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**A BRIEF STUDY OF FLORA AND FAUNA
IN SOHO BLOCK WALPOLE DISTRICT.**

by
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**Research Branch
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SUMMARY

A survey of Soho Block, Walpole district, carried out in November 1975, has indicated the presence of at least six indigenous and three introduced mammals, sixty-seven species of birds, nine of lizards, four of snakes, five of frogs and three of fish. Plants that were identified represented forty-six botanical families.

The block had not been burnt for seven years, though all the surrounding areas had been burnt within the previous two years. Except for the five roads around the perimeter, there were no trafficable roads, and trapping had to be confined mainly to the block edges. This, however, gave a diversity of vegetation types from high forest with dense understorey, to open sandy flats and swamps. One trapline, which necessitated cutting a line through thick scrub, was placed on a steep forested hillside containing a Karri/Tingle mixture with Acacia pentadenia understorey.

No previous fauna work had been carried out in this area by the Forests Department. The indications from this survey were that the diversity and density of mammal, bird and reptile species were fairly normal for this type of forest, though the population of the Bush rat, (Rattus fuscipes), was very high.

The Brush wallaby (Macropus irma) and Brushtailed possum (Trichosurus vulpecula) were notably absent from the area which is probably outside their range. A previous uncollected species of fish was located and assigned to the genus Brachygalaxias by the W.A. Museum.

INTRODUCTION

The survey dealt with in this report was undertaken during a period of seven days in November 1975, to gain information on the fauna and flora of Soho Block. This block forms the south-east section of a larger area which is to be managed primarily for its fauna and flora interest. Other blocks included in this are Johnstone, O'Donnell, Mitchell and parts of Wattle, Crossing and Frankland.

THE STUDY AREA

The study area is approximately 5,700 hectares in extent, bounded by Collis Road, Talbot Road, Kangaroo Road, Middle Road and Boronia Road, and situated in an area bounded by ref. squares JO 110, JR 111, JO 116 and JR 116 on Forest Department Walpole 80 map sheet.

The vegetation ranged from dry sandy flats to wet sclerophyll forest. Trapping lines bounding the area took in all types of vegetation represented except for the wet sclerophyll forest and this was included by the separate trapline placed in the line cut through thick scrub.

The centre of the block is a long ridge containing mainly Karri, (Eucalyptus diversicolor), but with some Tingle (Euc. guilfoylei) and (Euc. brevistylis) at the north-east corner. This ridge divides the block into three watersheds which drain into the Frankland River to the north-west, Kent River to the north-east, and Bow River to the south. Several large granite outcrops occur along the length of the ridge.

Apart from an occasional gully containing Karri, the rest of the block is Jarrah/Marri forest interspersed with open dry flats, swamps, and small rock outcrops.

Soho Block showed no signs of any past cutting, and the inaccessible nature of the central ridge, which contained most of the timber, would have deterred exploitation to some extent.

METHODS

(1) Trapping

Three types of trap were used. One hundred and seventy-six 15cm x 10cm breakback rat traps, eighty-eight 56cm x 20cm x 20cm wire cage traps, and eight pen cage traps. The size of the wire pen traps varied slightly according to the terrain, but they were approximately 1 metre by 1½ metres and had drop type doors triggered by trip wires. Thirty 10cm diameter pit traps were also put in. The box and breakback traps were baited with universal bait, a mixture of peanut butter, bacon, raisins, oatmeal and wheatgerm. The pentraps were baited with wheat, bread or apples.

Most of the trap lines had alternate box and breakback traps, though extra breakbacks were placed in a few areas. The pen traps were placed at the most likely points for Quokka, (Setonix brachyurus), and extra breakbacks placed around these to capture any Bush rats before they entered the pen trap and sprang the trap wire.

The line cut up the hill through thick scrub contained only breakback traps.

The total length of trap line was 10,000 metres and covered almost all types of vegetation and terrain within the block. The only type not covered was at the top of the central ridge, where access would have been difficult and time consuming.

(2) Observations

(a) Daylight observations. Fauna sighted while moving through the area on foot or vehicle was recorded. Other evidence of fauna was found in scats, scratchings, prints etc. Swamps and flats were examined for signs of reptiles and amphibians and creeks and water holes were fished with a hand net.

(b) Night observations. Observations were made from a vehicle with one or two spotlights, three spotlighting runs being made between dusk and 10 p.m. The runs were planned to cover the complete variety of terrain, and a total of 35 km of the boundary was travelled altogether.

