

AN ILLUSTRATED KEY TO THE SPECIES
OF THE GENUS *MORMODES* LINDL.
(ORCHIDACEAE)

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The genus *Mormodes* Lindl., although not very large, is one of the most confusing because of the great variability in the color, size and shape of the flowers, while the vegetative parts remain surprisingly uniform. Some species flower always from leafless pseudobulbs at the end of the dormant period, while the flower spike of others emerges simultaneously with the new growth.

A botanist called upon to identify species usually must work with herbarium specimens (commonly incomplete because, when in flower, only a crimped pseudobulb may be included) or with flowers preserved in alcohol. Therefore, identifications must be able to be made from flowers only, which can be difficult unless the botanist is well acquainted with the entire genus. Since *Mormodes* seems always to have been a stone in the shoe of the botanist, I decided to investigate the problem in detail.

I have examined the type specimens of *Mormodes* in the herbaria of the Royal Botanic Gardens at Kew, the British Museum, the Oakes Ames Orchid Herbarium, the Missouri Botanical Garden, the Jardim Botânico do Rio de Janeiro, and the Museu Nacional, Rio de Janeiro. Unfortunately, the types of Reichenbach's species had been on loan to Berlin where they were destroyed during the war. I was able to see what most species, often described by just a few words, really looked like. I wish to express my thanks to the heads of the above institutions and to the curators of the herbaria for having permitted my study of their invaluable holotypes.

With the help of colleagues and friends who supplied me with living plants for cultivation, or with flowers preserved in liquid, together with transparencies, I was able to realize the great variability in color of some species. The variability within one species can be so great as to present purple or yellow flowers, red, green and yellow flowers, minutely dotted flowers, or entirely colorless flowers. Variation in size is also great. Within the same species flowers may vary more than 100% in linear measurements. For their generous collaboration I wish to thank Dr. Robert Dressler of the Smithsonian Tropical Research Institute, Balboa, Canal Zone, Sr. Roberto Mejia C. of Tachira, Venezuela, Sr. Gilberto Escobar R. of Medellin, Colombia, and Dr. Jack Fowlie, editor of the *Orchid Digest*, La Cañada, California. I wish especially to acknowledge the collaboration of the late D. F. Dungs of Rio de Janeiro for the cultivation of the living specimens received.

In future papers critical species will be treated. Reasons for reducing some species to the synonymy of others will be discussed.

KEY TO THE SPECIES OF *MORMODES*

1. Lip trilobed	2
1a. Lip entire	18
2. Lip deeply trilobed	3
2a. Lip shallowly trilobed	15
3. Lip velutinous or pubescent	4
3a. Lip glabrous	7

*Herbarium Bradeanum, Rio de Janeiro, Brazil.

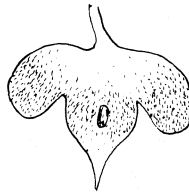
- 4. Lateral lobes of the lip much narrower than the midlobe.....5
- 4a. Lateral lobes of the lip almost as wide as the midlobe6
- 5. Lateral lobes of the lip linear, contorted, as long as, or almost as long as the midlobe, long hairs on lip conspicuous.....*M. warscewiczii* Kl.
- 5a. Lateral lobes of the lip unciform, much shorter than the midlobe; long hairs on lip sparse, lip sometimes glabrous....*M. lineata* Batem. ex Lindl.
- 6. Lateral lobes of the lip rounded, much shorter than the long-pointed midlobe..... *M. ocauae*Lind. & Rchb. f.
- 6a. Lateral lobes of the lip rounded or triangular, as long as, or almost as long as the short-pointed midlobe *M. wolterana* Krzl.



