

New Zealand's vascular epiphytes, vines & parasites



Catherine Bryan

Key terms

Vascular:

plant which possesses a well-developed system of conducting tissue to transport water, mineral salts and sugars.

Holo-epiphyte:

plants that spend their entire life cycle in the canopy

Hemi-epiphyte:

plants that spend some stage of their life rooted in terrestrial soil

primary hemi-epiphyte – canopy germination

secondary hemi-epiphyte – forest floor germination

Parasite:

plants that obtain nourishment from another organism

Key terms

Hemi-parasite:

plants that obtain some of their nourishment from another organism but also produce their own resources through some photosynthesis

Vine:

plants that root in terrestrial soil but cannot stand upright without structural support from other plants

Woody vine/liane/liana:

plants that climb using roots, stems, petioles, tendrils or hooks

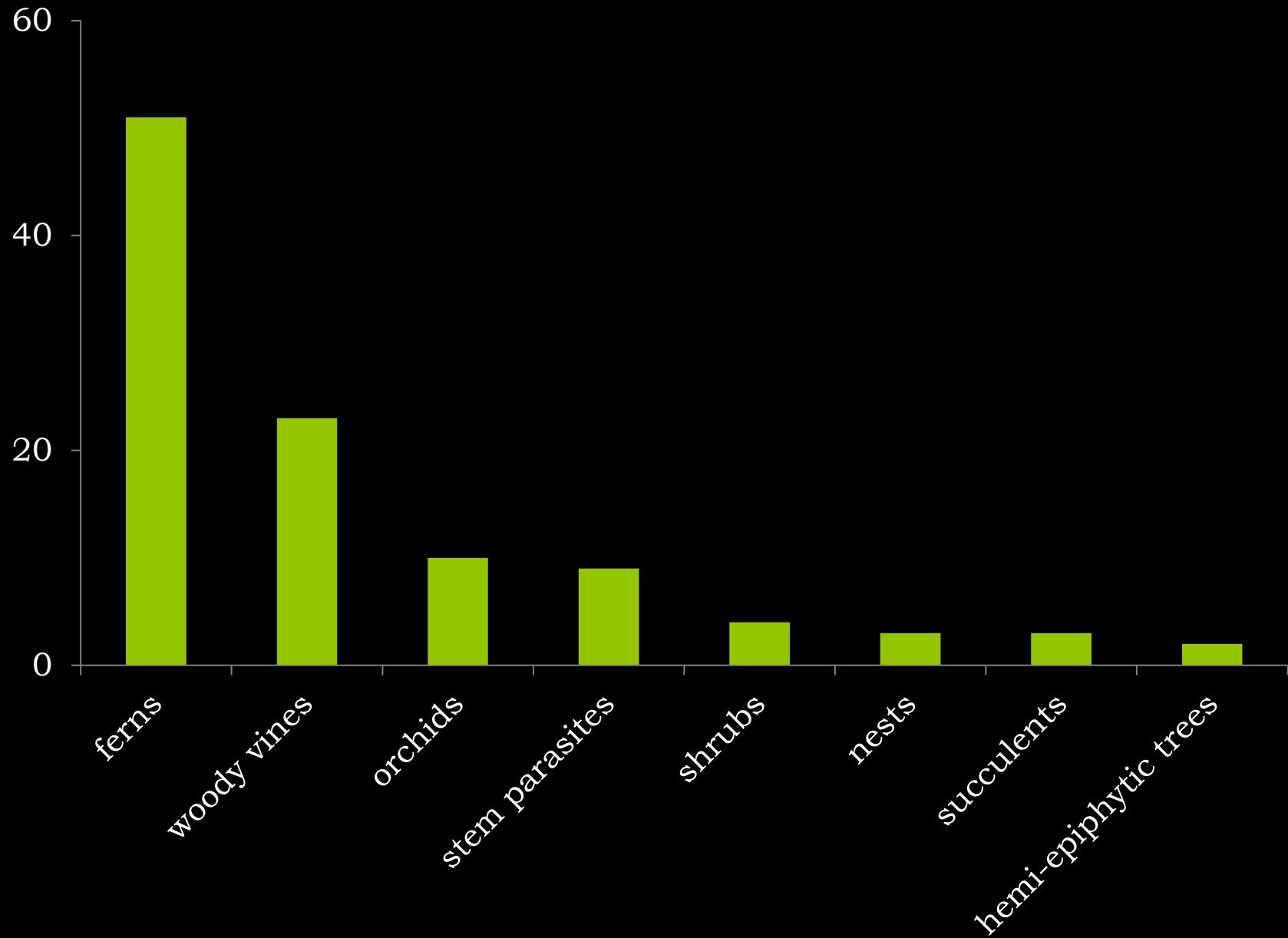
Herbaceous vine:

predominantly ferns that climb using roots and grow within subcanopies, disturbed areas, or forest edges

