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WAKE ISLAND VEGETATION AND FLORA, 1961-1963

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In 1959 we summarized observations on the vegetation and flora made on four short visits to Wake Island in 1951, 1952 and 1953, along with what was already known (Atoll Research Bulletin 67, 1959). Particular attention was given to the effects on the vegetation of the typhoon of September 16, 1952. A list of the vascular flora with citations of specimens, brief characterizations of species, and notes on occurrence was a principal part of that paper.

In September 1961 M.-H. Sachet spent a week on the island making observations on the vegetation, flora and general ecology through the courtesy of Dr. Bruce Halstead. In March 1963, sponsored by the Pacific Science Board and the Office of Naval Research, M.-H. Sachet and F. R. Fosberg visited the island with R. H. Alexander for four days, observing changes in the vegetation and looking for traces of the effects of the 1952 typhoon, which had been the object of a special study by Fosberg in 1953 (ARB 67, 1959). A few plants were collected on each of these visits. Observations made on these trips are belatedly offered here, with notes on the changes from ten years earlier. A few records have been added from collections made by Mr. R. W. McFarlane, who made several visits to Wake in 1963-1965 under the auspices of the Pacific Ocean Biological Survey Program, also one or two by older collectors. The scope of this paper is the same as that of the 1959 one. Observations made on other aspects of the island will be put on record in another paper. Notes on the birds were included in ARB 114, 1966.

Effects of 1952 Typhoon

The only thing worth commenting on under this heading is the almost complete lack of any noticeable remaining effects. An occasional dead Tournefortia tree or dead branch on one with bark abraded off may still be seen in some areas of scrub forest. Also many of the areas most damaged by the typhoon are now cleared and occupied by installations. However, the general lack of obvious typhoon effects after ten years is in line with the principle that vegetation of a pioneer character, such as that on dry atolls, recovers its original appearance and composition very rapidly after damage. It also supports the idea that most atoll plant species have evolved means of ready and quick recovery from the effects of typhoons, over the millenia that they have been exposed to these severe storms.

Vegetation

In general the land surface of the island has been almost completely disturbed. In all probability no original vegetation remains, except possibly some Sesuvium flats and Pemphis scrub along the lagoon margins.

The fact that almost the entire indigenous and spontaneous flora of the island is of an extreme pioneer character causes the secondary vegetation to look rather natural and at least some of the original vegetation types to recur after disturbance.

Of these, a scrub forest of Tournefortia, with or without scattered Cordia and Pisonia, was in 1963 the most prevalent. Its stature varied from 2 to about 6 m and spacing from closed to open. This had little undergrowth where closed, but with the branches very low and spreading and those of adjacent trees usually tangled together. Where it was open there was an abundant herbaceous to scrubby growth of many species, especially Sida fallax, Heliotropium anomalum, Pluchea odorata, Lepturus spp., and Boerhavia spp. Portulaca lutea was common locally, even occurring in closed forest, but not in very vigorous condition. Occasional dead branches of larger Tournefortia trees, and even a few whole dead trees, recognizable by lack of bark on trunks and larger branches, persisted from the 1952 typhoon, but these did not change materially the aspect of the vegetation.

Judging by the stand of Tournefortia seedlings on the cleared area at the west end of Peale Islet, this type may, under some conditions, re-establish itself immediately after disturbance, without any intervening successional stages. Where it does not, as around installations, the difference may possibly be due to compaction, or perhaps to competition with such aggressive pioneers as Pluchea, and even Cenchrus, Eragrostis or other herbs.

Pisonia forest, with or without an admixture of Cordia, was formerly the most stable and mesophytic vegetation type on the island. The only good area of this remaining in 1953 (also seen in 1961) has been completely destroyed recently by overzealous use of the bulldozer, leaving only bare ground. In a few nearby areas clumps of fair sized Pisonia and Cordia trees remained and, if these could be left undisturbed, the Pisonia forest so characteristic of coral islands might re-establish itself over a long period of years. That this will be permitted to happen seems improbable, however.