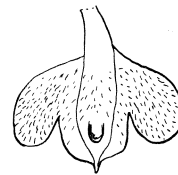
M. warscewiczii



M. lineata

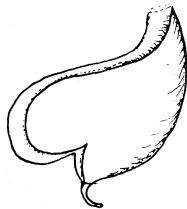


M. ocauae



M. wolterana

- 7. Lip curved upward, spoon-shaped *M. luxata* Lindl.
- 7a. Lip with the sides bent downward, saddle-shaped8
- 8. Lip longer than broad9
- 8a. Lip broader than long, or as broad as long11
- 9. Lip broader above the middle, lobed near the apex
..... *M. sanguineoclaustra* Fowl.
- 9a. Lip broader below the middle, lobed near the base.....10
- 10. Flowers small; lip ca. 1.5 cm long *M. lineata* Batem. ex Lindl.
- 10a. Flowers large; lip ca. 3 cm long*M. maculata* (Kl.) L. O. Wms.
- 11. Lateral lobes of the lip triangular, acute or subacute, the angle of the sinus between the lobes obtuse.....12
- 11a. Lateral lobes of the lip broadly obtuse or rounded, the angle of the sinus between the lobes acute.....13
- 12. Lateral lobes of the lip directed laterally (Brazil) *M. vinacea* Hoehne



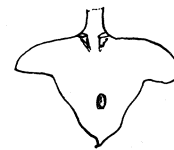
M. luxata



M. sanguineoclaustra



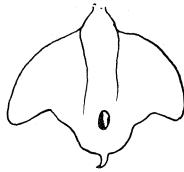
M. maculata



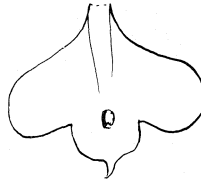
M. vinacea

- 12a. Lateral lobes of the lip directed forward (Honduras)
..... *M. ehippilabia* Fowl.

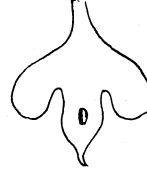
- 13. Sinus between the lobes of the lip shallow, the lobes directed laterally ...
..... *M. atropurpurea* Lindl.
- 13a. Sinus between the lobes of the lip deep, the lobes directed forward ...14
- 14. Lip longer than wide; lateral lobes with a rounded apex
.....*M. guentherana* (Krzl.) Mansf.
- 14a. Lip as long as wide; lateral lobes with an obtuse apex
..... *M. sinuata* Rchb. f. & Warm.



M. ephippilabia



M. atropurpurea

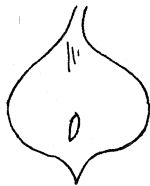


M. guentherana

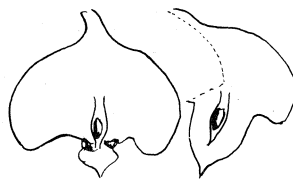


M. sinuata

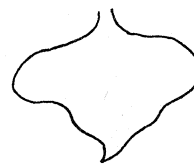
- 15. Midlobe of the lip much smaller than the lateral lobes16
- 15a. Midlobe of the lip wider than the lateral lobes17
- 16. Midlobe of the lip narrowly triangular, acuminate *M. lobata* Schltr.
- 16a. Midlobe of the lip broadly ovate, shortly apiculate
..... *M. aurantiaca* Schltr.
- 17. Petals ovate; lip broader than long *M. vernixioidea* Pabst
- 17a. Petals elliptic to narrowly ovate; lip as broad as long
..... *M. vernixia* Rchb. f.



