

- 1a. Flowers in globular heads.頭狀花序 (5 個屬) (2)
- 2a. Ovules and seeds solitary in each locule; leaves opposite or whorled 1. *Cephalanthus* 風箱樹屬
- 2b. Ovules and seeds many in each locule; leaves opposite. (3)
- 3a. Woody climbers, with hooked spines 2. *Uncaria* 鈎藤屬
- 3b. Shrubs or trees, without spines. (4)
- 4a. Flowering heads solitary, terminal 3. *Nauclea* 烏檀屬
- 4b. Flowering heads 1 – several, axillary, or axillary and terminal. (5)
- 5a. Terminal vegetative bud inconspicuous, loosely enveloped by stipules deeply 2-lobed 4. *Adina* 水團花屬
- 5b. Terminal vegetative bud conspicuous, conical; stipules entire, rarely notched at apex 5. *Pertusadina* 槽裂木屬

- 1b. Flowers not in globular heads.不是頭狀花序 (31 屬) (6)
- 6a. Corolla-lobes valvate\* [指未開花時, 花苞時萼片或花瓣在輪圈中僅在邊緣相遇而不會重疊] (19 屬) (7)
- 7a. Ovules and seeds 2[胚珠和種子 2] – many in each locule of the ovary.[每室有數粒] (5 屬) (8)
- 8a. Fruit indehiscent[果實不裂]; 2 outer calyx-lobes in the inflorescence very large and coloured 6. *Mussaenda* 玉葉金花屬
- 8b. Fruit dehiscent when mature; outer calyx-lobes not enlarged. (9)
- 9a. Flowers usually 4-merous[花四瓣]. (10)
- 10a. Seeds angled; disk usually small, slightly 4-lobed 7. *Hedyotis* 耳草屬
- 10b. Seeds peltate[種子盾形], navicular or flat, not angled; disk inconspicuous 8. *Neanotis* 新耳草屬
- 9b. Flowers 5-merous[花五瓣]. (11)
- 11a. Sepals unequal [萼片不相等]; capsule ovoid 9. *Pentas* 五星花屬
- 11b. Sepals equal [萼片相等]; capsule broader than long 10. *Ophiorrhiza* 蛇根草屬
- 7b. Ovules and seeds solitary in each locule of the ovary.[每室一粒] (12)

- 12a. Fruits united in one compound berry [eg. 雞眼藤果] 11. *Morinda* 巴戟天屬
- 12b. Fruits distinct. [果分明] (13)
- 13a. Stipules fused with petioles and fringed with bristles. (14)
- 14a. Small shrubs; flowers solitary in small terminal clusters 12. *Serissa* 白馬骨屬
- 14b. Herbs or subshrubs. (15)
- 15a. Inflorescence axillary, subsessile 13. *Spermacoce* 豐花草屬
- 15b. Inflorescence terminal, pedunculate 14. *Knoxia* 紅芽大戟屬
- 13b. Stipules not as above mentioned. (16)
- 16a. Herbs or climbing shrubs. (17)
- 17a. Leaves whorled. (18)
- 18a. Fruit dry, with hooked bristles; leaves 1(or 3 – 5)-veined 15. *Galium* 拉拉藤屬
- 18b. Fruit fleshy, glabrous; leaves palmately- or pinnately-veined 16. *Rubia* 茜草屬
- 17b. Leaves opposite. (19)

