

How Botanists Describe Plants

The Semi-Technical Syntax of Floral Morphology



The Sequential Hierarchy of Observation

Plant descriptions follow a strict, standardized sequence, moving from general macroscopic habit down to specific reproductive micro-structures.



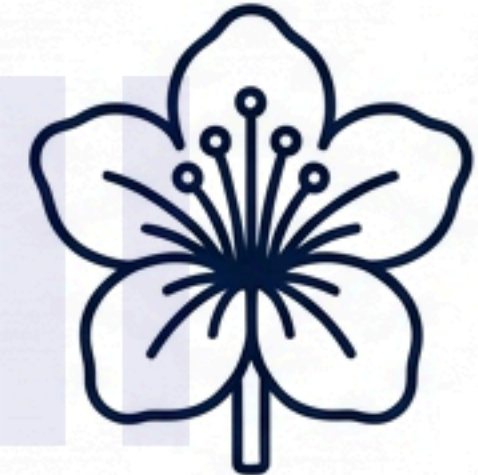
1. Habit
(General form,
lifespan)



2. Vegetative Characters
(Roots → Stem →
Leaves)



3. Inflorescence
(Arrangement on the
floral axis)

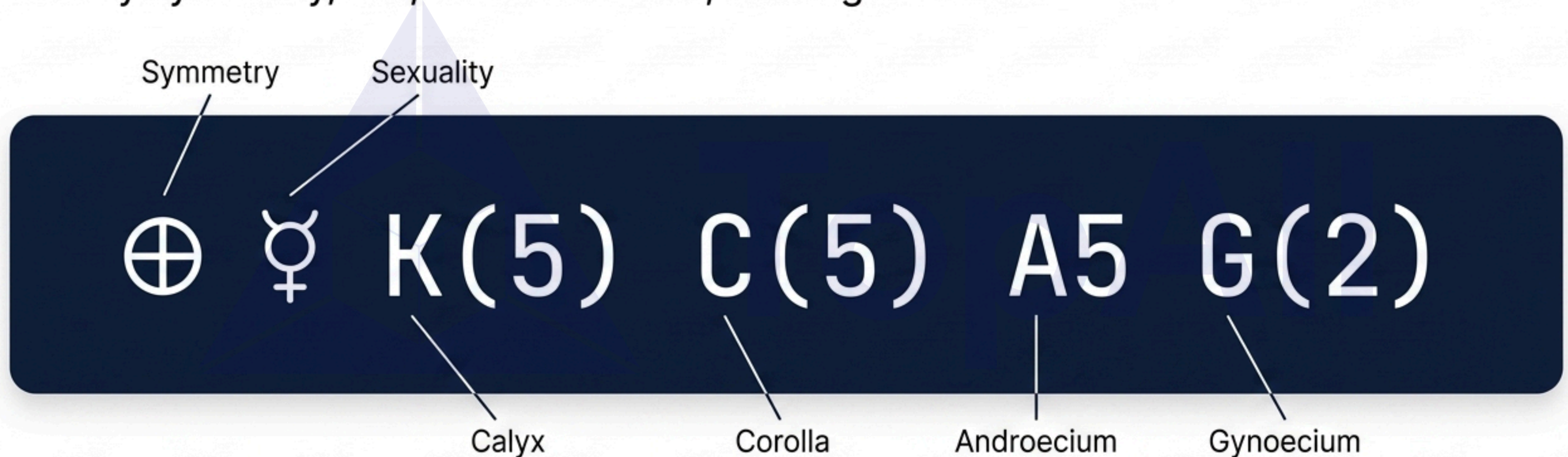


4. Floral Characters
(Specific parts of
the flower)

Key Rule: Always describe vegetative characters before floral characters.

The Floral Formula: Botanical Shorthand

Instead of writing paragraphs, botanists use a standardized string of symbols to convey symmetry, sex, whorl structure, and organ fusion.



Note: This concise syntax contains all the necessary data to mentally reconstruct the flower's architecture.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



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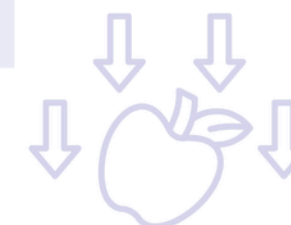
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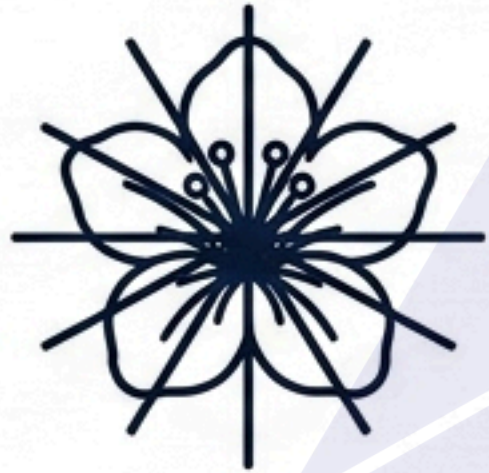
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Symbol Dictionary: Symmetry & Sex



Actinomorphic
(Radial Symmetry).
Divisible into equal
halves in any radial
plane.