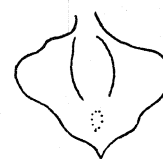
M. lobata



M. aurantiaca

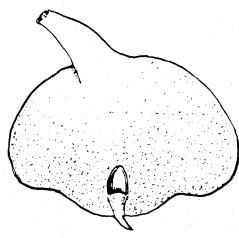


M. vernixioidea

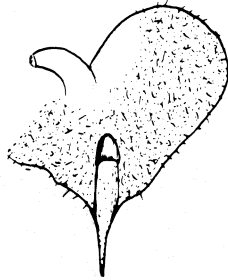


M. vernixia

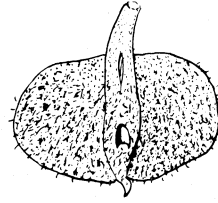
- 18. Lip velutinous or pilose19
- 18a. Lip glabrous24
- 19. Surface of the lip smoothly velutinous *M. tigrina* Barb. Rodr.
- 19a. Surface of the lip with longer, hispidous hairs more or less densely distributed20
- 20. Lip cordiform *M. variabilis* Rchb. f.
- 20a. Lip transversely elliptical21
- 21. Lip symmetrically elliptical, 2 cm long, 1.5-3.5 cm wide
..... *M. tibicen* Rchb. f.
- 21a. Lip obscurely lobed or almost rhomboid22
- 22. Lip small, 1-1.2 cm long, 1.5-2 cm wide *M. skinneri* Rchb. f.
- 22a. Lip larger, 1.5-2.5 cm long, 1.5-3.5 cm wide23



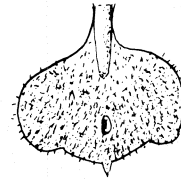
M. tigrina



M. variabilis

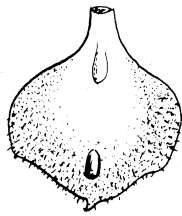


M. tibicen

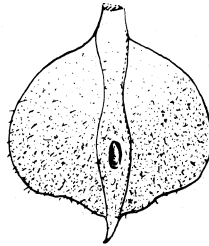


M. skinneri

- 23. Petals narrowly ovate; lip with a short 1-2 mm long apex.....
..... *M. hookeri* Lem.
- 23a. Petals very narrowly ovate; lip with a 4 mm long apex.....
..... *M. lawrenceana* Rolfe
- 24. Lip curved upward or flat, not downward.....25
- 24a. Lip curved downward, saddle-shaped.....29
- 25. Lip narrowly ovate..... *M. calceolata* Fowl.
- 25a. Lip obovate to obtusate.....26
- 26. Lip broadly obtusate to obovate..... *M. horichii* Fowl.



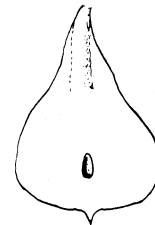
M. hookeri



M. lawrenceana



M. calceolata



M. horichii

- 26a. Lip narrowly obtusate.....27
- 27. Apical portion of the lip denticulate..... *M. uncia* Rehb. f.
- 27a. Apical portion of the lip smooth.....28
- 28. Lip with the lateral margins incurved.....*M. aromatica* Lindl.
- 28a. Lip with the lateral margins flat..... *M. flavida* Kl.
- 29. Lip widest above the middle.....30
- 29a. Lip widest near or below the middle.....32
- 30. Lip obcordiform, the apex large, narrowly triangular.....
..... *M. claesiana* Pabst