Nest epiphyte:

Collospermum and *Astelia* species that form large canopy clumps which trap and store organic material and water

Number of species





ferns

Creeping

Hymenophyllum armstrongii

H. australe

H. bivalve

H. dilatatum

H. flabellatum

H. flexuosum

H. frankliniae

H. lyallii

H. malingii

H. minimum

H. multifidum

H. peltatum

H. rarum

H. revolutum

H. rufescens

H. sanguinolentum

H. villosum



Creeping

Cardiomanes reniforme

Grammitis ciliata

Lastreopsis hispida

Loxogramme dictyopteris

Microsorum novae-zealandiae

M. pustulatum subsp. *pustulatum*

Polyphlebium colensoi

P. venosum

Pyrrosia eleagnifolia

Rumohra adiantiformis



Tufted

Abrodictyum strictum
A. oblongifolium
A. shuttleworthianum
Blechnum nigrum
Ctenopteris heterophylla
Grammitis billardierei
G. magellanica subsp. *nothofageti*
G. magellanica subsp. *magellanica*
G. pseudociliata
G. rawlingsii
G. rigida
Hymenophyllum pulcherrimum
H. scabrum



Pendent

Asplenium flaccidum

A. polyodon

Huperzia varia

Tmesipteris elongata

T. horomaka

T. lanceolata

T. sigmatifolia

T. tannensis

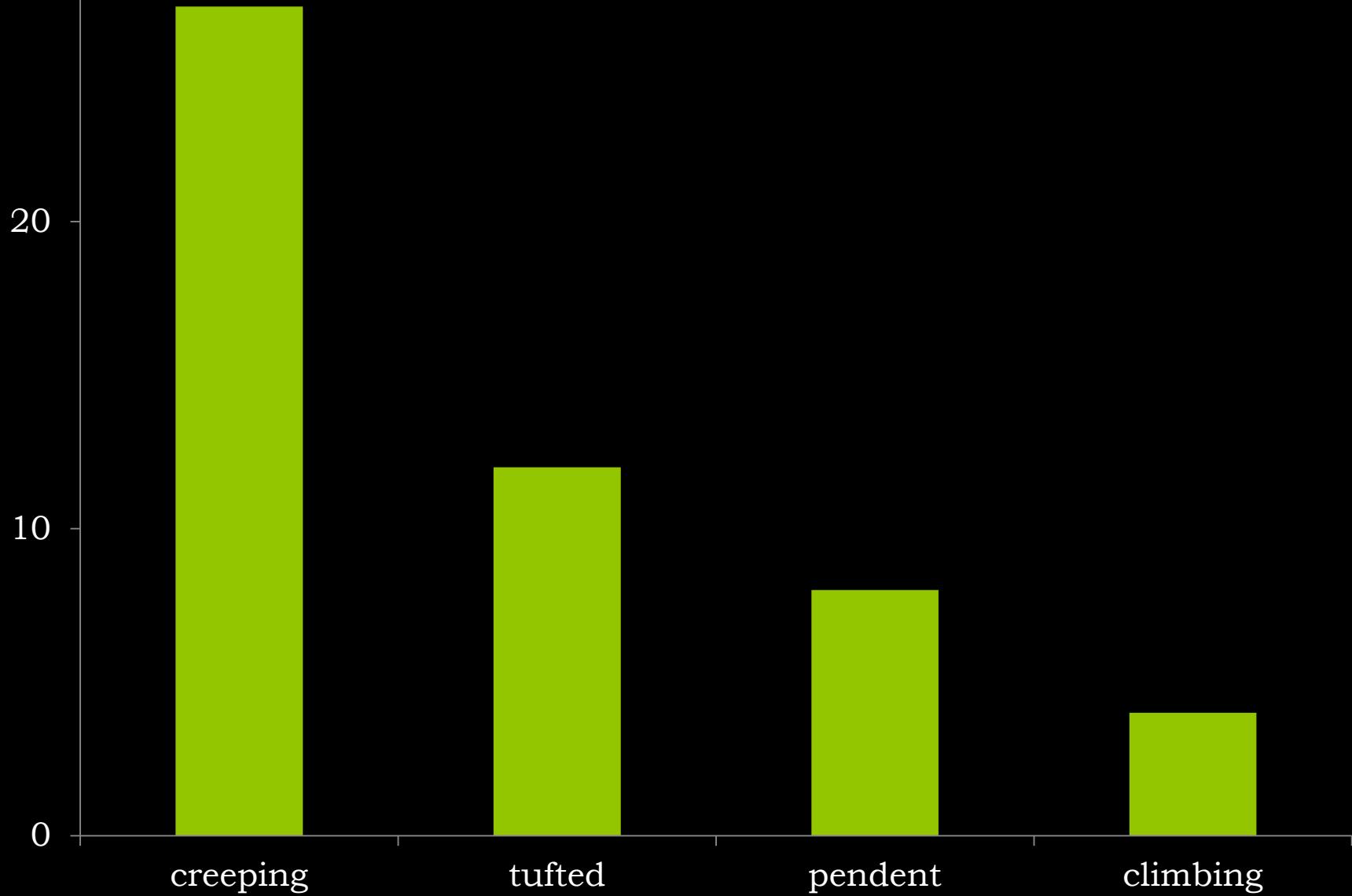


Climbing

Arthropteris tenella
Blechnum filiforme
Lygodium articulatum
Microsorum scandens



Fern growth forms





orchids

Pendent

Earina aestivalis

E. autumnalis

E. mucronata

Winika cunninghamii



Non-pendent

Mat

Adelopetalum tuberculatum

Ichthyostomum pygmaeum

Taeniophyllum norfolkianum

Tufted

Drymoanthus adversus

D. flavus

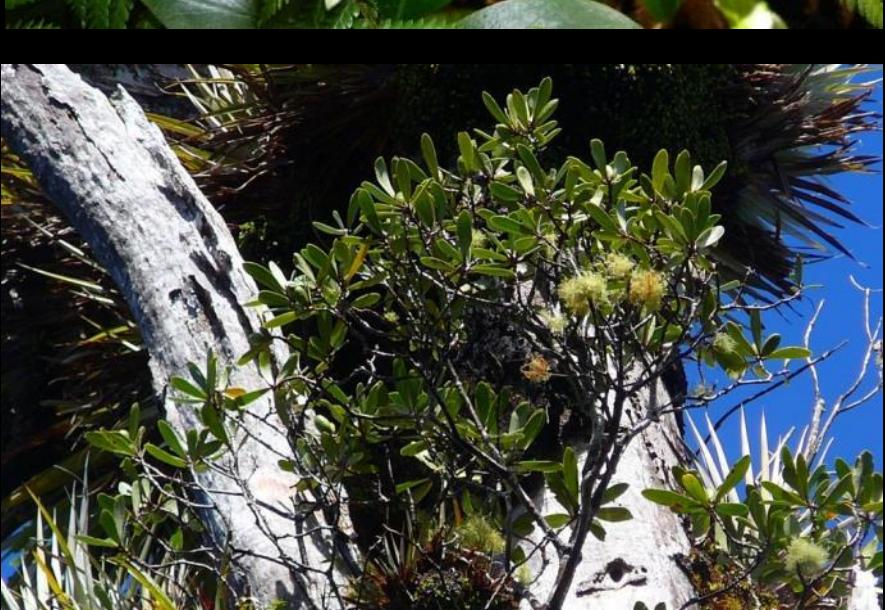
Erect

Pterostylis silvicultrix





shrubs



Brachyglottis kirkii



Griselinia lucida



Pittosporum

Pittosporum cornifolium
P. kirkii





nests

Collospermum

Collospermum hastatum
C. microspermum



Astelia solandri





lianes & climbers