RESULTS

(1) Trapping

Trapping results are given in Table 1. Mammals captured were the Southern Bush rat (Rattus fuscipes), Short-nosed Bandicoot (Isodon obesulus) and Common house mouse (Mus musculus)

Also trapped were the Red-legged skink, (Otenotus labillardieri), Smiths skink (Egernia nitida), Frys skink (Egernia pulchra), Burrowing skink (Hemiergis peronii peronii),

Mourning skink (Tiliqua luctuosa), Tiger snake (Notechis scutatus occidentalis) and a White-breasted robin (Eopsaltria georgiana)

There was a preponderance of Southern bush rats, which comprised 83% of the total catch. These were caught mainly in the very densely vegetated sandy flats and along the creeks. On one occasion traps were reset twice during one day in one locality, and each time an 80% catch was achieved before the next resetting some hours later. This very high population of bush rats in the denser flats destroyed any chance there might be of capturing Quokka or any other animal there might be in the vicinity. The traps were invariably sprung by bush rats soon after setting.

The skinks were caught in most types of terrain, except for the Mourning skink which was captured only near creeks or swamps.

Overall, there were five times as many catches in break back traps as there were in box traps, with no catches at all in pen traps. Pit traps showed a 5.3% trapping success, better than that of box traps.

(2) Observations

(a) Daylight. Apart from those trapped, all lizards, snakes and fish, and all but one frog were observed or caught in daylight. Lizards were found under rocks or logs or in blackboy stumps and caught by hand. The Mueßlers snakes (Rhinoplocephalus bicolor) were dug out of old antheps, and the dugites seen while driving or walking. Frogs were seen mainly on the flat swampy areas, and fish caught in creeks and waterholes by a small hand net.

Some animals were identified by prints, scats or runnels, while the cat Felis catus, was seen on two occasions. Table 2 lists all mammal species identified and the evidence for their presence.

All birds, except for the Tawny frogmouth, (Podargus strigoides), and the Masked owl (Tyto novaehollandiae) were seen in daylight.

(b) Night. Spotlighting results are presented in Table 3. The number of sightings was about average for this type of bush, though the variety of species was disappointing. Most of the block boundary was covered by one or other of the three spotlight runs. The sightings of the Tawny Frogmouth were higher than usual.

Several bats were seen on all three spotlighting runs, but attempts to shoot specimens were unsuccessful. At least three species are believed to be present, and two of these were almost certainly the Tasmanian pipistrelle (Pipistrellus tasmaniensis), and the little bat (Epitasisicus pumilis).

SYSTEMATIC ACCOUNT OF MAMMALS

1. ORDER MARSUPIALA

A. Family Macropodidae

1. Western Grey Kangaroo (Macropus fuliginosus)

No attempt was made to count this species, which was seen frequently by day and night throughout the survey area. The population appears to be about normal for this type of bush.

2. Brush wallaby (Macropus irma)

No sign of this species was seen, and the survey area is quite probably outside its present range. Museum records show Pemberton as being the southernmost range of Macropus irma.

3. Tamar (Macropus eugenii)

None seen, and it is unlikely that any occur in this vicinity.

4. Quokka (Setonix brachyurus)

None were seen or trapped, but the thickly vegetated swamps and creeks in Soho Block would be an ideal habitat. Quokkas have been recorded recently from several nearby localities, and it is quite possible that one or more colonies could exist in the survey area.

B. Family Phalangeridae

5. Common or brush-tailed possum (Trichosurus vulpecula)

None were seen, nor any signs of their habitation. Museum records show the range of this species as similar to the brush wallaby, and it is unlikely to be present in the survey area.

C. Family Petauridae

6. Ringtail possum (Pseudocheirus peregrinus)

None were seen, nor any evidence of their presence. Though there are no museum records of this species in the vicinity, the survey area comes within its range.

D. Family Burramyidae

7. Pygmy possum (Cercartetus concinnus)

None were seen, and there are no records of any in the vicinity. However, this species has been found in similar vegetation types 30 km from the survey area and is very likely to occur.

E. Family Tarsipedidae

8. Honey possum (Tarsipes spencerae)

Two individuals were found dead on the road, and there are museum records of this species just south of the survey area. The habitat is suitable for honey possums and it probably occurs throughout the survey area.

F. Family Peramelidae

9. Short-nosed bandicoot (Isoodon obesulus)

One was trapped, and there were signs of others in the vicinity. Though museum records show a complete blank in this area, and surrounding localities, in fact several bandicoots have recently been caught in the Walpole region and it is likely that they occur throughout.

