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**THE PROPAGULES OF THE TERRESTRIAL FLORA
OF THE ALDABRA ARCHIPELAGO, WESTERN INDIAN OCEAN**

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THE PROPAGULES OF THE TERRESTRIAL FLORA OF THE ALDABRA ARCHIPELAGO, WESTERN INDIAN OCEAN

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The origins of the flora of the islands of the Aldabra archipelago, Aldabra, Assumption, Cosmoledo and Astove, and speculations on the modes of dispersal were discussed in an earlier paper (Wickens, 1979). In this paper the propagules are described, together with notes on their presumed status, distribution within the archipelago, and where known, information provided regarding long-distance dispersal and local dispersal. Dispersal information has been gleaned from the literature, or, in instances where no literature reference is provided, from unpublished data kindly supplied by C. B. Frith and Dr S. H. Hnatiuk.

The status of a species, whether native or introduced, is in some cases uncertain; the question is considered in some detail in Wickens (1979). Weeds are generally associated with areas of habitation, cultivation and waste places. Many are widely recognized as such in the literature, e.g. Haigh *et al.* (1951), Rochecouste & Vaughan (1959-66), Henderson & Anderson (1966), Ivens (1967), Henty & Pritchard (1975), and Holm *et al.* (1977). Cultivated plants are those believed to have been deliberately introduced for food, ornament, or some other utilitarian purpose. In both cases there are examples where the plant could have been naturally introduced.

Three categories are recognized for the native flora: 'strand' for the seashore littoral, 'lagoon' for the mangroves and tidal flats within the shelter of the lagoons, and 'inland' species, for which no designation is given in the text.

The method of dispersal has been gleaned from the literature, especially from Ridley (1930), whose encyclopaedic study is an uncritical catalogue of anecdotal evidence by numerous authors, which in the course of time has gained unquestioned universal acceptance. Effective dispersal involves transport and establishment. Thus evidence that a bird will consume a certain fruit or seed is not, *per se*, evidence for effective dispersal but of the possibility of dispersal by such a means. It must be admitted that the evidence of successful

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establishment is often extremely difficult to obtain; many propagules may be successfully transported but never become established, as is evident from the many viable propagules washed up on the shores of Aldabra belonging to species not represented in the flora.

The nomenclature follows that of the local flora by Fosberg & Renvoize (1979). The term 'seed' is widely used for both true 'seeds' as well as 'stones' of drupes, etc. It is hoped that the information given will be of interest to all those interested in dispersal and that the descriptions of the seeds will be of some guidance to ornithologists examining the stomach contents of birds. The paper shows what is known about dispersal and, more important, how little is known and where observations are required.

POLYDODIACEAE

1. *Acrostichum aureum* L. Spores minute, tetrahedral, with a 3-radiate dehiscence scar, colourless. Native; Aldabra, Assumption. Wind dispersed (Ridley, 1930).
2. *Nephrolepis biserrata* (Sw.) Schott Spores minute, with an unbranched dehiscence scar, brown. Native; Aldabra, Assumption. Wind dispersed (Ridley, 1930).

ANNONACEAE

3. *Annona squamosa* L. Sweetsop. Fruit syncarpous, fleshy, globose or conical, 5-10 x 5-10 cm., formed of loosely cohering or almost free carpels. Cultivated; Aldabra. Seeds or seedlings planted by man; possibly sea dispersed, fruit buoyant for about 7 months, seeds not buoyant (Gunn & Dennis, 1976).

MENISPERMACEAE

4. *Cissampelos pareira* L. var. *hirsuta* (Buch. ex DC.) Forman Drupe obovoid, 3.5 mm. long, dorsally bearing 2 rows of 9-11, very prominent, transverse ridges, orange or red; seeds 1, depressed-globose, verrucose, c. 4 mm. in diameter. Weed of guano pits; Assumption. Drupes eaten by birds (Ridley, 1930).

CRUCIFERAE

5. *Brassica nigra* (L.) Koch Siliqua up to 20 x 2 mm., seed globose, 1.5 mm. in diameter. Weed or pot herb; Aldabra, Assumption, Cosmoledo Astove. Seed introduced by man.

CAPPARIDACEAE

6. *Capparis cartilaginea* Decne. Berry obliquely ovoid or ellipsoid, up to 5 x 3 cm., ribbed, red; seeds many, reniform, c. 3 x 2 mm., reddish-brown. Native; Aldabra, Assumption, Astove. Dispersal not known; possibly eaten by birds.
7. *Cleome strigosa* (Bojer) Oliver Capsule siliquiform, up to 3.5 x 0.3 cm., with 2 dehiscent valves and persistent replum. Seed cochleate, c. 1.2-1.5 x 0.7-0.9 mm., tuberculate, reddish brown. Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Dispersal not known, possibly eaten and transported by birds or on driftwood.
8. *Gynandropsis gynandra* (L.) Briq. Capsule siliquiform, up to 15 x 0.8 cm., with 2 dehiscent valves and persistent replum. Seed cochleate, c. 1.5-1.8 mm. in diameter, transversely rugose. Weed; Aldabra. Seed accidentally introduced by man.
9. *Maerua triphylla* A. Rich. var. *pubescens* (Klotzsch) De Wolf Berry globose to cylindrical, 1-5 cm. long, torulose, woody; seeds ovoid to subglobose, up to 6 mm. in diameter. Native; Aldabra, Assumption, Cosmoledo, Astove. Dispersal not known.

FLACOURTIACEAE

10. *Flacourtia ramontchii* L'Herit. var. *renvoizei* Fosberg Berry globose, 7-10 mm. diameter, 5-lobed, black; seeds 6-8, obliquely ovoid, 4 x 2 mm., rugose, brick red with cream mottles. Endemic; Aldabra, Astove. Fruit eaten by turtledoves, blue pigeon, white-eyes and bulbuls (Benson & Penny, 1971).
11. *Ludia mauritiana* Gmel. Fruit baccate, globose, c. 10 mm. in diameter, thinly fleshy, red; seeds 2-3, oval to suborbicular, c. 1.5-2 mm. in diameter, arilate. Native; Aldabra. Fruit presumably eaten and dispersed by birds.

PORTULACACEAE

12. *Portulaca mauritiensis* Poelln. var. *aldabrensis* Fosberg Capsule globose, 3 mm. in diameter, circumscissile dehiscence. Seeds reniform, plump, 0.7-0.8 mm. across, iridescent blue. Endemic; Aldabra, Assumption, ? Cosmoledo. Dispersal unknown, seeds possibly eaten and dispersed by birds, locally dispersed by tortoise (Hnatiuk, in press, a).
13. *Portulaca mauritiensis* Poelln. var. *grubbii* Fosberg Fruit and seed as above. Endemic; Cosmoledo. Dispersal as above.

14. *Portulaca oleracea* L. var. *oleracea* Capsule ovoid, 4 x 2-3 mm., circumscissile dehiscence. Seeds many, reniform, somewhat compressed, c. 0.7 x 0.7 mm., black or dark brown, glossy, tessellate. Status uncertain, possibly naturalised weed of cultivation; Aldabra, Assumption. Seeds transported by drift pumice (Guppy, 1917) but sea dispersal considered a rare event by Ridley (1930) who records it as a pot-herb introduced by man, a weed of cultivated land and transported internally by birds. Also propagated by portions of broken stem (Henty & Pritchard, 1975, Holm et al., 1977).
15. *Portulaca oleracea* L. var. *delicatula* Fosberg Capsule as above. Seeds reniform, somewhat compressed, c. 0.7 x 0.7 mm., dark brown, glossy, with star-shaped markings. ? Endemic; Aldabra. Seed dispersal as above.
16. *Portulaca oleracea* L. var. *granulato-stellalata* Poelln. Capsule as above. Seeds reniform, somewhat compressed, c. 0.7 x 0.7 mm., black, tuberculate. ? Native; Aldabra, Assumption, Cosmoledo, Astove. Dispersal as for var. *oleracea*.

GUTTIFERAE

17. *Calophyllum inophyllum* L. var. *takamaka* Fosberg Drupe globose, c. 2.5 cm. in diameter, mericarp thin, endocarp thin; seed 1, globose, c. 2 cm. in diameter, oily. Endemic, strand; Aldabra, Assumption, Cosmoledo, Astove. Drupes of var. *inophyllum* eaten by birds and bats, also dispersal by man (Ridley, 1930); drupes float for 126 days, sea dispersed (Ridley, 1930; Fosberg, 1974; Gunn & Dennis, 1976). Sea main vector, locally dispersed by bats (Pijl, 1957).

MALVACEAE

18. *Abutilon angulatum* (Guill. & Perr.) Masters Regma depressed-globose, 1.5 cm. in diameter, surrounded by persistent calyx; mericarps c. 20-30, oval in outline, 4 x 8 mm., with lateral wings, dehiscent; seeds reniform, 2.5 x 2 mm., verruculose or smooth. Weed; Aldabra, Astove. Accidentally introduced by man.
19. *Abutilon fruticosum* Guill. & Perr. Regma depressed-cylindrical, 7 x 10 mm.; mericarps 7-8, broadly keeled in the apical half, obliquely truncate -- convex at the apex, dehiscent; seeds reniform, c. 1.5 x 1.5 mm., rugose, greyish brown. Weed; Assumption. Accidentally introduced by man.
20. *Abutilon pannosum* (Forst.f.) Schlecht. Regma depressed-cylindrical, c. 10 x 15 mm.; mericarps 16-20, obliquely oblong-elliptic, 8 x 6 mm., ends obtuse, dehiscent; seeds reniform-infundibuliform, 3 x 2 mm., hirsute. Weed; Aldabra, Cosmoledo,

Astove. Accidentally introduced by man.

21. *Gossypium hirsutum* L. Capsule globose, c. 3 cm. in diameter, enveloped by persistent calyx, loculicidally dehiscent; seeds ovoid 8 x 5 mm., with copious white wool. Cultivated and naturalised; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man.
22. *Hibiscus abelmoschus* L. Capsule ellipsoid, up to 8 x 3 cm., loculicidally dehiscent; seeds reniform, 3 x 2.5 mm., concentrically ribbed or rugose. Cultivated and naturalised; Astove. Introduced by man.
23. *Hibiscus tiliaceus* L. Capsule subglobose, 2-2.5 cm. in diameter, loculicidally dehiscent; seeds subreniform, 4.5 x 3 mm. Native, strand; Aldabra, Astove. Sea dispersed (Muir, 1937); seed buoyant 3-4 months (Guppy, 1917), carried by pumice (Guppy, 1890).
24. *Sida acuta* Burm. f. Regma depressed-globose 4 mm., dehiscent; mericarps 6-10, obliquely tetrahedral-reniform, 2 x 4 mm., birostrate, dehiscent; seeds 1, triangular, 1 x 1 mm., smooth. Weed; Aldabra, Assumption, Cosmoledo. Seed accidentally dispersed by man; mericarps adhere to coats of animals or carried by muddy feet (Holm et al., 1977).
25. *Sida parvifolia* DC. Schizocarp hemispherical, 3 x 1.5-2 mm.; mericarps 5, dorsally shield-shaped, 2 mm. long, birostrate; dehiscent; seed obliquely pyriform, 2 x 1.5 mm. Native; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known.
26. *Sida rhombifolia* L. Regma depressed-globose, 4 mm. in diameter; mericarps 8-12, 3 x 2 mm., birostrate, dehiscent; seed triangular, 2.5 x 2 mm., red-brown, glossy. Weed; Aldabra. Accidentally introduced by man.
27. *Thespesia populnea* (L.) Sol. ex Correa Capsule depressed-globose, 2.5 x 1.8 cm., epicarp indehiscent, irregularly crumbling with age; seed broadly ovoid, 15 x 9 mm., slightly angled, with long silky pubescence. Native, strand; Aldabra, Astove. Capsule breaks up after a week at sea, seeds escape and float (Ridley, 1930); seeds buoyant, germinate after a year in sea (Guppy, 1906, 1917); viable seeds found along Aldabra strand line. Seeds eaten and locally dispersed by tortoise (Hnatiuk, in press, a).
28. *Thespesia populneoides* (Roxb.) Kostel. Capsule depressed-globose, 4 x 2 cm., leathery, brown exocarp separated from the tough, fluted endocarp by a loose, fibrous mesocarp, which partially disintegrates, exocarp then dehiscing into (4-)5(-6) valves (Fig. 1, 1a). Seeds broadly obovoid, (Fig. 1, 2b), 1.3 x 0.9 cm., covered with short, clavate pubescence (Fosberg & Sachet, 1972). Native, lagoon; Aldabra, Assumption, Cosmoledo, Astove. Dispersal presumably as for *T. populnea*.