Small areas of Cordia scrub near Peacock Point, observed in 1952 had increased in stature somewhat, but were greatly reduced in area.

Pemphis scrub still lined portions of the lagoon shore but the area had been greatly reduced since 1953 by clearing. Some of the Pemphis bushes had increased in stature to several meters but were not at all comparable to certain patches of Pemphis forest seen in 1952. Except for the Tournefortia scrub forest, Pemphis scrub was the most prevalent reasonably natural vegetation type remaining on Wake.

A widespread vegetation complex on drier atolls in the central Pacific is a scrub of Sida fallax with, normally, a strong admixture of Lepturus and, where it is a member of the flora, Heliotropium anomalum. This was alluded to but not emphasized or described on Wake by Bryan in 1923 (Christophersen 1931) and not noticed at all by Fosberg in 1951-1953 (Fosberg 1959). However, two variants of this complex in 1963 occupied small areas. On the cleared area at Kuku

Point, on the west end of Wilkes Islet, and in the openings in Tournefortia forest nearby, Sida, or Sida and Heliotropium formed an open to closed very low scrub, with abundant Lepturus, Portulaca lutea, and Boerhavia where the bushes did not form a closed cover. This was doubtless present locally in openings before the clearing which was done prior to 1961.

This scrub, in much of the cleared area back of Kuku Point, gave way to herbaceous vegetation, locally, in patches dominated by Portulaca, Boerhavia, Lepturus, and in one area, Lepidium. The whole formed a mosaic that seems more or less random in its pattern.

Just west of Peacock Point, back of the south coast of Wake Islet, were openings and thin places in the Tournefortia scrub and scrub forest occupied by an open to closed dwarf scrub of Heliotropium anomalum. This may simply have been missed during earlier visits or it may have developed in cleared spots resulting from the 1952 typhoon. This area was not visited in 1953.

Sesuvium flats in 1963 occupied perhaps more area than a decade before, being still present on wet muddy or sandy lagoon margins, also coming in where excavation had reached the water table, as in the brackish pond in the triangle surrounded by runways and taxi-strips opposite the terminal building. The plants formed a succulent bright green mat in low wet places, but were more scattered on exposed beach ridge areas on other parts of the atoll.

Roadsides and other recently cleared areas were mostly covered by a vegetation of annual grasses and other herbs, especially Cenchrus echinatus, Eragrostis tenella, Dactyloctenium aegyptium, Eleusine indica, and several Euphorbia species. Such areas, if left without further disturbance for awhile, might change to an open or closed scrub of Pluchea odorata. Where traffic is heavy there persisted a sparse "lawn" of dwarfed plants of Dactyloctenium, Eleusine, Fimbristylis and other herbs.

Before the 1963 visit the weather had been sufficiently dry that much of the herbaceous weedy vegetation was practically dried up, though by no means as much so as in May 1952. Many leaves had recently fallen from the Tournefortia, but not so many as to give a dry aspect. The leaves of Cordia and Pisonia were predominantly still green. A few of the Pisonia bushes were coming into flower. Fruits and a few flowers were seen on Cordia.

Evidences of a recent storm, or, at least, of very high waves, were seen on both north and south coasts in the form of large areas of pale gray to white, presumably recently uncovered beachrock, white stirred up gravel, and dead shrubs at the top of the beach and just back of it. The Air Force officers present said that the period of high waves was in October 1962.

VASCULAR FLORA^{1/}

The list that follows includes all the species from the 1959 list, with remarks on any change of status from that observed in 1951-1953, as well as 27 species newly recorded here. Of the latter 5 are cultivated in pots, 7 cultivated in gardens, 14 are spontaneous but introduced, and only one, Tribulus cistoides probably indigenous. As in the 1959 list, introduced species are marked by an asterisk. Species here recorded for the first time from Wake are indicated by an exclamation point. A few name changes are recorded and misidentifications corrected. In these cases the name used in the 1959 list is given as a synonym.

