

EXPLANATION OF PLATES

- Plate 1. A stream at Nyatoka above Wangdu Phodrang, Bhutan, alt. 1500 m (Apr. 10, 1967). *Desmodium elegans* DC. in full bloom on the left bank.
- Plate 2. a. *Aruncus dioicus* Fernald subsp. *triternatus* Hara at the edge of the forest of *Rhododendron campanulatum*. Sandakphu, the Singalila Range, 3900 m (Jul. 14, 1969).
 b. *Meconopsis napaulensis* DC. f. *fusco-purpurea* Hara.
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 c. *Chirita macrophylla* Wallich.
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- Plate 5. a. *Iris Clarkei* Baker.
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- Plate 6. a. *Arisaema erubescens* Schott.
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 b. *Arisaema Griffithii* Schott var. *verrucosum* Hara.
 Garibas—Tonglu, the Singalila Range, 3000 m (May 2, 1970). $\times 1/2$.
 c. *Arisaema costatum* Martius.
 Thare, Gosainkund, C. Nepal, 2200 m (Jun. 3, 1969). $\times 1/2$.
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 Phalut—Sabargan, the Singalila Range, 3400 m (Jul. 19, 1969). $\times 3/4$.
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- Plate 8. a. *Calanthe tricarinata* Lindley, one flower. $\times 1$.
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 Phulchauki, Kathmandu, 2700 m (May 29, 1969). $\times 1/2$.
 c. *Cephalanthera ensifolia* Richard.
 Gosainkund, C. Nepal, 2700 m (Jun. 4, 1969). $\times 2/3$.

- d. *Orchis Chusua* D. Don.
Phalut, the Singalila Range, 3800 m (Jul. 16, 1969). × 5/4.
- Plate 9. a. *Parnassia mysorensis* Heyne.
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b. *Parnassia Wightiana* Wallich.
Phalut, the Singalila Range, 3800 m (Jul. 16, 1969). × 2/3.
c. *Chrysosplenium singalilense* Hara in fruit.
Phalut, the Singalila Range, 3870 m (Jul. 18, 1969). × 3/2.
d. *Stilbanthus scandens* Hooker f. in flower.
Phyang La, Sikkim, 1700 m (Jul. 1, 1969).
e. *Acomastylus sikkimensis* F. Bolle with white nodding flowers.
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- Plate 10. a. *Rubus lineatus* Reinwardt.
Ghum, Darjeeling, 2300 m (Jul. 7, 1969). × 4/5.
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c. *Rubus gigantiflorus* Hara.
Tonglu, the Singalila Range, 3000 m (Jul. 12, 1968). × 3/4.
d. *Rubus fragarioides* Bertoloni.
Sandakphu, the Singalila Range, 3800 m (Jul. 15, 1969). × 1.
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Above Sabargan, the Singalila Range, 3500 m (Jul. 16, 1969). × 1.
- Plate 11. a. *Streptopus simplex* D. Don.
Sandakphu, the Singalila Range, 3900 m (Jul. 20, 1969). × 3/4.
b. *Cardiocrinum giganteum* Makino.
Phulchauki, Kathmandu, 2700 m (Jun. 10, 1969). × 1/2.
c. The same. × 1/4.
d. *Ophiopogon parviflorus* Hara.
Darjeeling, 2200 m (Jul. 24, 1969). × 1.
- Plate 12. a. *Polygonatum verticillatum* Allioni, a broad-leaved form.
Phalut, the Singalila Range, 3900 m (Jul. 18, 1969). × 1/5.
b. The same, a common Himalayan form with narrower leaves from the same locality. × 1/4.
c. *Polygonatum singalilense* Hara.
Phalut, the Singalila Range, 3900 m (Jul. 18, 1969). × 1/2.
d. *Polygonatum verticillatum* with alternate or opposite leaves.
Sandakphu, the Singalila Range, 3850 m (Jul. 14, 1969). × 5/7.
- Plate 13. Pollen grains of the section Dollinera of *Desmodium*. × 1000. a–d: *D. amethystinum* (Garrett 53), e–h: *D. multiflorum* (Kingdon-Ward 22545).
- Plate 14. Pollen grains of the sections Dollinera, Kingiana and Sequax of *Desmodium*. × 1000. a–d: *D. sequax* (Sasaki 849), e–h: *D. khasianum* (Hook. f. & Thoms. s.n.), i–k: *D. Kingianum* (Kerr 9086), l–n: *D. elegans* (subsp. *elegans* var. *Handelii*: Rock 8517), o–r: *D. megaphyllum* (o–q: Sørensen et al. 927; r: Iwatsuki & Fukuoka T.3210).
- Plate 15. a. *Arisaema intermedium* Blume.
Phulchauki, Kathmandu, 2900 m (May 29, 1969). × 5/12.
b. The same, a female spadix with an appendage. × 4/5.
c. *Arisaema speciosum* Martius.
Tiger Hill, Darjeeling, 2450 m (Jul. 26, 1969). × 1/6.

