

C. List of Addu vascular plants

by F. R. Fosberg, E. W. Groves and D. C. Sigeo

The vascular plants collected by Mr. Sigeo were independently identified by Fosberg and Groves, and the resulting lists combined and the differences reconciled. 145 specimens, in all, were collected, representing 142 species. Of these 57 (marked with an asterisk *) were clearly exotic, 33 of them cultivated or immediately persisting from cultivation; 32 are widespread maritime species. Most of the remainder are widespread species that occur in tropical Asia, some pan-tropical. Some of them may well be indigenous, but this is difficult to be certain of, one way or the other. There are no local endemics, unless the Euphorbia sp. should turn out to be one, and it seems likely that it is an Indian species that has been commonly, but erroneously, regarded as a variety of E. hypericifolia. Further study of more ample material may determine this. The Pandanus sp. (sterile) may well belong to one of the local populations that have been regarded as species in this perplexing genus. The Fimbristylis sp. may possibly be new and local, but is more likely an extreme or variant form of a known species.

This collection illustrates very well the state of our knowledge of the floras of the islands that are a little off the beaten track. In the 145 specimens, representing 142 species, there are 40 newly recorded from the Maldive Archipelago. 105 species are clear new records from Addu. 23 more are possibly new records, as they are plants mentioned by Willis and Gardiner (Ann. R. Bot. Gard. Peradeniya 1(2): 45-164, 1901) as occurring generally throughout the group, but not specifically mentioned by them from Addu. This is a large proportion of new records, found in spite of (in certain cases possibly because of) the almost total destruction of the natural and planted vegetation by the construction of an air base. It seems clear that a great deal of careful collecting still must be done before we can claim anything like an adequate picture of the floras of the world's islands.

In addition to the bare records of species collected, Sigeo's notes on their occurrence on the three islets visited have been added. The observations placed after the citation of the collection number do not necessarily apply strictly to the local population from which the specimen was collected. The notes before the citation presumably apply to the plant actually collected.

Since the list of Maldive plants was published (ARB 58) in 1957, there have been certain changes in our understanding of some of the species included in it, and certain changes in nomenclature. A list of these has been added at the end of this paper, whether or not they apply to Addu species.

PDERIDOPHYTA

Psilotaceae

Psilotum nudum (L.) Beauv.

Hitaddu islet, in water, in forest area north of staging post, in closed forest where water table was at ground level, Sigee 90.

Polypodiaceae

Asplenium pellucidum Lam.?

Hitaddu islet, common in northern forest area, on tree stumps, around open pools, Sigee 105. New record for the Maldives.

Nephrolepis hirsutula (Forst. f.) Presl

(Possibly the plant recorded as N. exaltata (L.) Schott by Willis & Gardiner; see ARB 58).

Gan islet, abundant, forming dense stands in the dense central woodland, Sigee 57. Also found in regenerating woodland nearby; on Hitaddu I., found only in the northern forest area, associated with Psilotum and Asplenium.

Thelypteris goggilodus (Schkuhr) Small

Gan islet, in open woodland with high water table, Sigee 41. Very common in open scrubland at the S.E. end. Fairly common also in central dense woodland, S.E. marshland and roadsides. New record for the Maldives.

SPERMATOPHYTA

Cupressaceae

*Juniperus sp. ?

Gan islet, Sigee 0. Recent introduction, cultivated bush along roadsides near RAF buildings. New record for the Maldives.

*Thuja orientalis L.

Gan islet, in village near Officers' Mess, Sigee P. Recent introduction, cultivated to form low sparse hedge. New record for the Maldives.

Pandanaceae

Pandanus sp.

Gan islet, common in coastal scrub along margin of island, Sigee 76. Some trees also in the central dense woodland, in open scrub, and a few juvenile plants in the S.E. marshland. On Hitaddu islet, abundant in coastal scrub on seaward side of island, also in seaward half of northern forest area. Juvenile specimens occurred infrequently in staging post area.

Potamogetonaceae

Cymodocea ciliata (Forsk.) Asch.

Gan islet, on submerged reef, between shore and boulder edge of reef, Sigee 25. On lagoon and seaward reef flats on both Gan and Hitaddu

islets. Common and widespread on seaward flat, occurring in conditions of continuous, moderate water flow; localized on the lagoon reef to an inshore zone. New record for the Maldives.

Hydrocharitaceae

Thalassia hemprichii (Ehrenb.) Asch.

Gan islet, between boulder ridge and reef edge, Sigee 26. On lagoon and seaward reef flats of both Gan and Hitaddu islets. Distribution generally similar to Cymodocea. New record for the Maldives.

Gramineae

Aeluropus littoralis (Gouan) Parl.

Hitaddu islet, lagoon side, sand-coloniser, Sigee 93. Seen only along lagoon shore, on beach, where it was fairly common. New record for the Maldives.

Apluda mutica L.

(A. varia var. aristata L.)

Gan islet, on top of sand bank 20 yards from sea, with Ipomoea and on bare sand, Sigee 13. Abundant on both islets (Hitaddu and Gan), where there has been a clearance of vegetation. Common throughout Gan, except in the central dense woodland area and in the grassland surrounding the runway. On Hitaddu islet, abundant in the staging post scrub, and common on the lagoon side of the forest north and south of this.

Bambusa multiplex (Lour.) Rausch ?

Gan islet, in gardens, Sigee X. Recent introduction.

Cenchrus echinatus L.

Gan islet, near huts, Sigee 32. Uncommon in open grassland in the immediate vicinity of RAF buildings. New record for the Maldives.

Chrysopogon aciculatus (Retz.) Trin.

Gan islet, in grass wasteland, near buildings, Sigee 80. Common in open grassland, also occurring along roadsides. New record for Maldives.

*Dactyloctenium aegyptium (L.) Willd.

Gan islet, in wasteland near buildings, Sigee 31. Common in open grassland and along roadsides. Hitaddu islet, common in staging post area. New record for the Maldives.

Digitaria timorensis (Kunth) Balansa

Gan islet, common in the open grassland and along roadsides, Sigee 62. New record for the Maldives.

*Eleusine indica (L.) Gaertn.

Gan islet, east end, lagoon side, in wasteland, in shade, in patches on bare ground, Sigee 19. Common in the open grassland and along roadsides. Hitaddu islet, in staging post area.

*Eragrostis tenella (L.) Beauv.

(E. amabilis (L.) W. & A.)

Gan islet, near east end, lagoon side, in wasteland, Sigee 13.

Lepturus repens (Forst. f.) R. Br.

Hitaddu islet, coloniser, on seaward shore, Sigee 91. New record for the Maldives.

Panicum repens L.

Gan islet, Sigee 64. New record for the Maldives.

Paspalum commersonii Lam.

Gan islet, fairly common in open marshland at S.E. end, Sigee 89. New record for the Maldives.