M. uncia



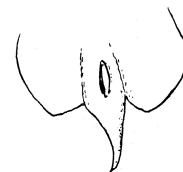
M. aromatica



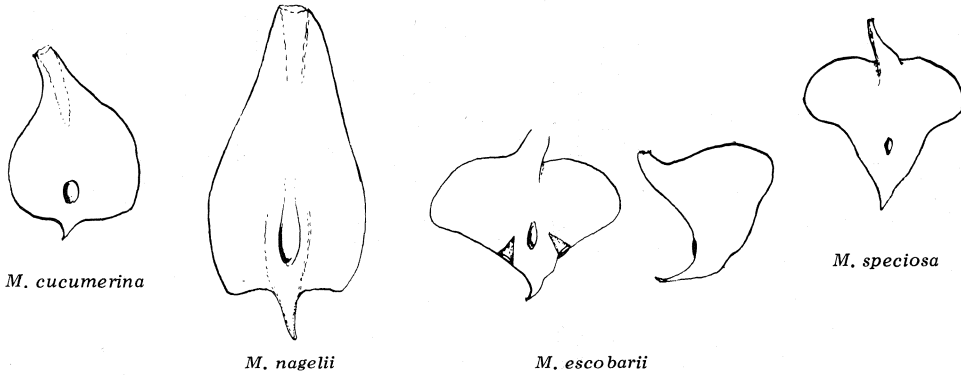
M. flavida



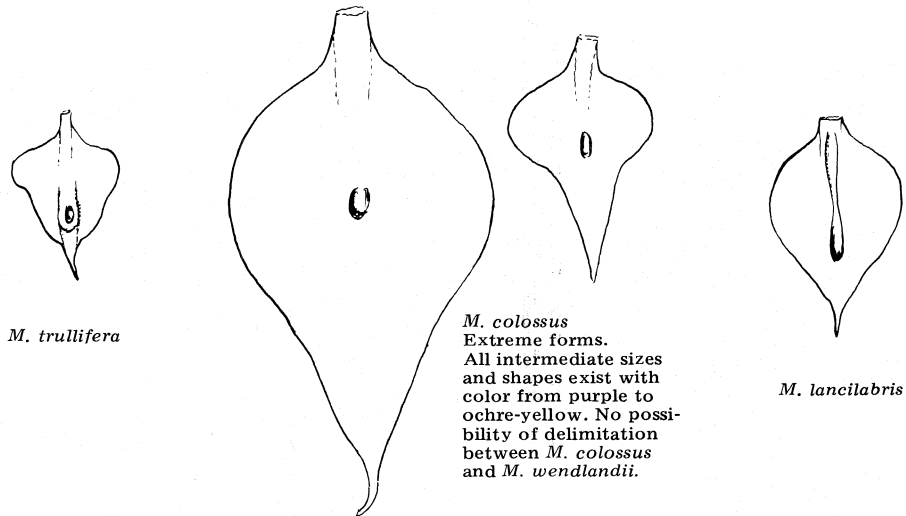
M. claesiana



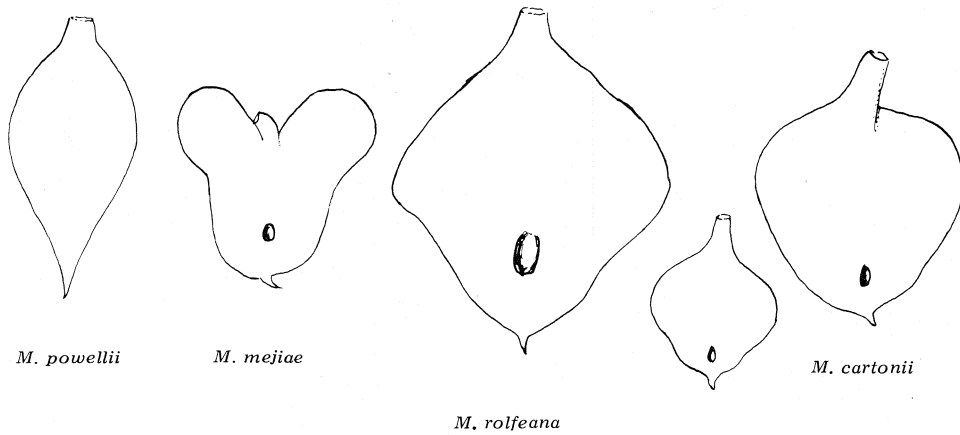
- 30a. Lip obovate to obtuse.....31
- 31. Lip broadly obovate to obtuse (in some cases elliptic); flowers small; lip 1.5-2 cm long.....*M. cucumerina* Pabst & Dungs
- 31a. Lip narrowly obovate to narrowly obtuse; flowers large; lip 4-5 cm long.....*M. nagelii* L. O. Wms
- 32. Lip almost triangular to trulliform33
- 32a. Lip of various other shapes34
- 33. Lip broadly triangular; petals broadly ovate..... *M. escobarii* Pabst
- 33a. Lip narrowly triangular to trulliform; petals narrowly ovate
.....*M. speciosa* Lind. ex Lindl. & Paxt.