- d. *A. speciosum* var. *mirabile* Engler, a spathe and an appendage of spadix. Tendong Peak, Sikkim, 2900 m (Jun. 29, 1969). $\times 2/3$.
- Plate 16. a. *Arisaema ostiolatum* Hara.
Sabargan, the Singalila Range, 3400 m (Jul. 19, 1969). $\times 1/3$.
- b. The same, a longitudinally dissected spathe and a female spadix with an appendage. $\times 1$.
- c. *Arisaema propinquum* Schott.
Sandakphu, the Singalila Range, 3900 m (Jul. 14, 1969). $\times 1$.
- Plate 17. a. *Arisaema costatum* Wallich.
Shioupuri, Kathmandu, 2600 m (Jun. 15, 1969). $\times 5/12$.
- b. A female spadix with an appendage.
Phulchauki, Kathmandu, 2950 m (Jun. 10, 1969). $\times 1$.
- c. A part of the underside of leaf showing veins. Magnified.
- d. A spathe seen from the back. $\times 2/3$.
- e. A male spadix. $\times 3/2$. c-d, from Thare, Gosainkund, C. Nepal, 2200 m (Jun. 3, 1969).
- Plate 18. a. *Arisaema Jacquemontii* Blume.
Tonglu, the Singalila Range, 3000 m (Jul. 12, 1969).
- b. *Arisaema nepenthoides* Martius.
Shioupuri, Kathmandu, 2600 m (Jun. 14, 1969). $\times 1$.
- c. *Arisaema utile* Hook. f.
Phulchauki, Kathmandu, 2700 m (May. 29, 1969). $\times 2/5$.
- Plate 19. a. *Arisaema concinnum* Schott.
Shioupuri, Kathmandu, 2600 m (Jun. 14, 1969). $\times 1/3$.
- b. The same species.
Meghma—Chitrey, the Singalila Range, 2800 m (Jul. 22, 1969). $\times 1/4$.
- c. *Arisaema consanguineum* Schott, a narrow-leaved form.
Peshok Road—Ghum, Darjeeling, 2300 m (Jul. 7, 1969). $\times 1/3$.
- d. The same, showing a drooping fruiting peduncle. $\times 1/2$.
- Plate 20. a. *Arisaema exappendiculatum* Hara.
E. Nepal, cult. in Tokyo (Jun. 21, 1964). $\times 1/5$.
- b. The same. $\times 1/2$.
- c. *Arisaema echinatum* Schott, an appendage of a spadix showing an echinulate apical part. $\times 3/2$.
- d. The same.
Phulchauki, Kathmandu, 2800 m (Jun. 10, 1969). $\times 1$.
- Plate 21. Photomicrographs of chromosomes.
- a. *Ranunculus pulchellus* var. *Stracheyanus* Sabargan, the Singalila Range. $\times 1600$.
- b. *Ranunculus adoxifolius*. Sandakphu, the Singalila Range. $\times 1600$.
- c. *Ranunculus Brotherusi*. Sandakphu, the Singalila Range. $\times 1600$.
- d. *Podophyllum hexandrum*. Barshong, Bhutan. $\times 1400$.
- e. *Podophyllum hexandrum*. Gulmarg, Kashmir. $\times 1400$.
- f. *Desmodium podocarpum* subsp. *oxyphyllum*. Orchid Sanctuary, Gangtok, Sikkim. $\times 1900$.
- Plate 22. Photomicrographs of chromosomes.
- a. *Panax pseudo-ginseng*. Shioupuri, Kathmandu, C. Nepal. $\times 1300$.
- b. *Panax pseudo-ginseng* var. *angustifolius*. Darjeeling. $\times 1300$.
- c. The same, PMC, Darjeeling. $\times 1300$.
- d. *Aucuba japonica*. Mt. Katsūdake, Okinawa, Ryukyu. $\times 1800$.

- e. *Lysimachia prolifera*. Garibas—Tonglu, the Singalila Range. $\times 1700$.
- f. *Artemisia indica*. Kalapokhari, the Singalila Range. $\times 2000$.

Plate 23. Photomicrographs of chromosomes.

- a. *Arisaema intermedium*. Phulchauki, Kathmandu, C. Nepal. $\times 2000$.
- b. *Disporum cantoniense*. Tendong, Sikkim. $\times 800$.
- c. *Streptopus simplex*. Sandakphu, the Singalila Range. $\times 1500$.
- d. *Paris polyphylla* subsp. *marmorata*. Pele La, Bhutan. $\times 1200$.
- e. *Polygonatum graminifolium*. Gosainkund, C. Nepal. $\times 1500$.
- f. *Allium Wallichii*. Gosainkund, C. Nepal. $\times 1500$.

Plate 24. Photomicrographs of chromosomes.

- a. *Trillium Govanianum*. Sandakphu, the Singalila Range. $\times 700$.
- b. *Trillium Tschonoskii* var. *himalaicum*. Pele La, Bhutan. $\times 700$.
- c. *Iris japonica*. Darjeeling. $\times 1600$.
- d. *Iris Hookeriana*. Sonamarg, Kashmir. $\times 1600$.
- e. *Iris* sp. Near Lingshi, Bhutan. $\times 1600$.
- f. *Iris Clarkei*. Tonglu, the Singalila Range. $\times 1600$.

Plate 2.

- a. *Aruncus dioicus*
subsp. *triternatus*
at the edge of the forest
of *Rhododendron campanulatum*



- b. *Meconopsis napaulensis* f. *fusco-purpurea*



- c. *Meconopsis napaulensis*
with white flowers





a. *Primula sikkimensis*

b. *Begonia flaviflora*



c. *Lonicera adenophora*



Plate 4.