TILIACEAE

29. *Corchorus aestuans* L. Capsule up to 2.5 x 0.3-0.6 cm., 3-5 valved; seeds shortly cylindrical, c. 0.8 x 0.8 mm., brown. Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man.
30. *Grewia aldabrensis* Baker Drupe (2-)4-lobed, 7 x 4 mm., each lobe obovoid, woody. Endemic; Aldabra. Method of dispersal not known, possibly by birds.
31. *Grewia salicifolia* Schinz Drupe 4-lobed, \pm cuboid, 15 x 23 mm.; woody, densely reddish-brown, pubescent (Fig. 1, 12). Endemic; Aldabra, Cosmoledo. Method of dispersal not known, possibly by birds.
32. *Triumfetta procumbens* Forst.f. Drupe globose, 1.5 cm. in diameter, including the pilose prickles (Fig. 1, 3). Native, strand; Astove. Fruit not buoyant, sinks in 3-7 days, fide Guppy (1906), buoyant for at least a month (Gunn & Dennis, 1976); transported on drift pumice (Guppy, 1890, 1917; Muir, 1937). Fruit attached to feathers of boobies (Ridley, 1930).

ERYTHROXYLACEAE

33. *Erythroxylon acranthum* Hemsley Drupe ovoid, 3-4 x 2 mm. (immature), red. Endemic; Aldabra, Assumption, Cosmoledo. Drupe presumably eaten and dispersed by birds.

ZYGOPHYLLACEAE

34. *Tribulus cistoides* L. Schizocarp breaking up into 5 mericarps, c. 10 x 5 x 5 mm., armed with 2 \pm divergent spines in the upper part and 2 small ones in the lower part. Weed; Aldabra, Assumption, Cosmoledo, Astove. Mericarps accidentally dispersed by man and animals, adhering by the spines (Holm *et al.*, 1977).

OXALIDACEAE

35. *Oxalis* sp. near *O. bakerella* Exell No specimens seen. Presumed introduced as an ornamental.

RUTACEAE

36. *Citrus aurantifolia* (Christm.) Swingle Lime. Berry, broadly ellipsoid to globose. Cultivated, now believed extinct; Aldabra. Introduced by man.

SURIANACEAE

37. *Suriana maritima* L. Nucules obovoid, 3.5-4 x 3 mm., blackish-purple, pubescent, indehiscent (Fig. 1, 19). Native, littoral; Aldabra, Assumption, Cosmoledo, Astove. Nucules buoyant, float 3-5 months (Guppy, 1917), also carried by floating pumice and logs (Guppy, 1917; Muir, 1937); carried by mud attached to feet of birds (Guppy, 1917; Ridley, 1930).

OCHNACEAE

38. *Ochna ciliata* Lam. Fruiting calyx red, reflexed; torus accrescent, red, fleshy, drupelets up to 10, oblong-ovoid, 8-10 x 5-7 mm., black; seed 1, ovoid, 8-9 x 5-6 mm. Native; Aldabra. Fruit obviously attractive to birds; eaten by Malagasy turtle dove (Benson & Penny, 1971), also by bulbul, locally dispersed by tortoise (Hnatiuk, in press, a).

MELIACEAE

39. *Malleastrum leroyi* Fosberg Drupe obliquely ovoid, 9 x 7 mm. (immature), 2-celled, seeds 1 per cell. Endemic; Aldabra. Drupe presumably eaten by birds.
40. *Xylocarpus granatum* Koenig Capsule globose, 10-20 cm. in diameter, glossy, orange-brown, ? dehiscent; seeds irregularly obpyramidal, 3.5-8 x 3-5 cm., light, corky, testa c. 10 mm. thick. Native, lagoon; Aldabra, ? Cosmoledo. Seeds buoyant, float for many months, tend to germinate while floating, lessening the effectiveness of dispersal (Ridley, 1930; Muir, 1937); stranded seeds often attached by crabs.
41. *Xylocarpus moluccensis* (Lam.) Roem. Capsule globose, 10-15 cm. in diameter, glossy orange-brown, tardily dehiscent; seeds 6-12, irregularly obpyramidal, 3.5-7 x 3-5 cm., light, corky, testa c. 10 mm. thick (Fig. 1, 10). Native, lagoon; Aldabra, Cosmoledo. Dispersal as for *X. granatum*; long range drifting of viable seeds apparently does not occur. (Gunn & Dennis, 1976).

ICACINACEAE

42. *Apodytes dimidiata* E. Mey. ex Arn. Crustaceous drupe subcompressed ovoid-reniform, 6-7 x 5-7 x 3 mm., black with a fleshy, lateral, red appendage (Fig. 1, 13); seed 1, compressed, oblong, 4 x 2.5 mm. Native; Aldabra, Cosmoledo, Astove. Fruit eaten and seed dispersed by pigeons (Ridley, 1930). Fruit eaten by turtle doves, bulbul and white-eye (Benson & Penny, 1971), also by crow; viable seeds obtained from bulbul regurgitate.

CELASTRACEAE

43. *Maytenus senegalensis* (Lam.) Exell Capsule globose to pyriform, 2-6 x 3-4 mm., dehiscent loculicidally, pink or crimson; seeds 4, ovoid, 3 x 2 mm., dark, glossy reddish-brown with a fleshy rose-pink aril obliquely covering the lower $\frac{1}{3}$ - $\frac{2}{3}$. Native; Aldabra, Assumption, Cosmoledo, Astove. Seeds believed to be attractive to birds.
44. *Mystroxydon aethiopicum* (Thunb.) Loes. Drupe globose to ovoid, 8-10 x 7-8 mm., slightly fleshy, red; seeds 1, ovoid, 7 x 4 mm. Native; Aldabra, Assumption, Astove. Fruit eaten and viable seed obtained from bulbul regurgitate (Hnatiuk, in press, a); also eaten and locally dispersed by tortoise.

RHAMNACEAE

45. *Colubrina asiatica* (L.) Brongn. Schizocarp globose, 6-9 mm. in diameter, shallowly 3-lobed, dehiscent to form 3, crustaceous, 1-seeded mericarps, releasing the seed through a longitudinal, ventral slit, seed ventrally dihedral, dorsally convex, 4.5-6 x 4.5 mm., reddish brown (Fig. 1, 16). Native, littoral; Aldabra, Cosmoledo, Astove. Seeds of low specific gravity, float for many months (Guppy, 1906, 1917; Ridley, 1930; Muir, 1937); locally dispersed by tortoise (Hnatiuk, in press, a).
46. *Gouania scandens* (Gaertn.) R.B. Drummond Schizocarp compressed-orbicular, 3-winged, up to 17 x 18 mm. (Fig. 1, 6a), separating into 3, indehiscent, 1-seeded mericarps (Fig. 1, 6b); seed plano-convex, 5 x 4 x 2 mm. (Fig. 2, 6c). Native; Aldabra, Cosmoledo. Wind dispersed (Ridley, 1930), locally dispersed by tortoise (Hnatiuk, in press, a).
47. *Scutia myrtina* (Burm.f.) Kurz Drupe obovoid to spherical, up to 8 mm. in diameter, purplish-black; seeds 2, plano-convex, 6 x 6 x 1.5 mm., grey. Native; Aldabra, Assumption, Cosmoledo, Astove. Drupe eaten by blue pigeon, turtle dove and bulbul (Benson & Penny, 1971).

SAPINDACEAE

48. *Allophylus aldabricus* Radlk. Drupe obovoid, 4-6 x 4 mm., red or orange, 1-seeded; seed acutely-obovoid, 6 x 4 mm., reddish-brown. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Bird dispersed, other species eaten and dispersed by birds (Ridley, 1930); fruits eaten and seed locally dispersed by fody.
49. *Dodonaea viscosa* L. Double (or triple) samara, laterally compressed, subcircular in outline, c. 1 cm. in diameter, somewhat inflated, indehiscent, wings c. 5 mm. wide (Fig. 1, 15a), samaras eventually separate; seed (1-) 2, ovoid, 3 x 2 mm., black

(Fig. 1, 15b). Native, strand; Aldabra (lagoon islet). Order of effectiveness of dispersal according to Guppy (1917) is granivorous birds, sea (buoyant for 2 months) and man. Also wind dispersed (Muir, 1937).

50. *Macphersonia hildebrandtii* O. Hoffm. Fruit baccate, globose, 8-10 mm. in diameter, black; seed 1, depressed - ovoid, 6 x 5 mm. with thin arillode. Native; Aldabra, Assumption, Cosmoledo, Astove. Drupe presumably eaten by birds.

ANACARDIACEAE

51. *Operculicarya gummifera* (Sprague) Capuron Drupe ovoid, 7-8 x 5-7 mm., purplish; seed 1, reniform-obovoid, 8 x 6 mm., somewhat angular, reddish brown. Native; Aldabra. Drupe presumably eaten by birds.

MORINGACEAE

52. *Moringa oleifera* Lam. Horseradish Tree. Capsule torulose, up to 40 x 2 cm., slightly 3-angled, 2-ribbed between the angles, dehiscing by 3 valves; seeds orbicular, c. 1 cm. in diameter, with 3 papery wings c. 3 x 0.7 cm. Cultivated; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man.

LEGUMINOSAE — CAESALPINOIDEAE

53. *Caesalpinia bonduc* (L.) Roxb. Pod ± oblong-elliptic, 4.5-7.6 x 3.5-4.5 cm., densely prickly, dehiscent; seeds globose to subglobose, 1.5-2 cm. in diameter, lead grey (Fig. 1, 7). Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Seeds very hard shelled and will float and retain power of germination unimpaired after 2½ years at least (Guppy, 1906; Dupont, 1907; Ridley, 1970; Muir, 1937; Brenan, 1967; Gunn & Dennis, 1976); seeds also found in the stomachs of frigate birds and boobies (Guppy, 1890).
54. *Cassia aldabrensis* Hemsley Pod oblong, 3-4.5 x 0.2-0.3 cm., flat, dehiscent; seed compressed-rhomboid, 2 x 1 mm., brown. Endemic; Aldabra. Mode of dispersal not known.
55. *Cassia occidentalis* L. Pod oblong, up to 13 x 1 cm., flat, not or tardily dehiscent; seeds compressed ovate-suborbicular, 4.5 x 5 x 4-4.5 mm. Weed; Aldabra, Assumption, Cosmoledo, Astove. Accidentally introduced by man.
56. *Delonix regia* (Hook.f.) Raf. Flamboyant. Pod up to 50 x 5 cm., woody, dehiscent, opening before the pod falls; seeds narrowly oblong, 2-2.2 x 0.6-0.8 cm., light brown with purple markings. Cultivated; Aldabra. Introduced by man as an ornamental tree;

drifting valves of pod seedless, seeds not sea dispersed (Gunn & Dennis, 1976).

