



Notes on the Biology and Phytogeography of Western Australian
Plants Part 6 : Rhamnaceae.

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ABSTRACT:

The Rhamnaceae of Western Australia comprise 62 species distributed in 11 genera. All are woody shrubs, generally insect pollinated and outbreeding. Speciation has occurred markedly in the southern heathlands, and to a lesser extent in the northern heathlands.

To be quoted as:

Keighery, G.J. (1979, unpublished) Notes on the Biology and Phytogeography of the Western Australian Flora Part 6 Rhamnaceae. Kings Park and Botanic Garden, West Perth, 6005.

INTRODUCTION:

The Rhamnaceae of Western Australia consist of 62 species in 11 genera. Two genera (Blackallia and Siegfriedia) are endemic to Southern Western Australia. Five of the six endemic Australian genera occur in, and several are well developed in, Southern Western Australia (Cryptandra 23 species : Spyridium; 14 species : and Trymalium; 7 species).

BIOLOGY:

All members of the family are perennial woody shrubs or trees. Most species tested can flower within a year of seed being sown, and several behave as fire weeds.

Both self fertility and self incompatibility are known but only a handful of species have been tested.

Pollination is by small hymenoptera or diptera, except in Siegfriedia where bird pollination is likely.

PHYTOGEOGRAPHY:

Speciation in the family has occurred markedly in the Southern heathlands and to a lesser extent the Northern heathlands. (fig. 1.).

The family has two major centres of diversification, the South Western Botanical Province and the Northern Botanical Province.

RESEARCH NEEDS:

Taxonomic Revision of major genera and generic limits of Cryptandra
Collecting in Jarrah Forrest grid squares (espec. noting fire response, soil types)

Cytological studies
Pollination/Breeding Systems

Notes on Biology/Ecology of Each Species.

ALPHITONIA

A. excelsa (Fenzl.) Benth.
Small tree, to 5m., fls. ? , ?
Quartzite Creek, sandstone gully.

A. obtusifolia Braid = A. excelsa

BLACKALLIA

B. biloba C.A. Gardn.
Spreading shrub, to 0.4m., fls.? , 7-9
sand.

B. connata (C.A. Gardn.) C.A. Gardn.
Erect shrub, to 1.5m., fls. purple/green
or pink/white,
8.
red sand, red loam.

COLUBRINA

C. asiatica (L.) Brongn.
Erect shrub, to 1m., fls.? , ?
?

CRYPTANDRA

C. apetala Ewart et White
Erect multistemmed shrub, to 0.3m.,
fls. white, 6-8.
yellow sandy loam.

C. arbutiflora Fenzl.
Erect shrub, to 1m., fls. white, 6-9.
Yellow sand, lateritic soil.

C. arbutiflora var tubulosa (Fenzl.) Benth.
No clear definition of this variety
made at Perth.

C. dielsii C.A. Gardn.
Spreading shrub, to 0.3 m., fls. ? , ?-9-?
yellow sand.

C. glabriflora Benth.
Erect multistemmed shrub, to 1m., fls. white or
pink, 5-8-(10).
yellow sand, lateritic soil, sand, granite sand.

C. coronata Reissek
no data.

C. grandiflora C.A. Gardn.
Low spreading shrub, to 0.6 m, fls white
fading pink, 8-9.
sand.

C. gracileps (Diels.) C.A. Gardn.
Erect shrub, to 70 cm., fls. cream, ?-9-?
loam.

C. humilis (Benth.) F. Muell.
minute shrub 8cm x 8cm fls. pubescent
8-11.
Lateritic sand (chiefly), yellow sand.
killed by fire, very common after fires.

C. intratropica W.V. Fitz.
Erect spreading shrub, to 1m., fls yellow-
white, 5-8.
sandstone.

C. leucophracta Schlect.
Erect multistemmed shrub, to 0.8 m., fls. cream,
(4)-8-11-(12).
skeletal red loam over ironstone, sand, red soil,
granite, red sandy clay.

C. leucopogon Meisn.
? Erect or spreading multistemmed shrub from
a woody rootstock (may be mat forming) to 0.2m.,
fls white, (7)-8-10.
sandy gravel, soil, clay loam, to yellow sand.

C. miliaris Reisseck
Low spreading shrub, to 0.1m, fls white,
?-8-?
sandy loam.

C. mutila Nees.ex Reisseck.
Low spinescent shrub, to 0.6 m.-0.4 m., fls
white (pink), 5-8.
limestone soils.

C. myriantha Diels
Erect multistemmed shrub, to 0.6m.,
fls. white faded pink, (5)-7-8-(10).
sand, sandy gravel.

C. nudiflora F. Muell.
Spreading woody shrub, to 0.5m, fls white
faded pink, ?-9-?
sand.

C. parvifolia Turcz.

Straggley spiny shrub, up to 0.6m. x 0.6m.,
occ. 1m., fls white or pale pink in brown calyx.
7-9.

sandy gravel, granitic loam.

C. petraea S. Moore

Shrub, 2' , fls white , ?

C. polyclada Diels.

Intricately branched shrub to 0.6m.,
fls. white/pink , 1-8.

sandy clay loam, loam soil.

C. pumila F. Muell

Compact multistemmed woody shrub, 6cm x 6cm.
fls. pubescent white, 9-10.

peaty sand.

C. pungens Steud.

Erect spinescent shrub, to 0.6m (1m.), fls. white,
(4)-7-11.

lateritic sand limestone, grey or yellow sand,
granite.

C. scoparia Reissek.

Erect multistemmed shrub, fls. white, 5-6.
sand.

C. spyridioides F. Muell.

Erect shrub, to 0.6 m, fls. cream , 11-4.
gravel loam.

C. tomentosa Lindl.

Low spreading shrub, to 0.5m x 0.5m (may be mat
forming), fls. white/cream or pink, (5)-7-11.
lateritic soil, red soil, yellow sand, sandy clay.

C. tubulosa Fenzl. see C. arbutiflora var tubulosa

C. wichurae (Nees.) C.A. Gardn. is an invalid
combination, not made.

EMMENOSPERMA

E. cunninghamii Benth.

Tree or shrub, to 5m., fls.? , ?
sandstone.

POMADERRIS

P. bilocularis A.S. George

Erect shrub, to 0.6m., fls. yellow, 3-10.
lateritic ridges.

P. forrestiana F. Muell.
Erect shrub, to 1.5m., fls. white, 8-11.
limestone clay, limestone pavement, claypan ridge.

P. grandis F. Muell.
Erect shrub, to 4m., fls. white, 7-9.
granite.

P. intangenda F. Muell.
Semi prostrate multistemmed shrub, fls. ?, ?
granitic loam.

P. myrtilloides Fenzl.
Erect shrub, to 2m., fls. white, 3-5.
limestone sand, coastal dunes.

P. obcordata
no data.

P. oraria F. Muell ex Reisseck.
Erect multistemmed shrub, to 0.5 m., fls. white,
5-8.
quartzite hills.

P. racemosa Hook.
Spreading multistemmed shrub, to 2m x 2m., fls.
yellow, 9-10.
red stony soil, sandy silt.

SIEGFRIEDIA

S. darwinioides C.A. Gardn.
Multistemmed spreading shrub, to 1m., fls.
golden yellow, 5-11.
lateritic soils.

SPYRIDIUM

S. complicatum F. Muell.
multistemmed erect or prostrate shrub, to 1m.,
fls. white, 6-9.
yellow sand.

S. cordatum (Turcz.) Benth.
Compact, low spreading or prostrate multistemmed
shrub, to 0.3 m., fls. cream, 5-11.
stony, sand over sandstone, sandy clay.

S. denticuliferum Diels.
Shrub, compact or to 2m. (rarely), fls. white,
woody, 5-12.
sand, limestone, lateritic.

S. divaricatum Benth.
Multistemmed shrub, ? , fls. white, ?-9-?
sand.

S. globulosum (Labill.) Benth.
erect single stemmed but low branched shrub, to 3m.
fls. white, , 6-10.
sand dunes, sand over limestone, yellow or
black sand.

S. kalganense Diels.
Erect shrub, ? , fls. ? , ?-10-?
humic sand.

S. microcephalum (Turcz.) Benth.
no data.

S. oligocephalum (Turcz.) Benth.
Multistemmed erect shrub, to 1m., fls. white,
(5)-9-11.
sand, loam, loamy limestone, gravelly sand.

S. rotundifolium F. Muell.
? multistemmed shrub, to 0.6m., fls. white, 8-9.
sand, calcareous sand.

S. spadiceum (Fenzl.) Benth.
Erect shrub, to 0.6m., fls. white, 7-11.
granite.

S. spathulatum (F. Muell.) F. Muell. ex Benth.
Spreading prostrate shrub, fls. creamy yellow,
?-4-?
gravel.

S. subochreatum Reissek
Erect shrub, to 1m., fls white, (5)-8-11.
alkaline soils.

S. tridentatum (Steud.) Benth.
Spreading or prostrate shrub, to 0.2m, fls. white,
11-4-(7).
limestone sand, sand, lateritic sand.
(survives fire via rootstock)
material of this species at Kings Park is self
fertile.

S. westringaeifolium Benth.
Erect shrub, to 1m., fls. white, ?-8-?
sand.

TRYMALIUM

T. albicans (Steud.) Reissek
no data.

T. angustifolium Reissek
Erect shrub, to 1m., fls. white, 5-8.
lateritic soils, occ. granite.

T. ledifolium Fenzl.

Erect shrub, many stems, to 1m., fls. white,
2-9-(10).

limestone, gravel, red loam.

T. myrtillus S. Moore

(T. ledifolium var rosmaerinifolium Benth = ?)

Multistemmed erect twiggy shrub, to 1.5 m.,
fls. white, fading pink, 6-10.

laterite, greenstone, granite.

T. spathulatum (Labill.) Ostenf.

Erect single stemmed shrub, to 3m., fls. white
fading pink, (7)-8-11.

swamp, granite, loam stony creek.

Populations of this species at Crystal Brook
are self incompatible (fire weed, killed by fire.)

T. urceolare (F. Muell.) Diels

no data.

T. wichurae Nees.

(material under T. myrtillus at Perth)

Single stemmed shrub, to 0.5m, fls. cream,
(4)-7-11.

lateritic sands.

VENTILAGO

V. viminalis Hook.

Small tree, to 10m., fls. small, green/yellow, 7-10.
sandstone.

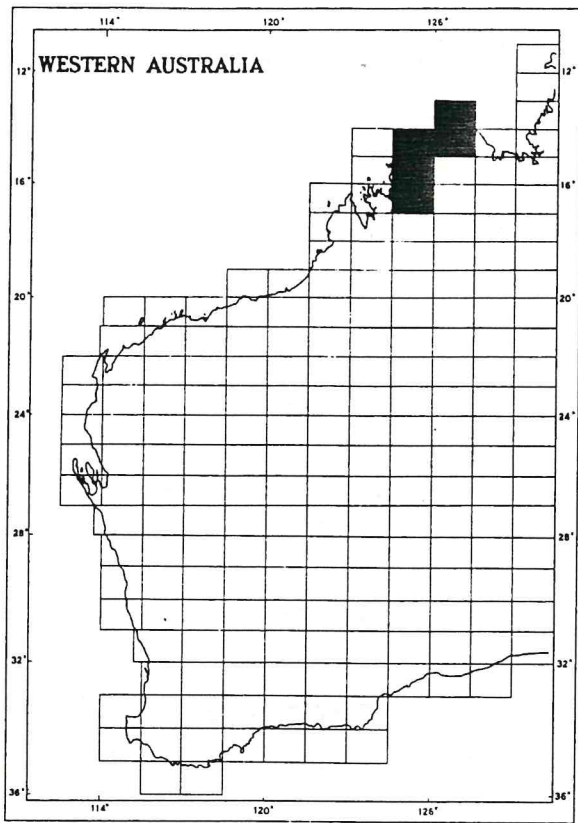
ZIZYPHUS

Z. mauritania Lam.

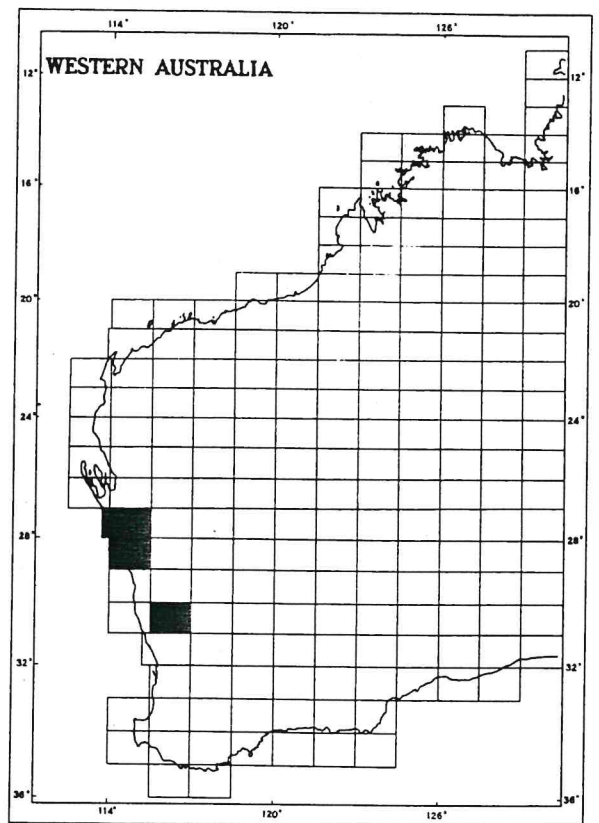
Spinescent shrub, to 5m., fls. ? , ?
clayey sand on sandstone, sandstone.