G. Family Dasyuridae

10. Native cat or Chuditch (Dasyurus geoffroii)

None were seen, and there are no records from the survey area. The nearest museum record is from Denmark, on a similar latitude to Soho Block. One specimen was caught at Pemberton only 3 years ago ~~but~~ it is possible they do occur in the survey area.

11. Native squirrel or Wambenger (Phascogale tapoatafa)

There is a museum record in the vicinity. This species is seldom seen and difficult to trap, and it could well be present in the survey area.

12. Mardo, Yellow-footed pouch mouse (Antechinus flavipes)

None seen, and the nearest museum record is from Walpole. There are numerous areas of heavy undergrowth and large rocky outcrops in the survey area, both habitats favoured by this species, and it would well occur in Soho Block.

H. Family Muridae

13. Dunnart (Sminthopsis murina)

One specimen was caught, and several nests found. There are several museum records from this latitude, though none in the immediate vicinity of Soho Block. The habitat is suitable and it is likely that they occur throughout the survey area.

2. ORDER RODENTIA14. Southern bush rat (Rattus fuscipes)

Numerous specimens were trapped, one seen by spotlight and many scratchings were evident. There is a very high population in almost every locality, from the gray sandy flats to the high Tingle forest. In one densely vegetated flat 5 traps were reset at 4.15, and when re-examined at 6.00, 4 contained bush rats. These 5 traps were all in an area of a few square yards around a pen trap, so there was obviously considerable activity during daylight hours by this species.

15. Water rat (Hydromys chrysogaster)

None were seen, but it is quite possible that they occur along some of the larger creeks, and by the Frankland River.

16. Common rat (Rattus rattus)

None were seen, though the habitat would be suitable for this species.

17. House mouse (Mus musculus)

One specimen was caught and it is likely that there is a low population throughout the survey area. This will undoubtedly increase after the next burn, as the present thick vegetation is not a good habitat for Mus musculus. The adjoining blocks, being recently burnt, would carry a higher population.

3. ORDER CHIROPTERA

18. Bats

At least 3 different species were seen in flight, there are possibly more within the survey area. Attempts to capture specimens by shooting were not successful, and no mist-netting was done.

4. ORDER LAGOMORPHA

19. Rabbit (Oryctolagus cuniculus)

No evidence of their presence was seen anywhere within the survey area.

5. ORDER CARNIVORA

20. Dingo (Canis familiaris)

None was sighted, though tracks were seen which could belong to this species or a domesticated dog gone wild. Dingos have been seen on several locations within a few miles of Soho Block, and it is fairly certain that some would occur within the survey area.

21. Fox (Vulpes vulpes)

Identified from prints and scats, there would appear to be a low population throughout the area. As one of its main food sources, rabbits, are not in evidence, the fox population would not be high.

22. Feral cat (Felis cattus)

Two were seen, and also prints. Probably occurs throughout the area in small numbers. None were caught in the box traps, as would be expected if the population was high.

DISCUSSION

General

The survey was intended to be a "once only" study, unless something of particular interest came up warranting further work. Monitoring work may need to be done at some future date. Eight days were spent in the study area, incorporating seven trapping nights, though on the first night time did not allow the full total of traps to be placed. Trap lines, once placed, remained in the same spot for the duration of the survey. The location of the lines was chosen after a preliminary examination of the study area, and included all types of terrain and vegetation which it was possible to reach.

It would have been desirable to run a trapping line through the centre of the Block, to include the high ridge and large granite outcrops which divide the three watersheds. However the distance involved and the difficult terrain would have made this too time-consuming, so it was decided to stick to the boundaries of the block, except for the one trapline out through the Tingle, (Euc. guilfoylei) at the north-western end. This line included some heavy undergrowth of Karri wattle, (Acacia pentadenia) and some small granite outcrops, so was considered to be fairly representative of the higher slopes.

Trapping

As the smaller mammals usually occur in low densities and uneven distribution, and some are trap shy, it is unlikely that all types of mammals present were caught. A bigger variety of traps over a wider area could well have given a better result, and the catch of some species could have been higher in a different season of the year. The increase in the time and personnel involved in such an extended survey was not justified, and not within the scope of the Research Branch.

Spotlighting

Three runs were carried out, covering most of the boundary and all types of terrain. On the spotlight runs, time was allowed for trying to shoot specimens of the 3 or more varieties of bat.

One team, using 1 or 2 spotlights, did each of the 3 runs. The total of sightings was quite good, though the variety was limited, and there was a higher than average number of the Tawny Frogmouth.