57. *Tamarindus indica* L. Pod sausage-like, 6-14 x 2-3 cm., woody, indehiscent; seed \pm rhombic to trapeziform, 11-17 x 10-12 mm. Believed cultivated; Aldabra. Fruit edible and dispersed by man.

LEGUMINOSAE — MIMOSOIDEAE

58. *Calliandra alternans* Benth. Pods linear, 15 x 0.8 cm., woody, tardily dehiscent; seed not seen. Native; Aldabra. Method of dispersal not known.
59. *Dichrostachys microcephala* Renv. Pod oblong, 2.5-3 x 0.5 cm., flattened, dehiscent. Seed ovoid, 3 x 2.5 cm., flattened. Native; Aldabra, Cosmoledo, Astove. Method of dispersal not known.

LEGUMINOSAE — PAPILIONOIDEAE

60. *Abrus precatorius* L. subsp. *africanus* Verdc. Pod oblong, somewhat swollen, 2-3.5 x 1.4-1.5 cm., dehiscent (Fig. 1, 9); seed ovoid, 5-7 x 4-5 mm., scarlet with a black area around the hilum, shiny, remaining attached to the edges of the opened valves for some time. Native; Aldabra, Assumption. Seeds not buoyant (Guppy, 1906, Muir, 1937); false aril makes seeds attractive to birds (Ridley, 1930).
61. *Canavalia rosea* (Sw.) DC. Pod linear-oblong, 10-17 x 2.5-3 cm., flattened, usually somewhat curved and with a double ridge on the sutural edge, dehiscent; seed ellipsoid, slightly compressed, 1.5-2 x 0.9-1.4 x 0.5-1.1 cm., brown with darker mottles, hilum 7-8 mm., long, brown. Native, strand; Aldabra, Assumption. Seeds buoyant and float unharmed for long periods (Guppy, 1906, 1917; Ridley, 1930; Muir, 1937; Gunn & Dennis, 1976). Viable seed found along Aldabra strand line.
62. *Clitoria ternatea* L. Butterfly Pea. Pod linear-oblong, 6-12.5 x 0.7-1.2 cm., flattened, dehiscent; seeds ellipsoid, oblong or oblong-reniform, 4.5-7 x 3-4 x 2-2.5 mm., pale brown to deep reddish-brown. Cultivated; Aldabra. Introduced by man as an ornamental.
63. *Crotalaria laburnoides* Klotzsch var. *laburnoides* Pod broadly oblong-ellipsoid to oblong-ovoid, 1.4-2.3 x 0.8-1.4 cm., inflated, dehiscent; seeds obliquely cordiform, \pm 2.5 mm. long, orange brown. Native; Aldabra, Cosmoledo. Mode of dispersal not known; the dilation of the pod is not an adaptation for wind dispersal since pods dehisce and do not break off entire when ripe (Ridley, 1930).

64. *Erythrina variegata* L. Pod cylindrical, up to 30 x 3 cm., tardily dehiscent; seeds oblong, up to 2 x 1 cm., pinkish or purplish-red. Status uncertain, probably native, strand, possibly planted at Settlement; Aldabra. Seeds readily float, common in sea drift (Ridley, 1930; Muir, 1936, Gunn & Dennis, 1976); fruit eaten by pigeons (Ridley, 1930), also planted by man as an ornamental tree (Muir, 1937).
65. *Indigofera* sp. Pod linear oblong, 10 x 2 mm., densely silvery-grey, appressed pubescent, ? dehiscent. Seeds immature. Native; Aldabra. Seeds presumably dispersed by birds.
66. *Sophora tomentosa* L. subsp. *tomentosa* Pod torulose, up to 9 cm. long, slowly dehiscent (seeds emerge 1 by 1, Ridley, 1930); seeds subglobose, 5 mm. in diameter, glossy dark brown. Native, strand; Aldabra, Assumption. Seeds float, some for at least 104 days (Muir, 1937).
67. *Tephrosia pumila* (Lam.) Pers. var. *aldabrensis* (J.R. Drummond & Hemsley) Brummitt. Pod linear, 2.5 x 0.3 cm., twisting when dry, dehiscent; seeds cuboid or rhomboid, c. 2 x 1.2 mm., brown. Native, strand; Aldabra, Astove. Method of dispersal not known, possibly by birds.
68. *Teramnus labialis* (L.f.) Spreng. subsp. *arabicus* Verdc. Pod linear, 2.5-6 x 0.35 cm., dehiscent; seeds oblong or almost cylindrical, 2.3 x 1.2-2 x 1.2-1.5 mm., dark brown. Native; Aldabra. Method of dispersal not known, possibly by birds.
69. *Vigna marina* (Burm.) Merr. Pod linear-oblong, 3.5-6 x 0.8-0.9 cm., slightly curved, inflated, dehiscent; seeds oblong, slightly narrowed at one end, 6-7 x 5-6 x 4.5-6 mm., yellow brown or red brown. Native, strand; Aldabra, Cosmoledo. Seeds buoyant (Ridley, 1930).
70. *Vigna unguiculata* (L.) Walp. Cowpea. Pod linear, cylindrical, up to 10 x 1 cm., dehiscent; seeds oblong or reniform, 3.5-5 x 2-3.5 x 2.2 mm., white to dark red or black. Cultivated; Aldabra, Astove. Introduced by man.

BREXIIACEAE

71. *Brexia madagascariensis* (Lam.) Ker-Gawl. Drupe ovoid to cylindrical, 4-10 x 1.9-3 cm., (Fig. 1, 17a) sometimes tapering, prominently 5-ribbed, walls woody, cavity with large air spaces (Fig. 1, 17b); seeds many, irregularly compressed-ellipsoid, 4.5-7.5 x 3-3.5 mm., keeled, minutely rugulose in ridges, brown or blackish. Native, strand; Aldabra. Fruits capable of floating in the sea for several months without the seeds losing their viability (Verdcourt, 1968).

RHIZOPHORACEAE

72. *Bruguiera gymnorhiza* (L.) Lam. Berry viviparous, enclosed by the campanulate 10-14-lobed calyx, hypocotyl cigar-shaped, 25 x 1.5 cm., slightly curved, greenish brown. Native, lagoon; Aldabra, Cosmoledo, Astove. Sea dispersed (Muir, 1973; Gunn & Dennis, 1976). Seedlings float for 117 days (Ridley, 1930).
73. *Cassipourea thomassetii* (Hemsley) Alston Capsule conical, red, fleshy, dehiscent; seed with conspicuous yellow aril, *vide* Alston (1925) *pro* genus, fruit from Aldabra not known. Endemic; Aldabra. Method of dispersal not known, possibly by birds.
74. *Ceriops tagal* (Perr.) C.B. Robinson Berry viviparous, hypocotyl slender, up to 40 x 80 cm., olive brown, arising from a yellow or orange brown, obconical embryophore, c. 2 cm. long, with 5 calyx lobes c. 3 mm. long at the base. Native, lagoon; Aldabra, Assumption, Cosmoledo. Fruits sea dispersed (Muir, 1937; Gunn & Dennis, 1976).
75. *Rhizophora mucronata* Lam. Berry viviparous; hypocotyl slender, lanceolate up to 40 x 2 cm., embryophore green, c. 20 mm. long, projecting from a brown, pear-shaped growth (ovary) c. 3.5 x 2.5 cm., terminating in 4-5 reflexed calyx lobes. Native, lagoon; Aldabra, Cosmoledo, Astove. The ovary (pear-shaped growth) falls with the seedling, and becomes immediately detached; the seedling floats away, usually horizontally or steeply inclined, on reaching shallow water the sharp point of the seedling becomes embedded in the sand and is pushed to a vertical position with the rising tide and grows (Ridley, 1930; Gunn & Dennis, 1976).

COMBRETACEAE

76. *Lumnitzera racemosa* Willd. var. *racemosa* Pseudocarp compressed-ellipsoid, 10-12 x 3-5 mm., obliquely angled, \pm woody, crowned by the persistent, 5-lobed, calyx. Native, lagoon; Aldabra, Astove. Buoyancy due to the accrescent receptacle, floats for months (Ridley, 1930).
77. *Terminalia boivinii* Tul. Drupe ovoid, 8-12 x 4.5-6 mm., woody. Aldabra, Assumption, Astove. Fruit eaten by pigeon and bulbul (Benson & Penny, 1971), also by tortoise (Hnatiuk, in press, a).
78. *Terminalia catappa* L. Drupe ovoid or ellipsoid, 3.5-7 x 2-6.5 cm., \pm laterally compressed, woody with rigid wing c. 2 mm. wide and scarcely conspicuous (Fig. 1, 18). Believed native, littoral, possibly planted; Aldabra, Assumption, Cosmoledo, Astove. Fruit buoyant, also locally dispersed by bats, rats, land crabs (Ridley, 1930; Gunn & Dennis, 1976); viable fruits washed up along Aldabra strand line. Sea main vector, locally dispersed by bats (Pijl, 1957).

MYRTACEAE

79. *Eugenia elliptica* Lam. var. *levinervis* Fosberg Berry globose, c. 1 cm. in diameter, fleshy; seed 1, not seen. Endemic; Aldabra. Other species of the genus dispersed by birds, fruit-bats and for short distance by water (Ridley, 1930).

LYTHRACEAE

80. *Pemphis acidula* Forst. Capsule globose, enclosed by the persistent calyx, 5-8 x 3.5 mm., reddish brown, capsule splitting transversely near the apex when ripe; seeds cuneate, 3 x 2 mm., with the spongy testa drawn out into a wing, reddish-brown. Native, littoral; Aldabra, Assumption, Cosmoledo, Astove. Seeds float for months or carried by drift pumice (Guppy, 1906; Ridley, 1930; Muir, 1937); occasionally the capsule becomes attached by the broken peduncle to the feathers of boobies and frigate birds (Guppy, 1890; Ridley, 1930).

SONNERATAACEAE

81. *Sonneratia alba* Sm. Multilocular berry, obconic-turbinate, 2-3 x 3-4 cm., green with persistent style base, free from calyx lobes at maturity; seeds cuneate, 2 x 2 x 0.7 cm. Native, lagoon; Aldabra, Cosmoledo. Berry softens and breaks up at sea, releasing the seeds (Ridley, 1930); sea main vector but berries eaten and locally dispersed by fruit bats (Pijl, 1957).

TURNERACEAE

82. *Turnera ulmifolia* L. Capsule globose-ovoid, 8 x 7 mm., 3-valved; seeds many, clavate, 2-3 x 0.7-1 mm., arillate, longitudinally ribbed, yellow-brown. Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man.

PASSIFLORACEAE

83. *Passiflora foetida* L. var. *hispida* (DC. ex Triana & Planch.) Gleason Granadilla Berry globose to subglobose, 2-3 cm. in diameter, yellow to orange; seeds many, ovate-cuneiform, 2.5 x 2.5 mm. Weed, sometimes cultivated; Assumption. Introduced by man; may be dispersed by bulbuls (Ridley, 1930).
84. *Passiflora suberosa* L. Berry globose, 1-1.5 cm. in diameter, blue-black; seeds many, flattened, slightly curved, 3-4 x 2 mm., apex acute. Cultivated; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man. Fruit eaten by bulbul. (Benson & Penny, 1971) and fody (Frith, 1976), occasionally by coucal.

CARICACEAE

85. *Carica papaya* L. Pawpaw. Berry orbicular, ovate-oblong or oblong, up to 30 cm. long, yellow; seeds many, ovoid, 7 x 4 mm. Cultivated; Aldabra. Introduced by man.