*Sorghum bicolor (L.) Moench

Gan islet, sporadic in open grassland at N.W. end of airstrip, Sigee 74.

Thuarea involuta (Forst. f.) R. & S.

Gan islet, eastern tip, shoreline, in open, near sea, covering ground with Cassytha, Sigee 27; also common in open grassland at N.W. end, surrounding runway and along roadsides. Hitaddu islet, common in staging post area.

Cyperaceae

Cladium jamaicense Crantz var. chinense (Nees) Koyama

Hitaddu islet, in marshland, by side of open water, Sigee 97. Locally common in marshland of northern forest, and also observed covering a wide area of open marshland north of the staging post area, in the midst of the forest. On Gan islet, seen only in small amounts in the S.E. marshland.

Cyperus brevifolius (Rottb.) Hassk.?

Gan islet, single colony found in open scrub at S.E. end, forming lush stand on wet ground, Sigee 84. New record for the Maldives.

Cyperus conglomeratus Rottb. f. pachyrrhizus (Nees) Kuk.

Hitaddu islet, only a few colonies observed, lagoon shore, just south of staging post area, Sigee 102.

Cyperus javanicus Houtt.

Gan islet, common in the S.E. open marsh area, and scrubland, Sigee 24. On Hitaddu islet, fairly common in the staging post area.

*Cyperus ligularis L.

Gan islet, grassland, Sigee 4; common in the S.E. marsh area. On Hitaddu islet, common in staging post area. New record for the Maldives.

Cyperus melanosperma (Nees) Sur.

Gan islet, near airstrip, grassland, Sigee 66. Uncommon in the open grassland and roadsides, where the ground has had free surface water. New record for the Maldives.

Cyperus polystachyos Rottb.

Gan islet, east end, south of runway, in marshland (high water table), Sigee 33. Common in the wetter zones of the open grassland surrounding the runway, and in the S.E. marshland. On Hitaddu islet, fairly common in staging post area, in the marshland adjacent to the northern boundary.

*Cyperus rotundus L.

(But spikelets very pale)

Gan islet, behind oil tanks, in grassland, dense forest, Sigee 17. Common in S.E. marshland, open grassland, and along roadside. On Hitaddu islet, fairly common in staging post area.

Eleocharis geniculata R. and S.

Hitaddu islet, northern forest, in open pools, just projecting above water surface, in open woodland area, Sigee 106. New record for the Maldives.

Fimbristylis cymosa ssp. spathacea (Roth) Koyama

(A slender form with unusually small spikelets)

Gan islet, Sigee 40. Common in S.E. marsh area, uncommon in scrub and along roadsides.

Fimbristylis sp.

Gan islet, in marshland, Sigee 39. Common in southern marsh area. On Hitaddu islet, seen only in the northern forest area, where it was localized in open pools.

Araceae

*Colocasia esculenta (L.) Schott

Gan islet, center, in dense fern stand, Sigee 59. Mature plants occurred in the gardens, where they were obviously cultivated. A few mature specimens were also seen in the scrub in the centre of the island, and juvenile forms occurred in clearings in the central woodland.

Palmae

Cocos nucifera L.

Gan islet, common around RAF buildings, and along the lagoon shore at the northwest tip of the island. Hitaddu islet, common in the forest north and south of the staging post. The lagoon side of the forest comprised open coconut woodland. Not collected.

Commelinaceae

Cyanotis axillaris (L.) D. Don

Gan islet, center, in open fern land, Sigee 73. Seen only at edge of clearings in central woodland. New record for the Maldives, first found there by Groves in 1943-45.

Cyanotis cristata (L.) D. Don

Hitaddu islet, north part, in clearing, Sigee 113. A single colony was seen in a dense area of the northern forest in a clearing near an old native dwelling.

Liliaceae

*Gloriosa superba L.

Gan islet, southern side, in bush scrub, Sigee 53. Uncommon, found in open scrubland in the centre of the island adjacent to the woodland.

Amaryllidaceae

Crinum asiaticum L.

Gan islet, in gardens, Sigee AD. Hitaddu islet, planted in rows by the wayside adjacent to the RAF buildings, Sigee L, south side in clearing, Sigee 101. The Hitaddu specimens are leaves only, so the determination is uncertain.

*Zephyranthes rosea Lindl.

Hitaddu islet, Sigee K. Planted as ornamental along roadsides near RAF buildings.

Taccaceae

Tacca leontopetaloides (L.) O. Ktze.

Hitaddu islet, in clearings in woodland, Sigee 96. Occurs in the northern forest on the lagoon side, where conditions are fairly open.

Musaceae

*Musa sp.

Hitaddu islet, seen only in banana plantation north of trading post area. Gan islet, small plantation seen near the Pakistani village, just south of the runway. Not collected.

Casuarinaceae

Casuarina equisetifolia L.

Gan islet, single tree in village near Officers' Mess, Sigee Q.

Moraceae

*Artocarpus altilis (Park.) Fosb.

Gan islet, Sigee 60. A few trees were left standing near the RAF buildings. Hitaddu islet, a few specimens seen in the banana plantation north of the staging post.

Urticaceae

Pouzolzia indica Gaud.

Hitaddu islet, north, in clearing, Sigee 114. Gan islet, a few specimens seen on a bank in the southeast scrub.

Nyctaginaceae

Boerhavia diffusa L. ?

Gan islet, east end of island, Sigee 46. A few specimens were seen near the RAF buildings, and in the scrub at the southeast end. Hitaddu islet, commonly found in the staging post area, where it spreads across open ground.

*X Bougainvillea buttiana Holttum & Standley

(Perhaps the plant recorded as B. spectabilis Willd. in ARB 58)

Gan islet, in hedgerow, Sigee I. Recent introduction, cultivated near the RAF buildings.

*Bougainvillea glabra Choisy

Gan islet, Sigee J. Recent introduction, cultivated near RAF buildings.

Amaranthaceae

Alternanthera sessilis (L.) R. Br.

Gan islet, center, in scrub on rough ground, Sigee 73. Not common, typically found at the edge of the grass verge near to the road. New record for the Maldives.

*Celosia argentea L.

Gan islet, behind oil tanks, on grassy wasteland, Sigee 16. Widely scattered over the open grassland surrounding the runway, and in the scrub.

Nothosaerva brachiata (L.) Wight

Gan islet, roadside rubble, Sigee 75. Common in scrub, by roadsides and near buildings. Hitaddu islet, infrequently found in the staging post area.

Portulacaceae

*Portulaca oleracea L.

Gan islet, near oil drums, on bare waste ground, Sigee 42. Uncommon in open grassland. Hitaddu islet, infrequent in the staging post area.

Lauraceae

Cassytha filiformis L.

Gan islet, eastern tip, Sigee 28. Common in open grassland near buildings, and found in all open habitats over the island. Hitaddu islet, very common in the scrub of the staging post area, and frequent in the open woodland on the lagoon sides of the southern and northern forest.

