need to be repotted aggressively!
- Repot as soon as older leaves start to die
  - A sign the plant is running out of space
- Trim the shoot regularly.
  - Will help control root growth





# Mastering the Shoot

- Will climb on anything:
  - Adhesive plants
- Require a trellis:
  - Tendril plants
  - Twining plants
- Require a trellis and you need to secure them:
  - Scramblers
  - Stem root plants
- Need an appropriate host plant:
  - Haustoria plants
- Prune!







**Use climbing plants  
to hide things!**





**Make a new structure  
(cheaper than a contractor!)**



# Make a play house!







**Make a shrub!**





**Even  
incorporate  
them into the  
furniture!**





# **Noteworthy Climbing Plant Species**



The image features two white ceramic pots filled with lush green ivy plants. The pots are placed on a rustic wooden log stand. The background is a bright, clean white, and the entire scene is reflected on a glossy surface below. A central text box with a black border contains the word "Houseplants" in a bold, black, sans-serif font.

# Houseplants





# **The Climbing Onion**



# The Climbing Onion

(*Bowiea volubilis*)



- Typical succulent care
  - Cactus soil only
  - Cactus fertilizer
- Water only once a week
  - Let pot dry out completely
- Love full sun
  - Will do well in a bright room also
- Twining climber
- Propagates by growing new tiny bulbs
  - Remove and plant in soil!





# Adamant Creeper



# Adamant Creeper

(*Cissus quadrangularis*)

- Actually a desert adapted grape
  - Fruit are tiny grapes (not edible)
- Treat as a regular succulent
  - Cactus soil and fertilizer.
  - Water only when dry (usually 1x per week)
- Will grow in low light
- Tendril plant
- Needs a strong support and heavy pot
  - Tendrils wither if not attached to a structure
- Propagate by breaking off and planting a segment







**Passionflower**





# Passionflower (*Passiflora* sp.)

- Edible passion fruit comes from this genus
- Another tendril climber
- Aggressive grower with an impressive variety of flowers
  - Flowers almost continuously
  - But each flower lasts only a day
- Needs high light and high phosphorus fertilizer
  - Tropical plant soil is fine
- Water as soon as it dries out
- Need to repot and trim aggressively



# Dragon Fruit





# Dragon Fruit

## (*Hylocereus undatus*)

- The same fruit you can buy from the store
- A climbing cactus with stem roots
- Makes a great house plant
  - Need two or more to make fruit
- Typical succulent care
- Can start from seed!
- Propagate by cuttings is best
  - Just break off a segment and place in soil







**Vanilla Orchids**



# Vanilla Orchids

## (*Vanilla sp.*)

- The “climbing orchid”
  - Vanilla comes from seed pods
- Stem root climber
- Need to be watered daily
  - Porous climbing structure very important, will die without one
- Water climbing structure as well as pot
  - Climbing roots will take up water!





The image features two white ceramic pots containing lush green ivy plants. The pots are placed on a rustic wooden log. A central black-bordered box contains the text 'Garden Plants'. The background is a soft, out-of-focus white, and the entire scene is reflected on a glossy surface below.

# Garden Plants





**Chocolate Vine**



# Chocolate Vine

## (*Akebia quinata*)

- Fragrant twining climber with edible seed pods (taste like Tapioca pudding)
- Flowers smell like chocolate
  - Blooms in early spring
- Very vigorous grower
- Does well in part shade
- Needs winter protection
  - Mounding around roots







**Trumpet Vine**



# Trumpet Vine (*Campsis radicans*)

- A tendril climber native to eastern US
- Beautiful dark green compound leaves
- Colorful flower attractive to hummingbirds
  - Flowers summer through to fall
- Very hardy
  - An aggressive vine, can be more than a gardener can handle







**Climbing Honeysuckle**



# Climbing Honeysuckle (*Lonicera sempervirens*)

- Twining vine native to the eastern US
- A true honeysuckle
  - Flowers include whites, yellows, reds and purples
- A favorite of hummingbirds
- Very hardy climber
- Generally flowers twice a season, in spring and late summer
- A more manageable option compared to the Trumpet vine







**Grape**



# Grape

## (*Vitis sp.*)

- Very hardy tendril climber
- Great seedless varieties are available:
  - Most grapes sold are seeded or are wine grapes!
  - ‘Montreal Blue’ GREAT, hardy table variety
- Full sun for fruit production
- Severely prune each winter to maximize fruit production
  - Remove all canes that fruited the past year
  - Prune 1-year old canes back to 5-6 buds.
    - For fruit.
  - Prune some 1-year old canes to 3-4 buds
    - For vegetative growth.