a. *Benthamidia capitata*



b. *Ceropegia pubescens*



c. *Chirita macrophylla*



d. *Didymocarpus Andersoni*





a. *Iris Clarkei*

b. *Iris decora*





Plate 6. a. *Arisaema erubescens*



b. *Arisaema Griffithii* var. *verrucosum*

c. *Arisaema costatum*



d. *Arisaema ostiolatum*





a. *Galeola Lindleyana*

b. *Cardiocrinum giganteum*





a. *Calanthe tricarinata*



b. *Calanthe tricarinata*

c. *Cephalanthera ensifolia*



d. *Orchis Chusua*



a. *Streptopus simplex*



b,c. *Cardiocrinum giganteum*



d. *Ophiopogon parviflorus*





Plate 12. a. *Polygonatum verticillatum*



c. *Polygonatum singalilense*

b. *Polygonatum verticillatum*



d. *Polygonatum verticillatum*



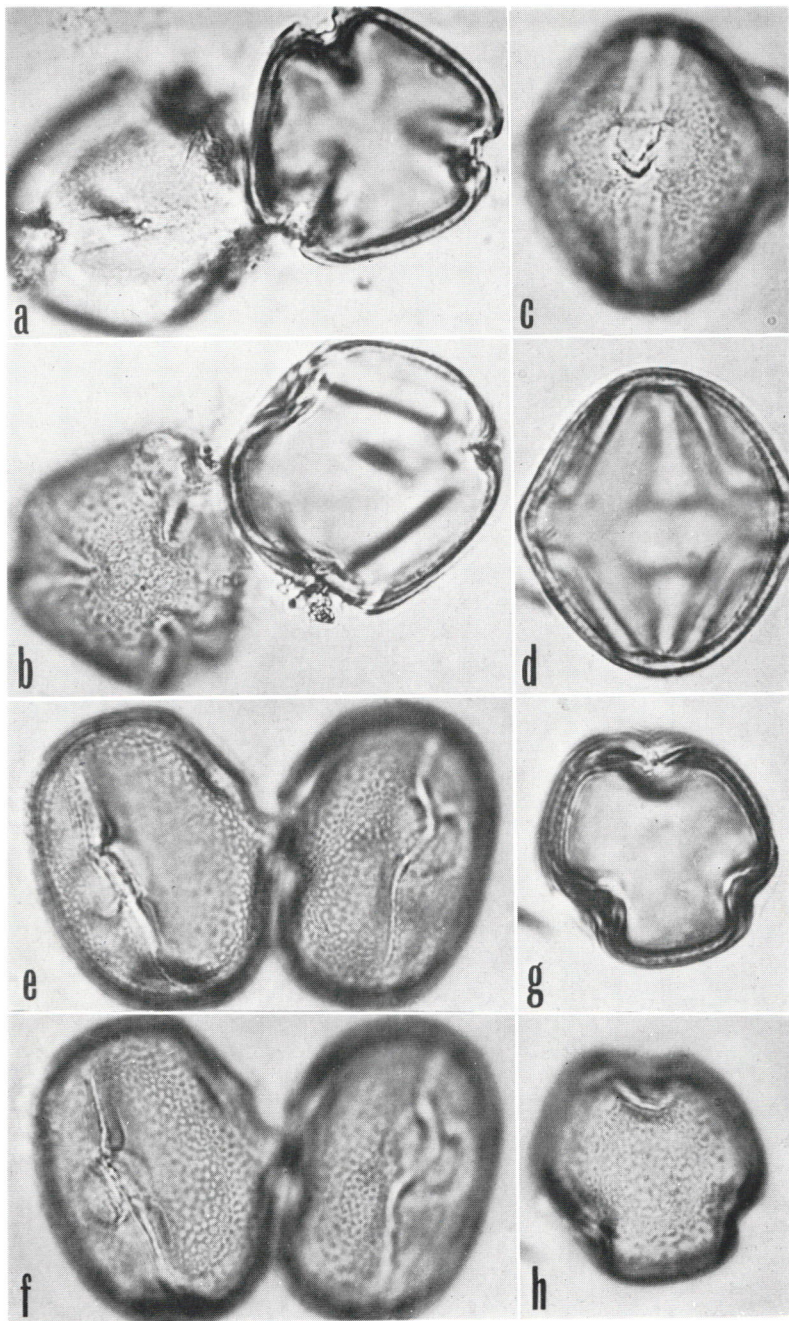


Plate 13. Pollen grains of *Dollinera* of *Desmodium*. $\times 1000$.
 a-d: *D. amethystinum* (Garrett 53),
 e-h: *D. multiflorum* (Kingdon-Ward 22545).