The only mammal sightings, apart from a brief glimpse of a small animal believed to be Rattus fuscipes, was of the Grey Kangaroo. The very dense ground vegetation and heavy foliage made sightings of possible small ground mammals or arboreal mammals difficult.

Searching, scat analysis, prints and scratchings

Searching, and interpretation of signs, produced the positive evidence of the majority of species identified. The only animal which was not seen, or whose presence was not deduced from scats, prints or scratchings, was the Mus musculus, and one single individual of this species was trapped. Searching produced most of the lizards, frogs, snakes, and fish, though some of these were also trapped, mainly in pit traps. Surprisingly, no tiger snakes were seen, and only one individual was trapped. Prior to the survey it was thought very likely that the Muellers snake would occur, as the habitat was ideal for this species - the search produced 3 individuals in two different localities.

Survey Results

The result of the survey, considering the limitations, was fairly satisfactory, though the variety of species was a bit disappointing. A total of 6 indigenous and 3 introduced species of mammal was lower than expected, and the total of 7 species of skink was also low. The bird total of 67 different species, and the snake total of 4 different species was about what was expected in this type of country.

The survey has given a fairly good estimation of the abundance and diversity of both large and small mammals, though it is quite possible that the mardo, (Antechinus flavipes), and the pygmy possum (Cercartetus concinnus) are present and might be picked up on any extended trapping programme. The Ring-tailed possum, Pseudocheirus peregrinus could also occur in one or more small pockets in the interior of the block. The complete absence of any signs whatsoever of the Common possum, Trichosurus vulpecula and the fact that the block is outside the present known range of this species, makes its presence highly unlikely.

Soho Block is well outside the known range of the Woylie, Bettongia penicillata, the numbat, Myrmecobius fasciatus, and the echidna, Tachyglossus aculeatus, and the habitat is unsuited to these three species.

There is no evidence for, or reports of, other exotic species such as the brumby, Equus caballus, or pig, Sus scrofa. Neither is there any evidence whatsoever of any rare or unknown animals. Soho Block is rather remote and difficult of access, with a consequent dearth of outside reports.

The results hardly justify any further survey in this block, unless it be for some specific purpose, such as a search for the Mallee fowl, Leipoa ocellata, which is known to have occurred recently in an adjoining block, and the Ground parrot, (Pezoporus wallicci) which was recorded many years ago in the catchment of Bow river.

REFERENCES

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 Ride, W.A.L. A Guide to the Native Mammals of Australia
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TABLE 1

TRAPPING RESULTS

Area	No. of Trap Nights (All types)	Mammals	No. of Individuals Caught	Reptiles	No. of Individuals Caught	Trap success percentage		
						Mammals	Reptiles	Combined
Talbot Rd	A	136	<i>Rattus fuscipes</i>	2		1.4		1.4
	B	65	" "	1	<i>Egernia nitida</i>	1.5	1.5	3.1
	C	41	" "	22	" "	56.1	4.9	61.0
			<i>Isodon obesulus</i>	1	" <i>luctuosa</i>			
Kangaroo Rd.	A	32	<i>Rattus fuscipes</i>	16	" <i>pulchra</i>	50.1	3.1	53.1
	B	65	" "	14	" "	21.5		21.5
	C	86	" "	14	" "	16.3		16.3
Middle Rd	A	240	" "	13	" <i>nitida</i>	5.4	2.5	7.9
	B	28	" "	9	" <i>pulchra</i>	32.1		32.1
Boronia Rd	A	110	" "		" <i>nitida</i>		3.6	3.6
	B	159	" "	24	" <i>pulchra</i>			
					" <i>nitida</i>	15.1	1.9	17.0
					<i>Notechis scutatus</i>			
					<i>occidentalis</i>			
	C	110	<i>Rattus fuscipes</i>	10	<i>Egernia pulchra</i>	9.1	0.9	10.0
	D	114	" "	24	" <i>nitida</i>	21.1	2.6	23.7
	E	110	" "	9	" <i>luctuosa</i>			
			<i>Mus musculus</i>	1	" <i>pulchra</i>	9.1	2.7	11.8
Tingle Hillside		250	<i>Rattus fuscipes</i>	60	" <i>nitida</i>	24.0	2.0	26.0
Boronia Rd Pit Traps		150			" <i>pulchra</i>		5.3	5.3
					<i>Ctenatus labillardiera</i>			
					<i>Ctenotus catenifer</i>			
					<i>Hemiergis peronii peronii</i>			
					<i>Egernia luctuosa</i>			