- 19a. Erect or decumbent herbs. (20)
- 20a. Flowers 6-merous [花瓣 6]; ovary and fruit 3-celled 17. Richardia 墨苜蓿屬
- 20b. Flowers 4-merous [花瓣 4]; ovary and fruit 2-celled. (21)
- 21a. Fruit a fleshy drupe, indehiscent; calyx-lobes equal 18. Geophila 愛地草屬
- 21b. Fruit circumscissile; calyx-lobes 2 large and 2 small 19. Mitracarpus 蓋裂果屬
- 19b. Climbing shrubs; flowers in terminal or axillary panicles. (22)
- 22a. Plants climbing by aerial roots [氣生根 eg. 穿根藤]; corolla tube shorter than lobes 23. Psychotria 九節屬
- 22b. Plants without aerial roots; corolla tube longer than lobes 20. Paederia 雞矢藤屬
- 16b. Shrubs or trees. (23)
- 23a. Ovary 3 – 9-locular; styles 3 – 9; branches and leaves crushed with disagreeable smell 21. Lasianthus 粗葉木屬
- 23b. Ovary 2-locular; styles 2; branches and leaves not smelling disagreeably. (24)
- 24a. Flowers in axillary clusters or cymes 22. Canthium 魚骨木屬
- 24b. Flowers in terminal cymes or panicles 23. Psychotria 九節屬

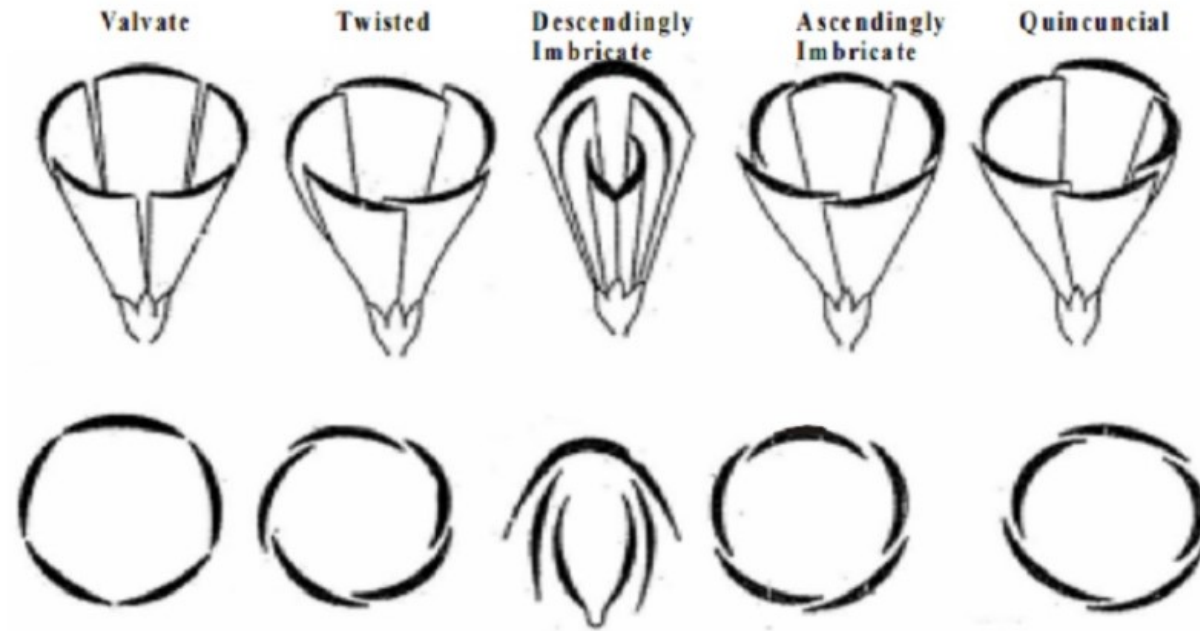
- 6b. Corolla-lobes contorted\* or imbricate\*. (12 屬) (25)
- 25a. Corolla-lobes imbricate. (26)
- 26a. Woody climbers; fruit a capsule 24. Coptosapelta 流蘇子屬
- 26b. Shrubs; fruit a berry or a drupe. (27)
- 27a. Flowers 5-merous [5 瓣]; calyx-lobes equal; leaves in whorls of 3 25. Hamelia 長隔木屬
- 27b. Flowers 4-merous[4 瓣]; calyx-lobes unequal; leaves opposite 26. Antirhea 毛茶屬
- 25b. Corolla-lobes contorted. (28)
- 28a. Ovules and seeds solitary in each locule of the ovary. (29)
- 29a. Flowers 5-merous; corolla-tube shorter than lobes 27. Tarenna 烏口樹屬
- 29b. Flowers 4-merous; corolla-tube slender, longer than lobes. (30)
- 30a. Style bifid at the top, with recurved lobes 28. Ixora 龍船花屬
- 30b. Style entire, with clavate stigma 29. Pavetta 大沙葉屬
- 28b. Ovules and seeds 2 – many in each locule of the ovary. (31)