# Hardy Kiwi





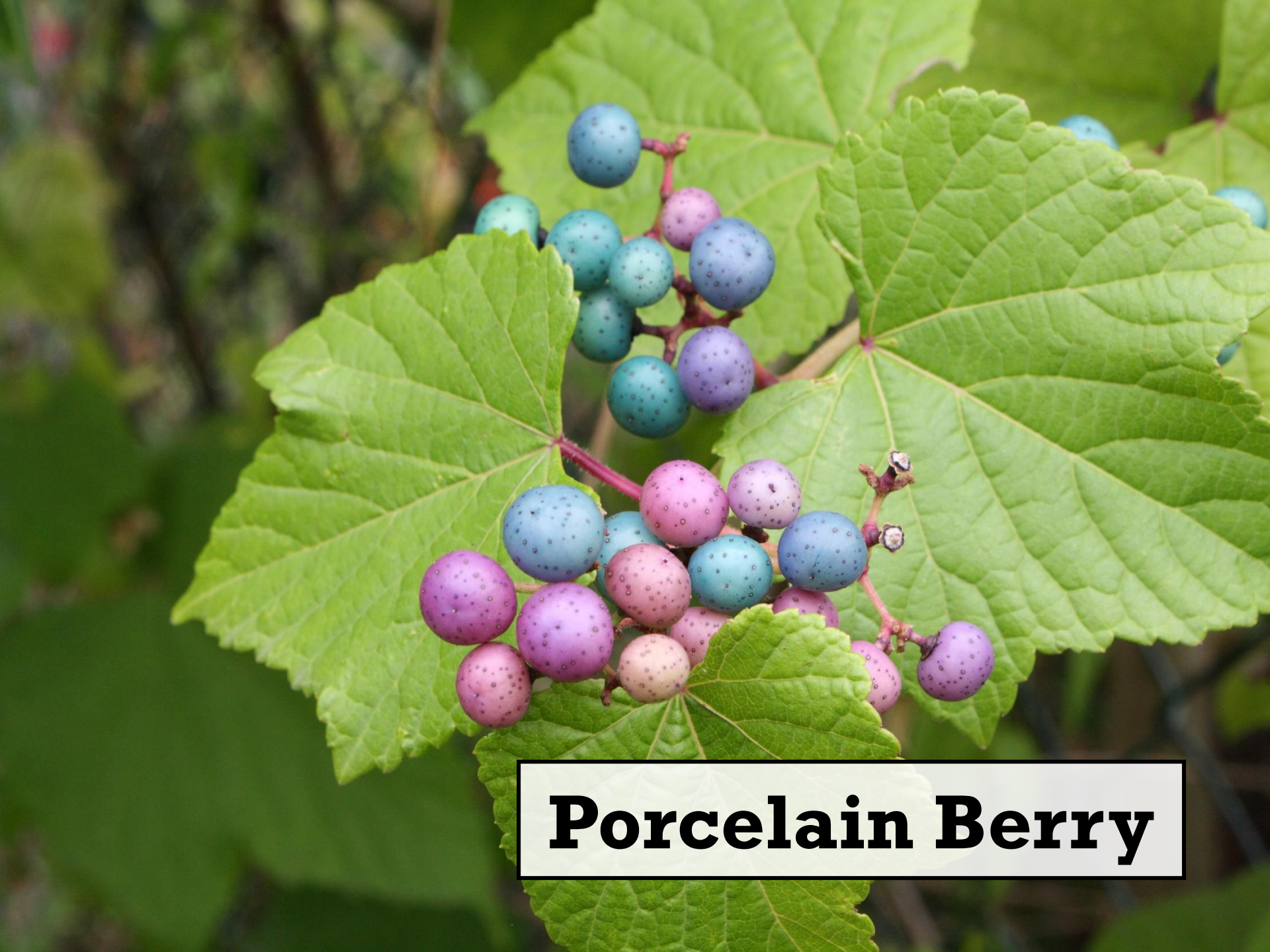
# Hardy Kiwi

## (*Actinidia arguta*)

- Small kiwi
  - Mature fruits taste very similar to larger kiwi
- Hardy twining vine
- Male/female plants
  - Need both to make fruit
- Frost sensitive in the spring
  - Cover to protect from late frost!
  - Frost damage = no fruit!
- No need to selectively prune like with grape







**Porcelain Berry**



# Porcelain Berry

(*Ampelopsis glandulosa*)

- Deciduous vine with speckled multicolored berries
  - Birds love the berries
- Tendril plant
- Very hardy and grows extremely fast once established
- Attractive yellow foliage in fall
  - Very stunning with persistent berries on vine







**Boston Ivy**



# Boston Ivy

## (*Parthenocissus tricuspidata*)

- Very aggressive adhesive vine
  - Generally seen growing on the sides of homes
  - Adhesive – you never need to trellis
  - But will likely damage your exterior walls
- Once established, will grow up to 4 m each year
  - Can be managed with heavy pruning seasonally
- Virginia creeper is a very similar.