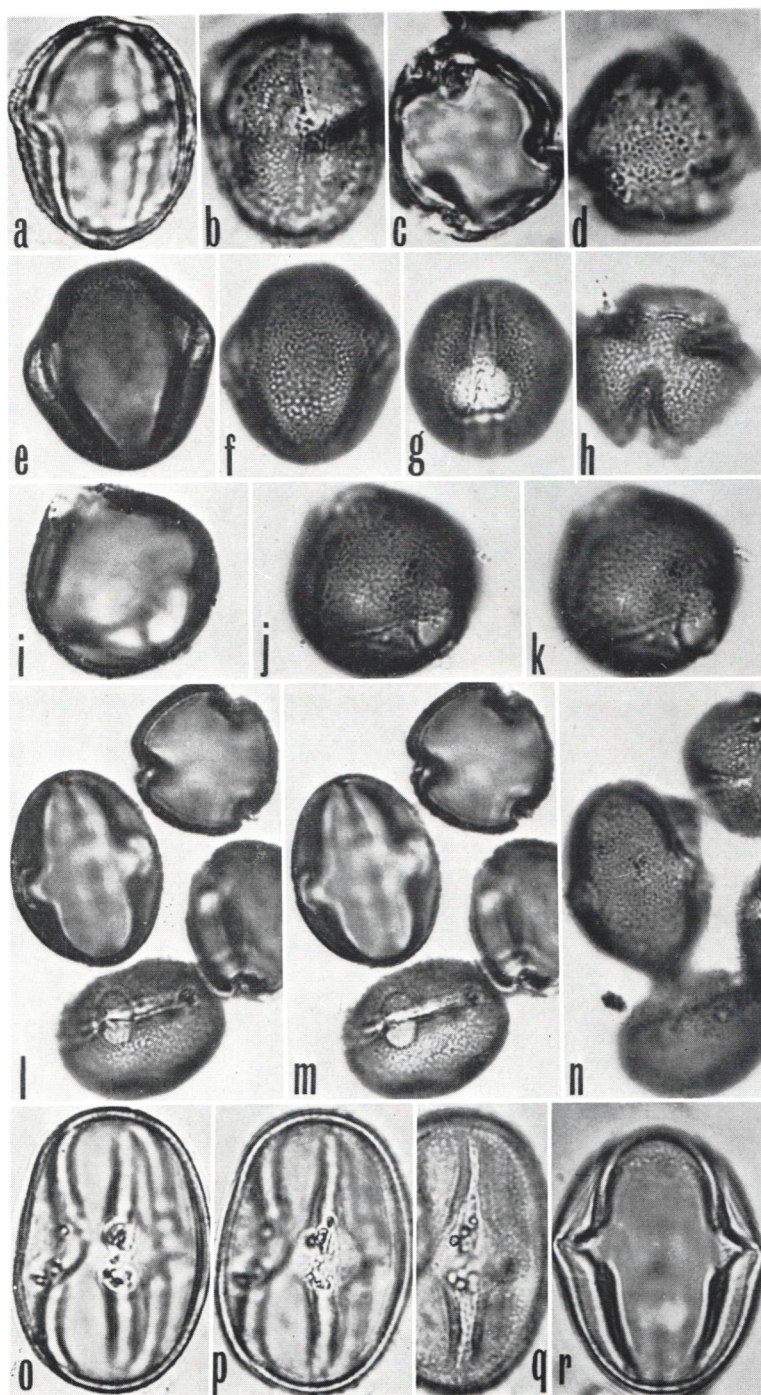


Plate 14. Pollen grains of Dollinera, Kingianae and Sequax of *Desmodium*. $\times 1000$. a-d: *D. sequax* (Sasaki 849), e-h: *D. khasianum* (Hook. f. & Thoms. s.n.), i-k: *D. Kingianum* (Kerr 9086), l-n: *D. elegans* (subsp. *elegans* var. *Handelii*: Rock 8517), o-r: *D. megaphyllum* (o-q: Sørensen et al. 927; r: Iwatsuki & Fukuoka T.3210).



a

a. *Arisaema intermedium*

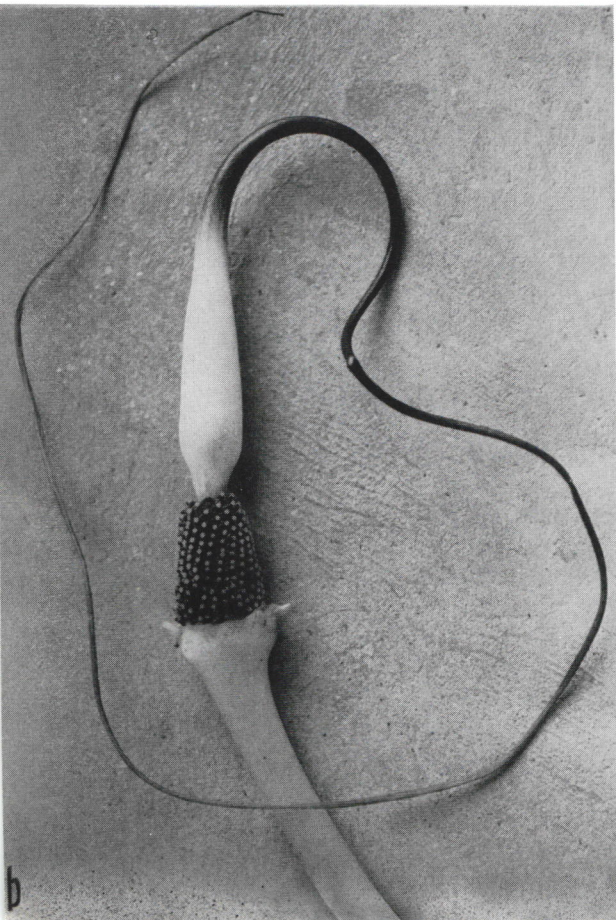
c. *Arisaema speciosum*

d. *A. speciosum* var. *mirabile*

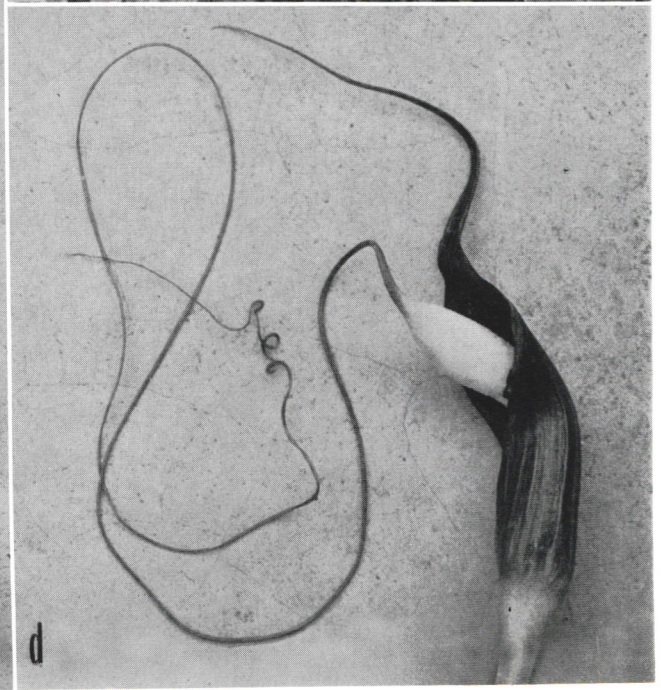
b. *Arisaema intermedium* a female spadix



c



b



d

Plate 16.