TABLE 1A

BRIEF DESCRIPTION OF VEGETATION AND SOILS
ON TRAPPING LINES

Talbot Rd	A	Jarrah, Blackboys, <u>Banksias</u> , <u>Agonis parviceps</u> Grey sand
	B	Jarrah/Marri, <u>Agonis parviceps</u> , <u>Bossiaca linophylla</u> . Yellow sands
	C	Mallee blackbutt, <u>Beaufortia</u> spp. <u>Agonis parviceps</u> , Paperbarks. Wet grey sandy flats
Kangaroo Rd	A) B)	Paperbarks, <u>Erandra aristata</u> . Grey peaty sands
	C	Jarrah, Paperbarks, <u>Casuarina fraseriana</u> , <u>Agonis parviceps</u> . Grey sands
Middle Rd	A	Jarrah/Marri, <u>Euc. ficifolia</u> , <u>Casuarina fraseriana</u> , <u>Banksia littoralis</u> . Sandy gravels and grey sand.
	B	Jarrah/Marri, <u>Agonis parviceps</u> . Lateritic loam.
Boronia Rd	A	Jarrah, <u>Banksia grandis</u> , <u>B. quercifolia</u> , <u>B. ilicifolia</u> , <u>B. attenuata</u> , Blackboys, <u>Casuarina fraseriana</u> , <u>Agonis parviceps</u> . Grey sand.
	B	Jarrah/Marri, Tingle, <u>Agonis parviceps</u> . Sandy loams to grey sand.
	C	<u>Casuarina fraseriana</u> , <u>Euc. ficifolia</u> , <u>Agonis parviceps</u> , <u>Acacia myrtifolia</u> . Grey sand
	D	Karri, Blackbutt, <u>Agonis parviceps</u> , Swordgrass Sandy clays and loam.
	E	Jarrah, Blackbutt, <u>Nuytsia</u> , <u>Banksia quercifolia</u> , Blackboys, <u>Agonis parviceps</u> , Paperbarks, Grey sands.
Tingle Hill		Tingle, Jarrah, Marri. <u>Acacia pentadenia</u> , <u>Trymalium spathulatum</u> , <u>Hovea elliptica</u> . Loamy gravel

TABLE 2

MAMMAL SPECIES IDENTIFIED

Species	Trapped	Observed	Identified from prints, runnels scats or nests	Seen by spotlight	Remarks
<u>Macropus fuliginosus</u>		x	x	x	Two species were found dead on the road
<u>Tarsipes spencerae</u>		x			
<u>Isoodon obesulus</u>	x		x		Either dingo or large dog
<u>Sminthopsis murina</u>		x	x		
<u>Rattus fuscipes</u>	x		x	x	
<u>Canis familiaris</u>			x		
<u>Vulpes vulpes</u>			x		
<u>Felis catus</u>		x	x		
<u>Mus musculus</u>	x				

TABLE 3

IDENTIFICATIONS BY SPOTLIGHT

Area	Hours	km travelled during spotlighting	Specimens detected	Specimens per hour	Specimens per km	Remarks
Boronia Rd	1.5	10.9	10 <i>Macropus fuliginos</i> 5 <i>Podargus strigoides</i> 1 <i>Tyto novaehollandiae</i> 1 <i>Rattus fuscipes</i>	11.3	1.5	<i>R. fuscipes</i> not positive, mainly identified by size and short tail
Boronia/Middle Rds	2	13.8	4 <i>Macropus fuliginos</i> 2 <i>Podargus strigoides</i>	3.0	0.4	Only one spotlight used. Much time was spent in attempting to shoot bats
Kangaroo Rd	1.6	11.7	7 <i>Macropus fuliginos</i> 2 <i>Podargus strigoides</i>	5.6	0.8	One frog also seen

NB. Numerous bats were seen on all 3 surveys

List of reptiles, amphibians and fishes identified

<u>Lizards</u>	<i>Phyllodactylus marmoratus</i>	(C)
	<i>Egernia nitida</i>	(CT)
	<i>Egernia pulchra</i>	(CT)
	<i>Egernia luctuosa</i>	(CT)
	<i>Egernia Kingii</i>	(T)
	<i>Ctenotus labillardiera</i>	(CT)
	<i>Ctenotus catenifer</i>	(CT)
	<i>Hemiergis peronii peronii</i>	(CT)
	<i>Tiliqua rugosa</i>	(O)
<u>Snakes</u>	<i>Rhinophloecephalus bicolor</i>	(C)
	<i>Notechis acutatus occidentalis</i>	(OT)
	<i>Demansia affinis</i>	(O)
	<i>Denisonia coronata</i>	(C)
<u>Frogs</u>	<i>Litoria adelaidensis</i>	(CT)
	<i>Crinia georgiana</i>	(C)
	<i>Crinia leai</i>	(C)
	<i>Crinia glauerti</i>	(C)
	<i>Heleioporus inornatus</i>	(CT)
<u>Fishes</u>	<i>Edelia vittata</i> - Pigmy Perch	(N)
	<i>Lepidogalaxias salamandroides</i> -	
	Long-finned galaxias	(N)
	<i>Brachygalaxias</i> (new species) -	
	<i>Galaxias</i>	(N)