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|--|--------------------------------------|
| 31a. Flowers large, solitary; ovary 1-locular, with parietal placentas       | <u>30.</u> <i>Gardenia</i> 梔子屬       |
| 31b. Flowers smaller, in clusters or cymes; ovary 2-locular.                 | (32)                                 |
| <b>32a.</b> Shrubs or sometimes half-climbing, with <b>axillary spines</b> . | (33)                                 |
| 33a. Corolla bell-shaped[花冠鐘形]; fruit 2 – 4 cm in diam.                      | <u>31.</u> <i>Catunaregam</i> 山石榴屬   |
| 33b. Corolla savelrform; fruit 0.8 – 1.2 cm in diam.                         | <u>32.</u> <i>Oxyceros</i> 雞爪筋屬      |
| <b>32b.</b> <b>Spineless</b> shrubs.   | (34)                                 |
| 34a. Flowers 4-merous[4 瓣], unisexual (plants dioecious)                     | <u>33.</u> <i>Diplospora</i> 狗骨柴屬    |
| 34b. Flowers 5-merous, bisexual.   | (35)                                 |
| 35a. Ovules 4 – many each locule; cymes usually many-crowded                 | <u>34.</u> <i>Aidia</i> 茜樹屬          |
| 35b. Ovules 2 each locule; flowers 1 – 5-clustered                           | <u>35.</u> <i>Alleizettella</i> 白香楠屬 |

Source from <https://herbarium.gov.hk/en/hk-plant-database/plant-detail/index.html?pType=family&oID=656>

Appendix

## Plant Aestivation And Types of Aestivation



**Fig :** Different types of Aestivation

The mode of arrangement of either sepals or petals of a flower in bud condition is said to be an Aestivation. The Aestivation is of the following types : 1. Valvate Aestivation 2. Twisted Aestivation 3. Imbricate 4. Quincuncial

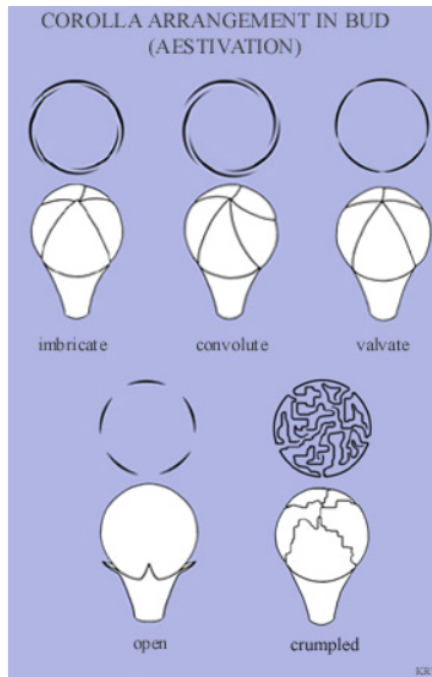
**Valvate Aestivation:** Sepals or petals in a whorl just meet by their edges without overlapping. eg. Sepals of Hibiscus.

**Twisted Aestivation:** In this mode of aestivation one margin of each sepal or petal overlaps the next one, and the other margin is overlapped by a preceding one. Here the over lapping is regular in one direction-clockwise or anticlockwise. eg. Petals of Hibiscus

**Imbricate:** In this type, one sepal or petal is internal or being overlapped on both the margins and one sepal or petal is external with both of its margins overlapping. Of the remaining sepals or petals, one margin is overlapping and the other margin overlapped.