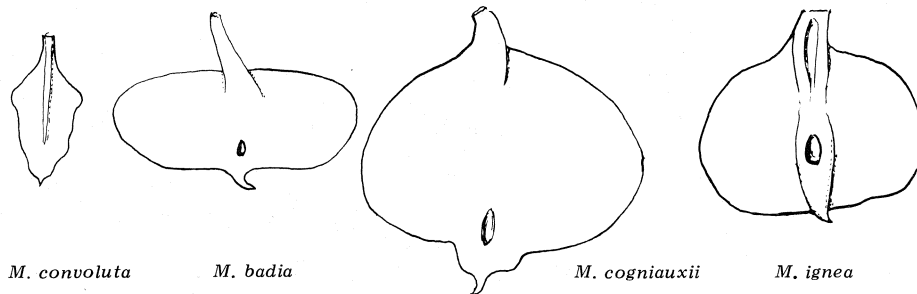
- 34. Lip ovate to narrowly ovate35
- 34a. Lip of other shapes38
- 35. Flowers small; lip trulliform, 2 cm long *M. trullifera* Pabst
- 35a. Flowers larger; lip ovate to narrowly ovate, 3-8 cm long36
- 36. Lip purple to yellowish with brown spots, the apex long-acuminate, but often abruptly narrowed *M. colossus* Rchb. f.
- 36a. Lip white, ovate, short-acuminate37
- 37. Lip broadly ovate, more or less rounded at the base.....
..... *M. lancilabris* Pabst



- 37a. Lip ovate, the base more or less cuneate *M. powellii* Schltr.
- 38. Lip deeply cordiform at the base, the apex broadly rounded with a small tip *M. mejiae* Pabst
- 38a. Lip not cordiform at the base 39
- 39. Lip ovate 40
- 39a. Lip obovate-elliptic to transversely elliptic or suborbicular 42
- 40. Flowers large; petals elliptic; lip broadly ovate, ca. 3 cm long
..... *M. rolfeana* Lind.
- 40a. Flowers small; lip 1.5-2.5 cm long 41
- 41. Lip broadly ovate, 2-2.5 cm long. 1.8-2 cm wide *M. cartonii* Hook.
(syn. *M. punctata* Rolfe)



- 41a. Lip narrowly ovate, 1.5 cm long, 1 cm wide
..... *M. convoluta* Lindl. & Paxt.
- 42. Lip obovate or elliptical *M. cucumerina* Pabst & Dungs
- 42a. Lip transversely elliptical 43
- 43. Lip very narrow, transversely elliptical *M. badia* Rolfe
- 43a. Lip broad, transversely elliptical to suborbicular 44
- 44. Flowers large; lip 3-3.5 cm wide 45
- 44a. Flowers small; lip 2-2.5 cm wide 46
- 45. Apex of the lip rounded with a narrow, 2.5-3 mm long tip
..... *M. cogniauxii* Lind.
- 45a. Apex of the lip rounded with a broad, 2 mm long tip
..... *M. ignea* Lindl. & Paxt.



- 46. Lip entire, transversely elliptical47
- 46a. Lip obscurely trilobed.....49
- 47. Perianth segments obtuse *M. rosea* Barb. Rodr.
- 47a. Perianth segments acute48
- 48. Petals much wider than the sepals *M. oberlanderana* Lehm. & Krzl.
- 48a. Petals slightly narrower than the sepals *M. schultzei* Schltr.
- 49. Petals narrowly ovate; base of the lip cuneate *M. dayana* Rchb. f.
- 49a. Petals ovate; base of the lip subcordate *M. buccinator* Lindl.