The location indicated as the IAS compound is on the site of the old TAL compound on the southwest arm of Wake Islet about 300 m east of the channel. The Japanese monument is on the north angle of Wake Islet a short distance in from the north bay of the lagoon. Flipper Point is the south peninsula of Peale Islet. Kuku Point is the west point of Wilkes Islet. The FAA Dock is at the west end of the southwest arm of Wake Islet.

PANDANACEAE

*PANDANUS TECTORIUS Park.

Same tree seen in 1961 and 1963, much larger than in 1952.

GRAMINEAE

*CENCHRUS BROWNII R. & S.

One plant seen at Japanese monument 1963, Fosberg 43522.

*CENCHRUS ECHINATUS L.

Generally distributed in open disturbed areas, Sachet 898.

*CHLORIS INFLATA Link

Still common in disturbed areas 1961, Sachet 895, also seen in 1963.

*CYNODON DACTYLON (L.) Pers.

Seen in IAS area 1961, Sachet 873, one sizeable patch on Peale Islet 1963.

*DACTYLOCTENIUM AEGYPTIUM (L.) Reich.

One of the commonest plants in disturbed areas, 1963.

*DIGITARIA CILIARIS (Retz.) Koel.

Not seen in 1961, 1963.

^{1/} Specimens cited are deposited in the U. S. National Herbarium, except as otherwise indicated.

- *DIGITARIA GAUDICHAUDII (Kunth) Hens.
Not seen in 1961, 1963.
- *DIGITARIA INSULARIS (L.) Henr.
Common around old Japanese garden site 1961, Sachet 894,
also seen 1963.
- *ELEUSINE INDICA (L.) Gaertn.
Collected near old Japanese garden in 1961, Sachet 899. Common
in disturbed places and persisting around former disturbance,
1963; near Terminal Area, Fosberg 43515.
- *ERAGROSTIS TENELLA (L.) Beauv.
E. amabilis (L.) W. & A.
Generally distributed and abundant in open places, Sachet
872.
- *ERAGROSTIS POAEOIDES Beauv. ex R. & S.
Not seen 1961, 1963.
- LEPTURUS GASPARRICENSIS Fosb.
Collected in IAS area 1961, Sachet 865, 1963, abundant generally
on Wilkes, Fosberg 43533, and Peale, Fosberg 43512, but rare on
Wake Islet.
- LEPTURUS REPENS var. SEPTENTRIONALIS Fosb.
Common generally Fosberg 43535, 43540, 43541, 43513; Sachet
867, 888.
- LEPTURUS -- putative hybrids between L. gasparricensis and L. repens
var. septentrionalis (see Fosberg, *Phytologia* 15: 496-498, 1968).
Local on Peale Islet: near bridge, in depressions, Fosberg 43510,
s.e. tip of islet, Lopez 3; Toki Point [w. tip of Peale], McFarlane
26. These were mistaken at first for L. repens var. subulatus Fosb.
- !*PASPALUM AURICULATUM Presl
Collected at FAA Dock, 1961, Sachet 903, not seen 1963.
- *PASPALUM DISTICHUM L.
P. vaginatum Sw.
Several patches on Peale Islet, 1963. Examination of the type
of P. distichum in the Linnean Herbarium, by C. E. Hubbard, showed
that it is the widespread plant usually known as P. vaginatum Sw.,
characteristic of saline habitats, rather than the similar fresh-
water marsh plant commonly known in North America and Hawaii as
P. distichum.
- !*PENNISETUM POLYSTACHYUM (L.) Schultes
Found sterile at FAA Dock 1961, Sachet 906, more abundant, fertile,
same place 1963, Fosberg 43538; west end of runway, 1965,
McFarlane 76.
- *SETARIA VERTICILLATA (L.) Beauv.
Not seen 1961, 1963.

*SORGHUM DOCHNA var. TECHNICUM (Koern.) Snowd.
Not seen 1961, 1963.

*ZEA MAYS L.
Not seen 1961, 1963.