C - caught by hand

O - observed

T - trapped (including pit traps)

N - netted

Birds sighted - Soho Survey

1. Emu	<i>Dromaius novae-hollandiae</i>
2. Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>
3. White-faced Heron	<i>Ardea novaehollandiae</i>
4. White-necked Heron	" <i>pacifica</i>
5. Nankeen Night Heron	<i>Nycticorax caledonicus</i>
6. Black Duck	<i>Anas superciliosa</i>
7. Maned Goose	<i>Chenonetta jubata</i>
8. Musk Duck	<i>Biziura lobata</i>
9. Little Eagle	<i>Hieraeetus morphnoides</i>
10. Whistling Eagle	<i>Haliaeetus astur</i>
11. Australian Goshawk	<i>Accipiter fasciatus</i>
12. Wedgetail	<i>Aquila audax</i>
13. Peregrine Falcon	<i>Falco longipennis</i>
14. Brown Hawk	" <i>berigora</i>
15. Kestrel	" <i>cenchroides</i>
16. Quail	<i>Synoicus australis</i>
17. Brush Bronzewing	<i>Phaps elegans</i>
18. Purple Crowned Lorikeet	<i>Glossopsitta porphyrocephala</i>
19. White-tailed Black Cockatoo	<i>Calyptrorhynchus baudini</i>
20. Red-tailed " "	" <i>banksii</i>
21. Western Rosella	<i>Platycercus icteratis</i>
22. Red-capped Parrot	<i>Purpureicephalus spurius</i>
23. 28 Parrot	<i>Barnardius zonarius</i>
24. Pallid Cuckoo	<i>Cuculus pallidus</i>
25. Fantailed Cuckoo	<i>Cacomantis pyrrhophanus</i>
26. Narrowbilled Bronze Cuckoo	<i>Chrysococcyx basalis</i>
27. Golden Bronze Cuckoo	" <i>lucidus</i>
28. Boobook Owl	<i>Ninox novae-seelandiae</i>
29. Masked Owl	<i>Tyto novae-hollandiae</i>
30. Frogmouth	<i>Podargus strigoides</i>
31. Tree Martin	<i>Petrochelidon nigricans</i>
32. Kookaburra	<i>Dacelo gigas</i>
Sacred Kingfisher	<i>Halcyon sancta</i>
34. Pipit	<i>Anthus novae-seelandiae</i>
35. Blackfaced Cuckoo Shrike	<i>Coracina novaehollandiae</i>
36. Whitebrowed Babbler	<i>Pomatostomus superciliosus</i>
37. Banded Blue Wren	<i>Malurus splendens</i>
38. Red Winged Wren	" <i>elegans</i>
39. Western Warbler	<i>Gerygone fusca</i>
40. Broadtailed Thornbill	<i>Acanthiza apicalis</i>
41. Western Thornbill	" <i>inornata</i>
42. Yellow Tailed Thornbill	" <i>chrysorrhoa</i>
43. Spotted Scrub Wren	<i>Sericornis maculatus</i>
44. Weebill	<i>Smicronis brevirostris</i>
45. Scarlet Robin	<i>Petroica multicolor</i>
46. White Breasted Robin	<i>Eopsaltria georgiana</i>
47. Grey Fantail	<i>Rhipidura fuliginosa</i>
48. Restless Flycatcher	<i>Seisura inquieta</i>
49. Golden Whistler	<i>Pachycephala pectoralis</i>
50. Western Shrike Thrush	<i>Colluricincla rufiventris</i>
51. Black Capped Sitella	<i>Neositta pileata</i>
52. Rufous Tree Creeper	<i>Climacteris rufa</i>
53. Spotted Pardalote	<i>Pardalotus punctatus</i>
54. Striated Pardalote	" <i>substriatus</i>
55. Silvereye	<i>Zosterops gouldi</i>
56. Brown Honeyeater	<i>Lichmera indistincta</i>
57. White-naped Honeyeater	<i>Melithreptus lunatus</i>
58. Spinebill	<i>Acanthorhynchus superciliosus</i>
59. Tawny Crowned Honeyeater	<i>Gliciphila melanops</i>
60. White-eyed Honeyeater	<i>Phylidonyris novaehollandiae</i>
61. Red Wattle Bird	<i>Anthochaera carunculata</i>
62. Little Wattle Bird	" <i>chrysoptera</i>
63. Red-eared Firetail	<i>Zonaeginthus oculatus</i>
64. Dusky Wood Swallow	<i>Artemus cyanopterus</i>
65. Squeaker	<i>Streptopelia versicolor</i>
66. Western Magpie	<i>Gymnorhina dorsalis</i>
67. Raven	<i>Corvus coranoides</i>