# **Climbing Hydrangea**

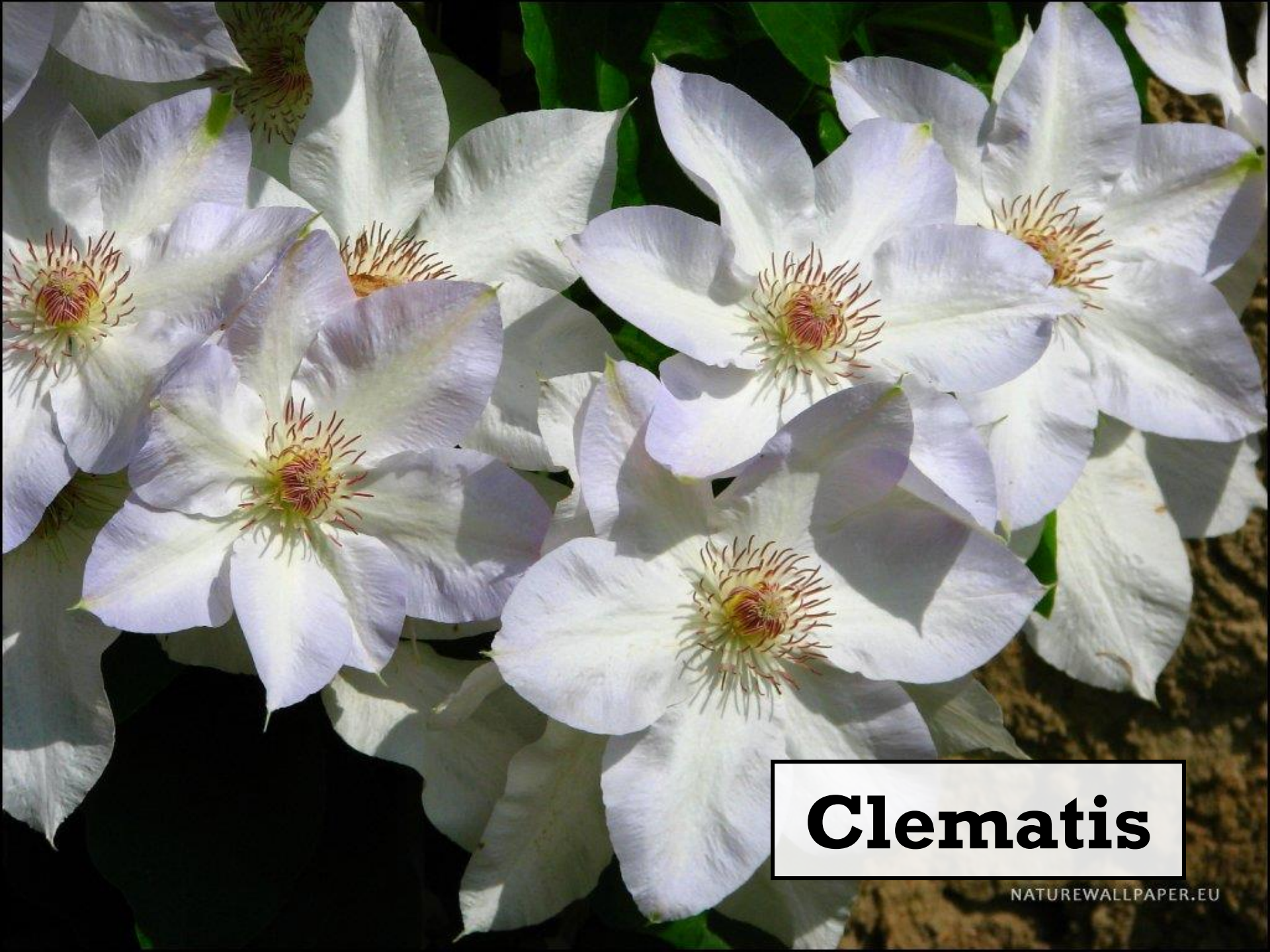


# Climbing Hydrangea (*Hydrangea anomala*)

- One of the few vines shade vines
  - Dappled sunlight will result in more flowers
- Does well at the base of conifer trees
- Climbs by stem roots
- Slower grower
  - Can take 7 years to establish
- Prune after flowering to not disrupt flower production







# Clematis



# Clematis

## (*Clematis* sp.)

- The classic climbing plant
- A twining climber
- Incredible diversity in cultivars
  - Flower at different times
  - Require different pruning techniques
  - Different light preferences
- There is a clematis for every space in your home





The image features two white ceramic pots filled with lush green ivy plants. The pots are placed on a rustic wooden log. The background is a soft, out-of-focus white. A black rectangular box is superimposed over the center of the image, containing the word "Annuals" in a bold, black, sans-serif font. The entire scene is reflected on a glossy white surface at the bottom.

# Annuals



# Morning Glory





# Morning Glory (Convolvulaceae sp.)

- Name used for hundreds of species in the Convolvulaceae family
- Annual in our climate, but reseeds very regularly
  - Can become a weed
  - Start from seed in the garden or indoors
- Twining climber
  - Stems become hard and woody in the fall
- Thrives on poor soil and little care
  - Needs full sun
- Flowers nearly all summer