Z. quadrilocularis Hook

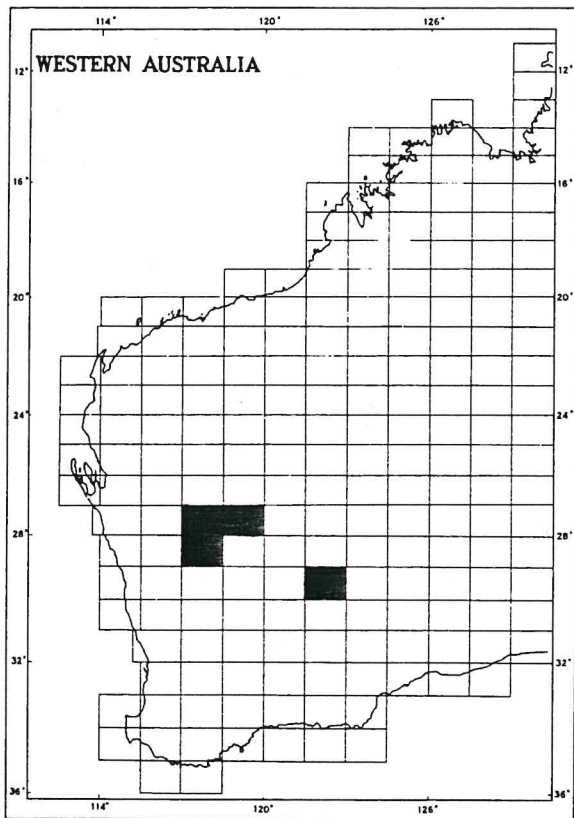
Small tree, to 10m., fls. ? , ?-11-?
basalt.