APPENDIX A

Vegetation Formations

The vegetation systems recognized in Soho Block can be classified according to "Vegetation Survey of Western Australia - Pemberton - Irwin Inlet" by Francis G. Smith, D.Sc., B.Sc. (Forestry), W.A. Dept. of Agriculture.

- A2 (K Ty) High forest of Karri, Eucalyptus diversicolor, Yellow Tingle Eucalyptus guilfoylei, and Rates Tingle, Eucalyptus brevistylis
- B2 (J) Open forest of Jarrah, Eucalyptus marginata, Red-flowering Gum, Eucalyptus ficifolia, Sheoak Casuarina fraserana and Banksia spp.
- B2 (JM) Jarrah, and Marri, Eucalyptus calophylla
- B3 (JB) Woodlands of Jarrah, Sheoak, Bull banksia, Banksia grandis, Holly-leaved Banksia, Banksia attenuata.
- C4 (P.B) Open woodlands of Paperbark, Melaleuca spp. and Oak leaf Banksia, Banksia quercifolia.
- C4 (B) Open woodland of Swamp Banksia, Banksia littoralis, Oakleaf Banksia, with small patches of F1(s) Eidgeland of Evandra aristata, Anarthria scabra.
- Swamp Open water surrounded by Melaleuca and Agonis species.

In addition to the above recognized types there are large granite outcrops within the forest which carry a cover of ferns and mosses and frequently scattered plants of Verticordia plumosa.

The following list is of those plants either recognized or collected and identified during the survey. Identification of some 40 specimens is still awaited from the Herbarium in addition to those already checked and on the list. The list is not complete as some areas were not searched through and some species had insufficient distinguishing features at the time of the survey.

Soho Block Survey 11/75

Plants collected or identified updated 11/76 additions of
Herbarium.

Polypodiaceae

Lindsaya linearis
Adiantum aethiopicum
Asplenium adiantoides
" flabellifolium
Cheilanthes tenuifolia
Pteridium esculentum

Cycadaceae

Macrozamia riedlei

Podocarpaceae

Podocarpus drouyniana

Graminae

Cyperaceae

Lepidosperma effusa
" leptostachyum
" angustatum
" tetraquetrum
" brunanianum
Evandra aristata

Restionaceae

Anarthria scabra
Leptocarpus sp.

Xyridaceae

Xyris sp.

Liliaceae

Thysanotus sp.
Stypandra imbricata
Johnsonia lupulina
Burchardia umbellata
Agrostocrinum scabra
Borya nitida

Xanthorrhoeaceae

Xanthorrhoea gracilis
" reflexa
Kingia Australia
Dasypogon bromeliaefolius
Lomandra sp.

Amaryllidaceae

Conostylis cynosa
" setigera
Anigozanthus preisi
" bicolor
" flavida

Iridaceae

Patersonia sp.

Orchidaceae

Pterostylis nana
 Corybas dilatatus
 Diuris carinata
 Microtis sp.
 Prasophyllum sp.
 Caladenia flava
 " latifolia
 " gemmata
 " longiclavata
 " hirta
 Glossodium brunonis
 Thelymitra campanulata

Casuarinaceae

Casuarina fraseriana
 " decussata

Proteaceae

Hakea amplexicaulis
 " lasiantha
 " ambigua
 " ruscifolia
 " ceratophylla
 " linearis
 " florida
 Dryandra formosus
 " nivea
 Isopogon formosus
 " sphaerocephalus
 Petrophila diversifolia
 Banksia grandis
 " quercifolia
 " ilicifolia
 " attenuata
 " littoralis
 Adenanthos obovata
 Xylomelum occidentale
 Persoonia longifolia
 " elliptica
 " microcarpa
 Synaphae sp.
 Conospermum caeruleum

Loranthaceae

Muytsia floribunda

Aizoaceae

Carpobrotus acuilaterus

Ranunculaceae

Clematis aristata

Lauraceae

Cassytha sp.