Hernandiaceae

Hernandia sonora L.

Gan islet, near oil tanks, on bank, 10 yards from sea, Sigee 14. Single tree on the lagoon shoreline, and a few trees inland in the scrub area south of the central woodland. Hitaddu islet, seen as an infrequent tree or bush on the lagoon side of the northern forest.

Capparidaceae

Cleome viscosa L.

Gan islet, on roadside, Sigee 34 (glabrous form), Sigee 34b. Common in dry, open habitats such as roadsides and open grassland. Hitaddu islet, common in dry areas of the staging post scrubland, particularly on the seaward side. Specimens on Hitaddu were more pubescent than those on Gan.

Crassulaceae

*Kalanchoe pinnata (Lam.) Pers.

Bushy islet, in clearing on rough ground, Sigee 70. Common in the clearings in the wooded area. Hitaddu islet, seen only in the banana plantation north of the staging post.

Moringaceae

*Moringa oleifera Lam.

Gan islet, Sigee 107. A single tree in the graveyard of the Mosque, adjacent to the Pakistani village.

Leguminosae

Canavalia cathartica Thou.

Gan islet, lagoon shore, climbing on Scaevola in shade of palm tree, Sigee 6. Common on lagoon and southeast coastal scrub. New record for the Maldives, first found there by Groves in 1943-45.

*Cassia occidentalis L.

Gan islet, south end of island, east side, in open wasteland, Sigee 48. Uncommon, individual plants were scattered over open grassland and by roadsides. Hitaddu islet, uncommon, seen only in dry parts of the staging post scrub.

*Clitoria ternatea L.

Gan islet, in gardens, Sigee T.

Crotalaria retusa L.

Gan islet, eastern tip, in scrub, near sea, Sigee 29. Fairly common along roadsides and in scrub at the southeast end of the island.

*Delonix regia (Boj.) Raf.

Gan islet, Sigee 32. A few trees lined the roadway along the northern perimeter.

*Dolichos lablab L. ?

Hitaddu islet, in Scaevola-Tournefortia hedge, lagoon side, Sigee 92. A few plants seen along the lagoon shore at the northern end of the staging post area.

Erythrina variegata L.

(E. indica L.)

Gan islet, Pakistani Camp, near graveyard, near wall of buildings, Sigee 103. A single large sterile tree occurred on the southern side of the Mosque, near the Pakistani village.

Sesbania bispinosa (Jacq.) F. W. Wight

Gan islet, golf links, grass stand, Sigee 65. Uncommon, seen in open grassland and by roadsides. New record for the Maldives.

Vigna marina (Burm.) Merr.

Gan islet, west of promontory, east end, lagoon; coloniser, on sand banks near sea, Sigee 21. Common along lagoon shoreline.

Surianaceae

Suriana maritima L.

Gan islet, at edge of Scaevola bush, south side of island, Sigee 49. Single plant found near the seaward coast. Hitaddu islet, common along parts of the seaward shore, a few specimens found on the lagoon shoreline.

Euphorbiaceae

Acalypha indica L.

Hitaddu islet, in scrubland, centre of island, Sigee 103. Common in dry parts of staging post scrub. Gan islet, common in dry scrub and by waysides.

Acalypha lanceolata Willd.

Gan islet, waste ground, on coral pile, Sigee 83. An uncommon plant, found in open grassland, roadsides and scrub.

*Acalypha wilkesiana M.-A.

Gan islet, in gardens, Sigee Y.

Agyneia bacciformis (L.) Juss.

Gan islet, in very wet area, Sigee 112. Common in the southeast open marsh area.

*Codiaeum variegatum L.

Gan islet, Sigee F. Cultivated as an ornamental by the side of buildings.

Euphorbia cyathophora Murray

(E. heterophylla L. of ARB 58)

Gan islet, near oil tanks, at back of Ipomoea zone, Sigee 11. Common plant in scrub, and wasteland near buildings. Hitaddu islet, fairly common in banana plantation, also infrequent in staging post scrub.

Euphorbia hirta L.

Gan islet, wayside, Sigee 88. Common in scrub at southeast end of island, and along roadsides. Hitaddu islet, common in staging post scrub.

Euphorbia sp.

(Probably undescribed, of E. atoto-E. chamissonis group, but conspicuously pubescent; requires further study)

Gan islet, east end, lagoon side, in wasteland, bare open ground, Sigee 20.

*Manihot esculenta Crantz

Gan islet, Sigee N.

*Pedilanthus tithymaloides (L.) Poit.

Gan islet, in wayside, border, Sigee C. Common wayside ornamental. Recent introduction.

Phyllanthus madraspatensis L.

Gan islet, near oil tanks, on top of loose sand bank, 20 yards from tideline, Sigee 12. Common in all wasteland-scrub, roadsides and land near buildings. Hitaddu islet, common in staging post scrub.

*Phyllanthus urinaria L.

Gan islet, away from sea, near oil tanks, in wasteland, Sigee 23. Distribution as with P. madraspatensis: common in all wasteland-scrub, roadsides and land near buildings.

*Ricinus communis L.

Gan islet, rifle range, in open ground, near wayside, Sigee 44. Fairly common along roadsides and in dry areas of the scrub at the southeastern end. Hitaddu islet, a few plants seen in the scrub around the staging post.

Malpighiaceae

Tristellateia australasiae Richard

Gan islet, in gardens, Sigee AC, U. New record for the Maldives.

Sapindaceae

Allophylus cobbe Bl.

Hitaddu islet, in woody clearing in woods, Sigee 95 (sterile). An infrequent plant, seen only in the lagoon northern forest area.

*Cardiospermum halicacabum L.

Gan islet, grass sward, Sigee 33. Common in scrub, and occasionally seen in open wasteland around buildings.

Dodonaea viscosa L.

Hitaddu islet, in wasteland, Sigee 99. Common in coastal scrub south of the staging post. Gan islet, a few bushes seen in the central scrub.

Tiliaceae

Corchorus aestuans L.

Gan islet, in grassland near buildings, Sigee 61. Common in open grassland and along roadsides. Hitaddu islet, common in staging post scrub.

*Muntingia calabura L.

Gan islet, west marsh, in tree-scrub woodland, small thicket, Sigee 43. Uncommon, bordering the marsh at the southeast end. Hitaddu islet, common in parts of the staging post area, where it was restricted to the marsh near the northern border.

Malvaceae

Abutilon indicum (L.) Sweet

Gan islet, south side, east end, Sigee 47. Uncommon, found in central scrub.

*Hibiscus rosa-sinensis L.

Gan islet, Sigee M. Solitary bush, at northwestern tip of island.

Hibiscus solandra L'Her.

Gan islet, grassland, Sigee 72. Uncommon, occurring along roadsides and in open grassland. Hitaddu islet, uncommon in staging post area.