CUCURBITACEAE

86. *Cucumis anguria* L. Gherkin. Berry subglobose or shortly ellipsoid, 3-4.5 x 3.2-3.4 cm., dark and light green stripes becoming yellow; seeds elliptic, 6 x 3 mm., flattened. Cultivated; Astove. Introduced by man.
87. *Cucumis melo* L. Canteloupe. Berry ovoid to oblong-elliptic, 3.5-10 x 2-7.5 cm., green to orange; seeds elliptic, 5-8 x 2.5-4 x 1-1.5 mm., compressed. Native; Assumption, Cosmoledo (wild form), uncertain whether the plants on Assumption are the wild form or cultivated; mode of dispersal for wild form not known.
88. *Cucurbita moschata* (Buch. ex Lam.) Poir. Pumpkin. Berry globose, c. 30 cm. in diameter, buff, flesh yellow to dark orange; seeds ovate-acute, 20 x 12 mm., compressed, dingy white to dark brown, margin wavy, hyaline. Cultivated; Aldabra, Cosmoledo. Introduced by man.
89. *Lagenaria siceraria* (Molina) Standley Bottle Gourd. Berry subglobose to clavate, up to 13 cm. in diameter, green, hairy; seeds oblong, c. 17 x 7 x 3.2 mm., compressed, slightly tapered, slightly 2-horned on the shoulders at the broader end. Cultivated; Aldabra. Gourds float up to 347 days without affecting the germination of the seeds; seeds may remain viable for 6 years (Whitaker & Carter, 1961).
90. *Momordica charantia* L. Bitter Gourd. Berry ovoid to attenuate-ellipsoid, 3.5-11 x 2-4 cm., reddish orange, tuberculate, splitting into 3 valves exposing the seeds sheathed in a sticky red pulp; seeds oblong, 8-11 x 4.5-6 x 2.5-3.5 mm., black with crimson aril. Cultivated; Aldabra, Assumption. Colour of fruit and seeds attracts birds (Ridley, 1930); introduced by man.
91. *Peponium sublitorale* C. Jeffrey & J. S. Page Berry ellipsoid 5-5.5 x 2.5-4 cm., pubescent; seeds oval, 5-6 x 3-4.5 x 1.5-2 mm., (immature), compressed, marginate. Endemic, strand; Aldabra. Method of dispersal not known, possibly by sea or birds.
92. *Trichosanthes cucumerina* L. Snake Gourd. Berry linear-cylindrical, up to 2 m. long, green and white striped; seeds embedded in greenish-black pulp; slightly compressed ovoid, 9-10 x 4-5 mm. Cultivated; Aldabra. Fruit eaten by crows (Ridley, 1930); introduced by man.

AIZOACEAE

93. *Sesuvium portulacastrum* (L.) L. Capsule ovoid, 5 mm. in diameter, circumscissile; seeds reniform 1.6 x 1.5 mm., reddish-black. Native, lagoon; Aldabra, Cosmoledo, Astove. Seeds found in drift pumice and logs (Guppy, 1917; Ridley, 1930); vegetative parts float (Muir, 1937, Carlquist, 1974); vegetative part found in nests of boobies (Ridley, 1930); transported by rafting and by mud on bird's feet (Muir, 1937).
94. *Trianthema portulacastrum* L. Capsule ovoid-cylindrical, 4 x 2.5 mm., circumscissile, the operculum retaining 1-2 seeds, the rest falling free; seeds reniform, cochleate, 1.5 x 1.5 mm., reddish-black, faveolate. Native; Aldabra. Two seeds retained in the closed, buoyant operculum and sea dispersed (Henty & Pritchard, 1975); possibly distributed by mud on bird's feet; usually a weed, but not on Aldabra where it occurs on a small rocky islet in the lagoon.
95. *Mollugo nudicaulis* Lam. Capsule ovate, 3 x 2.5 mm.; 3-valved; seeds obliquely reniform, 0.7 x 0.5 mm., plump, estrophiolate. Weed; Assumption. Introduced by man.
96. *Mollugo oppositifolia* L. Capsule ovate, c. 2 mm. long; 3-valved; seeds \pm reniform, 0.5 x 0.3 mm., tuberculate, with a distinct, long, filiform-appendaged strophiole. Native; Aldabra. Method of dispersal not known.

RUBIACEAE

97. *Canthium bibracteatum* (Bak.) Hiern Drupe globose, c. 10 mm. in diameter, fleshy, orange or orange-brown to black; pyrenes 2, ovoid-cylindrical, 6 x 2.5 mm., light reddish-brown to black. Native; Aldabra. Drupe presumably eaten and transported by birds.
98. *Guettarda speciosa* L. Drupe woody, globose, 3 cm. in diameter, brown; seed 1. Native, littoral; Aldabra, Cosmoledo, Astove. Seed buoyant, floats for at least 50 days (Guppy, 1890; Ridley, 1930); fruit eaten and locally dispersed by bats (Pijl, 1957); locally dispersed by tortoise (Hnatiuk, in press, a).
99. *Hedyotis corallicola* Fosberg Capsule globose to somewhat obovoid, up to 1.5 x 1-2 mm, crowned by erect calyx lobes, thin walled, dehiscent; seeds somewhat oblong, c. 0.4-0.5 mm. in diameter, bluntly angular, shallowly alveolate-reticulate, somewhat glossy, almost black. Endemic; Cosmoledo, Astove. Presumably bird dispersed.
100. *Hedyotis lancifolia* Schum. var. *brevipes* (Bremek.) Fosberg Capsule turbinate-globose, c. 2 mm. in diameter, crowned by persistent, erect calyx lobes, thin walled, loculicidally dehiscent; seeds somewhat oblong, angular, c. 0.3-0.4 mm. long,

dull brown, cellular-reticulate. ? Weed; Astove. Presumably accidentally introduced by man.

101. *Hedyotis prolifera* Fosberg Capsule turbinate or obovoid, 1-1.5 (-2) x 1-1.5(-2) mm., crowned by persistent calyx lobes; seed irregularly bean-shaped to angular-peltate, c. 0.2-0.3 mm. in diameter, dark brown to black, cellular reticulate. Endemic; Aldabra, Assumption. Seeds locally dispersed by tortoise (Hnatiuk, in press, a); viable seed obtained from blue pigeon regurgitate.
102. *Pavetta verdcourtiana* Fosberg Drupe globose, 5-6 mm. in diameter, black; pyrenes 1-4, arranged radially, concave surface dull brown, gently rugose, a deep pit on inner angle. Endemic; Aldabra, Assumption. Fruit eaten by blue pigeon.
103. *Polysphaeria multiflora* Hiern Drupe globose, c. 1 cm. in diameter, purple-black; pyrenes 2, hemispherical, 6 x 5 mm., mottled light reddish-brown, gelatinous. Native; Aldabra, Cosmoledo, Astove. Drupe eaten and seeds locally dispersed by birds; viable seeds obtained from bird regurgitates.
104. *Psychotria pervillei* Baker Drupe depressed globose, 4 mm. in diameter, pale blue-grey; pyrenes 2, hemispherical, 3 x 2 mm., dorsally ribbed. Native; Aldabra. Drupe presumably eaten and seed dispersed by birds.
105. *Tarenna supra-axillaris* (Hemsl.) Bremek. Drupe globose, 3 mm. in diameter, black; pyrenes 1 or 2, subglobose, 2.5-3 mm. in diameter, with deep, somewhat irregular cavity in one side, reddish-brown mottles. Endemic; Aldabra. Drupe presumably eaten and transported by birds.
106. *Tarenna trichantha* (Baker) Bremek. Drupe globose, 3-5 mm. in diameter, black; pyrenes 2-4, hemispherical, 2-3.5 mm. in diameter, a deep linear scar along one side. Native; Aldabra, Assumption, Cosmoledo, Astove. Drupe eaten by doves and blue pigeons; viable seed obtained from blue pigeon regurgitate.
107. *Triainolepis fryeri* (Hemsl.) Bremek. Drupe globose, 8.5 mm. in diameter, white to pink; pyrenes 1, narrowly oblong-ellipsoid, 2-2.4 x 0.9-1 x 0.5-0.6 mm. Endemic; Aldabra. Drupe eaten by doves (Benson & Penny, 1971), also by blue pigeon.
108. *Tricalysia sonderana* Hiern Drupe globose, 7 mm. in diameter, reddish-black; pyrenes 6-9(-12), trigonous, dorsally convex, 3 x 2 mm., light brown, cellular-alveolate. Native; Aldabra, Assumption. Drupe eaten by blue pigeon and bulbul, viable seed obtained from bulbul regurgitate.

COMPOSITAE

109. *Bidens pilosa* L. Cypsela cylindrical-oblong, c. 11 mm. long, with 3 apical, retrorsely barbed bristles. Weed; Astove. Cypsela adheres to clothing or fur of animals; accidentally introduced by man.
110. *Launaea intybacea* Jacq. Cypsela oblong, 3-4 mm. long, 4-ribbed, pappus setose, 6-8 mm. long (Fig. 1, 5). Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man; locally wind dispersed.
111. *Launaea sarmentosa* (Willd.) Alston Cypsela cylindrical-oblong, 3.5-5 mm. long, pappus setose, 6-10 mm., detachable. Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Dispersed by sea currents (Ridley, 1930); cypsela descends rapidly in still air, 2 m. in 6 seconds.
112. *Melanthera biflora* (L.) Wild. Cypsela triquetrous, oblong, 2.5-3 mm. long, pappus absent (Fig. 1, 4). Native, strand; Aldabra, Assumption. Sea dispersed (Ridley, 1930; Muir, 1937); cypsela floats for at least a month (Gunn & Dennis (1976)).
113. *Synedrella nodiflora* (L.) Gaertn. Cypsela of tubular florets spindle-shaped, 0.5 mm. long, with 2-3 apical hair-like bristles 3 mm. long; cypsela of ligulate florets oblong, 4 mm. long, flattened, margins winged, lacinate, reduced to a slender spur 2-3 mm. long. Weed; Aldabra. Dispersed by its adhesive cypsela; accidentally introduced by man.
114. *Tridax procumbens* L. Cypsela oblong or obovoid, 3 mm. long, pappus feathery, up to 5 mm. long, spreading. Weed; Aldabra. Originally introduced to Old World as an ornamental, now locally dispersed by its plumed cypsela (Ridley, 1930); accidentally introduced by man.
115. *Vernonia cinerea* (L.) Less. Cypsela oblong or ellipsoid, 1.5 mm. long, pappus one row, sparse, 3 mm. long, antrorsely ciliate, spreading. Weed; Aldabra, Assumption, Astove. Accidentally dispersed by man.
116. *Vernonia grandis* (DC.) H. Humb. Cypsela narrowly obovoid, 2-3 mm. long, ribbed and glandular, pappus one row of antrorsely ciliate or spinous bristles, 5-6 mm. long. Native; Aldabra, Assumption, Cosmoledo, Astove. Method of long distance dispersal not known, short distance by wind.

GOODENIACEAE

117. *Scaevola taccada* (Gaertn.) Roxb. Drupe ovoid or subglobose, c. 1.3 cm. in diameter, pithy, white or purplish; stone ellipsoid, 6 mm. in diameter, reticulate, yellowish-white, outer layer

aerogenous or corky. Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Exocarp soon shrinks and decays, mesocarp corky, buoyant, floats for at least 12 months (Guppy, 1890, 1917; Ridley, 1930); also carried by drift pumice (Guppy, 1890; Ridley, 1930); drupe eaten by blue pigeon, turtle dove and bulbul (Benson & Penny, 1971); also eaten and locally dispersed by tortoise (Hnatiuk, in press, a). Germination improved with length of immersion in sea water (Hnatiuk, in press, b).