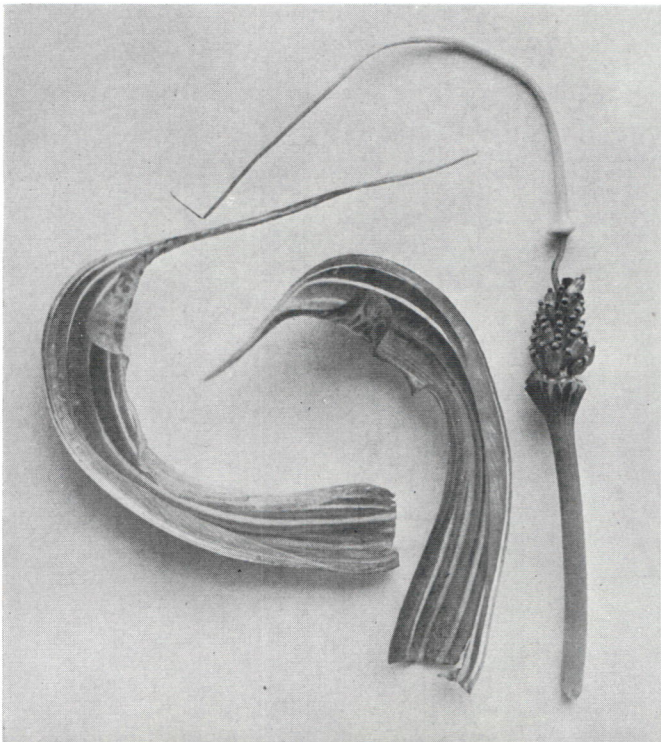
a. *Arisaema ostiolatum*



c. *Arisaema propinquum*



b. *Arisaema ostiolatum*



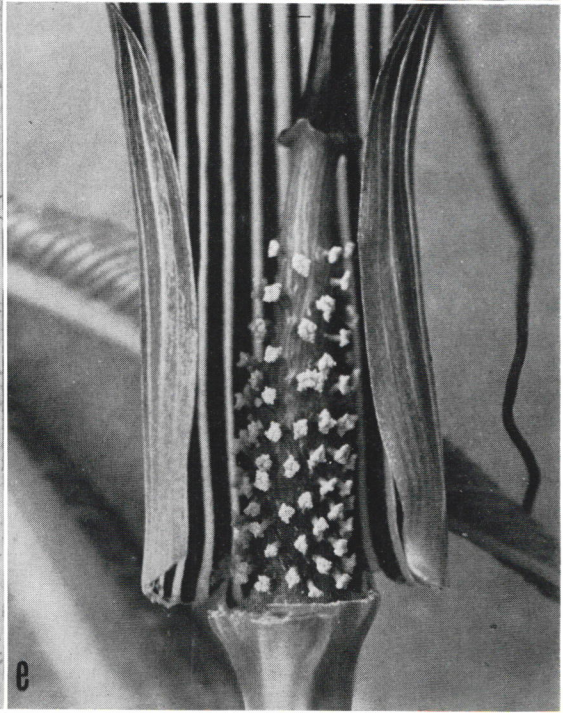
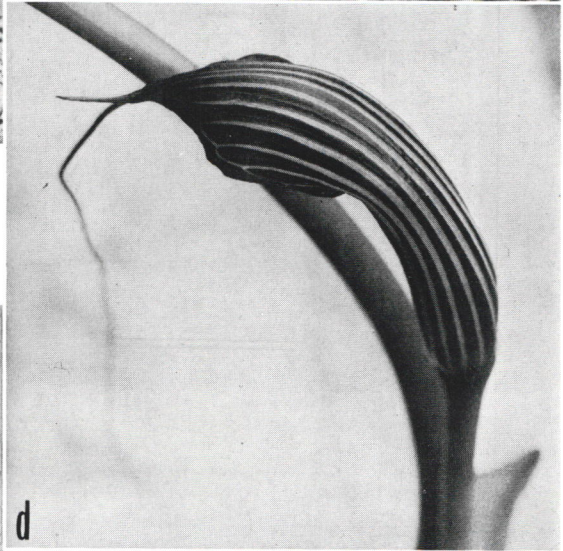
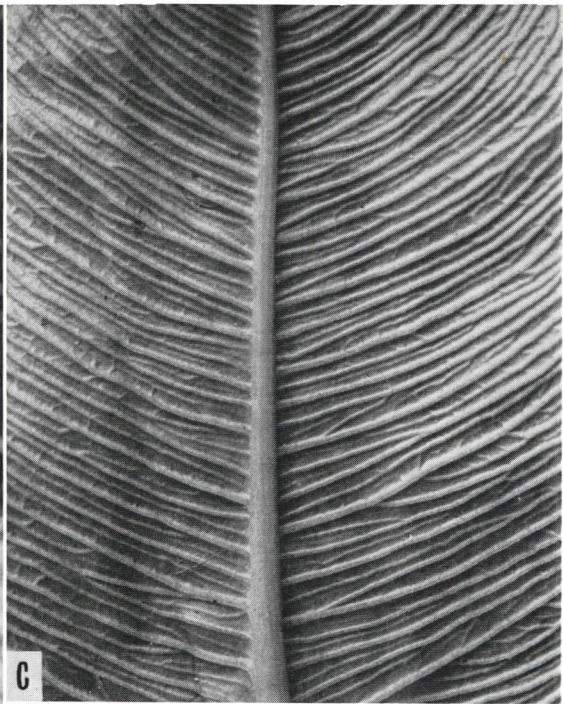


Plate 17.