Hibiscus tiliaceus L.

Gan islet, seashore, lagoon side, very near to tide-line; a dense tree with no associated herbs but often with Scaevola, Sigee 5. Abundant along the shoreline and in the regenerating woodland in the centre of the island; common also in the central dense woodland. Hitaddu islet, common tree, growing in the coastal scrub on the seaward side south of the staging post area, and in open woodland on the lagoon side north and south of this.

Sida humilis Willd. ?

Gan islet, on mown grassland, Sigee 109. Common in open grassland and along roadsides, very widespread. Hitaddu islet, common in staging post scrub.

Guttiferae

Calophyllum inophyllum L.

Gan islet, south side, scrub, Sigee 56. A few trees in the area of regenerating woodland.

Turneraceae

*Turnera ulmifolia L.

Bushy islet, clearing on rough ground, Sigee 68. Common in clearings in the centre of the woody area. Hitaddu islet, seen only in the banana plantation.

Passifloraceae

*Passiflora foetida var. hispida (DC.) Killip

Gan islet, grassy scrub, Sigee 63. Common along roadsides and in the scrub. Hitaddu islet, uncommon, in the staging post scrub. New record for the Maldives.

*Passiflora suberosa L.

Gan islet, south side, scrub, Sigee 55. Not common, but seen in the scrub, along roadsides, and clearings in the regenerating forest. Hitaddu islet, common in open, dry areas of the staging post scrub. New record for the Maldives.

Caricaceae

*Carica papaya L.

Gan islet, in open wasteland, Sigee 50. A few trees occurred in the southern coastal scrub, and around the buildings at the northern end.

Cucurbitaceae

*Cucumis melo L.

Gan islet, on rough ground, concrete rubble, between oil tanks, Sigee 15. Common in the grass verge by roadsides, and in the scrub clearings. Hitaddu islet, common on bare ground in staging post area, seaward side. New record for the Maldives.

Lythraceae

Ammania baccifera L.

Gan islet, near coral heap, wet ground, Sigee 36. Uncommon in the scrub, and localized in a small marsh area. Hitaddu islet, uncommon in the staging post scrub, where it was localized in the marsh at the northern boundary. New record for the Maldives.

Pemphis acidula Forst.

Gan islet, lagoon shore, in open, about 2 yards from high tide-line, among Ipomoea, Sigee 7. Uncommon; a few specimens seen in the seaward coastal scrub. Hitaddu islet, common as the shoreline shrub along parts of the seaward coast, and in the coastal scrub behind the shoreline. A few specimens were also seen on the lagoon side. Bushy islet, rock spits going out to sea on ocean shore, Sigee 69. A common shrub, occurring along the whole periphery of the island, and in places washed by the tide.

Rhizophoraceae

Bruguiera gymnorhiza Lam.

(B. conjugata (L.) Merr. of ARB 58)

Hitaddu islet, south end, lagoon side, Sigee 110. Single specimen seen on the lagoon shore, south of the staging post, in an area of local surface water.

Combretaceae

Terminalia catappa L.

Gan islet, Sigee 71. A few trees seen in the area of buildings at the northwest end. Hitaddu islet, uncommon, occurring in the northern forest near the seaward coast.

Myrtaceae

*Eugenia cumini (L.) Druce

Gan islet, center, Sigee 77. The tallest tree on the island, dominating the central woodland; also occurring as juvenile specimens in the regenerating woodland nearby. New record for the Maldives.

Apocynaceae

*Catharanthus roseus (L.) Don

Gan islet, in wayside border, Sigee A. Recent introduction, very common along the wayside border as an ornamental.

*Nerium indicum Mill. ?

Gan islet, bush, wayside, Sigee B. Recent introduction, very common along wayside border.

Ochrosia oppositifolia (Lam.) K. Schum.

Gan islet, along eastern end, near road, solitary in scrub, Sigee 45. Uncommon, seen only in regenerating woodland.

*Plumeria obtusa L.

Gan islet, Sigee H. Recent introduction, wayside shrub.

*Plumeria rubra f. acutifolia (Poir.) Woods.

Gan islet, Sigee G.

Convolvulaceae

*Argyreia nervosa (Burm. f.) Bojer

Gan islet, Sigee E. Single specimen seen, cultivated as a creeper on an erected cane framework. New record for the Maldives.

Ipomoea littoralis Bl.

Hitaddu islet, in clearing in woodland, Sigee 115(sterile). A single colony seen in the northern forest, near a disused native dwelling.

Ipomoea pes-caprae (L.) R. Br. ssp. pes-caprae

Gan islet, seashore, in dense mats about 20 yards from sea, Sigee 1. Abundant on the lagoon shoreline, and behind the coastal shrub on the seaward side. Hitaddu islet, abundant on the lagoon shoreline, occurring also in parts of the open woodland on the lagoon side. A few plants seen in clearings in the seaward coastal scrub.

Ipomoea tuba (Schlecht.) G. Don

Gan islet, south of runway, east end, almost marsh (high water table), Sigee 37. Common in southeast open marsh area, and also in scrubland at that end of the island. Hitaddu islet, uncommon, in northern forest.

Jacquemontia paniculata (Burm.f.) Hall. f.

Gan islet, south side, scrub, grass, with Ipomoea vines, Sigee 54. Generally uncommon, seen in open grassland, roadsides, and scrubland near the regenerating woodland. Hitaddu islet, common in the scrub of the staging post, where it covered local areas of otherwise bare ground.

Boraginaceae

*Cordia curassavica (Jacq.) R. & S.

Gan islet, in gardens, Sigee 23a, Z. New record for the Maldives.

Cordia subcordata Lam.

Gan islet, end of island, Sigee 79. Uncommon, occurring near buildings.

Tournefortia argentea L.f.

(Messerschmidia argentea (L.f.) Johnst.)

Gan islet, seashore, lagoon, 5 yds from tide-line; open habitat, Sigee 3. Common along shoreline, and in coastal scrub at southeast end of island. Scattered as an infrequent shrub in the scrub farther inland, and a few colonising bushes seen in the open marsh area. Hitaddu islet, common along parts of seaward coast as shoreline shrub, and also in the coastal scrub behind the shoreline. Common also in the staging post area on the seaward side. Not common on the lagoon coast.

Solanaceae

Physalis angulata L.

(This specimen would correspond to P. minima L., which is probably just a reduced form of P. angulata L.)

Gan islet, near airstrip, grassland on disturbed area, Sigee 67. Common herb by the side of roads, occurring also in dry areas of the open grassland, and scrub. Hitaddu islet, fairly frequent in the dry areas of the staging post scrub.

Verbenaceae

*Lantana camara L.

Gan islet, Sigee 5. Recent introduction. A few bushes seen planted as wayside ornamentals at the northern end. New record for the Maldives.

*Lippia nodiflora L.