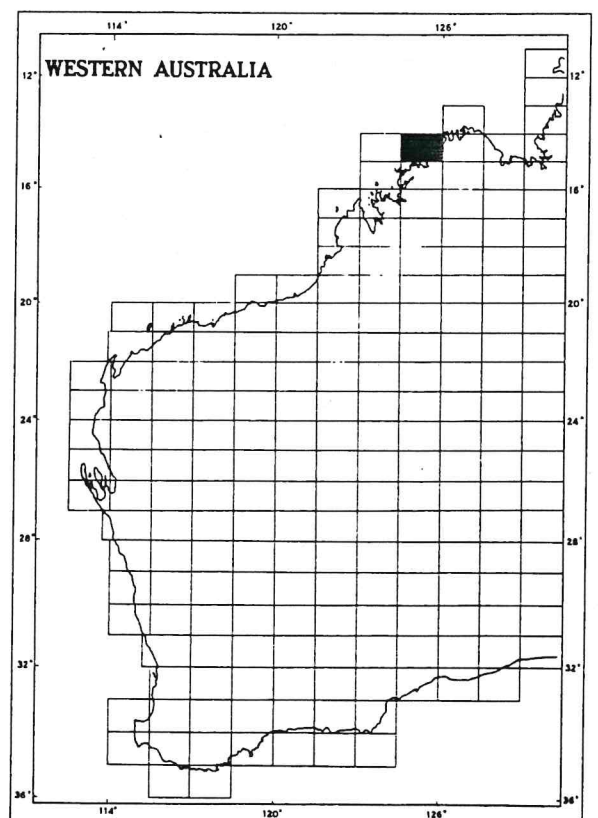
Alphitonia excelsa



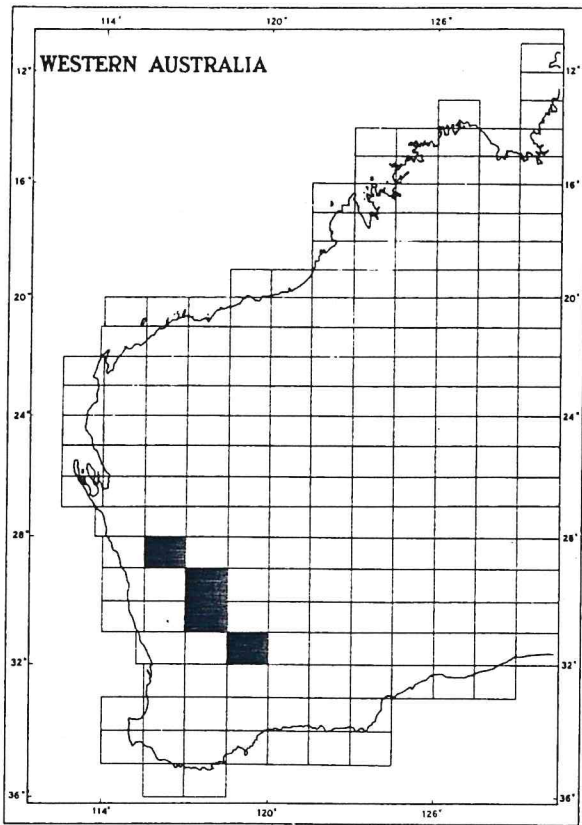
Blackallia biloba



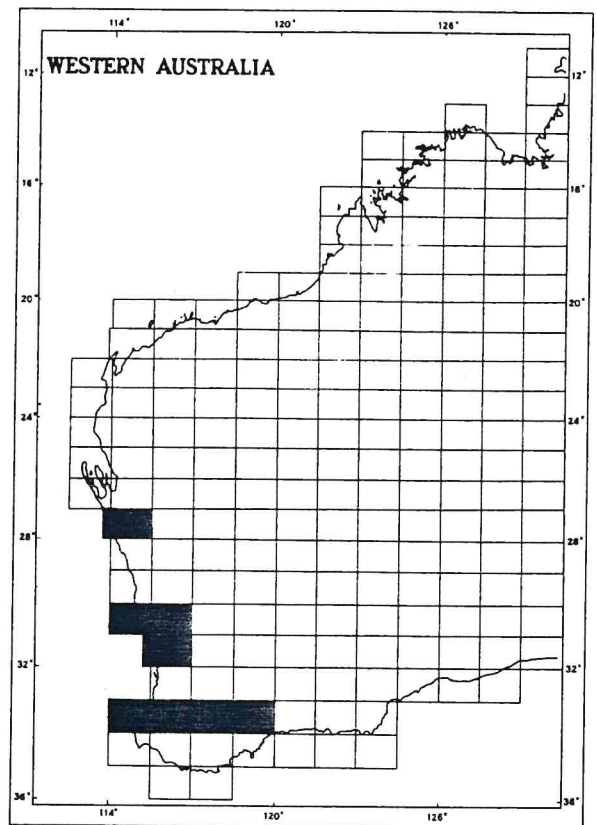
B. connata



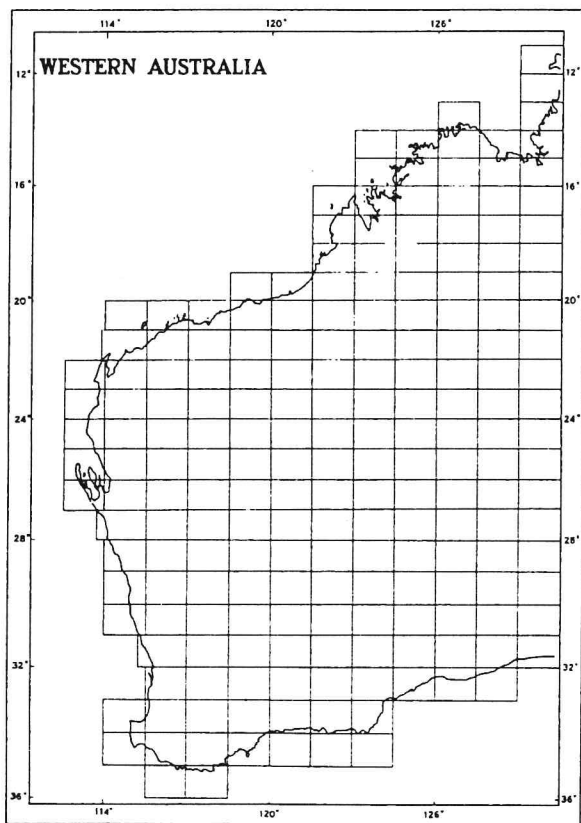
Colubrina asiatica



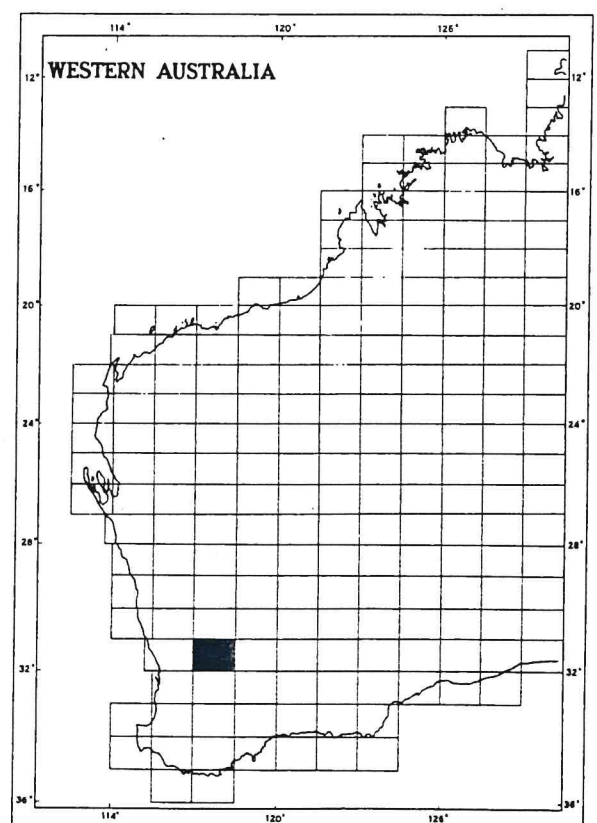
Cryptandra apetala



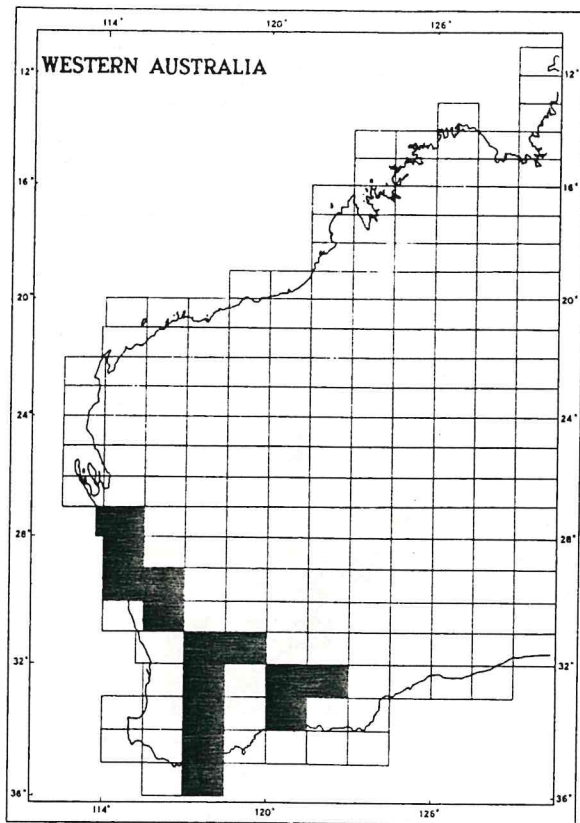
C. arbutiflora



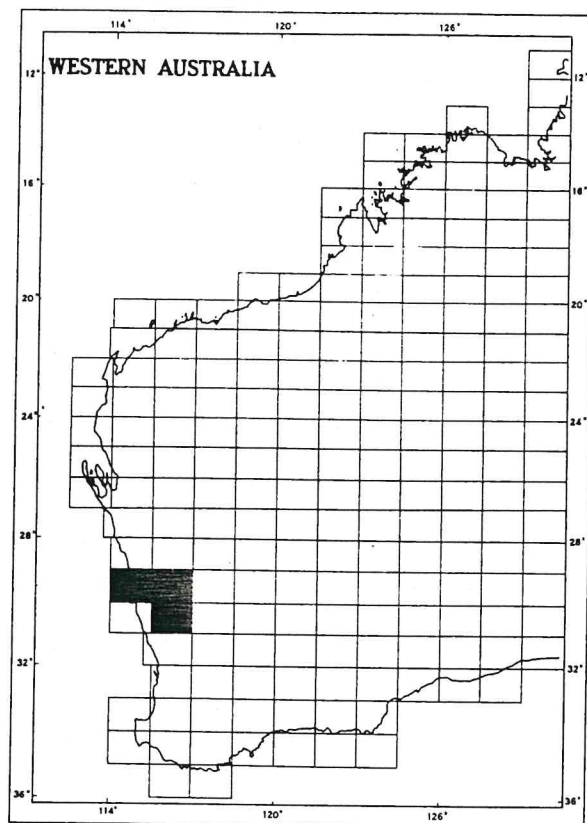
C. coronata



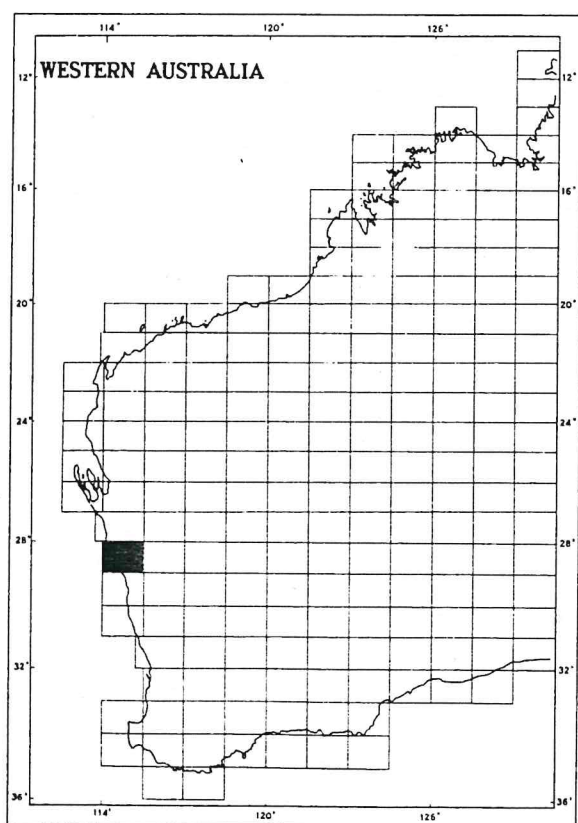
C. dielsii



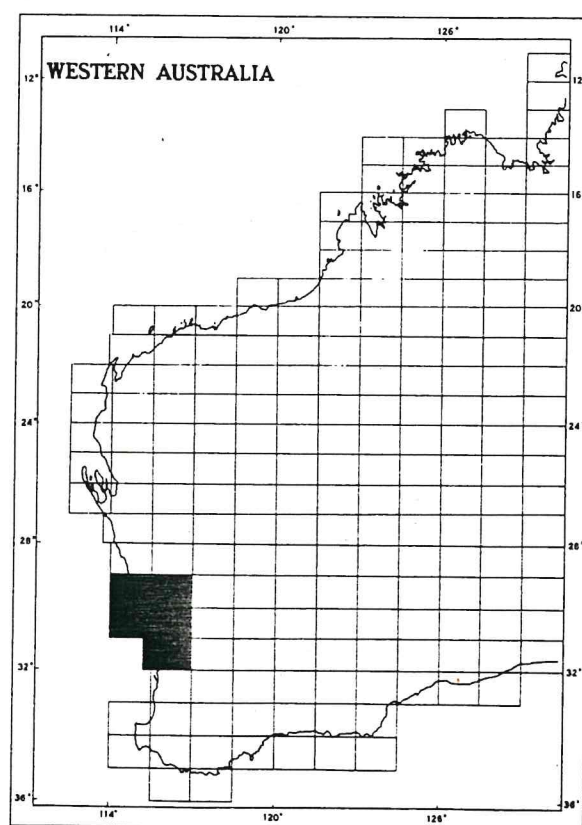
Cryptandra glabriflora



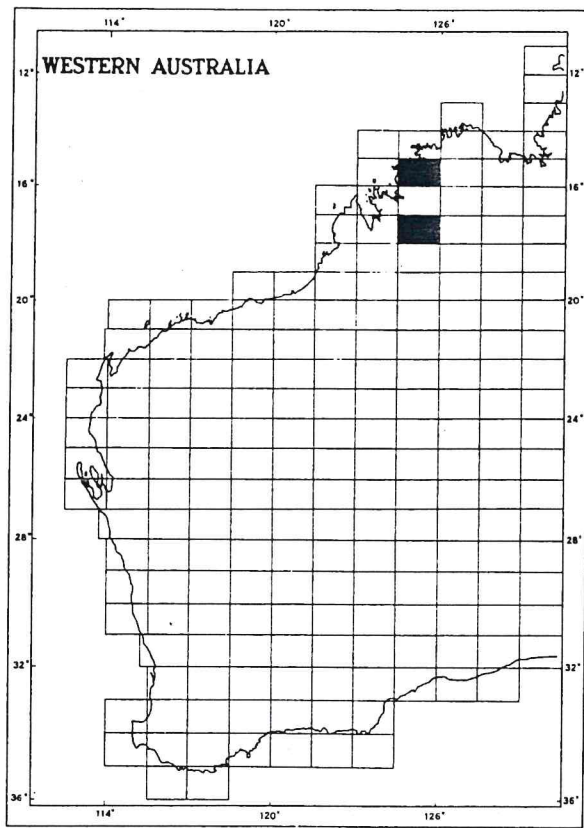
C. grandiflora



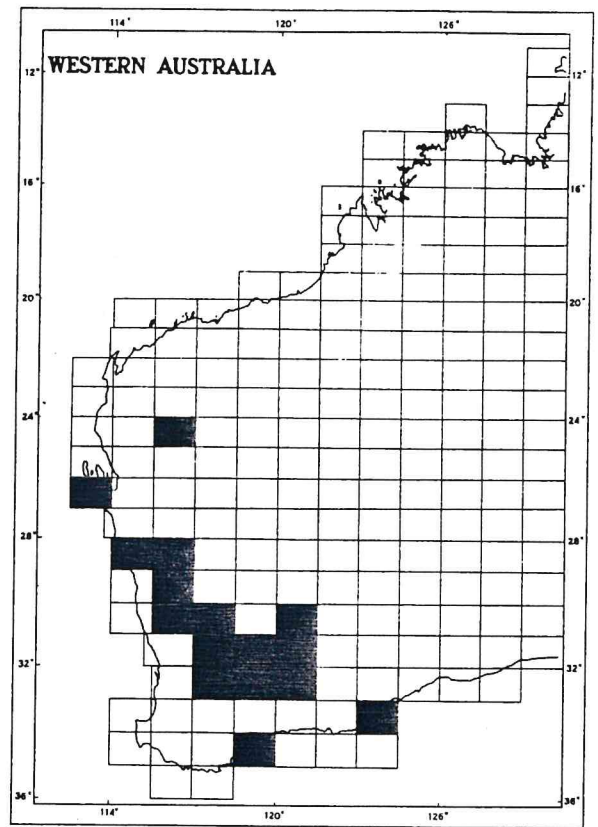