PLUMBAGINACEAE

118. *Plumbago aphylla* Boj. ex Boiss. Anthocarp 8 x 2 mm., the enveloping persistent calyx with numerous viscid glands. ? Native; Aldabra, Assumption, Cosmoledo, Astove. Adheres to passing birds, animals and man by means of the viscid hairs (Ridley, 1930).

SAPOTACEAE

119. *Sideroxylon inerme* L. subsp. *cryptophlebia* (Baker) Hemsley Berry globose, 6 mm. in diameter, black; seeds 1, depressed-globose, up to 4.5 mm. in diameter, the ridges obscure, yellow-brown. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Fruit eaten by blue pigeon (Benson & Penny, 1971). Berry and seed of subsp. *inerme* non-buoyant; fruit eaten by birds, animals and man (Muir, 1937).

OLEACEAE

120. *Jasminum elegans* Knobl. Drupe globose, 8-12 mm. in diameter, purplish-black; stone globose, 6 mm. in diameter. Native; Aldabra. Drupe presumably eaten and dispersed by birds.

SALVADORACEAE

121. *Azima tetracantha* Lam. Berry globose, 7.5-8 mm. in diameter, cream; seeds 2, discoid, 6 mm. in diameter, black. Native; Aldabra, Assumption, Cosmoledo, Astove. Presumably berry eaten and dispersed by birds; locally dispersed by tortoise. Seeds not buoyant (Muir, 1937).
122. *Salvadora angustifolia* Turrill var. *angustifolia* Drupe ovoid-pyriform, not known, (c. 6 mm. in diameter, pink in var. *australe*). Native; Aldabra, Cosmoledo. Presumably drupe eaten and dispersed by birds.

APOCYNACEAE

123. *Carissa edulis* L. (Sens. lat.) Berry, globose, ovoid or oblong-

ovoid, 5.5-16 x 5-16 mm, apex rounded or apiculate, purple or black; seeds 2-4, ovate, flattened, up to 7 x 4 mm., light brown (fruiting material from Aldabra not seen). Native; Aldabra. Presumably eaten and dispersed by birds.

124. *Catharanthus roseus* (L.) G. Don Fruit of 2, linear, terete follicles, 3 x 0.2 cm., ribbed, pubescent, with a double false septum; seeds cylindrical, 2 x 1 mm., dark brown, prominently rugose. Cultivated and now naturalised; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man.
125. *Pandaca mauritiana* (Poir.) Markgraf & Boiteau Twin, ellipsoid capsules, 4.5 x 2.5 cm.; seeds ovoid-cuneate, 8 x 5 mm., light brown. Native; Aldabra. Seeds presumably dispersed by birds.

ASCLEPIADACEAE

126. *Pentopetia androsaemifolia* Decne. Follicles narrowly fusiform, 12 x 0.5 cm.; seeds oblong, 10 x 2 mm., flattened, with detachable apical tuft of silky hairs, 3.5 mm. long. Native or possibly introduced as an ornamental; Assumption. Method of dispersal not known as pappus regarded not suitable for long distance wind dispersal.
127. *Pleurostelma cernuum* (Decne.) Bullock Follicle fusiform, 4-6 x 0.8 cm.; seeds ovate, 4 x 2 mm., with detachable apical tuft of silky hairs, 40 mm. long. Native; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known as pappus regarded as not suitable for long distance wind dispersal.
128. *Sarcostemma viminale* (L.) R. Br. Follicle linear of fusiform, up to 12 x 1 cm.; seeds ovate, 8 x 3 mm., flattened, with detachable apical tuft of silky hairs, 20 cm. long. Native; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known as pappus regarded as not suitable for long distance wind dispersal.
129. *Secamone fryeri* Hemsley Follicle fusiform, 4-8 x 1 cm.; seeds ovate, 5 x 1 mm., flattened, with a detachable apical tuft of silky hairs, 35 mm. long. Endemic; Aldabra, Assumption, Astove. Method of dispersal not known as pappus regarded not suitable for long distance wind dispersal.
130. *Tylophora indica* (Burm.f.) Merr. Follicle clavate-acuminate, 4-9 x 1 cm.; seed ovate, 6 x 3 mm., flattened, with detachable apical tuft of silky hairs, 25 mm. long. Native; Aldabra. Method of dispersal not known as pappus regarded not suitable for long distance wind dispersal.

BORAGINACEAE

131. *Cordia subcordata* Lam. Drupe subglobose, 2 x 3 cm., woody,

enclosed by persistent calyx (Fig. 1, 2). Native, strand; Aldabra, Cosmoledo, Astove. Drupe buoyant, floats for over a year (Guppy, 1917; Ridley, 1930); sea main vector but also eaten and locally dispersed by fruit bats (Pijl, 1957); viable seed found along Aldabra strand line.

132. *Ehretia corymbosa* Boj. Drupe globose, 6 mm. in diameter, fleshy, orange turning black; stone trigonous, dorsally convex, 4 x 4 mm. reticulate. Native; Aldabra. Drupe presumably eaten and dispersed by birds.
133. *Tournefortia argentea* L.f. Drupe globose, 6 mm. in diameter, containing 4, pithy, 1-seeded pyrenes (Fig. 1, 11). Native, littoral; Aldabra, Assumption, Cosmoledo, Astove. Drupe floats for over 40 days, exocarp shed after 2 weeks and endocarp splits into two (Guppy, 1890); also found in drift logs and pumice (Guppy, 1890).

CONVOLVULACEAE

134. *Evolvulus alsinoides* (L.) Capsule ovoid, 3-4 mm. in diameter, 3-4 valved; seeds trigonous, dorsally convex, 1.7 x 1 mm., brown to black. ? Native; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known, possibly introduced as a weed of cultivation.
135. *Ipomoea batatas* (L.) Lam. Sweet Potato. Capsule ovoid, 5-6 mm. in diameter, 4-valved; seeds triquetrous, ovoid, 4 x 3 mm. glabrous. Cultivated and now naturalised; Aldabra, Assumption, Astove. Introduced by man, locally dispersed, possibly by birds.
136. *Ipomoea macrantha* Roem. & Schultes Capsule globose, 1.5-2 cm. in diameter, 4-valved, enveloped by calyx; seeds triquetrous, ovoid, 1 x 0.8 cm., hairy. Native, littoral; Aldabra, Assumption, Cosmoledo, Astove. Seeds sea-dispersed, float for at least 10 weeks (Guppy, 1917; Gunn & Dennis, 1976); viable seeds found amongst beach drift on Aldabra.
137. *Ipomoea obscura* (L.) Ker-Gawl. var. *obscura* Capsule subglobose-mamilliform, c. 0.7 x 1 cm., beaked; seed triquetrous, ovoid, 3.5 x 3.5 mm., plump, dark brown, sericeous-tomentose. Native, littoral; Aldabra (recent introduction). Seeds presumably sea-dispersed.
138. *Ipomoea pes-caprae* (L.) R. Br. subsp. *brasiliensis* (L.) van Ooststr. Capsule globose, up to 2 cm. in diameter, 4-valved; seeds triquetrous, ovoid, 6-10 x 6-10 mm., densely brown-tomentose, dull yellow-brown when tomentum is worn off. Native, littoral; Aldabra, Assumption, Cosmoledo, Astove. Seeds buoyant for over 6 months, sea, dispersed (Guppy, 1917; Ridley, 1930; Muir, 1931; Gunn & Dennis, 1976); viable seed found amongst beach drift on Aldabra.

SOLANACEAE

139. *Capsicum annum* L. Red Pepper Berry globose to turbinate, 3-10(-30) x 1.2-8 cm., red, orange or yellow; seeds reniform, flattened, 3-5 x 2.5-4.5 mm., pale yellow. Cultivated; Aldabra. Introduced by man.
140. *Capsicum frutescens* L. Bird Chillies. Berry turbinate, 0.7-2.5 x 0.3-1 cm., red or yellow; seeds reniform, 3-5 x 2.5-4.5 mm., flattened, pale yellow. Cultivated; Aldabra. Introduced by man.
141. *Datura metel* L. Capsule globose, 3 cm. in diameter, reddish-brown, dehiscent irregularly; seeds triangular in outline, 0.5 x 0.5 mm., with a white raphe. Weed; Aldabra, Assumption, Astove. Introduced by man either accidentally or as a medicinal herb.
142. *Nicotiana tabacum* L. Tobacco. Capsule ovoid, 1.5-2 x 1.2-1.5 cm., 2-valved; seeds oval to spherical, 0.5 x 0.3 mm., brown. Cultivated; Aldabra, Assumption. Introduced by man.
143. *Solanum indicum* L. var. *aldabrense* (C.H. Wright) Fosberg Berry globose, 1.2 cm. in diameter, orange-red; seed subdiscoid, 2 mm. in diameter, pale yellow-brown. Endemic; Aldabra, Cosmoledo, Astove. Berry eaten by blue pigeon, dove and bulbul (Benson & Penny, 1971), also by tortoise (Hnatiuk, in press, a).
144. *Solanum lycopersicum* L. Tomato. Berry globose or depressed-globose, 1.5-10 cm., in diameter, fleshy, red; seeds obovate, 3-5 x 2-4 mm., flattened, light brown, hairy. Cultivated; Aldabra, Assumption. Introduced by man.
145. *Solanum melongena* L. Aubergine. Berry ovoid, oblong or obovoid, 5-15 x 5-8 cm.; seeds subdiscoid, 3 mm. in diameter, light brown. Cultivated; Aldabra, Cosmoledo. Introduced by man.
146. *Solanum nigrum* L. var. *americanum* (Mill.) O. E. Schulz Berry globose, 5 mm. in diameter, black; seed obovate, 1.5 x 1 mm., pale yellow-brown. Native; Aldabra, Assumption, Cosmoledo, Astove. Berry eaten by birds (Ridley, 1930).

SCROPHULARIACEAE

147. *Bacopa monnieri* (L.) Wettst. Capsule globose, 5 mm. in diameter; seed cuniform, 0.5 x 0.3 mm. Native; Aldabra. Method of dispersal not known, possibly on birds' feet.
148. *Bryodes micrantha* Benth. Capsule globose, 1 mm. in diameter; seeds oval, 0.5 x 0.2 mm. Native; Aldabra. Method of dispersal not known; presumably on birds' feet.

149. *Striga asiatica* (L.) Kuntze Capsule ovoid, 6 x 2.5 mm., enclosed by persistent calyx, splitting into 2 valves; seeds ellipsoid, 0.3 x 0.2 mm. Weed; Aldabra. Accidentally introduced by man.

BIGNONIACEAE

150. *Tabebuia pallida* (Lindl.) Miers Capsule cylindrical, 15 x 1 cm., longitudinally dehiscent; seed oval-oblong with membranous wings at either end, 7 x 15 mm. Cultivated; Astove. Introduced by man.

ACANTHACEAE

151. *Asystasia gangetica* (L.) T. Anders. Capsule clavate, 5 x 2 mm., longitudinally dehiscent; seeds ± rhombic-discoid, c. 3 mm. in diameter, brown; tuberculate. Native; Aldabra, Assumption, Astove. Method of dispersal not known.
152. *Barleria decaisneana* Nees Capsule oblong-ovoid, 1.6 x 0.6 mm., enclosed by the persistent calyx, longitudinally dehiscent; seeds 4, angular-discoid; 3-4 mm. in diameter, reddish-black, hygroscopic, hairy. Weed; Astove. Accidentally introduced by man.
153. *Hypoestes aldabrensis* Baker Capsule clavate, 6-8 x 3 mm., longitudinally dehiscent; seeds 4, broadly obovate or oblong, 2 x 1.2 mm., flattened, beaked, prominently longitudinally ribbed. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known.
154. *Justicia procumbens* L. Capsule oblong-ovoid, 3 x 2 mm., longitudinally dehiscent; seeds 4, depressed ovoid, 0.7 mm. in diameter. Native; Aldabra, Assumption. Method of dispersal not known, probably by birds.
155. *Ruellia monanthos* (Nees) Bojer ex Thwaites Capsule clavate, 7-10 x 3 mm., longitudinally dehiscent; seeds (4-)6(-8), reniform-ovate, 2 x 1 mm., flattened, glabrous except for marginal hygroscopic hairs. Native; Aldabra, Assumption. Method of dispersal not known.