Gan islet, almost marsh (high water table area), Sigee 36. Seen only in the open marsh area at the southeast end, where it was common. Hitaddu islet, restricted to the marsh area at the northern boundary of the staging post, where it was locally common.

Stachytarpheta indica Vahl

Hitaddu islet, south end, on wasteland and in open forest, Sigee 100. Locally common in open grassland at the southern boundary of the staging post. New record for the Maldives.

Labiataeae

Ocimum sanctum L.

Gan islet, near coral heap, dry waste ground, Sigee 87. Uncommon in central scrub. Hitaddu islet, uncommon in staging post scrub.

Stachys sericea Wall. ex Benth.

Hitaddu islet, north, in clearings, Sigee 116. Common in central staging post scrub, also found on the lagoon side of the northern forest. New record for the Maldives.

Scrophulariaceae

*Angelonia salicariaefolia H. & B.

Gan islet, in gardens, Sigee AB. New record for the Maldives.

Bacopa monnieri (L.) Wettst.

Gan islet, in water in marshland, Sigee 111. Restricted to the southeast marsh, where very common.

Striga asiatica (L.) O. Ktze.

Hitaddu islet, north part, in forest clearings at lagoon side, Sigee 94. Localized in a small area on the lagoon side of the northern forest, near the northern boundary of the staging post. New record for the Maldives.

Bignoniaceae

*Spathodea campanulata Beauv.

Gan islet, in gardens, Sigee AA. New record for the Maldives.

*Tecoma stans L.

Gan islet, in gardens, Sigee V.

Acanthaceae

*Pseuderanthemum carruthersii var. atropurpureum (Bull) Fosb.

Gan islet, Sigee R. Recent introduction. Planted as wayside bush.

*Pseuderanthemum carruthersii (Seem.) Guill. var. carruthersii ?

Gan islet, in wayside, Sigee D. Recent introduction. Occurring in garden and as wayside bush near buildings.

Rubiaceae

Guettarda speciosa L.

Gan islet, lagoon side, on shore, Sigee 10. Common in the coastal scrub, and occurring frequently in the open scrub, and regenerating woodland. Hitaddu islet, common in the coastal scrub on the seaward side, and in the open forest on the lagoon side north of the staging post. Fairly frequent in banana plantation.

Hedyotis brachiata Wight

Gan islet, near coral heap, waste ground, Sigee 85. Restricted to a small area of open scrub at the southeastern end of the island. New record for the Maldives.

Hedyotis corymbosa (L.) Lam.

Gan islet, southern end, along wayside in rocky dust, Sigee 51. Commonly found by waysides, also seen in the scrub. Hitaddu islet, common in the staging post area.

Ixora coccinea L.

Gan islet, southern part of island, in bush scrub, Sigee 52. Locally common shrub, seen only in the regenerating woodland south of the central dense woodland.

Morinda citrifolia L.

Gan islet, Sigee 58. Hitaddu islet, common in the coastal scrub on the seaward side, and occurring also as a frequent shrub in the open woodland on the lagoon side of the northern forest.

Goodeniaceae

Scaevola taccada (Gaertn.) Roxb.

(S. sericea Vahl)

Gan islet, Sigee 9. Common along the shore as a shoreline shrub, and also in the coastal scrub. Frequent in the open scrubland in the regenerating woodland. A few bushes occurred as primary colonisers in the southeast marsh area. Hitaddu islet, abundant on the seaward coast both as a shoreline shrub, and in the dense coastal scrub behind the shoreline. Also common in the staging post scrub, and on the lagoon shoreline. A frequent bush in the open forest, north and south of the staging post; was a coloniser in clearings in the dense Pandanus forest on the seaward side north of the staging post area.

Compositae

*Bidens pilosa L.

Hitaddu islet, in clearings in woodland, lagoon side, Sigee 98. Common on the lagoon side of the northern forest. New record for the Maldives.

Blumea sinuata (Lour.) Merr.

Hitaddu islet, in scrubland in open swampy area, Sigee 104. Uncommon, a few specimens found in the marsh area at the northern boundary of the staging post. New record for the Maldives.

*Conyza floribunda Kunth

[This species seems to me insufficiently distinct from

C. bonariensis (L.) Cronq. FRF.]

Gan islet, east end of island, just south of airstrip, in open scrub, Sigee 30. Seen only as a few clumps near the coastal scrub at the eastern end of the runway. New record for the Maldives.

*Eclipta alba (L.) Hassk.

Gan islet, almost marsh (high water table), Sigee 35. Common in the southern marsh area, uncommon along roadsides and in scrub.

Launaea pinnatifida Cass.

Gan islet, seashore, Sigee 3. Common as a shoreline plant on lagoon side, also fairly frequent inland on bare ground. Hitaddu islet, common along the lagoon shoreline, spreading across bare sand.

*Tridax procumbens L.

Gan islet, east end, just south of airstrip, on bare ground, open, Sigee 31. Common in parts of the open "grassland", roadsides, scrub and on the shoreline. Hitaddu islet, abundant in parts of the staging post area, near buildings, where it formed a compact turf.

Vernonia cinerea var. parviflora (Bl.) DC

(V. cinerea (L.) Less. of ARB 58)

Gan islet, away from sea, near oil tanks, in wasteland, more or less shady, Sigee 22. Common by roadsides, in scrub, and near buildings. Hitaddu islet, common in scrub of staging post area.

Wedelia biflora (L.) DC.

Gan islet, seashore, not normally washed by tide, Sigee 2. Abundant in open coastal vegetation, occurring just inland from shoreline. Also common in dry inland scrub. Hitaddu islet, abundant herb, forming complete ground layer in places, in the lagoon side open forest, north and south of the staging post. Also common in clearings in coastal scrub on seaward side, and common in open scrub of staging post area itself.

Name changes required in the Systematic list of plants

of the Maldives Islands (ARB 58: 8-36, 1957)

Apluda varia var. aristata L. = Apluda mutica L.

Bambusa arundinacea Willd. = Bambusa spinosa Roxb.

Bambusa vulgaris Schrad. = Bambusa arundinacea Willd.

Eragrostis amabilis (L.) W. & A. = Eragrostis tenella (L.) Beauv.

Paspalum vaginatum Sw. = Paspalum distichum L.

Cladium jamaicense Crantz = Cladium jamaicense var. chinense (Nees) Koyama

Areca cathecu L. = Areca catechu L.

Rhoeo discolor Hance = Rhoeo spathacea (Sw.) Stearn

Cordyline terminalis (L.) Kunth = Cordyline fruticosa (L.) Goepp.

Ficus retusa L. = Ficus microcarpa L. f.

Gynandropsis gynandra (L.) Briq. = Cleome gynandra L.

Albizzia lebbek L. = Albizzia lebeck (L.) Benth.

Erythrina indica L. = Erythrina variegata L.