C. graceileps



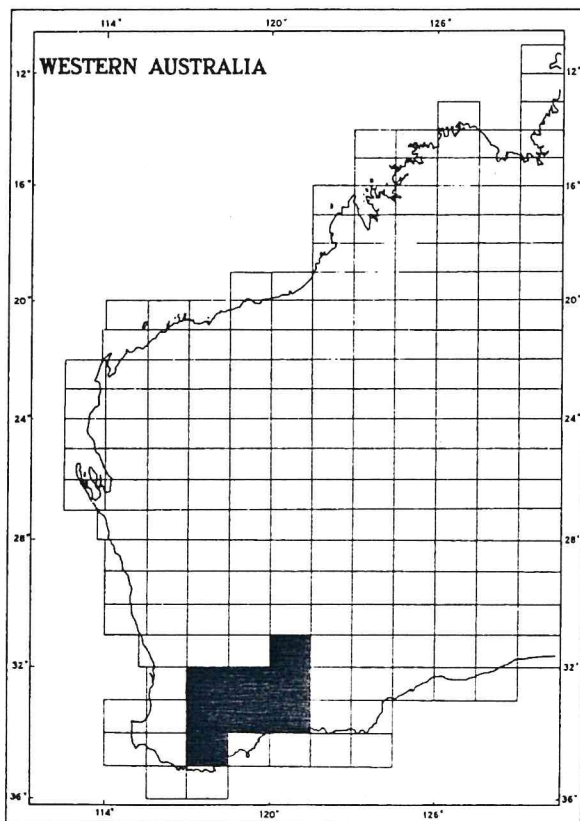
C. humilis



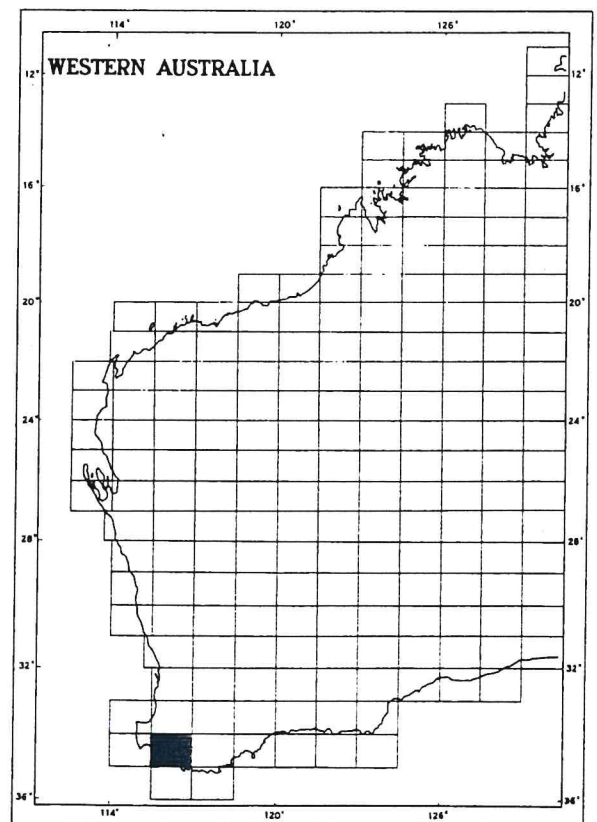
Cryptandra intratropica



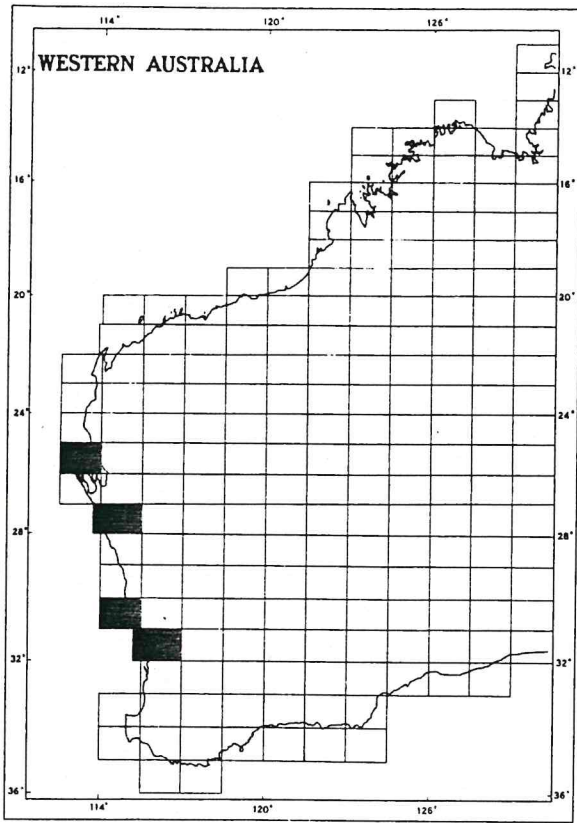
C. leucophracta



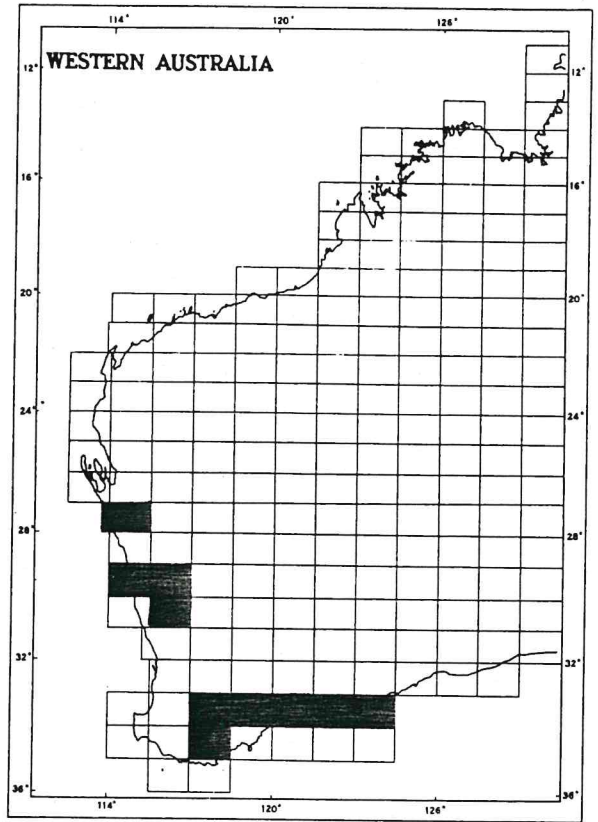
C. leucopogon



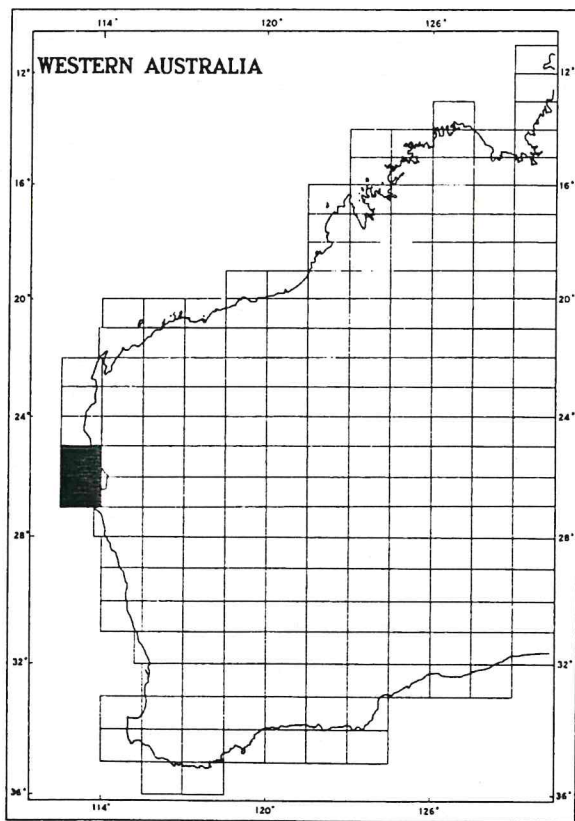
C. miliaris



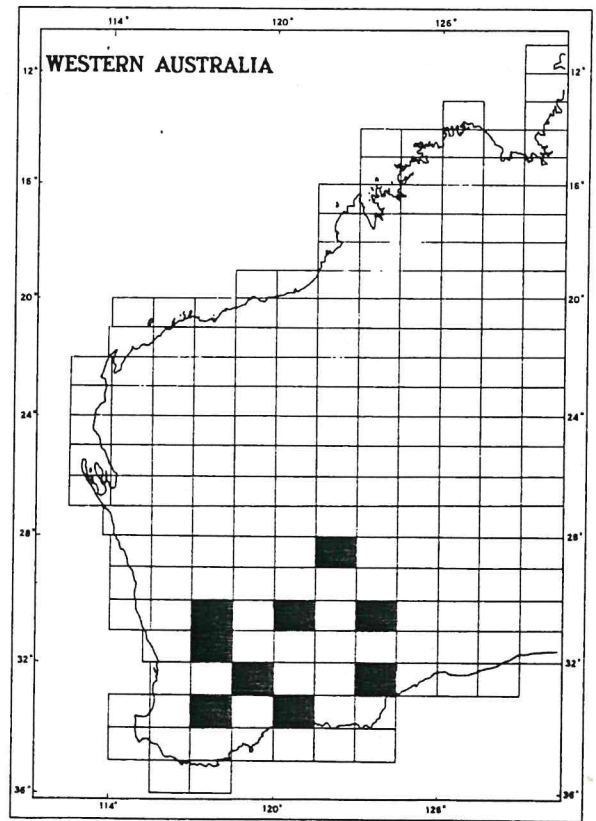
Cryptandra mutila



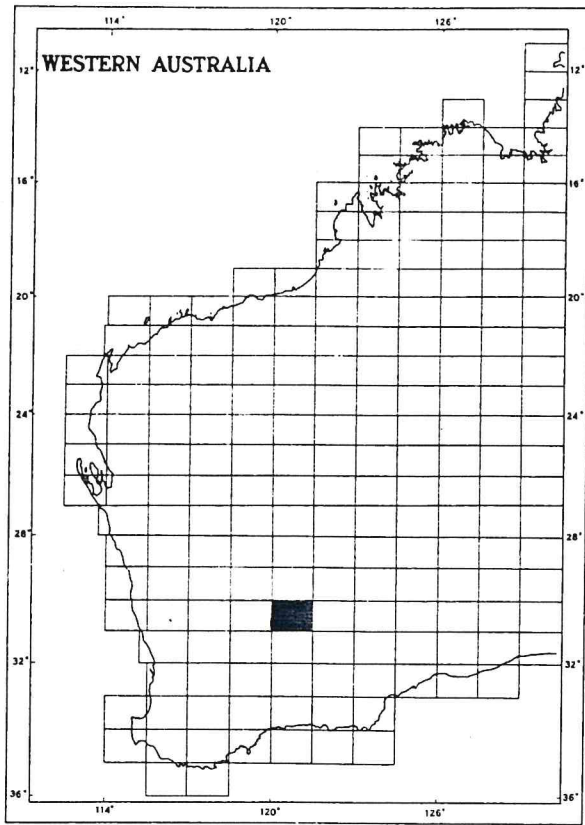
C. myriantha



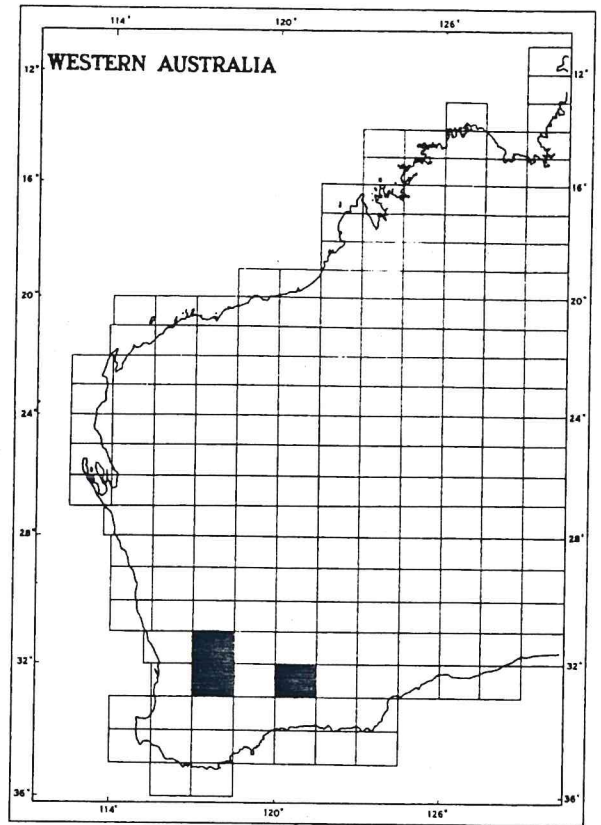
C. nudiflora



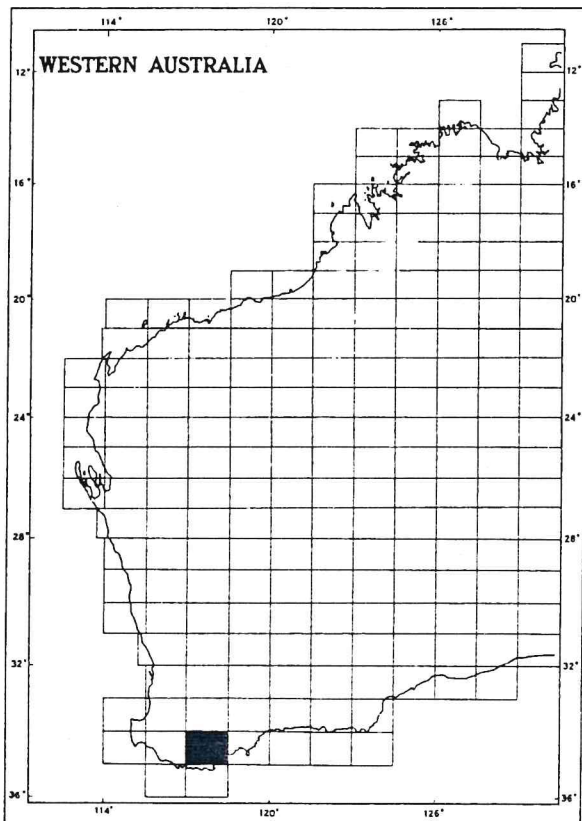
C. parviflora



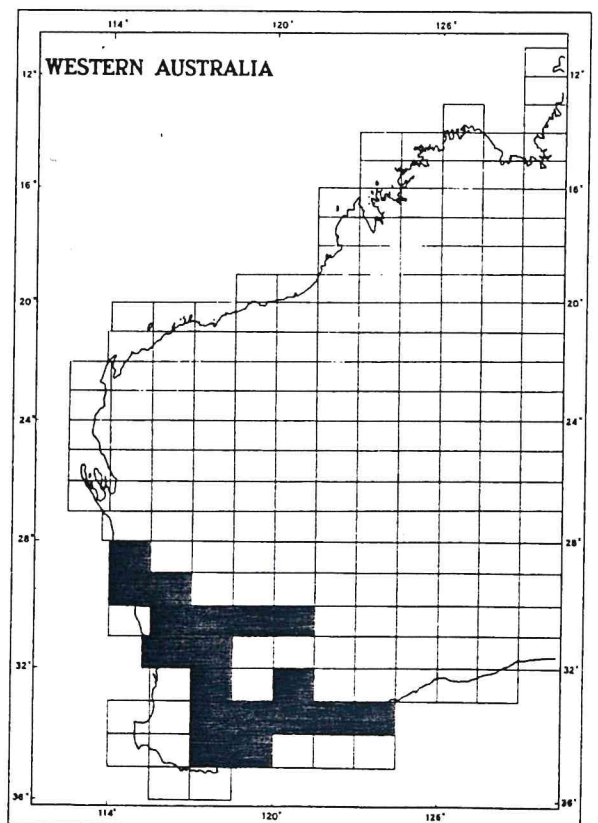
Cryptandra petraea