**Scarlet Runner Bean**

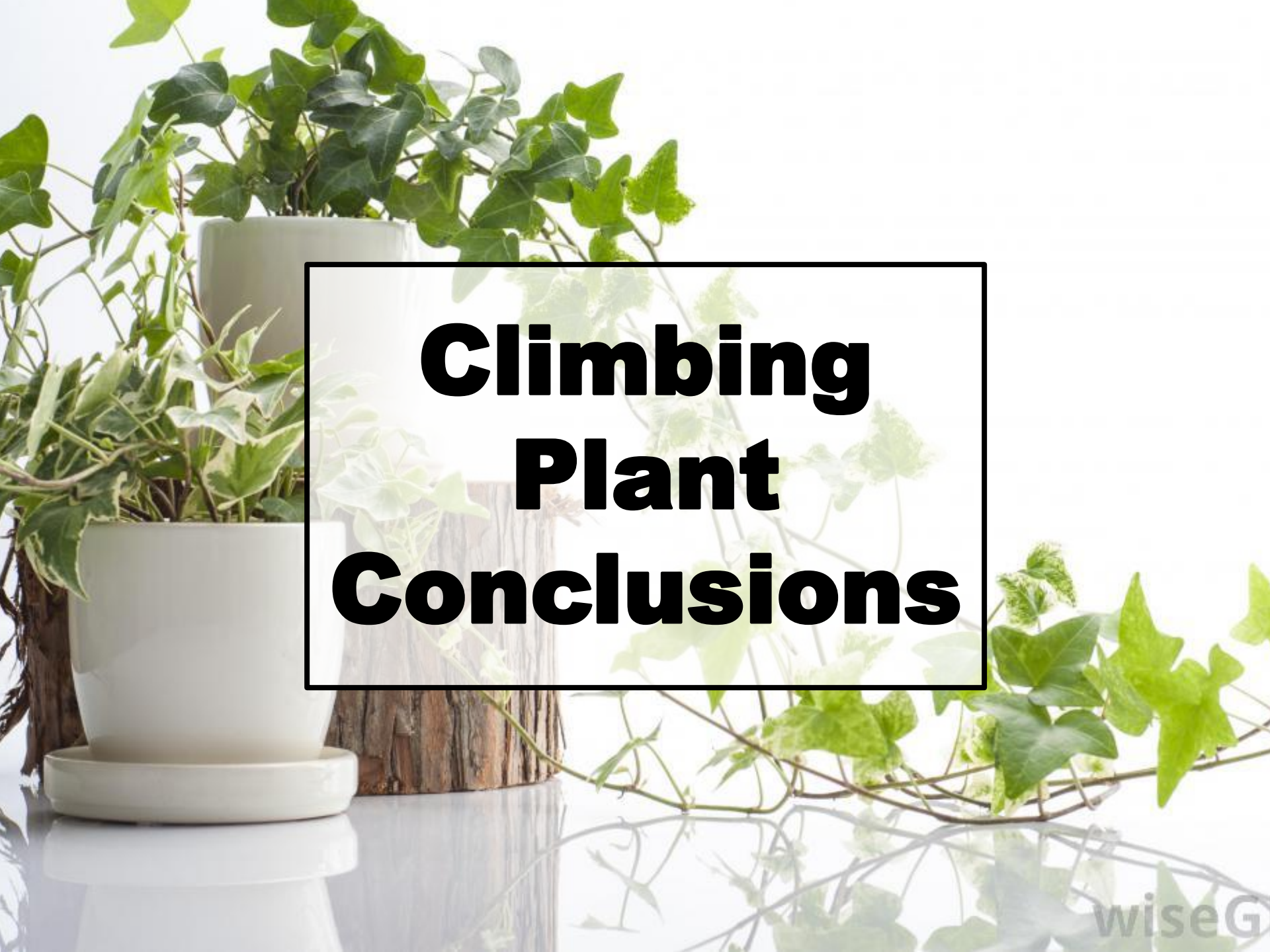


# Scarlet Runner Bean (*Phaseolus coccineus*)

- Twining annual
- Edible beans and showy red flowers
  - Dry beans before eating
- Grow like a typical bean
  - Sow in the garden in late spring
  - Full sun
- Vine can grow 4 m in a single season!





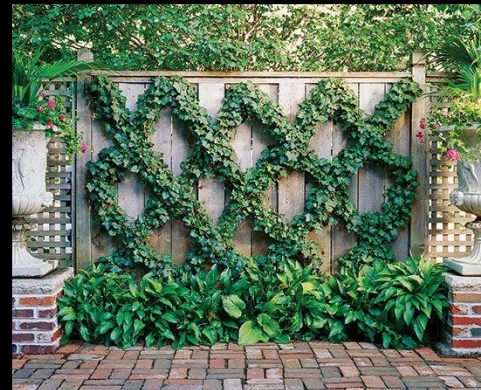


# **Climbing Plant Conclusions**



# Conclusions

- Vines are a fascinating group of plants to grow.
- Are some of the most versatile plants in the outdoor garden.
- Can be used to make living art indoors.





The image features two white ceramic pots filled with lush green ivy plants. The pots are placed on a rustic wooden log stand. The background is a bright, clean white, and the entire scene is reflected on a glossy surface below. A central black-bordered box contains the text "Questions?".

**Questions?**