VERBENACEAE

156. *Avicennia marina* (Forssk.) Vierh. Capsule broadly ovate, 2.5 x 2.5 cm., compressed, greyish-green, pubescent, calyx persistent, 1-seeded, viviparous. Native, lagoon; Aldabra, Cosmoledo, Astove. Sea dispersed (Ridley, 1930, Muir; 1937).
157. *Clerodendrum glabrum* E. Meyer var. *minutiflorum* (Bak.) Fosberg Drupe globose, 6-7 mm. in diameter, woody, orange-yellow; pyrenes

- 1(-2), 1-seeded, turbinate, 7 x 4 mm. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Drupe presumably eaten and dispersed by birds, also eaten by tortoise.
158. *Congea griffithiana* Munir Drupe obovoid, 4 x 3 mm., enveloped by the persistent calyx. Cultivated; Assumption. Introduced by man as an ornamental.
159. *Lantana camara* L. var. *aculeata* (L.) Mold. Drupe globose, 5 mm. in diameter, purple-black; seeds sub-globose, 3 mm. in diameter, somewhat angular. Cultivated; Aldabra. Introduced by man as an ornamental; seeds bird dispersed (Holm et al., 1977), locally dispersed by bulbul.
160. *Premna obtusifolia* R. Br. Drupe globose, 3 mm. in diameter, black; seed reniform, 1.5 x 1 mm. Native; Aldabra, Assumption, Cosmoledo, Astove. Drupe eaten by blue pigeon (Benson & Penny, 1971).
161. *Stachytarpheta jamaicensis* (L.) Vahl Capsule elliptic-oblong, 3.5 x 1.2 mm., enclosed in the dry calyx, finally splitting; nutlets 2, elliptic-oblong, 3 x 0.6 mm. Weed; Aldabra, Assumption, Astove. Accidentally introduced by man; locally dispersed by tortoise (Hnatiuk, in press, a).
162. *Stachytarpheta urticifolia* Sims Capsule elliptic-oblong, 3.5 x 1.5 mm., enclosed in the dry calyx, finally splitting; nutlets 2, 3 x 0.6 mm. Weed. Astove. Accidentally introduced by man.

DICRASTYLIDACEAE

163. *Nesogenes dupontii* Hemsley Drupe globose, 2 mm. in diameter, enveloped in persistent mauve calyx; seed 1, globose 1.5 mm. in diameter, yellow-brown. Endemic; Aldabra, Assumption, Astove. Method of dispersal not known; locally dispersed by tortoise (Hnatiuk, in press, a).

LABIATAE

164. *Leonotis nepetifolia* (L.) Ait.f. Nutlets 4, oblong-triangular, 4 x 2 mm., light brown with purple mottles. Weed; Aldabra, Assumption. Accidentally introduced by man or possibly introduced as an ornamental.
165. *Ocimum basilicum* L. Nutlets 4, oblong-ovoid, 2 x 1.5 mm., reddish-black. Cultivated; Aldabra. Introduced by man as a pot-herb.
166. *Ocimum canum* Sims Nutlets 4, oblong-ovoid, 1.2 x 0.6 mm., reddish-black. Cultivated; Astove. Introduced by man as a pot-herb.

167. *Ocimum gratissimum* L. Nutlets 4, globose, 1.5 mm. in diameter, mucilagenous when moistened. Cultivated; Aldabra. Introduced by man as a pot-herb.
168. *Ocimum sanctum* L. Nutlets 4, ovoid, 0.7 x 0.5 mm., reddish brown. Cultivated; Aldabra. Introduced by man as a pot-herb.

NYCTAGINACEAE

169. *Boerhavia africana* Lour. Anthocarp subcylindrical, 3.5 x 0.7 mm., weakly 10-ribbed, with long sticky glands near the apical portion. ? Introduced; Assumption. Anthocarp adheres to fur, feathers and clothing.
170. *Boerhavia crispifolia* Fosberg Anthocarp narrowly ellipsoid to subclavate, c. 2 x 0.7 mm., 5-ribbed, intervals glandular or not. Endemic; Aldabra. Anthocarps adhere to fur, feathers and clothing.
171. *Boerhavia repens* L. var. *maris-indici* Fosberg Anthocarp ellipsoid to \pm clavate, 2.5-3 x 0.7 mm., 5-ribbed, glandular. Endemic; Aldabra, Cosmoledo, Astove. Anthocarps adhere to fur, feathers and clothing.
172. *Mirabilis jalapa* L. Belle de Nuit. Anthocarp obovoid or subglobose, 10 x 5 mm., 10-ribbed, dark brown to black. Cultivated; Aldabra. Introduced by man as an ornamental or for medicinal purposes.
173. *Pisonia aculeata* L. Anthocarp narrowly oblong, 10-12 x 5 mm., ribs 5, prominently glandular. Native; Aldabra. Anthocarps carried externally by birds (Ridley, 1930).
174. *Pisonia grandis* R. Br. Anthocarp clavate, 10 x 3 mm., strongly 5-ribbed, ridges spinulose with stalked, very sticky glands, (Fig. 2, 14). Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Anthocarps not buoyant, adhere to boobies and frigate birds (Guppy, 1890; Ridley, 1930; St. John, 1951).

AMARANTHACEAE

175. *Achyranthes aspera* L. var. *fruticosa* (Lam.) Boerl. Utricle fusiform, 4-5 mm. long, indehiscent, closely invested by pungent, perianth segments and bracteoles. Weed, possibly native; Aldabra, Assumption, Cosmoledo, Astove. Fruit readily adheres to clothing, hair or feathers (Ridley, 1930; Ivens, 1967).
176. *Achyranthes aspera* L. var. *velutina* (Hook. & Arn.) C.C. Townsend Utricle etc. similar to var. *fruticosa*. Native?; Aldabra, Cosmoledo, Astove.

177. *Alternanthera pungens* Kunth Utricle ovate, c. 1.5 x 1.5 mm., flattened, corky, indehiscent, bracteoles and perianth segments pungent, adherent to the utricle. Weed; Assumption. Accidentally introduced by man. Propagated by seed or runners (Haigh et al., 1951), fruit adheres to skin of man and animals, soles of shoes, etc. (Ivens, 1967).
178. *Amaranthus dubius* Mart. ex Thell. Utricle broadly elliptic, c. 1 x 0.5 mm., dehiscence circumscissile; seed 1, ovate, 0.7 x 0.5 mm., flattened, dark glossy brown. Weed; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man.
179. *Amaranthus viridis* L. Utricle globose, c. 1 mm. in diameter, indehiscent; seed 1, discoid-ovate, c. 0.8 mm. in diameter, dark glossy brown. Weed; Aldabra, Assumption, Cosmoledo. Introduced by man.
180. *Deeringia polysperma* (Roxb.) Moq. Fruit baccate, depressed-globose, 4-5 mm. in diameter, white, fleshy; seeds many, ovate-reniform, c. 1 x 0.7 mm., compressed, glossy, black, the short funicle persistent. Native; Aldabra. Method of dispersal not known.
181. *Lagrezia oligomeroides* (C.H. Wright) Fosberg Utricle ovoid, c. 1 mm. long, compressed, indehiscent, somewhat adherent to the seed; seed 1, discoid, c. 0.8 mm. in diameter, black, shiny. Native; Aldabra, Assumption, Cosmoledo. Method of dispersal not known.

CHENOPODIACEAE

182. *Arthrocnemum pachystachyum* (Bunge ex Ung.-Sternb.) A. Chev. Utricle ovoid, c. 1.5 x 1 mm. dehiscent; seed 1, oblong, 1.5 x 1 mm., brown, with few long hairs near the apex, perianth cork-like when mature, adheres to utricle. Native, lagoon; Aldabra. Corky perianth enables utricle to float (Tölken, 1967).

LAURACEAE

183. *Cassytha filiformis* L. Drupe globose, 5 mm. in diameter, basally enveloped by a white, fleshy cupule (enlarged hypanthium). Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Fruit eaten and dispersed by birds (Ridley, 1930) also dispersed by currents (Guppy, 1917; Muir, 1937); drupe floats for at least a month (Gunn & Dennis, 1976).

HERNANDIACEAE

184. *Hernandia peltata* Meissn. Nut globose, 2-2.5 x 1.5-2 cm., woody, longitudinally 9-ribbed to almost terete, black, enveloped by an

inflated, hemispherical involucre 4 x 3 cm. Native, strand, or possibly cultivated; Astove. Nut sea dispersed, floats for at least 42 days (Guppy, 1890; Ridley, 1930; Muir, 1937; Gunn & Dennis, 1976), possibly introduced by man.

LORANTHACEAE

185. *Bakerella clavata* Desr. Berry ellipsoid, 18 x 8 mm., green; seed 1, ovoid, c. 3.5 x 2.5 mm. apex truncate with 5 blunt points, gelatinous. Native; Aldabra. Berry eaten by birds, seeds usually not eaten, adhere to beak, etc. (Ridley, 1930).

VISCACEAE

186. *Viscum triflorum* DC. Berry globose, 3.5 mm. in diameter, yellow pulp, viscid; seed 1, ovoid or ellipsoid, c. 2-2.5 x 1.5-2 mm., brown with a black, apical, peltate appendage. Native; Aldabra. Berries eaten by birds.

EUPHORBIACEAE

187. *Acalypha claoxyloides* Hutch. Regma ± globose, c. 3 mm. in diameter; seeds ovoid, 2 x 1 mm., reddish. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Seeds eaten by fody (Frith, 1976).
188. *Acalypha indica* L. Regma globose, 3-lobed, 1.5-2 mm. in diameter; seeds ovoid, 1 x 0.6 mm., grey-brown. Weed; Aldabra, Assumption, Cosmoledo, Astove. Accidentally introduced by man.
189. *Euphorbia hirta* L. Regma 3-lobed, 1 x 1 mm., explosively dehiscent; seeds ovoid, 0.5 x 0.2 mm., reddish-brown. Weed; Aldabra, Assumption, Cosmoledo, Astove. Accidentally introduced by man.
190. *Euphorbia indica* Lam. var. *pubescens* Pax Regma 3-lobed, 1 x 1 mm.; seeds ovoid, 1 x 0.5 mm. ? Native; Assumption. Method of dispersal not known.
191. *Euphorbia mertonii* Fosberg Regma ± cuboid, c. 1-1.2 x 1.2 mm.; seeds ovoid-quadrangular, 0.8 x 0.4 mm., apex rounded or obtuse, base subtruncate, shallowly and irregularly cross-rugose, dull salmon-pink. Endemic; Aldabra. Method of dispersal not known.
192. *Euphorbia prostrata* Ait. Regma 3-lobed, 1 x 1.2 mm.; seeds ovoid, 0.8 x 0.4 mm. ? Native; Aldabra, Assumption. Method of dispersal not known. Seed locally dispersed by tortoise (Hnatiuk, in press, a).