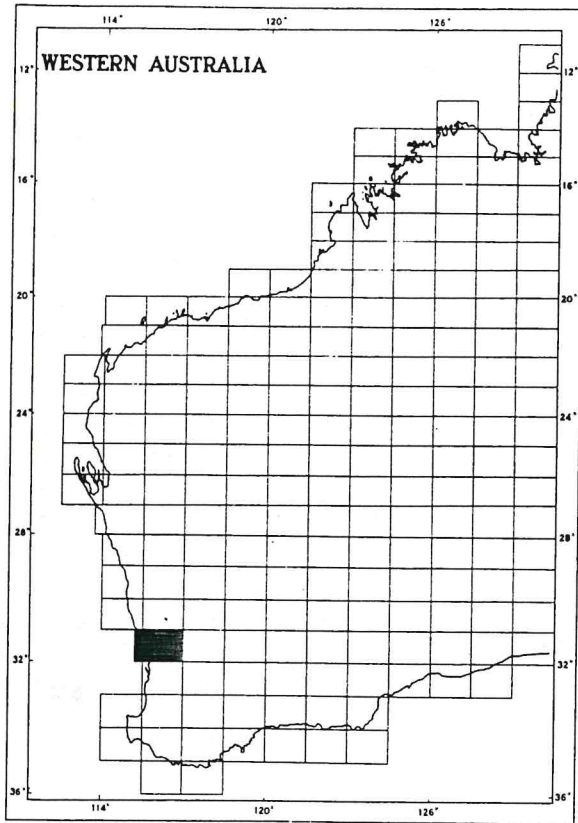
C. polyclada



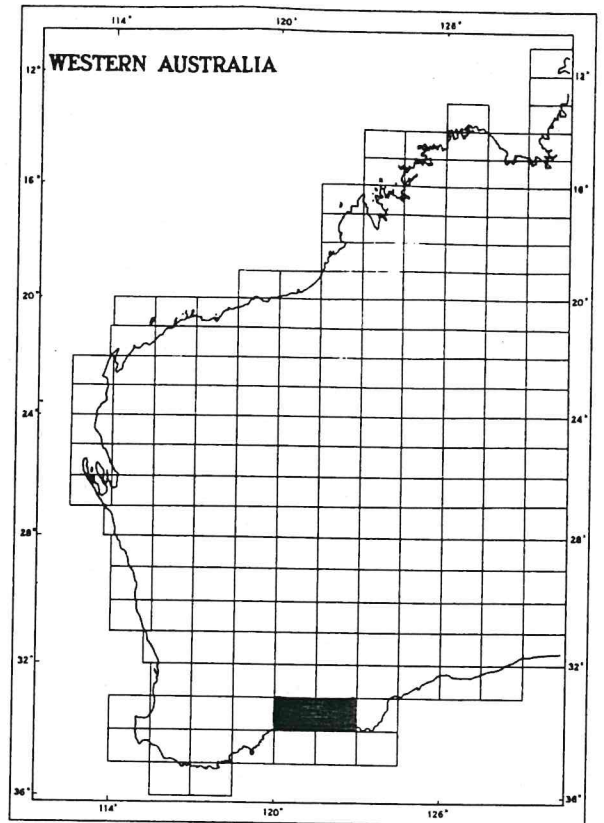
C. pumila



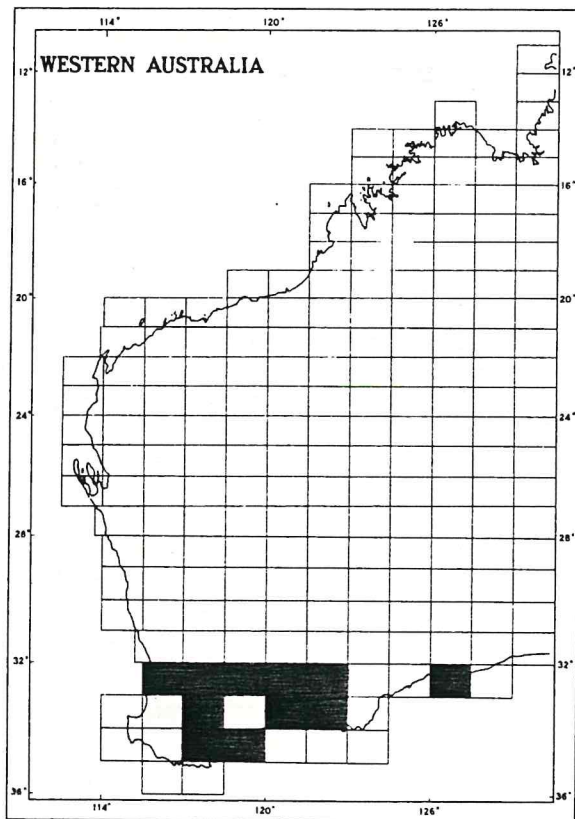
C. pungens



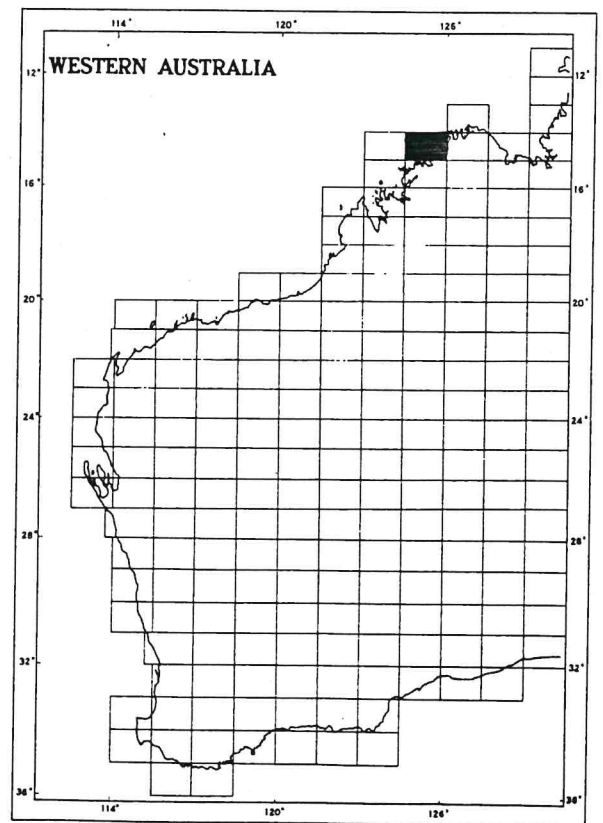
Cryptandra scoparia



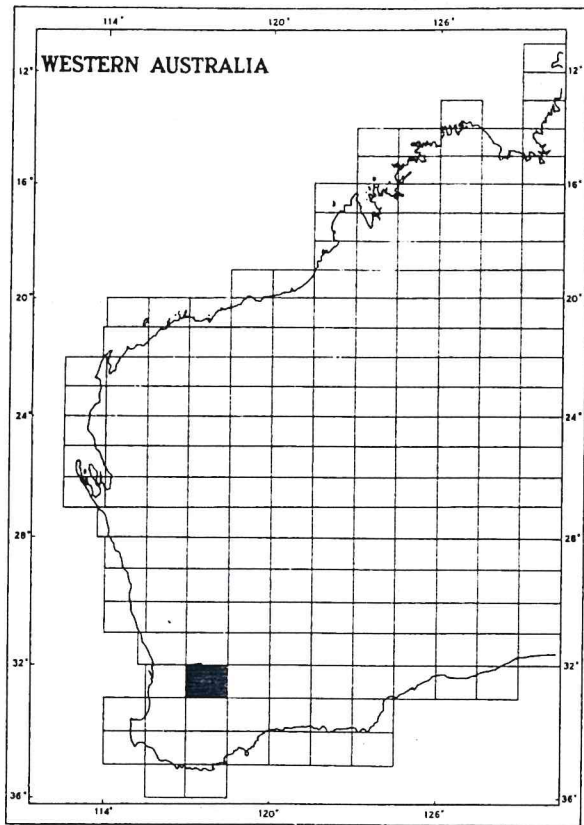
C. spyridioides



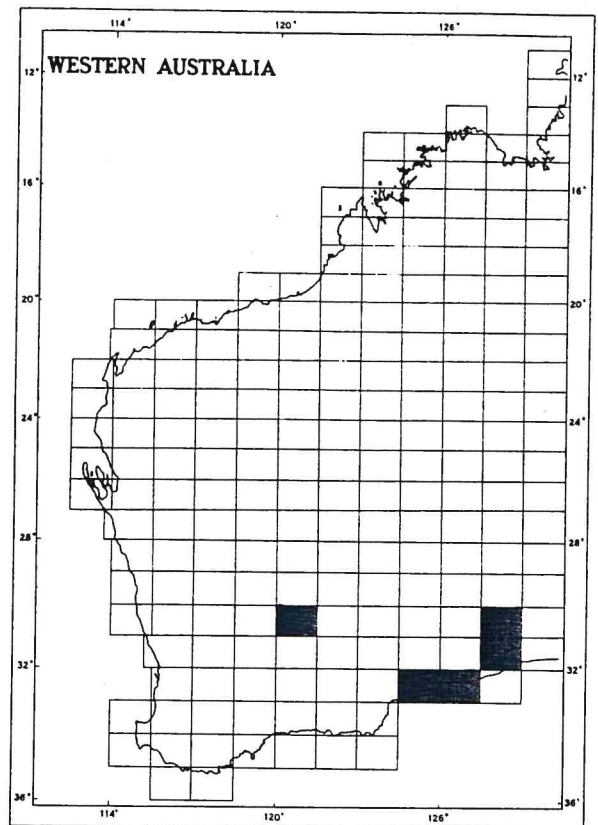
C. tomentosa



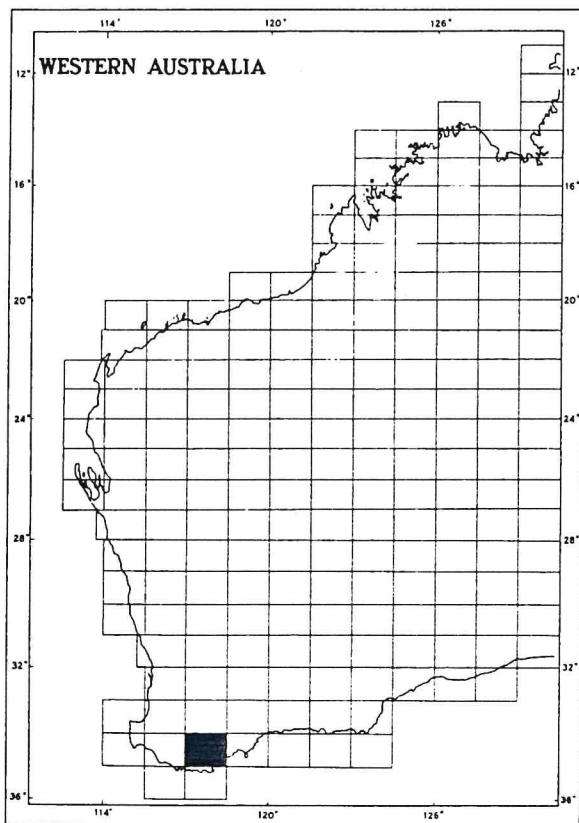
Emmenosperma cunninghamii



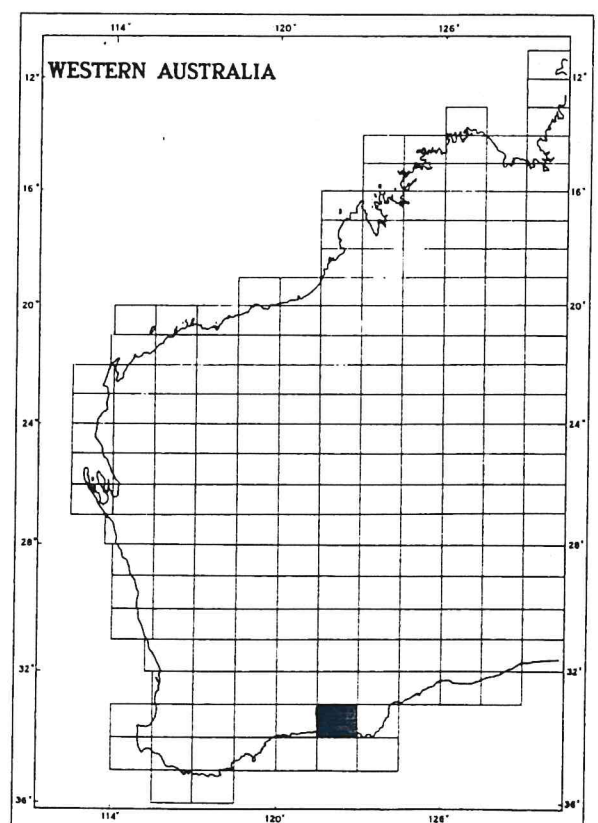
Pomaderris bilocularis



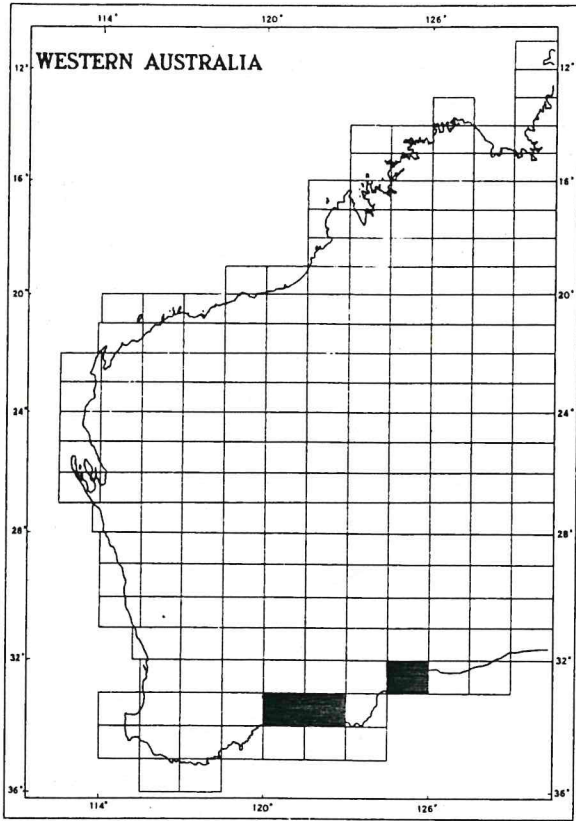
P. forrestiana



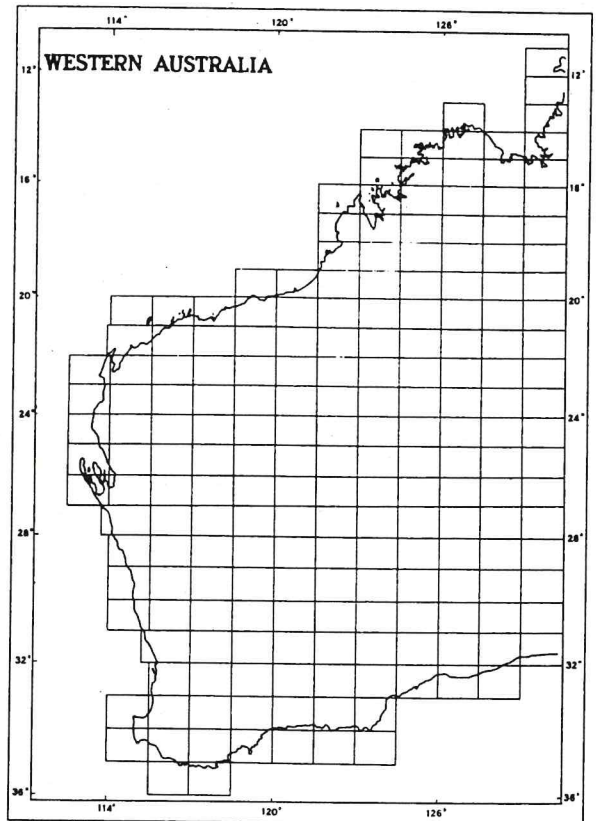
P. grandis



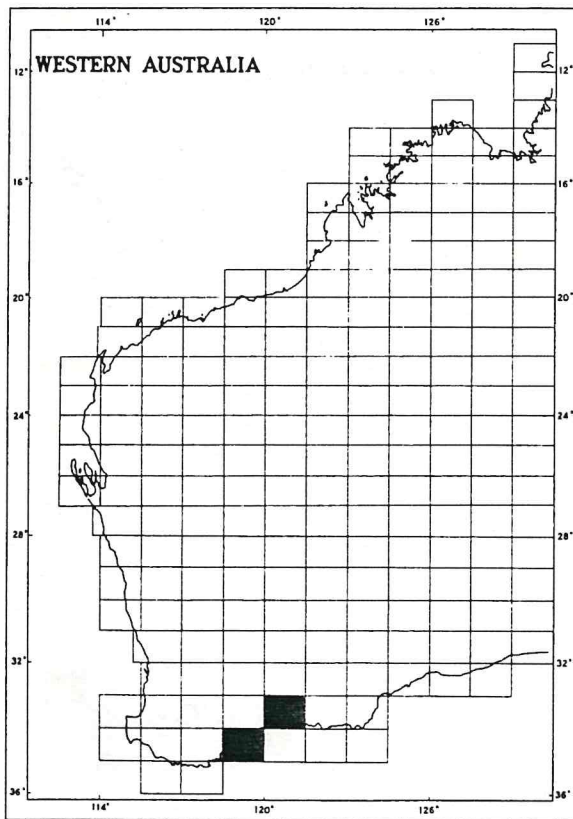