CYPERACEAE

*CYPERUS ROTUNDUS L.
Collected in old Japanese garden site 1961, Sachet 890, seen there again 1963, around FAA Club, in 1965, McFarlane 67; and several patches on Peale Islet, 1963. (First noted in 1953).

!*CYPERUS PUMILUS L.
Collected around old Japanese garden site 1961, Sachet 889, not seen 1963, the only record from Micronesia.

FIMBRISTYLIS CYMOSA R. Br.
Generally distributed, Fosberg 43534, Sachet 874 and 883. These are the form with 2 style branches and smooth plano-convex nuts sometimes called F. atollensis St. John. Both Sachet collections have unusually long spikelets for this species.

!*FIMBRISTYLIS DICHOTOMA (L.) Vahl
Collected at FAA Dock in 1961, Sachet 905, not seen 1963, not previously known from Wake, and uncommon on atolls.

PALMAE

*COCOS NUCIFERA L.
A number of small trees seen around buildings 1963, none more than 3 m tall.

ARACEAE

*CALADIUM sp.
Not seen 1961, 1963.

*DIEFFENBACHIA sp.
Not seen 1961, 1963.

!*PHYLLODENDRON OXYCARDIUM Schott
Seen in pot 1963.

!*PHYLLODENDRON UNDULATUM Endl. (?)
In pot 1963.

*RHAPHIDOPHORA AUREA (Lind. & Andr.) Birdsey
Scindapsus aureus (Lind. & Andr.) Engl.
Not seen 1961, 1963.

PONTEDERIACEAE

- *EICHHORNIA CRASSIPES (Mart. & Zucc.) Solms-Laub.
Not seen 1961, 1963. Has undoubtedly disappeared as the cistern where it grew seems no longer present.

COMMELINACEAE

- !*RHOEO SPATHACEA (Sw.) Stearn
Seen in pot 1963.
- !*SETCREASEA PURPUREA Boom
Seen in pot, 1963.

BROMELIACEAE

- *ANANAS COMOSUS (L.) Merr.
Not seen 1961, 1963.

AGAVACEAE

- *CORDYLINE FRUTICOSA (L.) Goepf.
C. terminalis (L.) Kunth
Seen in pots, 1963, not very flourishing.
- *SANSEVIERIA GUINEENSIS (L.) Willd.
S. roxburghiana of 1959 list.
Seen in pot, 1963.

AMARYLLIDACEAE

- *ALLIUM sp.
Not seen, 1963.
- *CRINUM sp.
Planted around buildings, not flowering, 1952, 1953, 1961, 1963.
- *HYMENOCALLIS LITTORALIS (Jacq.) Salisb.
Not seen 1961, 1963.

CASUARINACEAE

- *CASUARINA EQUISETIFOLIA L.
Commonly planted around buildings, some trees have reached 5 m tall, 1963.

MORACEAE

*FICUS CARICA L.

Still present and fruiting, 2 m tall, 1963.

*FICUS RUBIGINOSA Desf.

Not seen, 1961, 1963.

POLYGONACEAE

*COCCOLOBA UVIFERA (L.) L.

Still present 1961, 1963; on Peale Islet a fairly large tree in 1963.

NYCTAGINACEAE

BOERHAVIA REPENS L.

B. diffusa of 1959 list, not of L.

Common generally, 1961, Sachet 875, 893, 1963, in places very abundant Fosberg 43527.

BOERHAVIA sp. (white fls.)

The white flowered plant listed in 1959, occurring generally with B. repens, but less common, Fosberg 43530, 43518, Sachet 876, 892.

BOERHAVIA sp.

Occasional, apparently intermediate between the others, Sachet 891.

*BOUGAINVILLEA SPECTABILIS Willd.?

Seen around houses 1961, 1963.

PISONIA GRANDIS R. Br.

This, with Cordia, still formed a scrub forest 1961; in 1963 only scattered trees remained after pointless bulldozing of the one remaining area of original forest; scattered in open Tournefortia scrub base of Flipper Point Fosberg 43514.