Triphasia trifoliata DC. = Triphasia trifolia (Burm. f.) P. Wils.

Euphorbia heterophylla L. = Euphorbia cyathophora Murr.

Phyllanthus nivosus Bull = Breynia nivosa (Bull) Small

Abroma augusta L. = *Ambroma augusta* L. f.

Eugenia jambolana Lam. = *Eugenia cumini* (L.) Druce

Ipomoea turpethum (L.) R. Br. = *Operculina turpethum* (L.) Manso

Messerschmidia argentea (L. f.) Johnst. = *Tournefortia argentea* L. f.

Physalis minima L. = *Physalis angulata* L.

Borreria ocymoides (Burm. f.) DC. = *Spermacoce ocymoides* Burm. f.

Scaevola sericea Vahl = *Scaevola taccada* (Gaertn.) Roxb.

Adenostemma viscosum Forst. = *Adenostemma lavenia* (L.) O. Ktze.

D. Marine benthic algae from Addu Atoll, Maldives^{1/}

by Roy T. Tsuda^{2/} and Jan Newhouse^{2/}

The following is an annotated list of the marine benthic algae that were sent to the senior author by Mr. David C. Sigee. One terrestrial and one freshwater alga are also included in this paper. All collections were made in the proximity of three islands--Gan, Hitaddu, and Fedu on Addu Atoll, July to September, 1964.

Past published listings of the algae from the Maldives are based solely on the collections from two expeditions--the J. S. Gardiner Expedition, 1892-1900, and the J. Murray Expedition, 1933-34. Barton (1903) describes 6 species, including 4 forms, 3 of the species from Addu Atoll; while Foslie (1903) enumerates 9 species of melobesioid algae, containing various forms, 2 of the species from Addu Atoll. Newton (1953) records one alga, Microdictyon pseudohapteron f. luciparense Setchell, collected by the J. Murray Expedition from Mulakadu Atoll. To the authors' knowledge, only these three papers treat the marine benthic algae from the Maldives.

HABITAT DATA

The following is a list of habitats on Addu from which the collections of algae were made or observed by Mr. Sigee.

- A. Gan Island - lagoon reef flat, shoreline to 100 feet.
- B. Gan Island - lagoon reef flat, 100 feet to 250 feet.
- C. Gan Island - lagoon reef flat, 250 feet to reef edge (360 feet).
- D. Gan Island - lagoon reef slope, to depth of 90 feet.
- E. Gan Island - seaward reef flat, shoreline to boulder zone.
- F. Gan Island - seaward reef flat, boulder zone to reef edge.
- G. Hitaddu Island - seaward reef flat, shoreline to 20 feet.
- H. Hitaddu Island - seaward reef flat, 20 feet to reef edge.
- I. Gan-Fedu Gap.
- J. On knoll in lagoon, 30 feet below the surface.

MARINE ALGAE

In the list of species below, the letters representing the habitats above refer both to the site where the species were actually collected and where the species were only observed. Where more than one habitat is listed for a species, there is no available information indicating which was the actual site of collection. It must be assumed that the collector was sufficiently competent to judge critical differences between the specific entities represented. All specimen numbers

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cited here are those of the collector, and the specimens are deposited in the herbarium of Dr. Maxwell S. Doty, University of Hawaii.

Those five species which are recorded from Addu Atoll in both Barton (1903) and Foslie (1903) are incorporated in this listing and preceded by an asterisk.

Myxophyceae

Anacystis montana (Lightf.) Drouet & Daily

Habitat: E, Sigee 120.

Calothrix pilosa Bornet & Flahault

Habitat: E, Sigee 120.

Hormothamnion enteromorphoides Bornet & Flahault

Habitat: A, E, Sigee 36.

This species determination was made by Dr. Francis Drouet.

Lyngbya aestuarii Gomont

Habitat: B, C, E, Sigee 26, 79, 87.

Lyngbya majuscula Gomont

Habitat: A-F, Sigee 16.

Schizothrix calcicola (Ag.) Gomont

Habitat: E, Sigee 33.

Symploca hydroides Gomont

Habitat: A-F, Sigee 42, 46, 61, 71, 79, 84, 85.

Chlorophyceae

Boergesenia forbesii (Harvey) Feldmann, 1938: 583, figs. 3-5.

Habitat: A, B, E, F, Sigee 6.

The elongated vesicles are in groups of 10-20. The bases of the vesicles in this collection are tapered with attached septate rhizoids.

Boodlea composita (Harv.) Brand, 1905: 137; Egerod, 1952: 362, figs. 6a, pl. 32a.

Habitat: B, E, F, H, Sigee 94.

Both specimens seem to fall within the limits of this species. No. 7 is much coarser with the main axis about 300 μ in diameter, while the main axis of No. 94 is about half that diameter.

Boodlea sp.

Habitat: D, Sigee 63.

The collection is a fine spongiouse mass about a centimeter in diameter, with the presumed older portions of filaments approximately 25 μ in diameter and the younger portions as fine as 7 μ .

Bryopsis pennata Lamx., 1809: 134, fig. 1a-b, pl. 3; Egerod, 1952: 370, fig. 7.

Habitat: A-F, Sigee 14, 54, on coral.

Caulerpa lentillifera J. Ag., 1837: 173; Eubank, 1946: 418, fig. 2L;
Taylor, 1950: 67.

Habitat: A-D, Sigee 8b.

This specimen, which is 5 mm high from the prostrate axis, does not fall within the size range as described by Eubank (1946) or Taylor (1950), but is placed here because of its distinct constrictions at the points of attachment of the pedicels to the terminal heads.

Caulerpa racemosa var. macrophysa (Kütz.) Taylor, 1928: 101, pl. 12
(fig. 3) and pl. 13 (fig. 9).

Habitat: A-D, Sigee 8a.

Caulerpa racemosa var. peltata (Lamx.) Eubank, 1946: 421, figs. 2r-s.

Habitat: A-C, F, H, Sigee 9, 13.

Distinct peltate ramuli are present on both specimens.

Caulerpa serrulata var. typica (Weber-van Bosse) Tseng, 1936: 178, pl. 1.

Habitat: I, Sigee 47.

Caulerpa taxifolia (Vahl) Ag., 1822: 435; Eubank, 1946: 417, fig. 2f-g.

Habitat: A-C, Sigee 10.

Chaetomorpha brachygona Harvey, 1858: 87; Taylor, 1960: 70, pl. 2 (fig. 9).

Habitat: A, Sigee 66.

The filaments are about 150 μ in diameter and slightly constricted at their septa. The cells are less than two times as long as their diameter.

Chaetomorpha crassa (Ag.) Kütz., 1845: 204; Taylor, 1960: 72.

Habitat: A, Sigee 106.

The filaments, including the cell wall, are about 420 μ in diameter with the cell length less than twice their diameter. The thick cell wall is approximately 75 μ in diameter.