P. intangenda



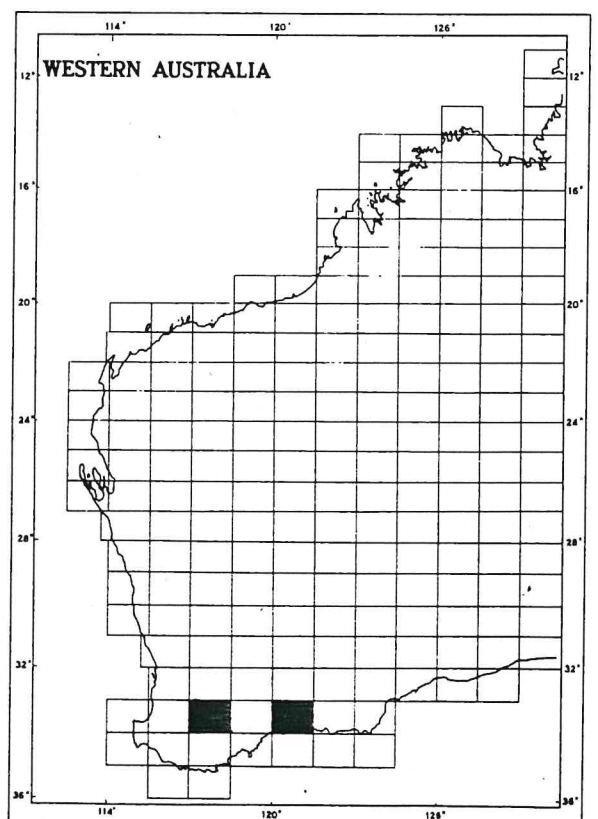
Pomaderris myrtilloides



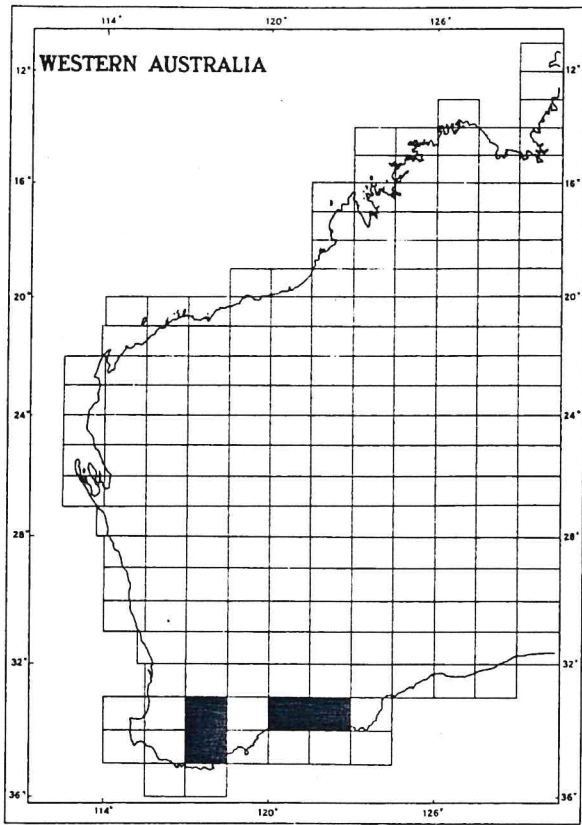
P. obcordata



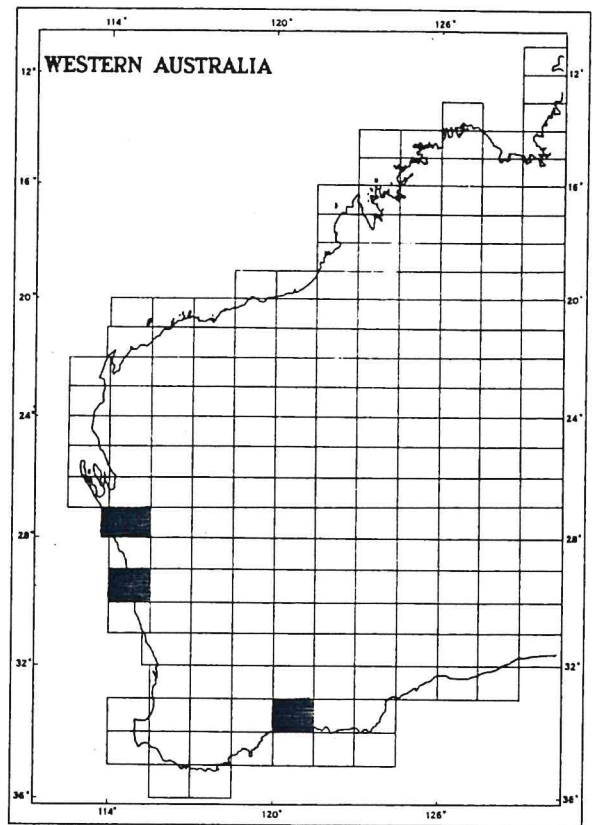
P. oraria



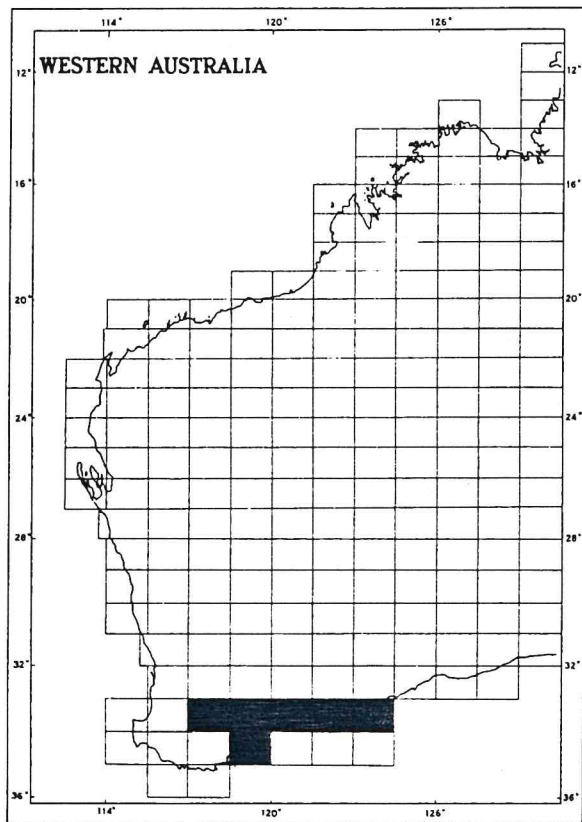
P. racemosa



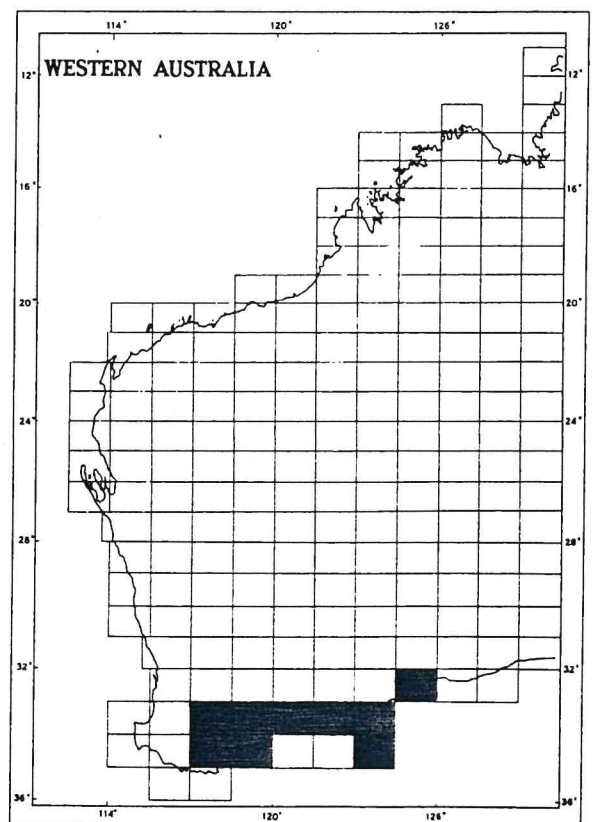
Siegfriedia darwinioides



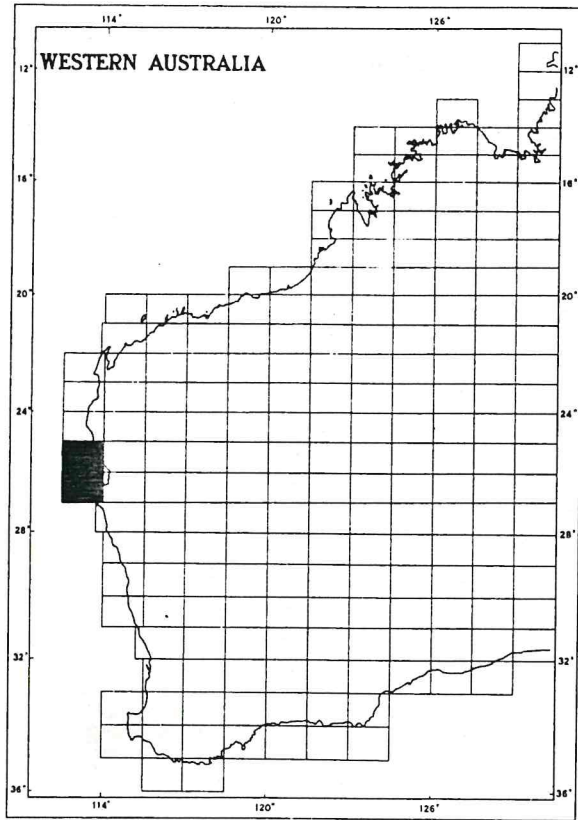
Spyridium complicatum



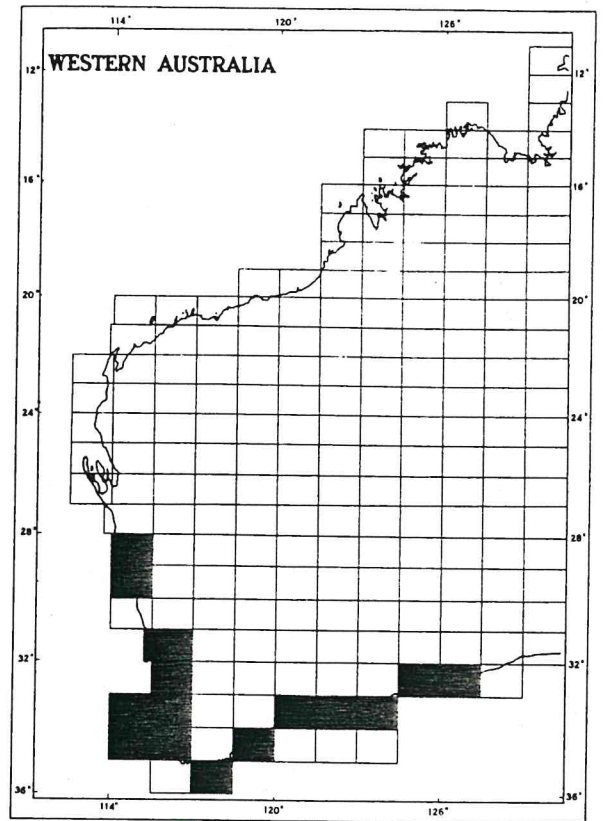
S. cordatum



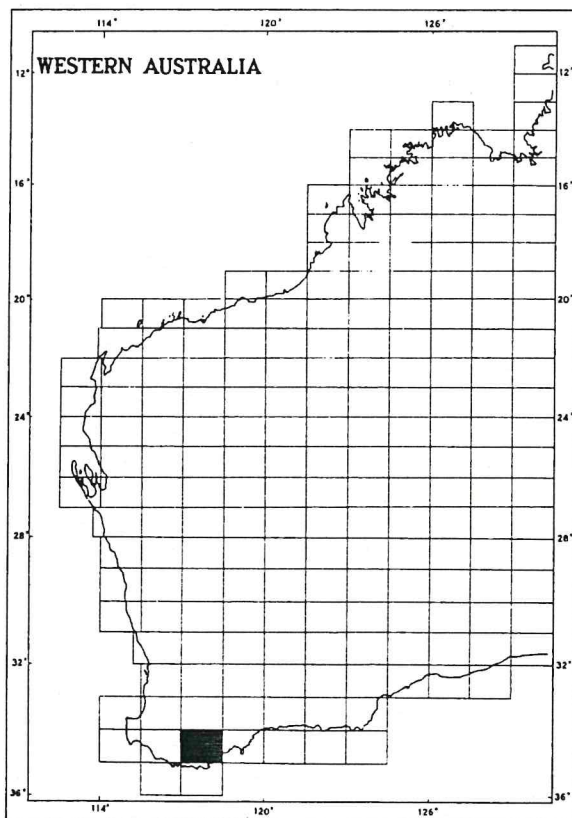
S. denticuliferum



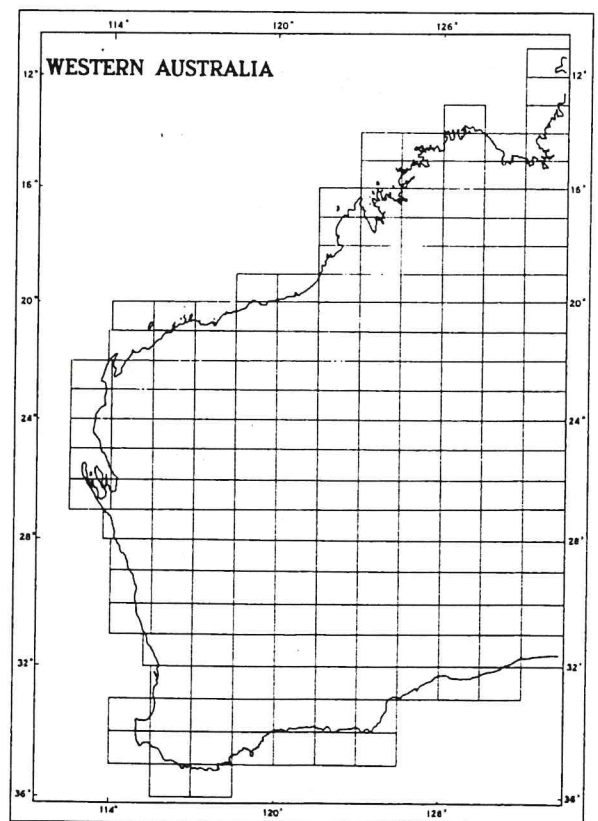
Spyridium divaricatum



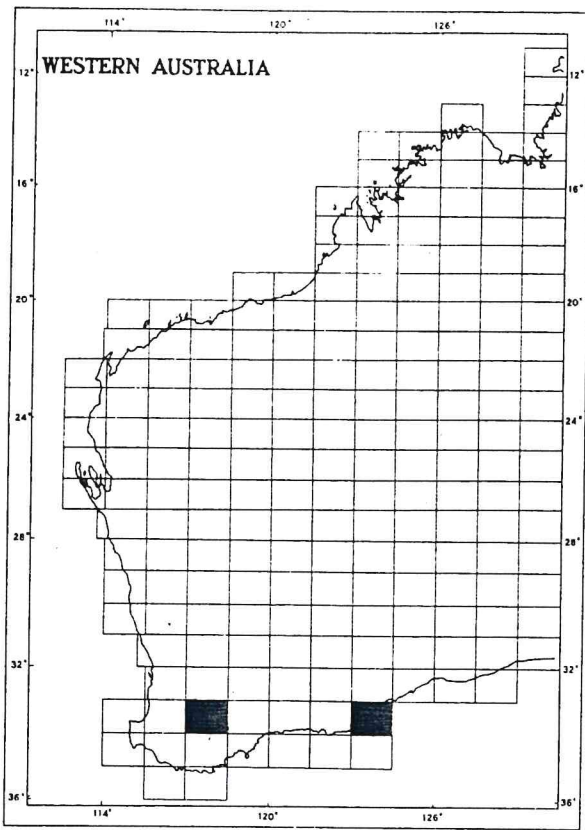
S. globulosum