Zygomorphic
(Bilateral Symmetry).
Divisible into similar
halves in only one
vertical plane.



Unisexual.
Staminate (Male) or
Pistillate (Female)
flowers.



Bisexual.
Contains both
Androecium and
Gynoecium.

Symbol Dictionary: Floral Whorls

Br

Bracteate

K

Calyx
(Sepals)

C

Corolla
(Petals)

P

Perianth
(K & C not distinct)

A

Androecium
(Stamens)

The Gynoecium (G)

The position of the horizontal line indicates the position of the ovary relative to other floral parts.

G

Superior Ovary
(Hypogynous)

G

Inferior Ovary
(Epigynous)

Syntax Rules: Quantities, Fusion, and Adhesion



Quantities

K5
K2+2

Numbers indicate the count of parts. Plus signs indicate parts arranged in separate sub-whorls.

Cohesion

C(5)

Brackets indicate fusion between members of the SAME whorl (e.g., united petals / gamopetalous).

Adhesion

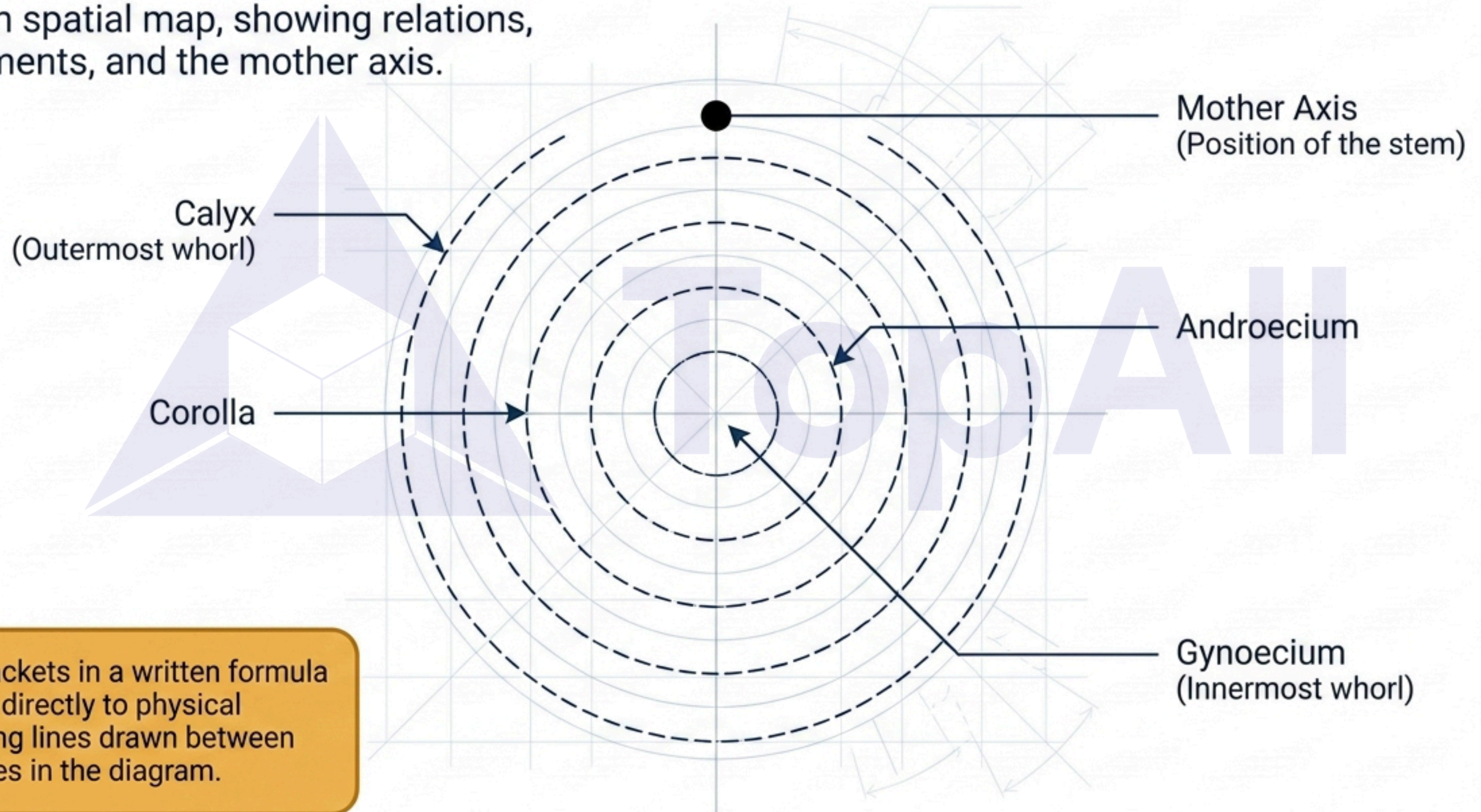
C5 A5

An overarching line indicates adhesion between members of DIFFERENT whorls (e.g., stamens attached to petals / epipetalous).