AMARANTHACEAE

*AMARANTHUS DUBIUS Mart.

Found in 1952, and in 1961, Sachet 887; occasional locally in 1963.

*AMARANTHUS GRAECIZANS L.

Not seen, 1963.

*AMARANTHUS TRICOLOR L.

The specimen on which this record was based, Fosberg 34452, has been redetermined as A. dubius.

*AMARANTHUS VIRIDIS L.

Collected 1963 Fosberg 43517, very rare in open ground, Wake Islet.

AIZOACEAE

SESUVIUM PORTULACASTRUM L.

Common generally in low places, especially along lagoon margins and occasionally on flats near outer beaches, 1961, 1963. Stems unusually red -- this true generally in Wake plants, Sachet 864, Southwest arm of Wake Islet, flowers opening between 7 and 8 a.m.

PORTULACACEAE

PORTULACA LUTEA Sol.

Common, collected in 1961, Sachet 877; 1963, especially abundant in cleared area on west end of Wilkes Islet, Fosberg 43532. This is a very tall form, branches usually strongly ascending, light green, no trace of anthocyanin.

*PORTULACA OLERACEA L.

Collected in 1961, Sachet 868; seen in 1963; occasional around buildings and disturbed areas.

*PORTULACA SAMOENSIS v. Poelln.

Not seen 1961, 1963.

CRUCIFERAE

*BRASSICA OLERACEA va. ITALICA Plenck.

Not seen 1961, 1963.

LEPIDIDIUM BIDENTATUM Mont.

L. o-waihiense C. & S. of 1959 list (see Fosberg, Phytologia 15: 499, 1968).

Found in 1961, 1963. In 1963 the Lake Peale colony still persists even though the pond has been bulldozed out of existence. A large colony also located, flourishing, just back of beach at Kuku Point, Wilkes Islet, 1961, Sachet 879, 1963, Fosberg 43526.

*RAPHANUS SATIVUS L.

Not seen 1961, 1963.

CRASSULACEAE

*SEMPERVIVUM TECTORUM L.

Not seen 1961, 1963.

*KALANCHOE PINNATA (Lam.) Pers.

Persisting in IAS compound 1961, 1963.

LEGUMINOSAE

*BAUHINIA sp.

Not seen 1961, 1963.

!*DESMANTHUS VIRGATUS (L.) Willd.

Found in 1965 at the west end of the runway on Wake Islet,
McFarlane 74.

!*LEUCAENA LEUCOCEPHALA (Lam.) de Wit

Seen on Peale Islet 1961, well established in same spot 1963, one
plant seen also in IAS compound, 1963; apparently never collected
on Wake.

*PHASEOLUS VULGARIS L.

Not seen 1961, 1963.

!*PHASEOLUS COCCINEUS L.?

One plant seen in garden, 1961, not seen 1963.

ZYGOPHYLLACEAE

!TRIBULUS CISTOIDES L.

Collected, Wilkes Islet near channel, 1961, Sachet 900, not seen,
though searched for, 1963. Three plants only seen in 1961. It was
collected in 1963 by McFarlane 1.

EUPHORBIACEAE

*CODIAEUM VARIEGATUM (L.) Bl.

Planted around houses, 1963, apparently thriving.

*EUPHORBIA CYATHOPHORA Murr.

Very common in 1961, perhaps somewhat less so, but still general
in disturbed places, 1963.

*EUPHORBIA GLOMERIFERA (Millsp.) Wheeler

Common, locally abundant, 1961, 1963. Reaches a most unusual
stature and woodiness here, Sachet 870, Fosberg 43520.

*EUPHORBIA HIRTA L.

Common in recently disturbed places, 1961, Sachet 871, 1963.

*EUPHORBIA PROSTRATA Ait.

Occasional in weedy places on Wake I. in 1961, Sachet 869, seen in
1963.

*EUPHORBIA PULCHERRIMA Willd.

Not seen 1961, 1963.

!*EUPHORBIA THYMIFOLIA Ait.