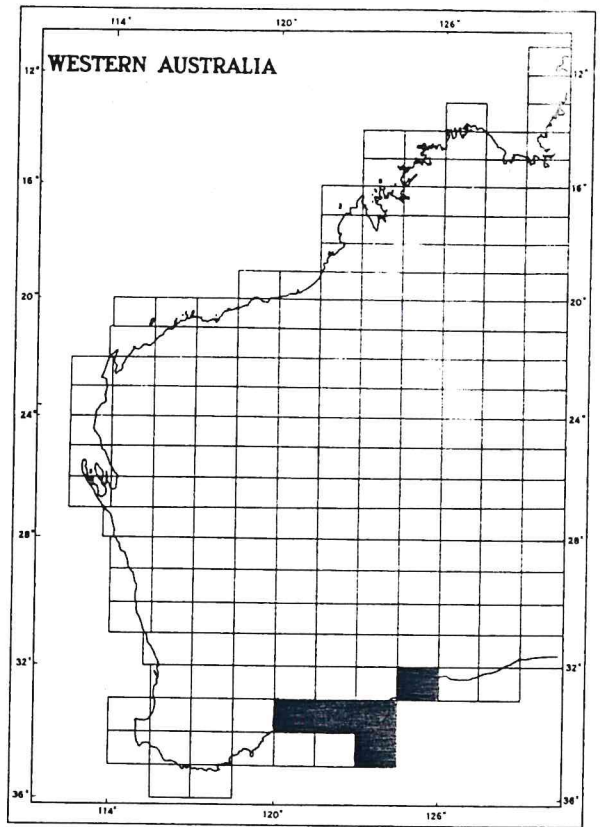
S. kalganense



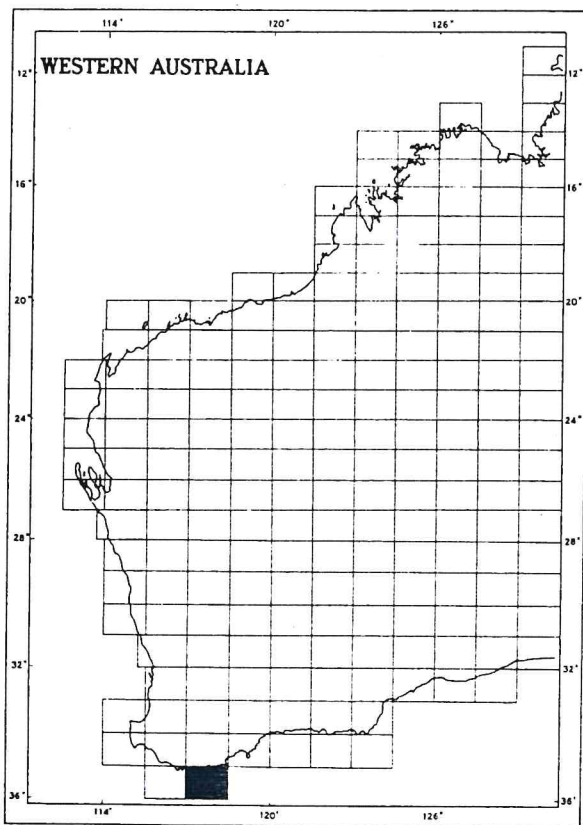
S. microcephalum



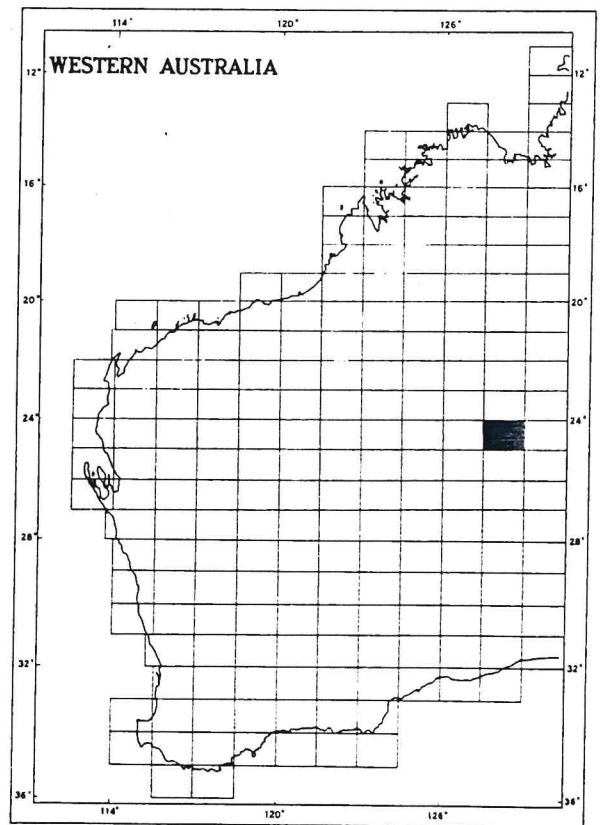
S. oligocephalum



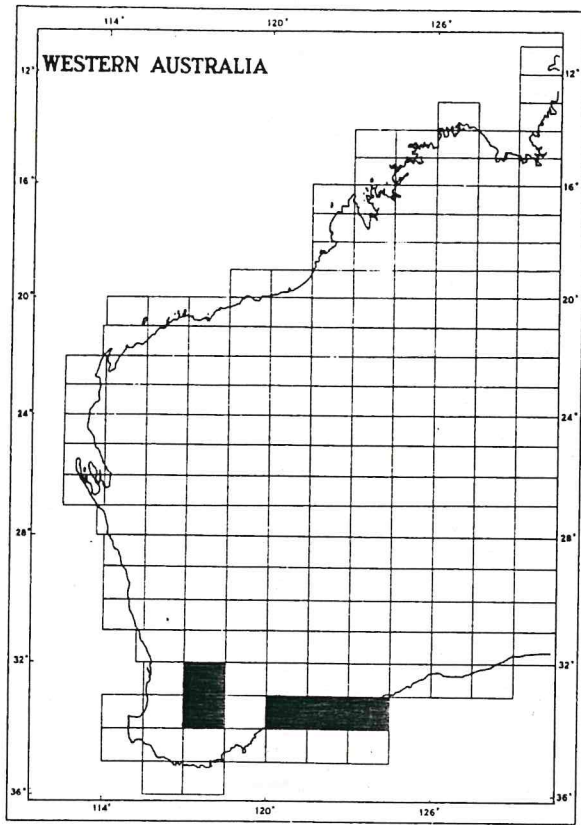
S. rotundifolium



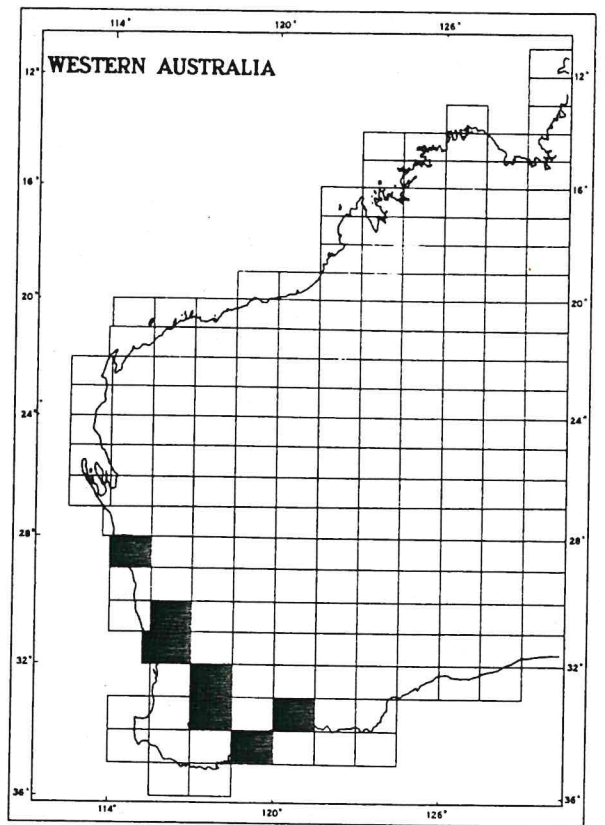
S. spadiceum



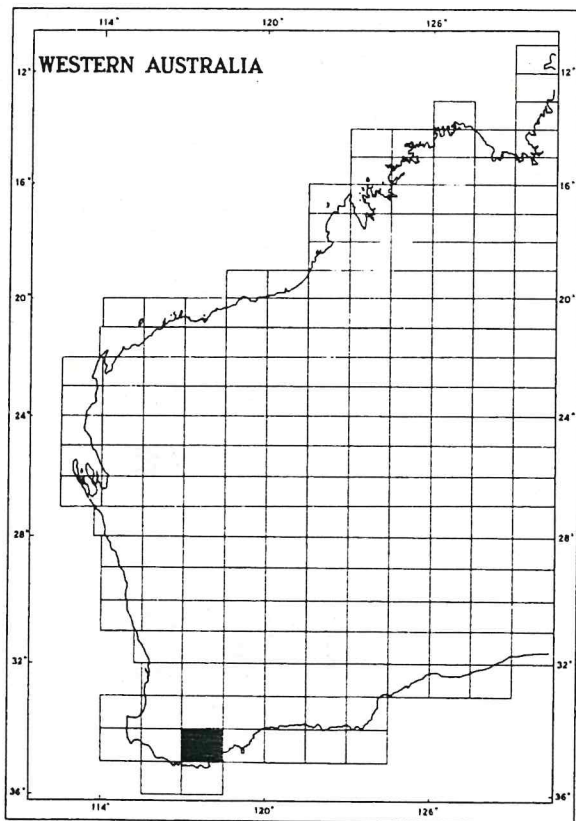
S. spathulatum



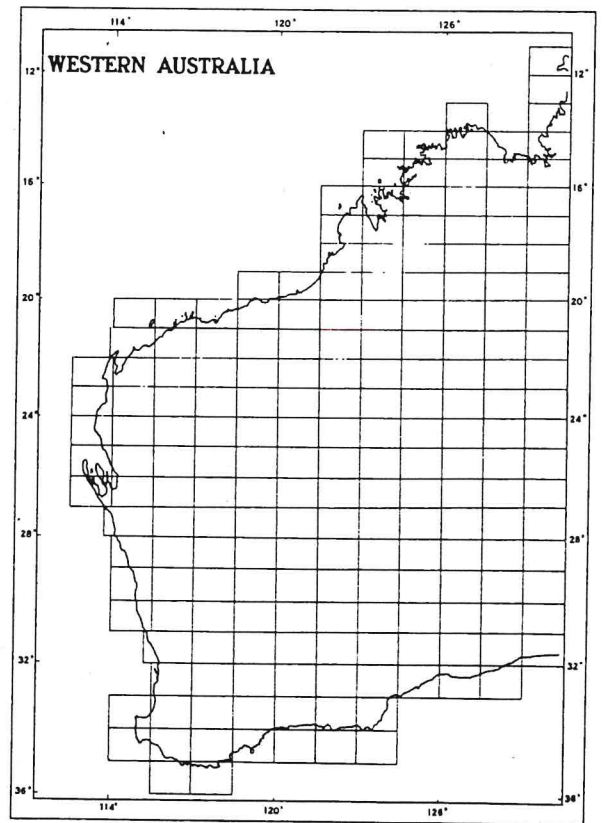
Spyridium subochreatum



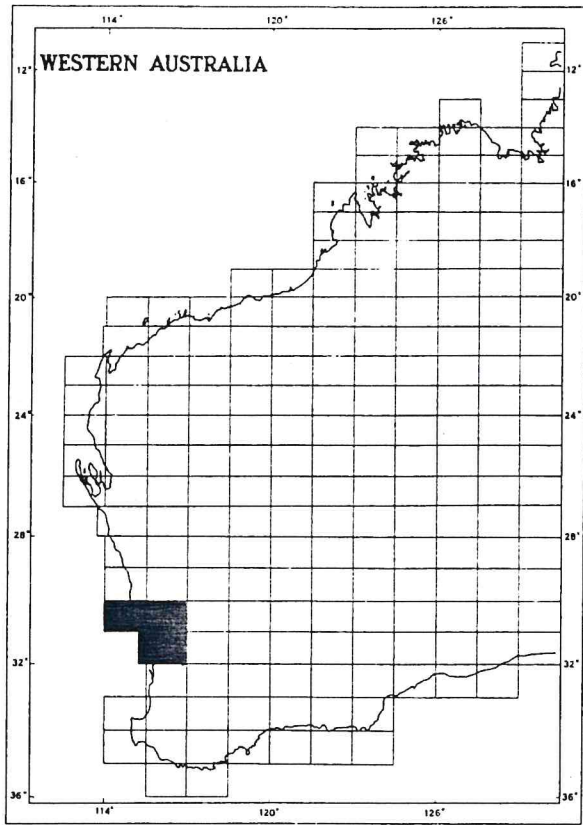
S. tridentatum



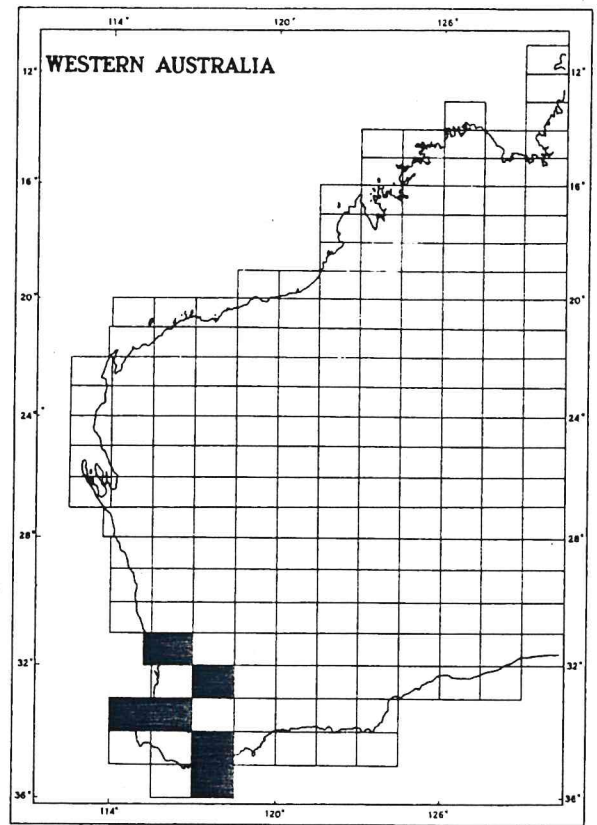
S. westringaeifolium



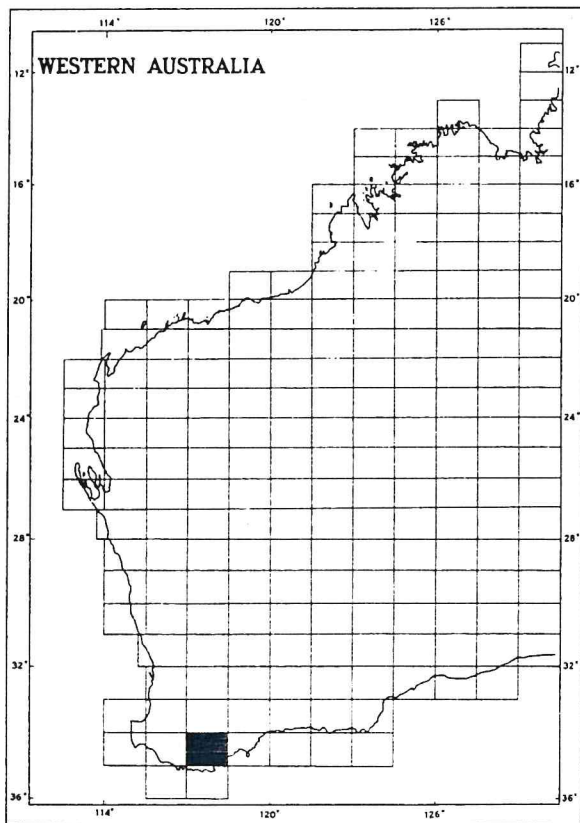
Trymalium albicans



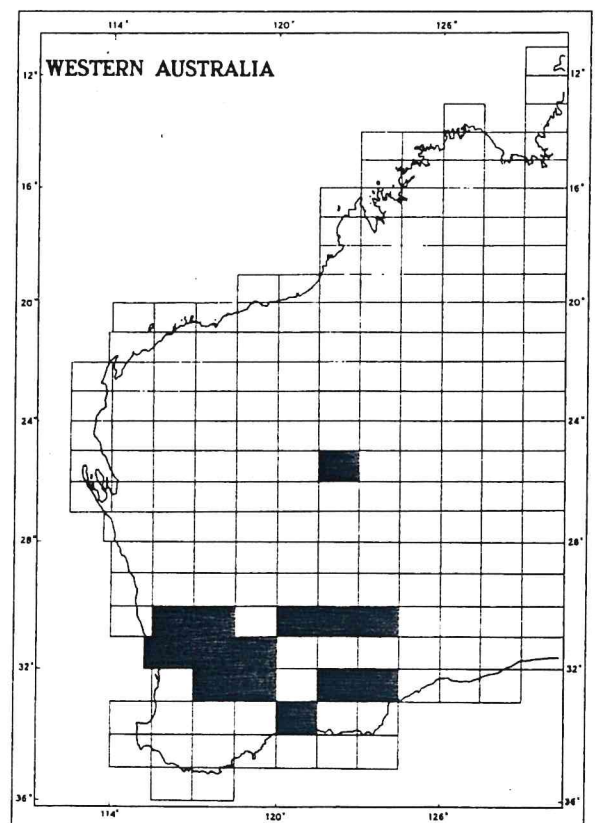
