

Days, not one evening — and the flowering is hidden. **The closed green spathe is not a bud. It is the flower, working.**

THE CYCLE — SLOW, AND MOSTLY OUT OF SIGHT

|              |                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Female phase | The spathe stays closed and green, with a narrow slit. Inside, every stigma on the spadix is receptive at once — light-coloured, with a transparent film of secretion. In the two species timed in the wild this phase ran <b>from under two days to three</b> ; the female phase outlasts the male — the only aroid group where that is documented. |
| Male phase   | Anthers push out beside the stylar caps and shed all at once, over one or two days, as sticky threads of pollen — in the one species watched overnight, release came around one in the morning, at the coldest hour. Stigmas by now are dark and dry.                                                                                                |
| Open         | The spathe unfurls wide and white — the famous photograph — and it is over. An open white cowl is the flower's past tense.                                                                                                                                                                                                                           |
| After        | Spathe shed, spadix green and armoured: fruit development has begun. <b>Ripening takes 2–15 months depending on the species.</b>                                                                                                                                                                                                                     |

WHAT YOU NEED

- Two inflorescences at different stages — see the panel
- Soft brush, or a fingertip
- Small airtight tube
- Scalpel, to open a window in the spathe
- Torch — the working hours are nocturnal
- Labels and patience: months to a ripe fruit

READING THE INFLORESCENCE

|                                            |                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Spathe closed, green, a slit down one side | Flowering, female phase — <b>this is the window</b> . Look through the slit with a torch: pale stigmas with a wet shine mean receptive. |
| Stigmas dark, dry, brownish                | Female phase over. This spadix is now a pollen source, not a target.                                                                    |
| Anthers visible, pollen in sticky strands  | Male phase. <b>Collect here; apply elsewhere.</b>                                                                                       |
| Spathe wide open, white                    | <b>Finished</b> . Whatever was going to happen has happened.                                                                            |
| Small flattened black beetles inside       | The pollinators, working as designed. Leave them.                                                                                       |
| Whole inflorescence yellowing within days  | Aborting. In one wild population <b>71 % of inflorescences did this naturally</b> — it is not necessarily your fault.                   |

THE METHOD

- 01 **Stagger your inflorescences.** The phases inside one spadix never overlap usefully; you need one plant in male phase while another is female. On one plant, use inflorescences that opened days apart.
- 02 **Find the female phase through the slit** — closed green spathe, pale wet stigmas. Work at night or first thing: that is when this system runs.
- 03 **Collect from a male-phase spadix:** the pollen comes away as sticky threads. Take it fresh — see the clock on page 2.
- 04 **Open a small window** in the chamber wall — or work through the slit — and brush pollen across the stigmas. Every fertile flower on the spadix carries one.
- 05 **Close and label.** The spathe will do the rest; bag only if stray beetles would ruin a deliberate cross.
- 06 **Harvest by the fruit's own signal:** the tile-like stylar caps loosen and shed of their own accord. **Before that, the fruit is not ready and not pleasant** — see page 2.

WILL ONE PLANT SELF? UNKNOWN — TREAT IT THAT WAY

Only two species have ever been tested. **Bagged *Monstera obliqua* set nothing** — fifteen of fifteen aborted. **Bagged *Monstera lentii* set fruit in six of eleven.** Opposite answers, one genus, no third test.  
**Plan as if your species cannot self** — two plants, or two staggered inflorescences and stored pollen — and treat any bagged fruit set as a finding worth recording, not a given.

Everything on this side contradicts something you will read elsewhere. Each one changes what you actually do.

1 • THE BEES ARE ROBBERS

For thirty years the books said *Trigona* bees pollinate *Monstera*. Traced back, that claim rests on **an unpublished personal communication and a 1978 note that watched bees visit** — never on a pollination test.

Both field studies found the same thing: **the pollinators are small nitidulid beetles that spend the female phase inside the closed chamber**. The bees arrive only after the spathe opens, take pollen, and touch no receptive stigma.

**Why you care:** bees on an open white spathe are not evidence your plant was pollinated. By the time they arrive, the stigmas are done.

2 • THE CLOSED SPATHE IS THE FLOWER

The floral chamber went **undescribed until 2007** — dried specimens flatten it, and in the understorey a green closed spathe reads as a bud. In 2006 the very group about to describe it stated in print that *Monstera* has no floral chamber.

**Why you care:** a grower who waits for the handsome open spathe to “flower” misses the female phase every single time. The plain green vault with a slit is the event.

3 • THE UNRIPE BURN — THE STANDARD STORY IS NOT SETTLED

Every houseplant article blames calcium-oxalate raphides for the burn of unripe fruit. **Madison declined to sign that in 1977 and nobody has settled it since:** the discarded stylar caps are packed with needle-like **trichosclereids** that visibly penetrate skin, and it remains unclear which needle does the damage.

**The practical rule is unchanged either way: wait until the caps shed themselves.** The armour leaves with them.

POLLEN — YOU HAVE ABOUT TWO DAYS

|            |                                                                                                      |
|------------|------------------------------------------------------------------------------------------------------|
| At release | Viability starts low — <b>40–55 %</b> , the lowest of any aroid in the one comparative test          |
| +30 hours  | Half of that is gone                                                                                 |
| +60 hours  | <b>Effectively dead.</b> Move pollen within two days, cool and dry in a closed tube                  |
| Seed       | No endosperm, soft coat: <b>sow fresh</b> — dried seed dies quickly. Kept moist it holds some months |

THE NUMBERS THAT FRAME EVERYTHING

2 / 71

**Species with a wild pollination study**, out of 71 accepted. The most-grown aroid on Earth, *Monstera deliciosa*, is not one of the two.

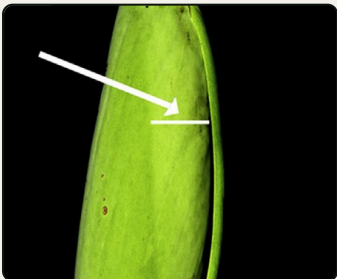
3 d > 2 d

**Female phase longer than male** (*Monstera lenticii*) — the only documented inversion among bisexual aroids. Your working window is the long phase.

2–15 mo

**Fruit ripening time across the genus.** A fruit that sits green for a year is not stuck; it is on schedule.

WHAT IT LOOKS LIKE



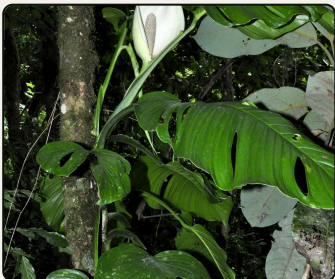
The flowering, closed

A green vault with a slit — the female phase, in progress



The pollinators

Nitidulid beetles among the stigmatophores, chamber cut away



Open means over

The white stage — conspicuous at last, and finished



Ripe when it undresses

Stylar caps falling away, ripe fruit beneath — the harvest signal