Chaetomorpha gracilis Kütz., 1845: 203; Taylor, 1960: 70.

Habitat: G, Sigee 105.

These filaments are about 45 μ in diameter with the length of the cells about two to four times as long as their diameter.

Cladophora sp.

Habitat: B-E, Sigee 38, 55.

These intertangled filaments are light brown in color with their cells about 120 μ in diameter. The length of each cell is about seven to eight times their diameter. The lateral branches usually occur on one side of the main filament.

Cladophora sp.

Habitat: A-B, Sigee 73.

Cladophoropsis sp.

Habitat: F, H, Sigee 99, 113.

The lateral filaments are spaced irregularly along the main filament in a verticillate manner. The diameter of the main filament is about 550 μ .

Codium arabicum Kütz., 1856: 35, pl. 100 (fig. II).

Habitat: F, Sigee 123.

Codium edule Silva in Egerod, 1952: 392, fig. 18, pl. 35b.

Habitat: B, F, Sigee 22.

A branching repent specimen with the thalli not secondarily attached to each other. The size and shape of the utricles are very similar as those described in Egerod (1952).

Dictyosphaeria intermedia var. intermedia Weber-van Bosse, 1905; Taylor, 1950: 42.

Habitat: E, F, H, Sigee 40.

Two morphologically different thalli are included in this collection--a solid, pseudoparenchymatous cushion and a hollow monostromatic bladder. Both thalli lack trabeculae. The latter thallus also falls within the circumscription of D. cavernosa (Forsskål) Boerg. Egerod (1952) comments on these species saying that D. intermedia, in the later stages of development, is almost indistinguishable from D. cavernosa. Since these two thalli appear under the same collection number, it may be possible that these represent the young and old stage of D. intermedia. A more critical study of the haptera of both species is needed.

Enteromorpha sp.

Habitat: A, D, Sigee 68.

These thalli are about 7 cm high with branching occurring near the base. Both cylindrical and compressed branches arise from the base, with the former type about 150 μ in diameter and the latter type about 1 mm in diameter. The cells appear in longitudinal rows with two to four pyrenoids in each cell.

Halimeda discoidea Decaisne, 1842: 91; Hillis, 1959: 352, pl. 2 (fig. 5), pl. 5 (fig. 11), pl. 6 (fig. 11), pl. 7 (figs. 9-10), pl. 8 (figs. 5-8), pl. 11.

Habitat: A, B, F, H, Sigee 1.

The secondary utricles are very conspicuously inflated.

*Halimeda incrassata (Ellis) Lamx., 1812: 186; Hillis, 1959: 365, pl. 4 (figs. 1-2), pl. 5 (fig. 21), pl. 6 (figs. 21-24), pl. 12.

Habitat: below 25 fathoms and on hard bottom outside atoll, Barton, 1903; A, B, Sigee 75; A, B, F, Sigee 2b; F, Sigee 103.

The habitat data for these three specimens are listed here separately since the specimens appear morphologically dissimilar, but all three seem to fall within the circumscription of this species when examined anatomically. The surface utricles of specimen No. 2b are round in appearance and not angular as described by Hillis (1959). Aside from this, it seems to fall within this species.

*Halimeda opuntia (L.) Lamx., 1812: 186; Hillis, 1959: 359, pl. 2 (figs. 7-8), pl. 5 (figs. 3-4), pl. 6 (fig. 6), pl. 7 (fig. 3), pl. 10.

Habitat: below 25 fathoms and on hard bottom outside atoll, Barton, 1903; A, B, E, F, H, Sigee 2a, 3, 4.

These thalli are about 4-5 cm high with no specific holdfast present. The medullary filaments are fused in twos but occasionally may

be seen in threes, with the points of fusion about 1-1.5 times as long as the diameter of the filaments. The primary utricles adhere to each other even after decalcification. These individual utricles are about 17 μ in surface diameter.

Neomeris mucosa Howe, 1909: 84, pl. 1 (fig. 5) and pl. 5 (figs. 1-14); Dawson, 1956: 42, fig. 30c.

Habitat: F, H, Sigee 102.

Of the seven species in this genus, these thalli agree with the description and figures of this species as described in Howe (1909).

Tydemanina expeditionis Weber-van Bosse, 1901: 139; A. & E. S. Gepp, 1911: 66, fig. 153-154; Taylor, 1950: 73, pl. 38 (fig. 1).

Habitat: B-D, J, Sigee 32.

Only the distinct glomerular form of this species is present in this collection.

Udotea orientalis A. & E. S. Gepp, 1911: 119 and 142; Taylor, 1950: 74, pl. 38 (fig. 2).

Habitat: A-F, H, I, Sigee 15.

The thalli are small, about 3-4 cm high including the stipe, and anatomically similar to the description in Taylor (1950).

Valonia utricularis (Roth) C. Ag. 1822: 431; Taylor, 1950: 41.

Habitat: F, H, Sigee 103, 111.

The vesicles are irregularly shaped with no organized pattern of branching.

Valonia ventricosa J. Ag., 1887: 96; Egerod, 1952: 347, pl. 29a.

Habitat: B-D, F, Sigee 52.

These vesicles are solitary, about one centimeter in diameter.

Phaeophyceae

*Dictyota bartayresiana Lamx., 1809: 43.

Habitat: in passage below 25 fathoms and on hard bottom, Barton, 1903.

Dictyota friabilis Setchell, 1926: 91, pl. 13 (figs. 4-7) and pl. 20 (fig. 1).

Habitat: A-F, H, J, Sigee 5a, 70.

Both collections form prostrate clumps, with the thalli about 1-2 cm long. Most of the thalli of No. 70 are less than 2 mm broad, whereas the thalli of No. 5a are about 5 mm broad. For the present, both of these sterile specimens are tentatively listed here.

Dictyota sp.

Habitat: A-F, H, J, Sigee 5b.

This collection consists of prostrate clumps with the thalli up to 3 cm long. The margins of the thalli are serrated as in Dictyota patens J. Ag., but do not conform to the growth habit and size of this species.

Hydroclathrus clathratus (Bory) Howe, 1920: 590; Taylor, 1950: 96.

Habitat: E, F, I, Sigee 45.

Padina commersonii Bory, 1823: 144; Okamura (Icones VI): 89, pl. 295.

Habitat: A, B, E, G, Sigee 17.

These thalli are about 5 cm high and arise from a common holdfast. The thalli are two to three cells thick, about 90 μ in thickness at the apical portion and enlarging to 120 μ in thickness below. The oogonia are in concentric rows on the upper surface above every hairline, with no inducium present.

Pocockiella variegata (Lamx.) Papenfuss, 1943: 469, figs. 1-14.

Habitat: B, D-F, H, Sigee 50.

The thalli were growing prostrate on fragments of coral. Although the anatomical sections as well as habit are similar to those described in Papenfuss (1943), there is still some doubt as to the legitimacy of the generic name.