[https://www.brainkart.com/article/Plant-Aestivation-And-Types-of-Aestivation\\_914/](https://www.brainkart.com/article/Plant-Aestivation-And-Types-of-Aestivation_914/)





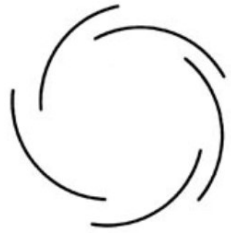
**aestivation:** the arrangement of sepals and petals or their lobes in an unexpanded flower bud. *cf.* **vernation.**

**convolute:** of the arrangement of corolla lobes in a bud, a form of imbricate aestivation in which each segment has one edge overlapping the adjacent segment, like a furled umbrella.

**imbricate:** of perianth parts, having the edges overlapping in the bud. *cf.* **valvate.**

**valvate:** of perianth parts, meeting edge to edge in the bud, not overlapping. *cf.* **imbricate.**

<https://ausflora.net/image-glossary/corolla-arrangement-in-bud-aestivation/>



Contorted



Quincuncial



Valvate



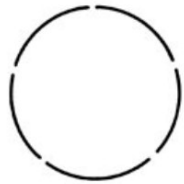
Twisted



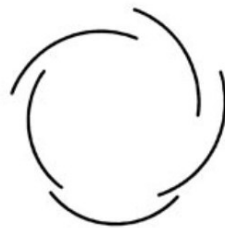
Imbricate



Vexillary



Valvate



Cochlear

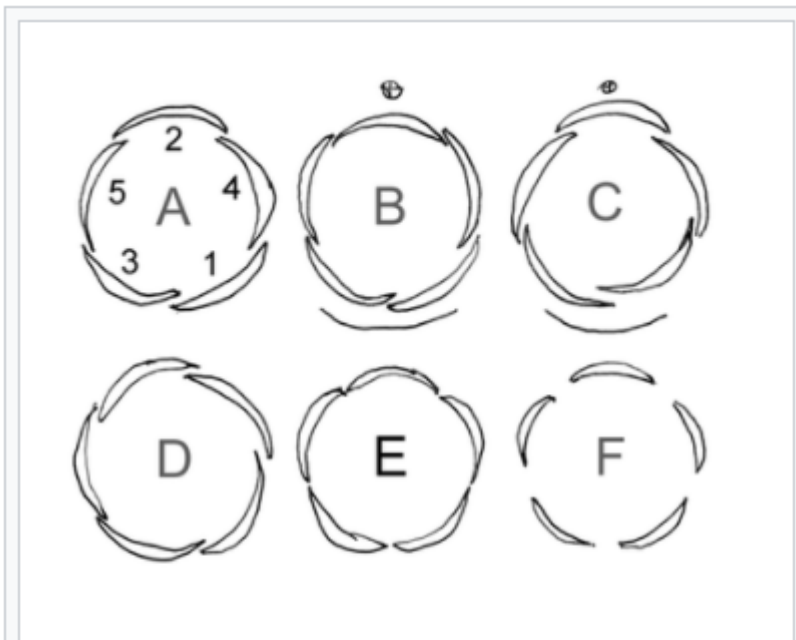




Lilac (*Syringa vulgaris*), valvate  
aestivation



*Vinca minor*, contorted aestivation



A diagram showing some kinds of petal or sepal aestivation in flower buds. A: quincuncial; B: twisted, C: cochleate; D: contorted; E: valvate; F: open.

wiki

Aestivation or estivation is the **positional arrangement of the parts of a flower within a flower bud before it has opened**. Aestivation

is also sometimes referred to as praefoliation or prefoliation, but these terms may also mean vernation: the arrangement of leaves within a vegetative bud.