193. *Euphorbia pyrifolia* Lam. Regma 3-lobed, 4 x 8 mm.; seeds globose, 3 mm. in diameter; Aldabra, Assumption, Cosmoledo. Method of dispersal not known, possibly eaten by birds.
194. *Euphorbia stoddartii* Fosberg Regma bluntly turbinate, c. 1.2 x 1.2 mm.; seeds oblong, weakly quadrangular, c. 1 x 0.5 mm., apex bluntly acute, base truncate, weakly rugose, white to grey or pinkish. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known.
195. *Margaritaria anomala* (Baill.) Fosberg var. *cheloniphorba* (Hutch.) Fosberg Capsule globose, 5 mm. in diameter, irregularly dehiscent into segments; seeds trigonous, dorsally convex, 3 x 2 mm., yellow brown, hilum conspicuous. Endemic; Aldabra, Cosmoledo, Astove. Method of dispersal not known, possibly eaten by birds, locally dispersed by blue pigeons.
196. *Pedilanthus tithymaloides* (L.) Poit. Regma subglobose, 7 x 7 mm., flattened, red; mericarp ovoid, 4 mm. in diameter, grey; seed turbinate, 2 x 1.2, with flared base, reddish-brown. Cultivated; Aldabra, Assumption, Cosmoledo, Astove. Introduced by man as an ornamental.
197. *Phyllanthus amarus* Schum. Regma globose, 1.5 mm. in diameter; seed trigonous, dorsally convex, 1 x 0.5 mm. Weed; Aldabra, Assumption, Cosmoledo, Astove. Accidentally introduced by man.
198. *Phyllanthus casticum* Soy.-Willem. Regma globose, 4 mm. in diameter, reddish; seeds trigonous, dorsally convex, 1 x 0.5 mm., orange-brown. Native; Aldabra. Regma eaten by blue pigeon and bulbul (Benson & Penny, 1971).
199. *Phyllanthus maderaspatensis* L. var. *frazieri* Fosberg Regma depressed-globose, 3 mm. in diameter; seed trigonous; dorsally convex, 1 x 0.5 mm., brown; transversely rugose. Native; Aldabra, Astove. Method of dispersal not known, possibly by birds; locally dispersed by tortoises. (Hnatiuk, in press, a).
200. *Phyllanthus mckenzei* Fosberg Regma strongly depressed-globose, up to 1.5 x 0.6-0.8 mm; seeds trigonous, dorsally convex, 0.4-0.6 mm. long, inner angle acute, dull orange to salmon or dull chocolate-brown. Endemic; Aldabra, Cosmoledo. Method of dispersal not known.
201. *Ricinus communis* L. Castor Oil Plant. Regma globose, c. 1.5 cm. in diameter, spinose; seed ovoid, 8 x 6 mm., streaky brown and grey. Weed, possibly an escape from cultivation; Aldabra, Cosmoledo, Astove. Seeds reported still viable after floating 93 days; also eaten by turtle doves but doubtful if viable afterwards (Ridley, 1930); Muir, 1937, found only 4 out of 60 seeds viable and floating after 10 days.

URTICACEAE

202. *Laportea aestuans* (L.) Chew Achene ovoid, 1.2 x 1.2 mm., flattened, umbellate, readily disarticulating from the lower portion of the pedicel and inverted by the persistent lateral perianth segments. Native; Aldabra. Method of dispersal not known, possibly by birds.
203. *Obetia ficifolia* Gaud. Achene ovoid, c. 1 x 0.8 mm., compressed, included in the accrescent perianth. Native; Aldabra. Method of dispersal not known, possibly by birds, seeds locally dispersed by birds, viable seed obtained from bulbul regurgitate.

MORACEAE

204. *Ficus avi-avi* Bl. Fig globose, 8 mm. in diameter, yellow brown, pubescent. Native; Aldabra, Assumption, Cosmoledo, Astove. Fig eaten by blue pigeon, locally dispersed by tortoise.
205. *Ficus nautarum* Baker Fig globose, 1-2 cm. in diameter, yellow-brown. Native; Aldabra, Assumption. Figs eaten by blue pigeons (Benson & Penny, 1971).
206. *Ficus reflexa* Thunb. Fig globose, 4-7 mm. in diameter, reddish, glabrous. Native; Aldabra, Assumption, Cosmoledo, Astove. Figs presumably eaten by birds.
207. *Maillardia pendula* Fosberg Drupe ovoid, 12-15 x 7-8 mm., reddish-brown; seed 1, oblong-oval, 9 x 5 mm., strongly inrolled-grooved on one side. Endemic; Aldabra, possibly now extinct. Drupe eaten by blue pigeons (Benson & Penny, 1971).

CASUARINACEAE

208. *Casuarina litorea* L. Cone globose, 1.5-2 cm. in diameter (Fig. 1, 8a); fruits with terminal wing, oblong-oval, 7 x 2.5 mm. (Fig. 1, 8b). Native, strand, or possibly introduced; Aldabra, Assumption, Cosmoledo, Astove. Cones float 1-2 days (Guppy, 1890); seeds soon sink Guppy, (1906); disseminule float for at least a month (Gunn & Dennis, 1976); seeds possibly rafted or even wind-blown for short distances (Sauer, 1967); seeds eaten by turtle dove, white-eye and fody (Benson & Penny, 1971); may have been introduced by man for shade but Ridley (1930) considers this unlikely. Fruit found to be viable after floating for more than 8 weeks.

ORCHIDACEAE

209. *Acampe rigida* (Buch.-Ham. ex J.R.Sm.) P.F. Hunt. Capsule fusiform, 4-5 x 1.5 cm., ribbed, longitudinal dehiscence; seeds minute.

Native; Aldabra. Seed believed to be wind dispersed.

210. *Angraecum eburneum* Bory Capsule fusiform, 4.5-5 x 1.5 cm., longitudinal dehiscence; seeds minute. Native; Aldabra. Seed believed to be wind dispersed.

MUSACEAE

211. *Musa* sp. banana or plantain. No specimens seen, no longer extant. Cultivated; Assumption. Suckers or corms planted by man.

DIOSCOREACEAE

212. *Dioscorea bemarivensis* Jumelle Regma 3-winged, each wing suborbicular, 1-1.5 cm. broad, and containing 1-2 seeds; seeds oblong, 4 x 2 mm., with brown encircling wing, the whole disseminule being up to 1 cm. in diameter. Native; Aldabra, Assumption, Astove. Regma not blown by the wind but seeds wind dispersed (Ridley, 1930).

LILIACEAE

213. *Agave sisalana* Perr. Sisal. Capsules and seeds rarely formed due to formation of abscission layer, bulbils formed after flowers absciss (Purseglove, 1972); seeds rounded-triangular, 10 x 8 mm., thin, flat, papery. Cultivated and naturalised; Aldabra, Cosmoledo, Astove.
214. *Asparagus umbellulatus* Bresler Berry globose, 5-7 mm. in diameter, pale orange to brown; seeds 2-4, trigonous, dorsally convex, 2.5 x 2.5 mm., black. Endemic; Aldabra, Cosmoledo, Astove. Berries of other species eaten by birds (Ridley, 1930). Fruit eaten, viable seed obtained from bulbul regurgitate.
215. *Dracaena reflexa* Lam. var. *angustifolia* Baker Berry globose, 10 mm. in diameter, brick red; seeds 2, subglobose, 4 mm. in diameter, orange-brown. Native; Aldabra, Assumption ? Cosmoledo, ? Astove. Berries of other species eaten by birds (Ridley, 1930).
216. *Lomatophyllum aldabrense* Marais Berry globose-oblong, 10 mm. in diameter, purplish-red; seeds strongly triquetrous, c. 3 x 3 mm., reddish-black. Endemic; Aldabra, Assumption, Cosmoledo, Astove. Berry eaten by blue pigeon, (Benson & Penny, 1971); viable seed obtained from bulbul regurgitate.

COMMELINACEAE

217. *Commelina benghalensis* L. Capsule oblong, 4-5 x 3 mm., the

2 dehiscent valves 2-seeded; seed oblong, 1.5-2.5 x 1.5-2 mm., greyish-brown, rugose. Weed; Assumption. Broken pieces of stem readily root; underground stem with reduced leaves and cleistogamous flowers, (Henderson & Anderson, 1966; Ivens, 1967; Holm et al., 1977). Accidentally introduced by man.

PALMAE

218. *Cocos nucifera* L. Coconut Palm. Drupe elliptic or ovoid, 10-40 x 10-15 cm., 3-sided with tough endocarp, fibrous mesocarp and hard 'nut'. Native, strand, or possibly cultivated; Aldabra, Cosmoledo, Astove. Ocean-borne nuts capable of germination (Hill, 1929; Sauer, 1967; Dennis & Gunn, 1976), even after periods of up to 110 days at sea (conservative estimate of distance travelled 3,000 miles), visible growth very slow, over 1 year before shoot appears (Edmondson, 1941).
219. *Lodoicea maldivica* (Gmel.) Pers. Coco de Mer, Drupe ovoid, flattened, 40-50 cm. long, covered by thin, fibrous husk, nut 2(-4)-lobed. Cultivated; Aldabra. Introduced by man but no longer extant; no specimen seen. Nuts sea dispersed but apparently sterile (Bailey, 1942); nuts sink in water, specific gravity 1.2 (Corner, 1966; Dennis & Gunn, 1976).
220. *Phoenix dactylifera* L. Date Palm. Drupe cylindrical, 2.5-7.5 x 2.5 cm., seed cylindrical, up to 2.5 x 0.8 cm., grooved. Cultivated; Aldabra. The solitary specimen at Settlement is presumed to have been planted, and is too young to have provided a source of seed for the second specimen near Bras Takamaka to have been naturalized; it too must have been planted, probably accidentally by man.

PANDANACEAE

221. *Pandanus aldabraensis* St. John Aggregate fruit (syncarps) globose, 7-8 cm. in diameter; phalanges (syncarps) rhomboidal, 3.2-3.4 x 1.8-2.4 x 1.5-2.1 cm., apex pyramidal, 5-6 angled, stigmas 1-3; seed broadly ellipsoid 6 mm. long. Endemic; strand; fruit eaten and seeds locally dispersed by tortoise.
222. *Pandanus tectorius* Park. Aggregate fruit (syncarps) ellipsoid, 15-24 x 12-19 cm.; phalanges fusiform, 4-7 x 3.8-7.3 x 3.7-5.1 cm., apex ± truncate, stigmas 9-17; seeds broadly ellipsoid, 9-15 mm. long. Endemic, strand; Aldabra. Phalanges float, sea dispersed (Ridley, 1930; Muir, 1937). Fruit eaten and seeds locally dispersed by tortoise.

NAJADACEAE

223. *Najas graminea* Del. Nutlet cylindrical-ellipsoid, 1.7-2 x 0.5 mm.,

indehiscent, beaked, decaying or rupturing to release the seed; seed 1, ovoid 1.6-2 x 0.6 mm., areolate. Native, aquatic; Aldabra. Seed dispersed by birds (Ridley, 1930).