Droseraceae

- Drosera bulbosa*
 " *pallida*

Pittosporaceae

- Billardiera floribunda*

Leguminosae sub fam. Mimosaceae

- Albizia distachya*
Acacia divergens
 " *pentadenia*
 " *myrtifolia*
 " *pulchella*
 " *strigosa*
 " *extensa*
 " *urophylla*
 " *hastulata*
 " *triptycha*
 " *stenoptera*

sub fam. Papilionaceae

- Daviesia horrida*
 " *incrassata*
 " *cordata*
 " *pectinata*
Burtonia villosa

Oxylobium lanceolatum
Gastrolobium forestii
Geopholobium ovatum
Chorizema ilicifolium
 " *cordatum*
 " *diversifolium*
 " *monbeum*
Misbelia dilatata
Eutaxia obovata
 " *virgata*
Mouea chorizemifolia
 " *elliptica*
Bossiaea ornata
 " *linophylla*
Kennedya coccinea
Sphaerolobium medium
 " sp.
Latrobea tenella

Geraniaceae

- Pelargonium australe*
Geranium retrorsum

Rutaceae

- Boronia languinosa*
 " *crenulata*
 " *denticulata*
 " *gracilipes*
 " *spathulata*
Crocea dentata

Tremandraceae

- Platytheca verticillata*
Tremandra stelligera
Tetratheca setigera

Polygalaceae

- Conosperma flavum
- " confertum
- " volubile

Euphorbiaceae

- Micnocarpus glauca
- Foranthera huegelii

Myrtaceae

- Verticordia plumosa
- Leptospermum firmum
- " crassipes
- Kunzea recurva
- " micromera
- Callistemon speciosus
- Isolaloea spp
- Beaufortia sparsa
- Eucalyptus marginata
- " megacarpa
- " diversicolor
- " patens
- " calophylla
- " ricifolia
- " guilfoylei
- " brevistylis
- Agonis flexuosa
- " linearifolia
- " parviceps
- " hypericifolia
- " juniperina

Sapindaceae

- Dodonaea attenuata

Sterculiaceae

- Rulingia corylifolia
- Thomasia quercifolia
- " pauciflora
- Lasiopetalum floribundum

Rhamnaceae

- Frymalium spathulatum

Dilleniaceae

- Hibbertia inconspicua
- " stellaris
- " cunninghamii
- " montana
- " perfoliata
- " silvestris
- " hypericoides

Violaceae

- Hybanthus debilissimus

Thymelaeaceae

- Pimelea sylvestris
- " rosea
- " longifolia

Goodeniaceae

Vellia trinervis
 Scaevola striata
 " humifosa
 Dampiera hederaceae
 Diaspasis filifolia

Haloragaceae

Haloragis rotundifolia

Apiaceae

Xanthosia rotundifolia

Epacridaceae

Leucopogon capitallaris
 " australis
 " verticillatus
 " glabellus
 " concinmus
 Lysinema ciliatum
 Andersonia sprengeloides
 " caerula
 Cosmelia rubra

Loganiaceae

Logania serphyllifolia

Gentianaceae

Centaurum australe

Umbeliferae

Trachymena sp.

Cephalotaceae

Cephalotus follicularis

Rubiaceae

Opercularia hispidula

Lobeliaceae

Isotoma hypocroteriformis
 Lobelia tenuior

Stylidiaceae

Stylidium scandens
 " calcaratum
 " amoenum
 " sp.
 Levenhookia pusila

Compositae

Brachycome iberidifolia

Supplementary Plant List for Soho Survey,
Plants identified since list compiled

Graminae	<i>Poa caespitosa</i> <i>Danthosia semiannularis</i>
Droseraceae	<i>Drosera macrantha</i> " <i>menziesii</i>
Leguminosae	Sub. fam. mimosaceae <i>Acacia gibbertii</i> Sub. fam. papillionaceae <i>Latrobea gentistoides</i> " <i>diosmifolia</i> <i>Eutaxia densiflora</i>
Rutaceae	<i>Boronia nematophylla</i>
Thymelaeaceae	<i>Hibbertia helianthemoides</i>
Epacridaceae	<i>Leucopogon gilbertii</i> <i>Sphenotoma squarrosus</i>
Gentianaceae	<i>Villarsia parnassifolia</i>
Umbeliferae	<i>Actinotus omniferulus</i>
Stylidiaceae	<i>Stylidium adnatum</i>
Compositae	<i>Olearia paucidentata</i> <i>Senecio gibbertii</i>