a. - e. *Arisaema costatum*



a. *Arisaema Jacquemontii*

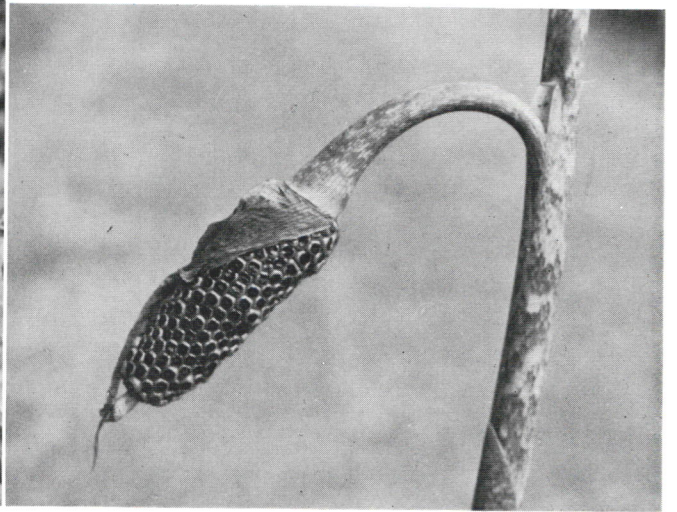
b. *Arisaema nepenthoides*

c. *Arisaema utile*





b. *Arisaema concinnum*



d. *Arisaema consanguineum*

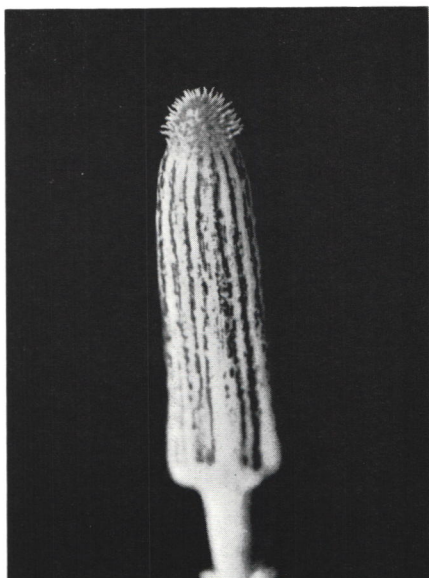
Plate 19. a. *Arisaema concinnum*



c. *Arisaema consanguineum*



a. *Arisaema exappendiculatum*



c,d. *Arisaema echinatum*

b. *Arisaema exappendiculatum*



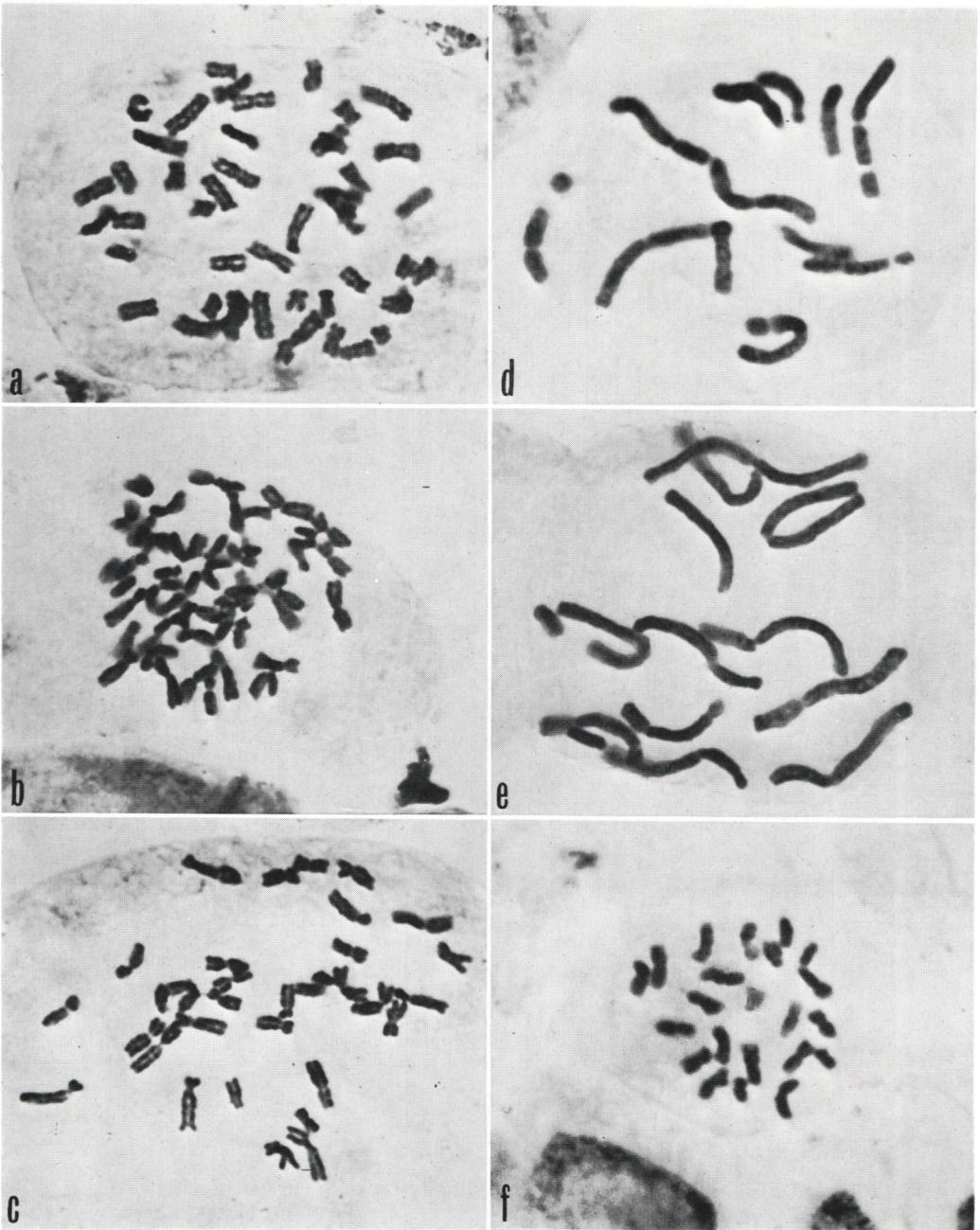


Plate 21. Photomicrographs of chromosomes.

- | | |
|---|--|
| a. <i>Ranunculus pulchellus</i> var. <i>Stracheyanus</i> . ×1600. | b. <i>Ranunculus adoxifolius</i> . ×1600. |
| c. <i>Ranunculus Brotherusi</i> . ×1600. | d. <i>Podophyllum hexandrum</i> . ×1400. |
| e. <i>Podophyllum hexandrum</i> . ×1400. | f. <i>Desmodium podocarpum</i> subsp. <i>oxyphyllum</i> . ×1900. |