Sphacelaria sp.

Habitat: A, B, Sigee 28.

These thalli are about 1-2 mm high. Since all of the thalli were without propagulae, no specific epithet can be designated here.

Turbinaria ornata (Turner) J. Ag., 1848: 266; Taylor, 1950: 101, pl. 53 (fig. 2) and pl. 55 (fig. 2)

Habitat: B, F, H, I, Sigee 20.

Rhodophyceae

The melobesioid corallines of the present collection are not reported here because of the authors' unfamiliarity with this group. However, two species described in Foslie (1903) are listed here.

Antithamnion sp.

Habitat: B, C, F, Sigee 25.

The branches on the main axis are either opposite or verticillate with the terminal branches tipped with a single acute shaped cell.

*Archaeolithothamnion schmidtii Fosl.

Habitat: below 25 fathoms of water in lagoon, Foslie, 1903.

Botryocladia skottsbergii (Boerg.) Levring. 1941: 645; Dawson, 1956: 52, fig. 48.

Habitat: A-C, F, Sigee 23.

Ceramium fimbriatum Setchell & Gardner, 1924: 777, pl. 26 (figs. 43 & 44); Dawson, 1944: 317; Dawson, 1950: 123.

Habitat: G, Sigee 105.

The mature portions of the thalli are approximately 70 μ in diameter, with the corticating bands divided into two distinct parts at about the lower third. Short thick apically rounded, unicellular hairs are present at the nodes. The tetrasporangia are involucrate.

Ceratodictyon spongiosum Zanard., 1873: 36; Okamura, 1909 (Icones II): pls. 51-52.

Habitat: I, Sigee 69.

The thalli are very sponge-like in appearance.

Champia parvula (Ag.) Harvey, 1853: 76; Boerg., 1915-20 (Danish West Indies): 407.

Habitat: A, Sigee 122a.

The thalli are intertangled and form small clumps about 2 cm across.

Champia salicornoides Harvey, 1853; Taylor, 1960: 491, pl. 61 (fig. 5).

Habitat: A, Sigee 122b.

The thalli are about 3 cm high and appear erect from a basal disk. Anatomically, the walls of the thalli consist of a single layer of large cells, 25-50 μ in diameter, interspersed with smaller cells about 7-14 μ in diameter. The medullary filaments are seen running throughout the length of the thalli. The sessile pericarps are conical in shape and scattered on the thalli.

Dasya sp.

Habitat: H, Sigee 112.

Dictyurus purpurascens Bory in Belanger & Bory, 1846: 170, pl. 15 (fig. 2); Taylor, 1950: 143, pl. 78 (fig. 1).

Habitat: B, Sigee 24.

This collection is similar to the description and photograph in Taylor (1950).

Galaxaura marginata (Ellis & Solander) Lamx., 1816: 264; Kjellman, 1900: 77, Tab. 20 (fig. 44).

Habitat: B, C, Sigee 104.

The thalli are composed of flattened branches throughout. Terminal cells of the cortical filaments are spherical in shape.

Galaxaura rudis Kjellman, 1900: 43-44, Tab. 2 (figs. 1-9) and Tab. 20 (fig. 11).

Habitat: A, B, D, F, Sigee 21.

The thalli are 3-4 cm high and are bushy in appearance. Anatomically, the thalli consist of long assimilatory filaments with swollen cells at the basal portion of these filaments.

Gelidium divaricatum Martens, 1866: 30, pl. 8; Tseng, 1936: 36, figs. 18a-b, pl. 4.

Habitat: A-D, F, J, Sigee 72.

Griffithsia sp.

Habitat: C, Sigee 30.

The thalli are sterile and about a centimeter long.

Herposiphonia sp.

Habitat: B, D, H, Sigee 73.

These thalli were growing as epiphytes on Halimeda opuntia.

Hypnea spp.

Habitat: E, Sigee 91; E, F, H, Sigee 93; A, B, E, F, Sigee 18; B-D, Sigee 12.

Four species are represented in these collections of Hypnea. Due to the taxonomic difficulties encountered by the senior author in this genus, they cannot be named at present but are listed separately above with their respective habitats.

Jania capillacea Harvey, 1853: 84; Boerg., 1917: 198-199, fig. 188.

Habitat: A-F, H, Sigee 11.

The thalli appear as intertangled masses, with the branches seldom forming obtuse angles at the dichotomies. The diameter of the branches is approximately 120 μ , with the length of the segments 6-8 times as long as the diameter.

*Lithothamnion fruticulosum (Kütz.) Fosl.

Habitat: below 40 fathoms, Foslie, 1903 (cited as an uncertain determination).

Lophosiphonia villum (J. Ag.) Setchell & Gardner, 1903: 329.

Habitat: B-D, F, H, J. Sigee 29, 98.

Polysiphonia ferulacea Suhringar in J. Ag., 1863 (Spec. Alg. II): 980.

Habitat: A-C, E, F, I, Sigee 35a.

Species determined by Dr. Hollenberg.

Spyridea filamentosa (Wulf.) Harvey in Hooker, 1833: 337; Taylor, 1950: 139; Dawson, 1954: 444, fig. 54i.

Habitat: E, Sigee 97.

The main axis is similar to the illustration in Dawson (1954). The determination branchlets are tipped with a single spine.

Tolypocladia glomerulata (Ag.) Schmitz in Schmitz and Hauptfleisch, 1896-97: 441; Dawson, 1954: 452, figs. 59b-c.

Habitat: B, C, Sigee 44.

Vidalia serrata (Suhr.) J. Ag., 1863: 1125.

Habitat: B, Sigee 19.

The thalli are about 2 cm high with the stichidia present on the blades, just inside of the marginal serrations.

FRESHWATER AND TERRESTRIAL ALGAE

Nostoc commune Bornet & Flahault

Habitat: Terrestrial, Gan Island, Sigee 119

This blue-green alga was reported to be especially evident in wet weather.

Pithophora oedogonia (Mont.) Wittrock, 1877: 55, pl. 6 (figs. 1-6); Collins, 1909: 363.

Habitat: Freshwater, Gan Island, Sigee 114.

The filaments of this green alga are branched with cells about 60 μ wide and the cell length about ten times as long as the diameter. Both intercalary and terminal akinetes are present.

Summary of Algal Collection

Excluding the four tentative species of Hypnea, this paper lists 63 species or varieties of marine benthic algae from Addu Atoll, 58 of them reported here for the first time from this atoll. These new records consist of 7 in the Myxophyceae, 25 in the Chlorophyceae, 7 in the Phaeophyceae, and 19 in the Rhodophyceae. One terrestrial alga and one freshwater alga are also included in this paper.

It is of great interest to note that the species represented here from Addu Atoll in the Indian Ocean are very similar to the marine flora that occurs on many of the atolls in the Pacific Ocean.

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