Trymalium angustifolium



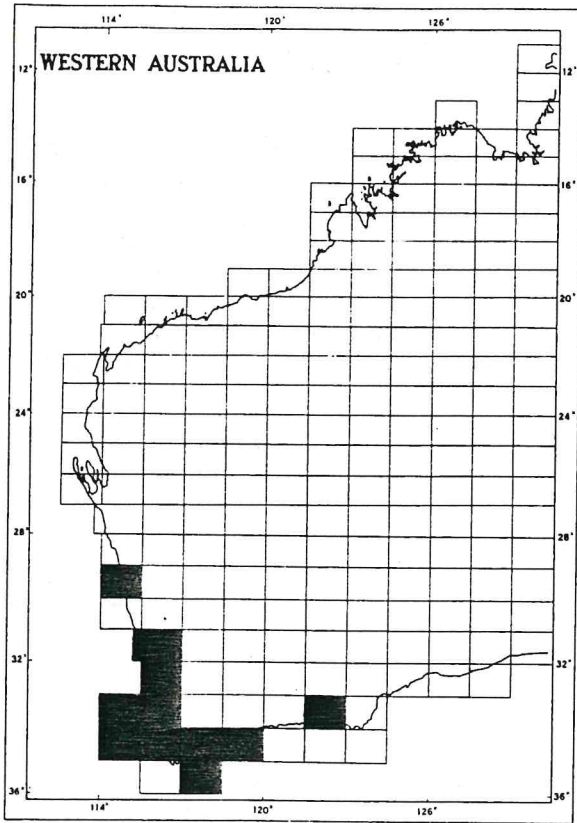
T. ledifolium



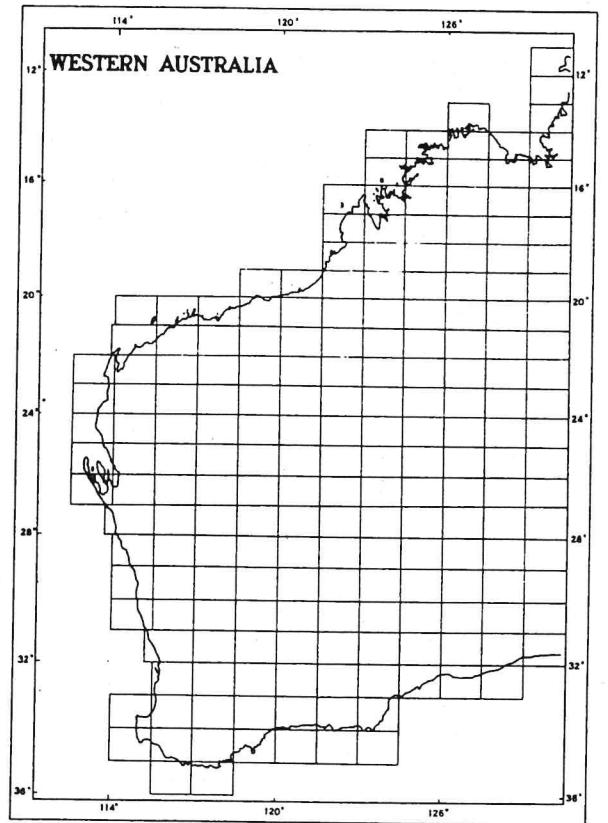
T. ledifolium var. *platyphyllum*



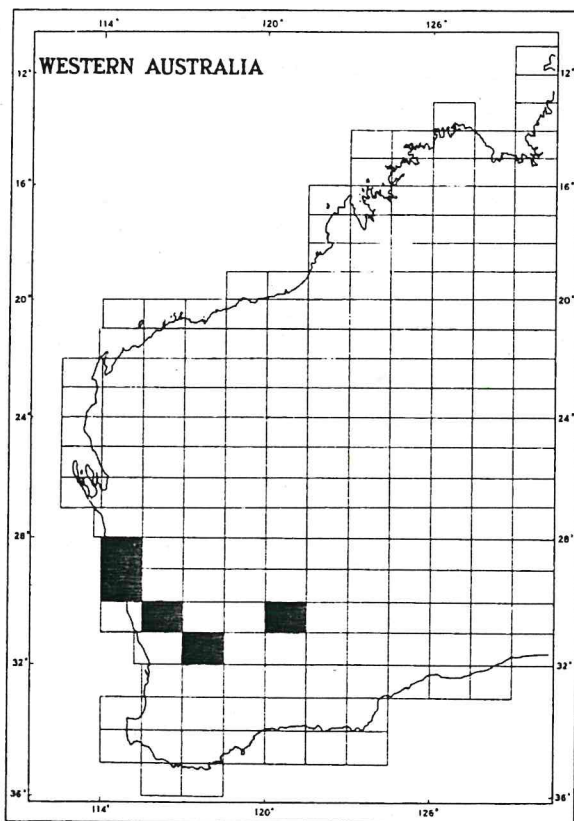
T. myrtillus



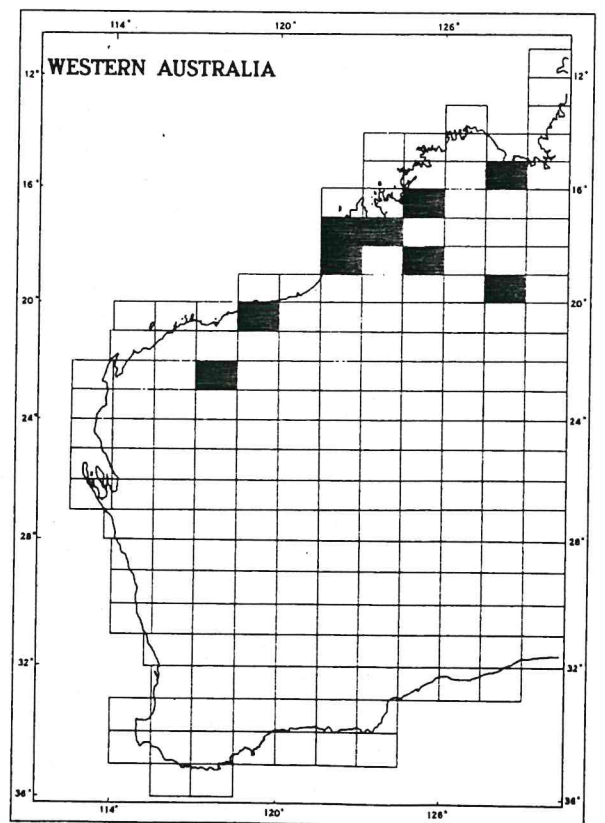
Trymalium spathulatum



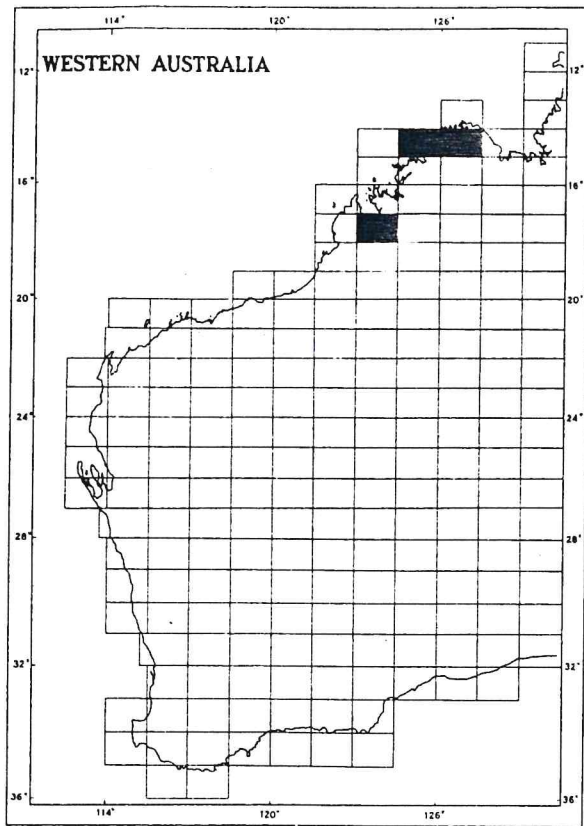
T. urceolare



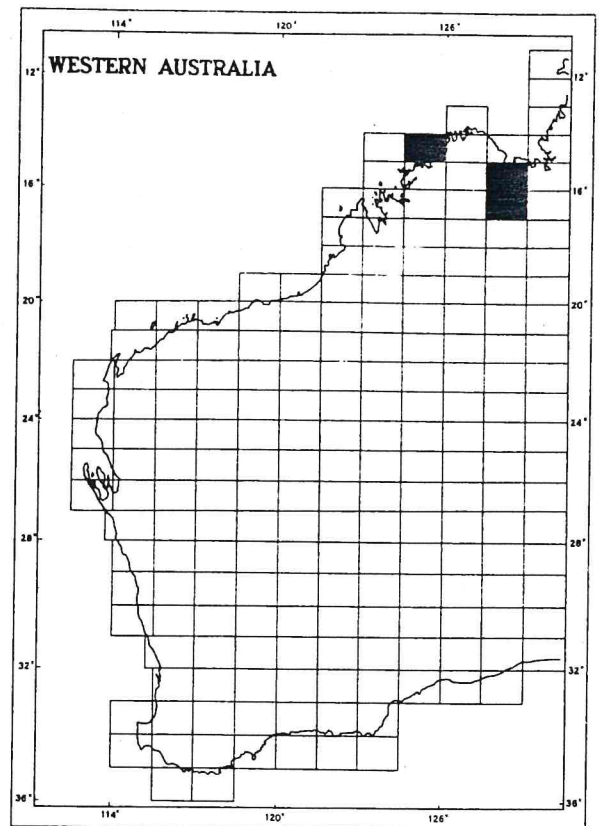
T. wichurae



Ventilago viminalis



Zizyphus mauritania



Z. quadrilocularis

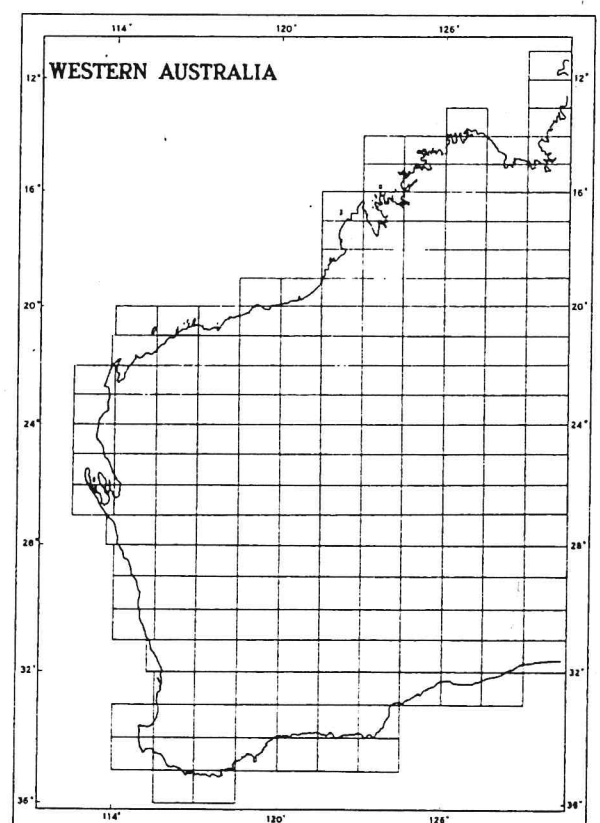
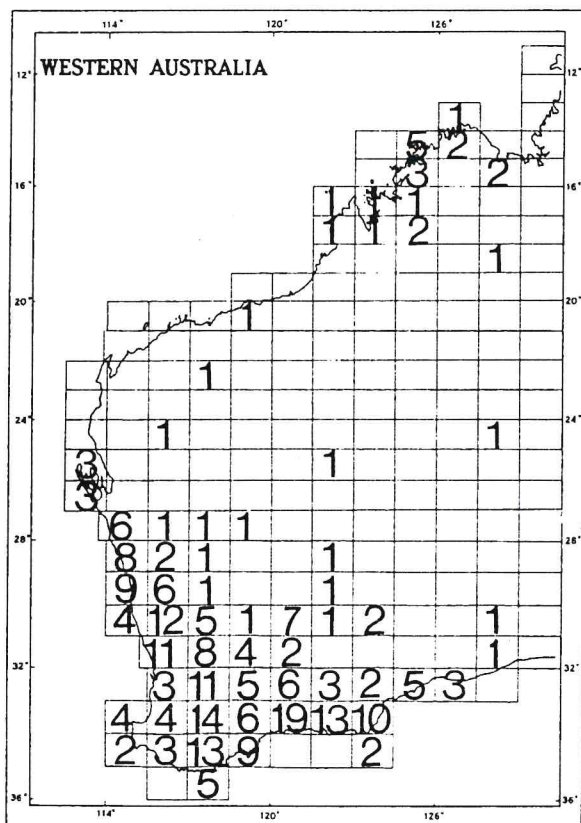


Fig. 1 : Species diversity per grid square in the family Rhamnaceae