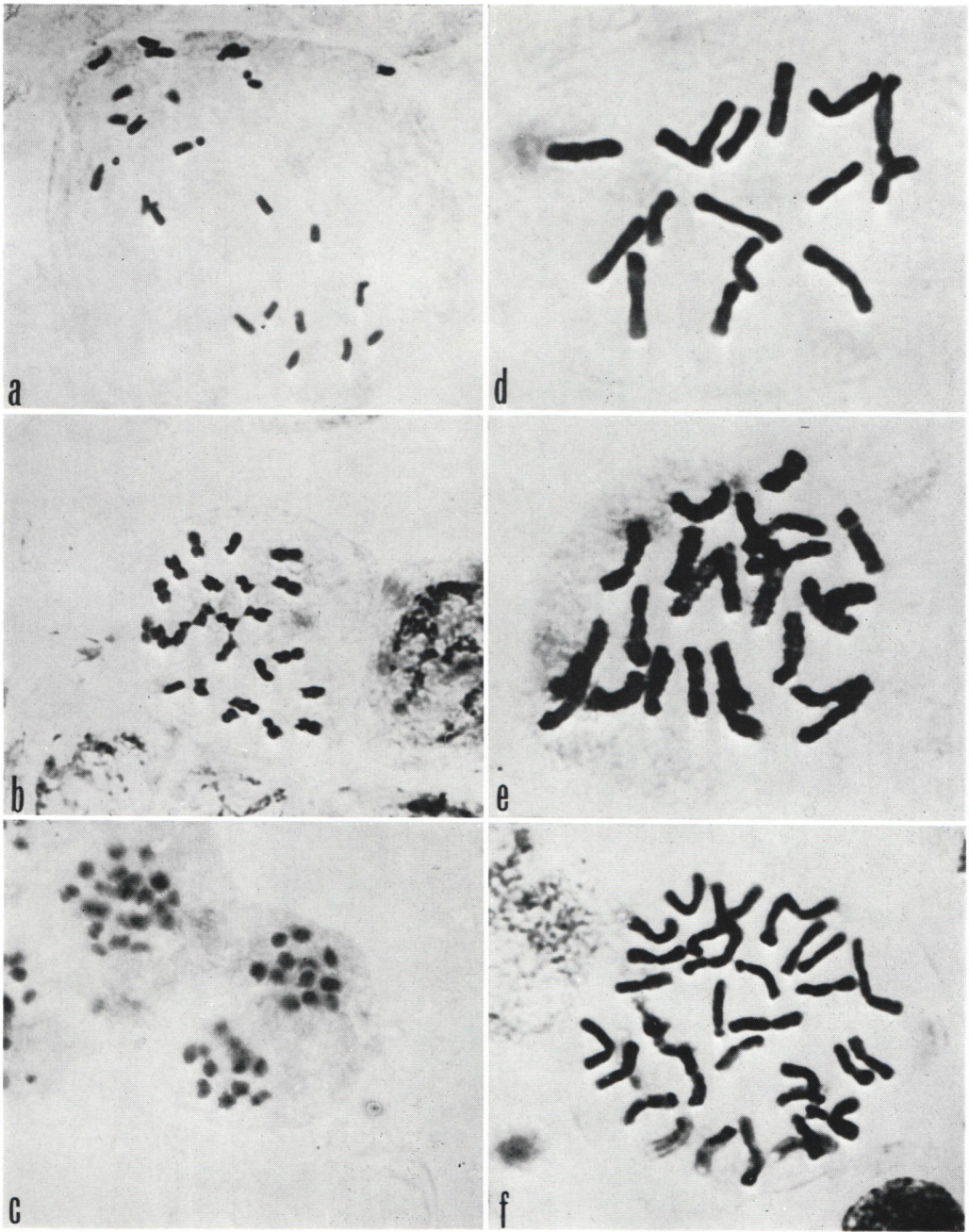


Plate 22. Photomicrographs of chromosomes

- | | |
|---|---|
| a. <i>Panax pseudo-ginseng</i> . ×1300. | b. <i>Panax pseudo-ginseng</i> var. <i>angustifolius</i> . ×1300. |
| c. The same, PMC. ×1300. | d. <i>Aucuba japonica</i> . ×1800. |
| e. <i>Lysimachia prolifera</i> . ×1700. | f. <i>Artemisia indica</i> . ×2000. |