CYPERACEAE

224. *Bulbostylis basalis* Fosberg Achene obovoid, 1-1.2 mm. long, trigonous, apex rounded, base substipiform, brown, rugose. Endemic; Aldabra. Presumably achenes eaten and dispersed by birds; locally dispersed by tortoise (Hnatiuk, in press, a).
225. *Bulbostylis hirta* (Thunb.) Svenson Achene broadly ovoid, c. 0.5 x 0.5 mm., trigonous, angles blunt, faces transversely rugose, dirty white or straw-coloured. Native; Assumption. Achenes probably carried in mud adhering to the feet of migrant birds.
226. *Cyperus aromaticus* (Ridley) Mattf. & Klük. var. *elatus* (Steud.) Klük. Achene obliquely ovoid or oblong, 1.2 mm. long, somewhat compressed, glossy dark brown with white isodiametric cellular reticulation. Native; Aldabra. Presumably achenes eaten and dispersed by birds.
227. *Cyperus bigibbosus* Fosberg Achene oblong-elliptic, 1.4-1.8 mm. long, strongly compressed, biconvex, dark brown. Endemic; Aldabra. Presumably achenes eaten and dispersed by birds.
228. *Cyperus bulbosus* Vahl Achene obovate, 1-1.2 mm. long, trigonous, grey. Adventive; Assumption, associated with rail tracks in the guano works.
229. *Cyperus conglomeratus* Rottb. Achene slightly obovoid to ovoid, 1 x 1.5 mm., rounded at base and apex. Native; Aldabra. Presumably achenes eaten and dispersed by birds.
230. *Cyperus dubius* Rottb. Achene obovoid or ovoid, 1 x 0.5 mm., strongly trigonous, base and apex subtruncate, brown. Native; Aldabra, Assumption. Presumably achenes eaten and dispersed by birds.
231. *Cyperus ligularis* L. Achene obovoid, 1.5 x 0.8 mm., strongly trigonous, dark blood-red to brownish. Native; Aldabra, Assumption, Cosmoledo, Astove. Presumably achenes eaten and dispersed by birds; locally dispersed by tortoise (Hnatiuk, in press, a).
232. *Cyperus niveus* Retz. var. *leucocephalus* (Kunth) Fosberg Achene oblong-obovoid, 1.2 x 1 mm., strongly trigonous, angles black, sides grey. Native; Aldabra. Achenes eaten by fody (Frith, 1976).

233. *Cyperus pumilus* L. Achene ovoid, 0.5 x 0.3-0.4 mm., apex subtruncate to slightly retuse, dull brown to grey. Native; Aldabra. Presumably achenes eaten and dispersed by birds; locally dispersed by tortoise (Hnatiuk, in press, a).
234. *Fimbristylis cymosa* R. Br. Achene obovoid, 0.5 x 0.4 mm., somewhat trigonous or flattened, blackish or dark brown, tuberculate or smooth. Native; Aldabra, Assumption, Cosmoledo, Astove. Presumably achenes eaten and dispersed by birds.
235. *Fimbristylis ferruginea* (L.) Vahl Achene broadly obovoid to subglobose, 1 x 0.8 mm., white to dull yellow or reddish-tan. Native; Aldabra. Presumably achenes eaten and dispersed by birds; locally dispersed by tortoise. (Hnatiuk, in press, a).

GRAMINEAE

236. *Bambusa vulgaris* Schrad. ex Wendl. Bamboo. Caryopsis not seen. Cultivated; Aldabra. Propagated by clonal material, seldom flowers.
237. *Cenchrus echinatus* L. Spikelets 2-6, 4.5-6 mm. long, enclosed by a retrorsely scabrid involucre of bristles. Weed; Astove. Burrs attach themselves to clothing and coats of animals (Henty & Pritchard, 1975; Holm et al., 1977).
238. *Cymbopogon citratus* (DC.) Stapf Citronella Grass. Spikelets pairs oblong-lanceolate, 3.5-5.5 x 1 mm., awnless. Cultivated; Aldabra. Rarely found in flower because harvesting inhibits flowering (Bor, 1960). Propagated by clonal material.
239. *Dactyloctenium ctenoides* (Steud.) Bosser Floret narrowly ovate, 2.8-3.4 mm. long; lemma cuspidate with scabrid keel; caryopsis broadly ovate, 0.7-0.8 mm. long. Native, strand; Aldabra, Assumption, Cosmoledo. Locally dispersed by tortoise (Hnatiuk, in press, a).
240. *Dactyloctenium pilosum* Stapf Floret narrowly ovate, 2.3-3 mm. long, lemma acute, with scabrid keel; caryopsis elliptic, 0.8 x 0.6 mm., laterally compressed. Native, littoral; Aldabra, Assumption. Method of dispersal not known; locally dispersed by tortoise (Hnatiuk, in press, a).
241. *Daknopholis boivinii* (Camus) W.D. Clayton Floret ± ovate, 1.5-2.5 mm. long, lemma bidentate and tipped by a slender straight awn 3-12 mm. long. Native, strand. Aldabra, Cosmoledo, Astove. Method of dispersal not known.
242. *Digitaria horizontalis* Willd. Spikelet narrowly lanceolate, 2.5-3 mm. long. Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man, or possibly by birds since spikelets eaten by fody (Frith, 1976).

243. *Digitaria setigera* Roth Spikelet lanceolate to elliptic-lanceolate, 2-3 mm. long. Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man, or possibly by birds since spikelets eaten by fody (Frith, 1976).
244. *Eleusine indica* (L.) Gaertn. subsp. *indica* Floret broadly lanceolate, 2.4-3.6 mm. long, lemma keel scabrid, grain elliptic, 1-1.3 mm. long, enclosed by lemma and palea. Weed; Aldabra, Cosmoledo. Accidentally introduced by man; no evidence for bird or sea transport (Ridley, 1930), although transported internally or externally by animals, also wind dispersed (Holm et al., 1977).
245. *Enteropogon seychellensis* (Baker) Dur. & Schinz Spikelets 3-flowered, 5-7 mm. long, lower lemma bidentate with awn 10-20 mm. long. Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Method of dispersal not known.
246. *Eragrostis decumbens* Renv. Caryopsis ovate or elliptic, 0.5 mm. long. Endemic; Aldabra. Locally dispersed by tortoise (Hnatiuk, in press, a).
247. *Eragrostis subaequiglumis* Renv. Caryopsis elliptic, 0.5 mm. long. Native; Aldabra, Assumption, Cosmoledo, Astove. Locally dispersed by tortoise (Hnatiuk, in press, a).
248. *Eriochloa meyeriana* (Nees) Pilger Spikelet elliptic, 2.3-3.5 mm. long, acute. Native; Aldabra, Assumption. Method of dispersal not known.
249. *Eriochloa subulifera* Stapf Spikelet ovate-lanceolate or oblong, 2-2.5 mm. long, awn subulate, 1 mm. long. Native; Assumption, Astove. Method of dispersal not known.
250. *Ischaemum rugosum* Salisb. Spikelet pairs oblong-ovate, 4-7 mm. long, falling entire at maturity, awn geniculate, c. 20 mm. long. Native; Aldabra. Method of dispersal not known.
251. *Lepturus repens* (G. Forster) R. Br. Spikelet 6-14 mm. long, sessile, solitary, embedded in the hollow on the opposite sides of the jointed axis of a solitary spike, the axis breaking up at the joints at maturity, (Hubbard & Vaughan, 1940). Native, strand; Aldabra, Cosmoledo, Astove. Sea dispersal (Ridley, 1930; Bor, 1960); spikelets eaten by fody (Frith, 1976); locally dispersed by tortoise (Hnatiuk, in press, a).
252. *Panicum aldabrense* Renv. Spikelets ovoid, 1-1.3 mm. long. Endemic; Aldabra. Method of dispersal not known, possibly eaten by birds.
253. *Panicum assumptionis* Stapf Spikelets ovoid or obovoid-elliptic, 1-1.3 mm. long. Endemic; Assumption. Method of dispersal not known, possibly eaten by birds.

254. *Panicum maximum* Jacq. Spikelets oblong, 3-4 mm. long, plump, slightly acute. ? Weed; Aldabra, Cosmoledo, Astove. Accidentally introduced by man or possibly cultivated for fodder; propagated by seed or by division of the rootstock (Hubbard & Vaughan, 1940).
255. *Panicum voeltzkowii* Mez Spikelet ovoid, 1.5-1.75 mm. long. Native; Cosmoledo, Astove. Method of dispersal not known, possibly by birds.
256. *Paspalum vaginatum* Swartz Spikelets oblong-ovate to ovate-elliptic, 3-4.5 mm. long, acute. Native, strand; Aldabra, Cosmoledo. Dispersed by currents, floating logs and pumice and adhering to birds' feet (Ridley, 1930; Muir, 1937; Bor, 1960).
257. *Pennisetum polystachion* (L.) Schultes Spikelet solitary, ovate-oblong, 2-3 mm. long, enclosed by an involucre of ciliate bristles, 5-15 mm. long; the fertile upper spikelet can be shed in transit. Weed; Aldabra, Assumption, Astove. Accidentally introduced by man.
258. *Sclerodactylon macrostachyum* (Benth.) A. Camus Florets ovate, 3 mm. long. Native, strand; Aldabra, Assumption. Florets sea dispersed (Ridley, 1930); locally dispersed by tortoise (Hnatiuk, in press, a).
259. *Sporobolus aldabrensis* Renv. Seed tetragonal, 0.7-0.9 mm. long. Endemic; Aldabra. Naked seed exuded from mucilaginous pericarp when spikelet moistened, possibly aids adhesion to feet and feathers of birds.
260. *Sporobolus testudinum* Renv. Seed elliptic, truncate, 0.5-0.7 mm. long. Endemic; Aldabra. Naked seed exuded from mucilaginous pericarp when spikelet moistened, possibly aids adhesion to feet and feathers of birds. Locally dispersed by tortoise (Hnatiuk, in press, a).
261. *Sporobolus virginicus* (L.) Kunth Floret narrowly ovate-elliptic, 1.7-2.5 mm. long. Native, strand; Aldabra, Assumption, Cosmoledo, Astove. Floret and rhizome sea dispersed, less likely to be carried by birds externally (Ridley, 1930; Bor, 1960). Fragments sea dispersed (Muir, 1937). Locally dispersed by tortoise (Hnatiuk, in press, a).
262. *Stenotaphrum clavigerum* Stapf False spikes of 5(-6); spikelets 2 mm. long, embedded in corky clavate rachis which disarticulates at maturity, the caryopsis retained within the spikelet. Endemic, strand; Aldabra, Assumption. Caryopsis does not imbibe water, but too heavy to float; rachis segments buoyant at first, being waterlogged after 5-7 days (Sauer, 1972).
263. *Stenotaphrum micranthum* (Desv.) Hubbard False spikes of 1-6; spikelets oblong to oblong-lanceolate, 2.5-3.5 mm. long, embedded in corky rachis which disarticulates at maturity. Native, strand,

Cosmoledo, Astove. Dispersal as for *S. clavigerum*.

264. *Zea mays* L. Maize. Caryopsis subglobose, obovate or cuniform, c. 6 x 3 mm., yellow. Cultivated; Aldabra, Cosmoledo. Introduced by man.

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Figure 1. 1. *Thespesia populneoides*: a, capsule; b, seed.
2. *Cordia subcordata*: drupe. 3. *Triumfetta procumbens*: drupe.
4. *Melanthera biflora*: cypsela. 5. *Launaea intybacea*: cypsela.
6. *Gouania scandens*: a, schizocarp; b, mericarp; c, seed.
7. *Caesalpinia bonduc*: seed. 8. *Casuarina equisetifolia*:
a, cone; b, fruit. 9. *Abrus precatorius*: pod. 10. *Xylocarpus*
moluccensis: capsule with side cut away to expose seed.
11. *Tournefortia argentea*: drupe. 12. *Grewia salicifolia*: drupe.
13. *Apodytes dimidiata*: drupe. 14. *Pisonia grandis*: anthocarp.
15. *Dodonaea viscosa*: a, double samara; b, seed. 16. *Colubrina*
asiatica: seed. 17. *Brexia madagascariensis*: a, drupe; b, cross-
section of drupe to show air cavities. 18. *Terminalia catappa*:
drupe. 19. *Suriana maritima*: nucule.