Warning: Do not confuse Cohesion (same whorl, brackets) with Adhesion (different whorls, overline).

Anatomy of a Floral Diagram

The diagram translates the formula into a top-down spatial map, showing relations, arrangements, and the mother axis.



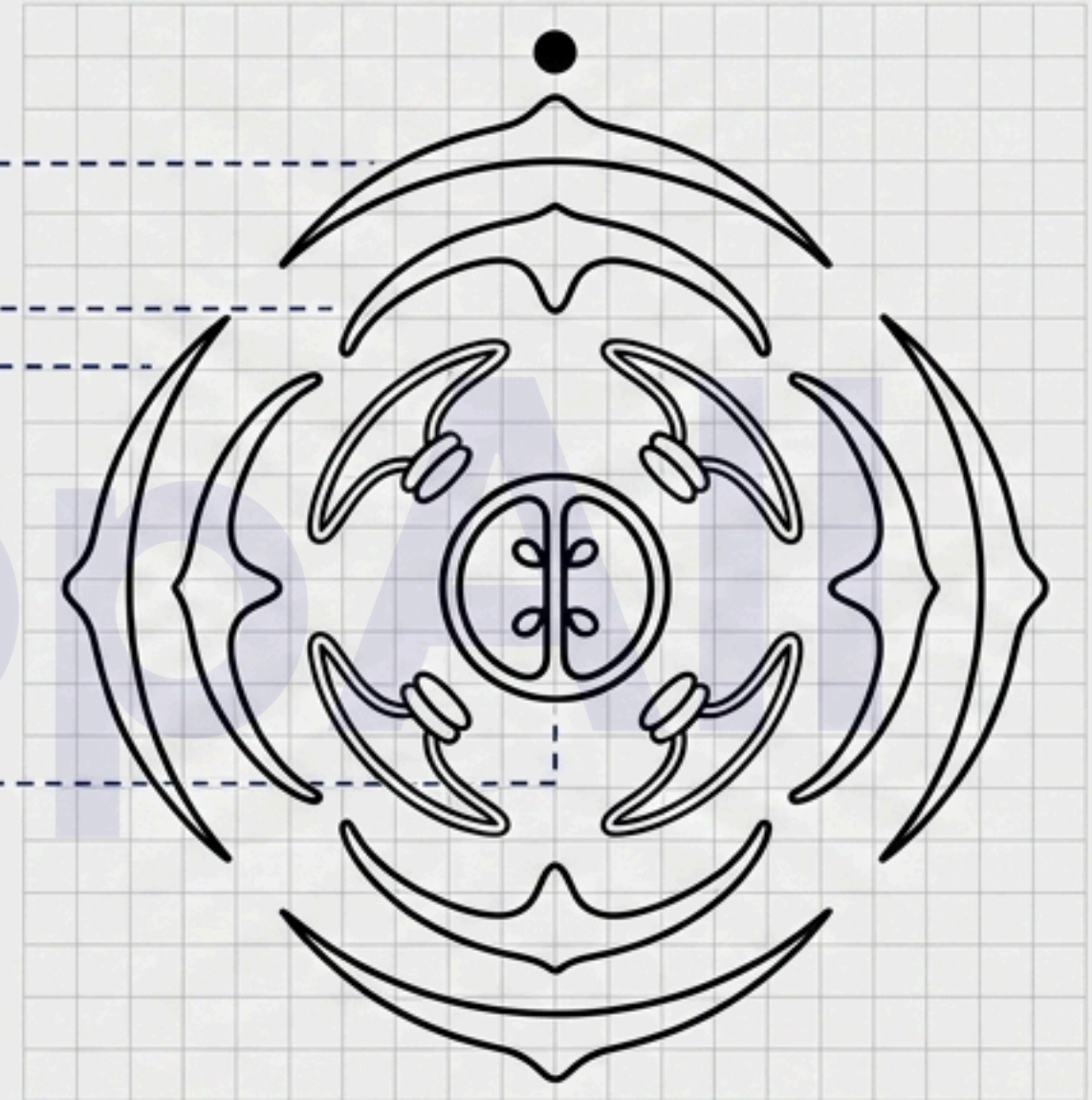
Note: Brackets in a written formula translate directly to physical connecting lines drawn between the shapes in the diagram.

Putting it Together: The Mustard Plant

The Formula

$\oplus \quad \text{♀} \quad K2+2 \quad C4 \quad A2+4 \quad \underline{G(2)}$

The Diagram



Synthesis: The semi-technical description, the formula, and the diagram are three exact translations of the same biological truth.



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