Collected 1961, Sachet 902, not seen 1963.

!*EUPHORBIA TIRUCALLI L.

Seen in pot in housing area, 1963.

!*PEDILANTHUS TITHYMALOIDES (L.) Poit.

Collected in IAS compound 1961, Sachet 884, seen there 1963.

*PHYLLANTHUS AMARUS Schum & Thonn.

Flourishing colony at IAS compound, 1963, Fosberg 43524.

!*RICINUS COMMUNIS L.

Seen planted in IAS compound in 1961, persisting and apparently thriving in 1963.

MALVACEAE

ABUTILON ASIATICUM var. ALBESCENS (Miq.) Fosb.

A. albescens Miq.

Abundant around old Japanese garden site in 1961, Sachet 885 seen also near MATS area, not seen 1963.

GOSSYPIUM HIRSUTUM L.

G. religiosum of 1959 list.

Widespread, locally common, 1961, Sachet 882, 886 and 1963 Fosberg 43516. According to Paul Fryxell, who has raised Wake Island material in cultures, this is a form of the species not known elsewhere. S. G. Stephens, who has also raised it successfully from Wake Island seeds, refers to it as "a wild form of hirsutum of an unusual type."

*HIBISCUS (ornamental hybrid)

Seen in 1961, not in 1963.

SIDA FALLAX Walp.

Abundant on Wilkes Islet 1961, Sachet 880, 1963, Fosberg 43529, occasional elsewhere.

*THESPESIA POPULNEA (L.) Sol. ex Correa

Planted around housing areas, and apparently thriving, in 1963, as well as persisting in IAS compound. It was first found, on Peale I., by Branckamp in 1936 (BISH).

PASSIFLORACEAE

*PASSIFLORA sp.

Not seen 1961, 1963.

!*PASSIFLORA FOETIDA var. HISPIDA (DC.) Killip

Established at IAS compound, 1961, Sachet 884a, still doing well 1963; southwest corner of Wake I. Sachet 878, and in 1965, McFarlane 77.

CARICACEAE

*CARICA PAPAYA L.

Still persisting around IAS compound 1961, 1963.

CUCURBITACEAE

*CUCUMIS MELO L.

Not seen 1961, 1963.

*CUCURBITA PEPO L.?

Seen at MATS area 1961, not seen 1963.

LYTHRACEAE

PEMPHIS ACIDULA Forst. f.

Still abundant 1961, 1963, especially around lagoon shores;
planted for hedges in housing area, 1963.

COMBRETACEAE

*TERMINALIA CATAPPA L.

Planted in several places and thriving 1963, fair sized tree at
IAS compound 1961, 1963.

MYRTACEAE

*EUCALYPTUS CITRIODORA Hook.

Not seen 1961, 1963.

CACTACEAE

Several cacti seen in pots 1961, not seen 1963.

ARALIACEAE

!*BRASSAIA ACTINOPHYLLA Endl.

Seen in 1961, not in 1963.

*POLYSCIAS GUILFOYLEI (Cogn. & March.) Bailey

Seen planted near a house, 1963.

UMBELLIFERAE

*ANETHUM GRAVEOLENS L.

Not seen 1961, 1963.

- *APIUM PETROSELINUM L.
Not seen 1961, 1963.

SAPOTACEAE

- *CHRYSOPHYLLUM CAINITO L.?
Not seen 1961, 1963.

APOCYNACEAE

- *CATHARANTHUS ROSEUS (L.) G. Don
Seen in many places, cultivated and established, 1961, 1963,
Fosberg 43521.
- *NERIUM sp.
Seen 1961, not 1963.
- !*PLUMERIA OBTUSA L.
Seen planted around buildings 1961, 1963.

CONVOLVULACEAE

- *IPOMOEA BATATAS (L.) Lam.
Not seen 1961, 1963.
- IPOMOEA PES-CAPRAE ssp. BRASILIENSIS (L.) v. Ooststr.
Still common 1961, 1963.
- IPOMOEA TUBA (Schlecht.) Don
Generally abundant except in the most recently bulldozed areas,
1961, 1963. Flowers open about dusk, close mid-morning.