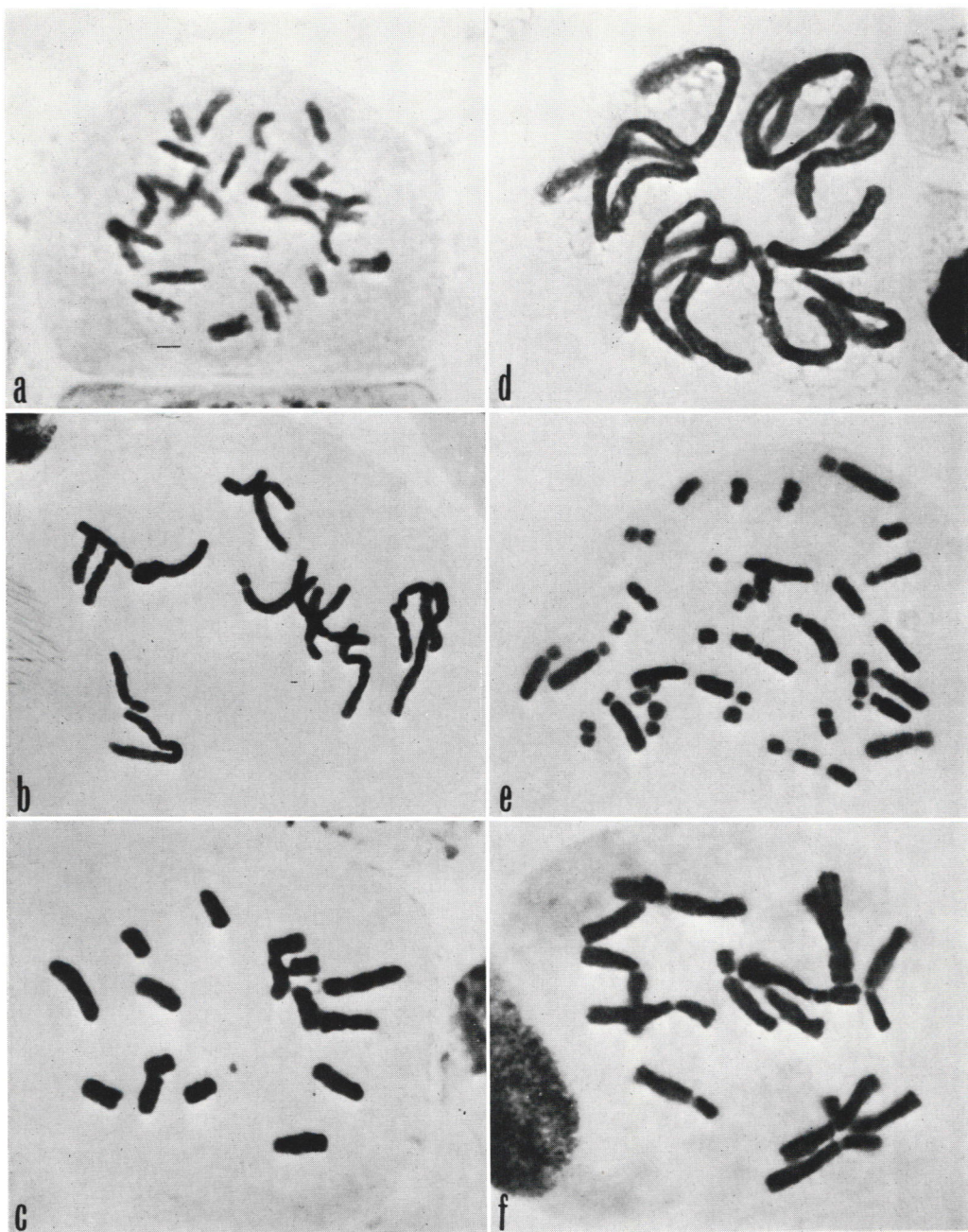


Plate 23. Photomicrographs of chromosomes

a. *Arisaema intermedium*. $\times 2000$.

b. *Disporum cantoniense*. $\times 800$.

c. *Streptopus simplex*. $\times 1500$.

d. *Paris polyphylla* subsp. *marmorata*. $\times 1200$.

e. *Polygonatum graminifolium*. $\times 1500$.

f. *Allium Wallichii*. $\times 1500$.

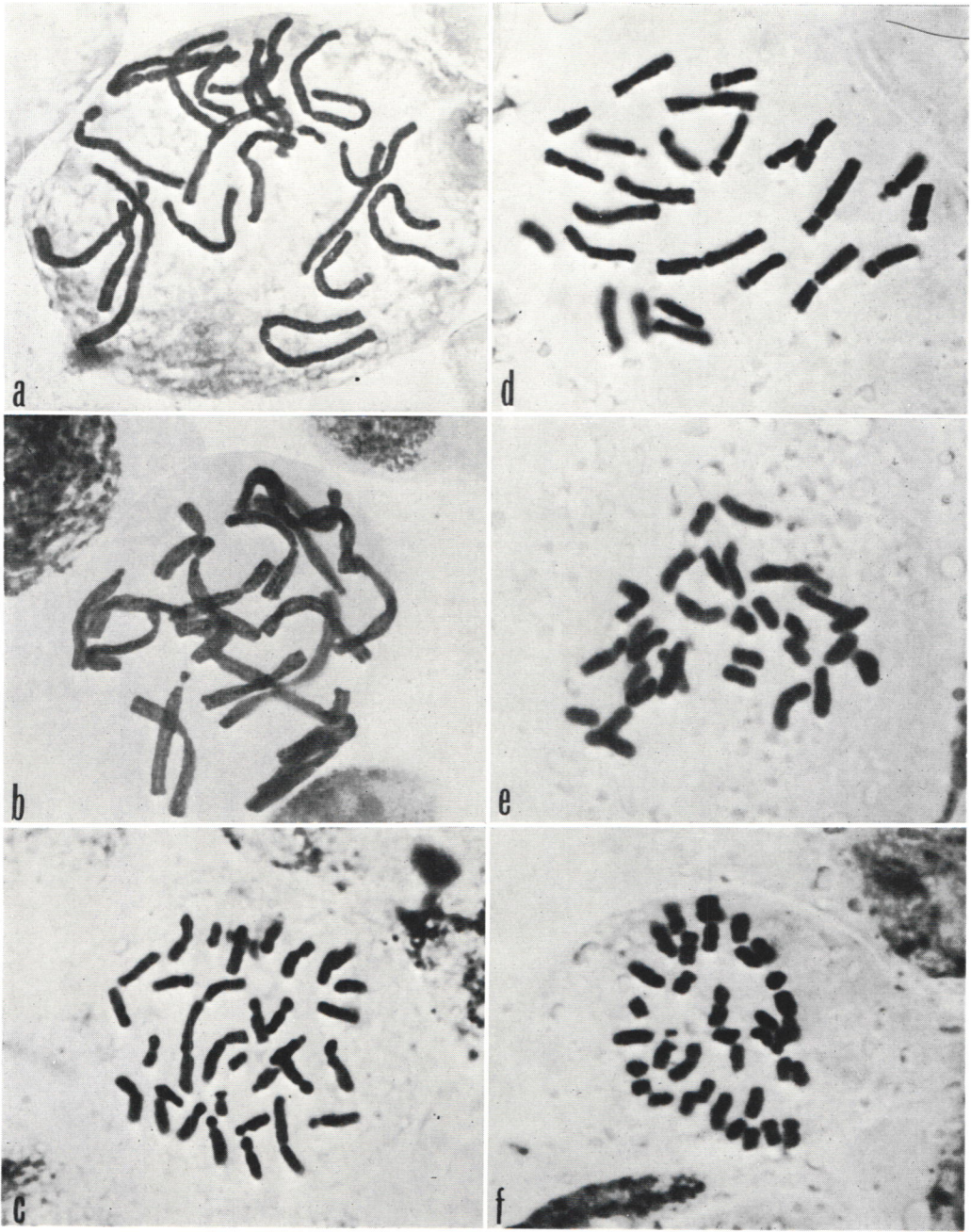


Plate 24. Photomicrographs of chromosomes

- a. *Trillium Govanianum*. $\times 700$. b. *Trillium Tschonoskii* var. *himalaicum*. $\times 700$.
 c. *Iris japonica*. $\times 1600$. d. *Iris Hookeriana*. $\times 1600$. e. *Iris* sp. $\times 1600$.
 f. *Iris Clarkei*. $\times 1600$.