BORAGINACEAE

- CORDIA SUBCORDATA Lam.
Well distributed, locally common in wooded parts of island,
1961, 1963, Fosberg 43519. Forest of this species and Pisonia on
Wake Islet destroyed 1963.
- HELIOTROPIUM ANOMALUM H. & A.
Common generally, locally abundant, forming pure stands in open
areas on south coast near Peacock Point, 1963. No floral
dimorphism observed. All plants seen here have deeply lobed white
corollas with a tiny yellow eye. Wilkes Islet, near Kuku Point,
Fosberg 43528. Wake Islet, Sachet 866.
- !*HELIOTROPIUM OVALIFOLIUM var. DEPRESSUM Cham.
First collected 1961 near FAA Dock, Sachet 904, still common
there 1963 Fosberg 43537, doubtless introduced from Guam, where
it is common.

TOURNEFORTIA ARGENTEA L.

Generally abundant 1961, 1963.

LABIATAE

*COLEUS SCUTELLARIOIDES L.

Still seen 1961, not seen 1963.

VERBENACEAE

!*STACHYTARPHETA JAMAICENSIS L.

Abundant near FAA Dock in 1963, inadvertently not collected.

Depressed to ascending herb with pale blue-violet corollas, thick spikes. Collected by McFarlane 22.

!*STACHYTARPHETA URTICIFOLIA Sims

Collected in weedy area at n.w. tip of south arm of Wake Islet, 1961, Sachet 901. A tall shrub, to 2 m, with dark blue or purple flowers.

!*VITEX TRIFOLIA L.

First collected on Peale Islet in 1961, Sachet 896. Well established colony in 1963, plants several m tall.

SOLANACEAE

*CAPSICUM ANNUM L.

Not seen 1961, 1963.

*CAPSICUM FRUTESCENS L.

Not seen 1961, 1963.

*NICOTIANA TABACUM L.

Seen near power house, one plant only, in 1961, not in 1963, though possibly still persisting.

*SOLANUM LYCOPERSICUM L.

Seen in garden in MATS area 1961, not seen 1963.

ACANTHACEAE

!*PSEUDERANTHEMUM CARRUTHERSII Seem.

Seen in 1961, also var. atropurpureum, neither seen in 1963.

GOODENIACEAE

SCAEVOLA TACCADA (Gaertn.) Roxb.

S. sericea Vahl

Some plants still remain south of the main runway on Wake Islet, less in 1963 than in 1961, because of bulldozing; also seen planted around house on north side of islet.

COMPOSITAE

*CONYZA BONARIENSIS (L.) Cronq.

Collected south of runway in 1961, Sachet 897, common around old IAS compound and FAA Dock in 1963.

!*CONYZA CANADENSIS (L.) Cronq.

First collected south of runway in 1961, Sachet 897a, common around old IAS compound in 1963, also near FAA Dock, Fosberg 43536, west end of runway in 1965, McFarlane 75, 79.

*LACTUCA SATIVA L.

Not seen, 1961, 1963.

*PLUCHEA ODORATA (L.) Cass.

Very common to abundant in disturbed places generally, seemingly more so, especially on Wilkes and Peale Islets, in 1963 than 1961. Dominant in shrubby vegetation in various places.

*SONCHUS OLERACEUS L.

Not seen 1961, 1963.

CRYPTOGAMIC FLORA

!ALBUGO PLATENSIS (Speg.) Swingle

A common parasite on Boerhavia repens, Fosberg 43511, 43531. This species causes a change in habit, infested stems being erect and much shortened instead of prostrate and elongate.

!*UROMYCES EUPHORBIAE Cke. & Pk.

A parasite on Euphorbia prostrata, Fosberg 43523. This species, also, causes a change in habit in the host; infested stems are erect and the internodes are elongate.

Identifications of fungi by J. A. Stevenson.