Tendril climbers

Passiflora tetrandra



Twining leaf climbers

Clematis cunninghamii
C. foetida
C. forsteri
C. paniculata
C. quadibracteolata



Twining stem climbers

Muehlenbeckia australis

M. complexa

Parsonia capsularis

P. heterophylla

Ripogonum scandens

Tecomanthe speciosa



Root climbers

Freycinetia banksii

Metrosideros albiflora

M. carminea

M. colensoi

M. diffusa

M. fulgens

M. perforata



Hook climbers

Rubus australis

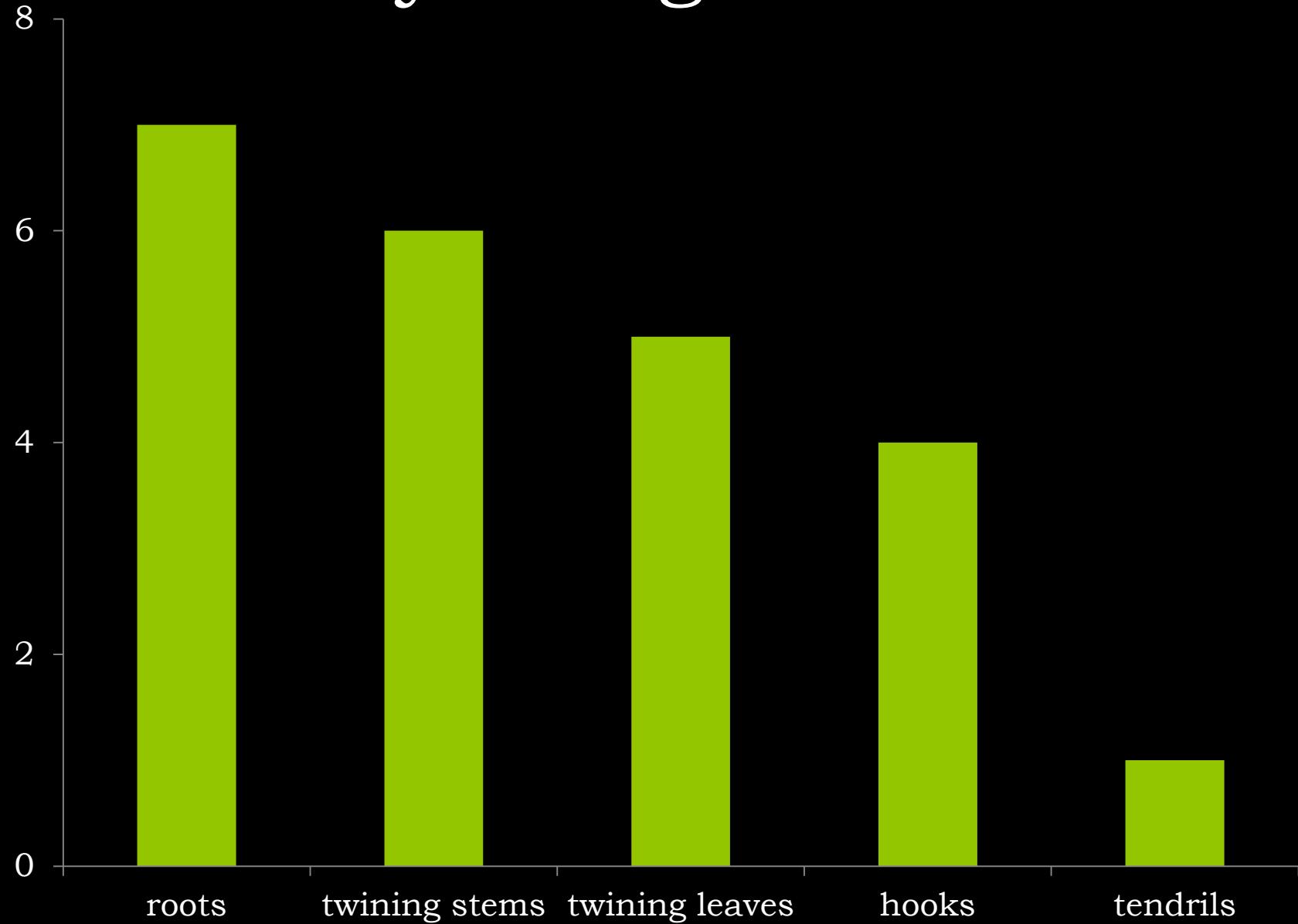
R. cissoides

R. schmidelioides

R. squarrosus

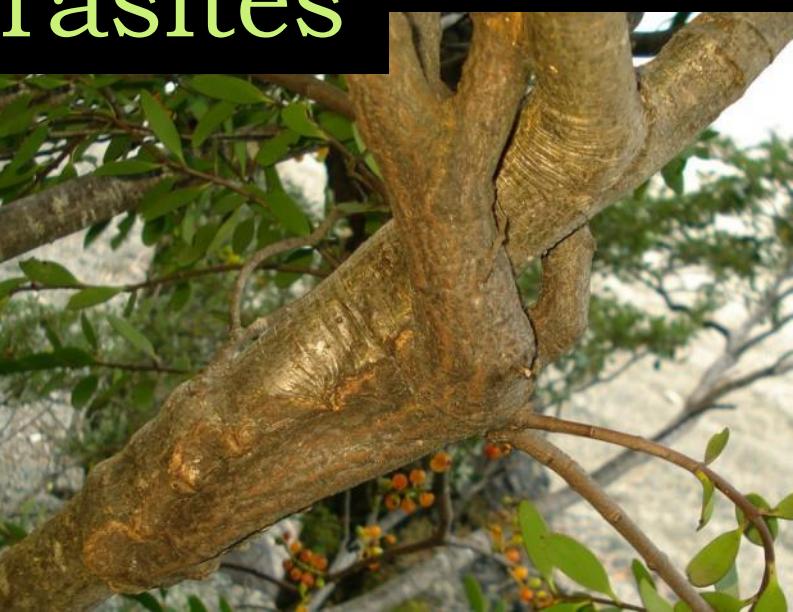


Woody vine growth forms





stem parasites



Beech mistletoes

Alepis flava

Peraxilla colensoi

P. tetrapetala



Photo by Phil Bendle

Green mistletoes

Ileostylus micranthus
Tupeia antarctica



Pygmy mistletoes

Korthalsella clavata
K. lindsayi
K. salicornioides



Parasitic vines

Cassytha paniculata





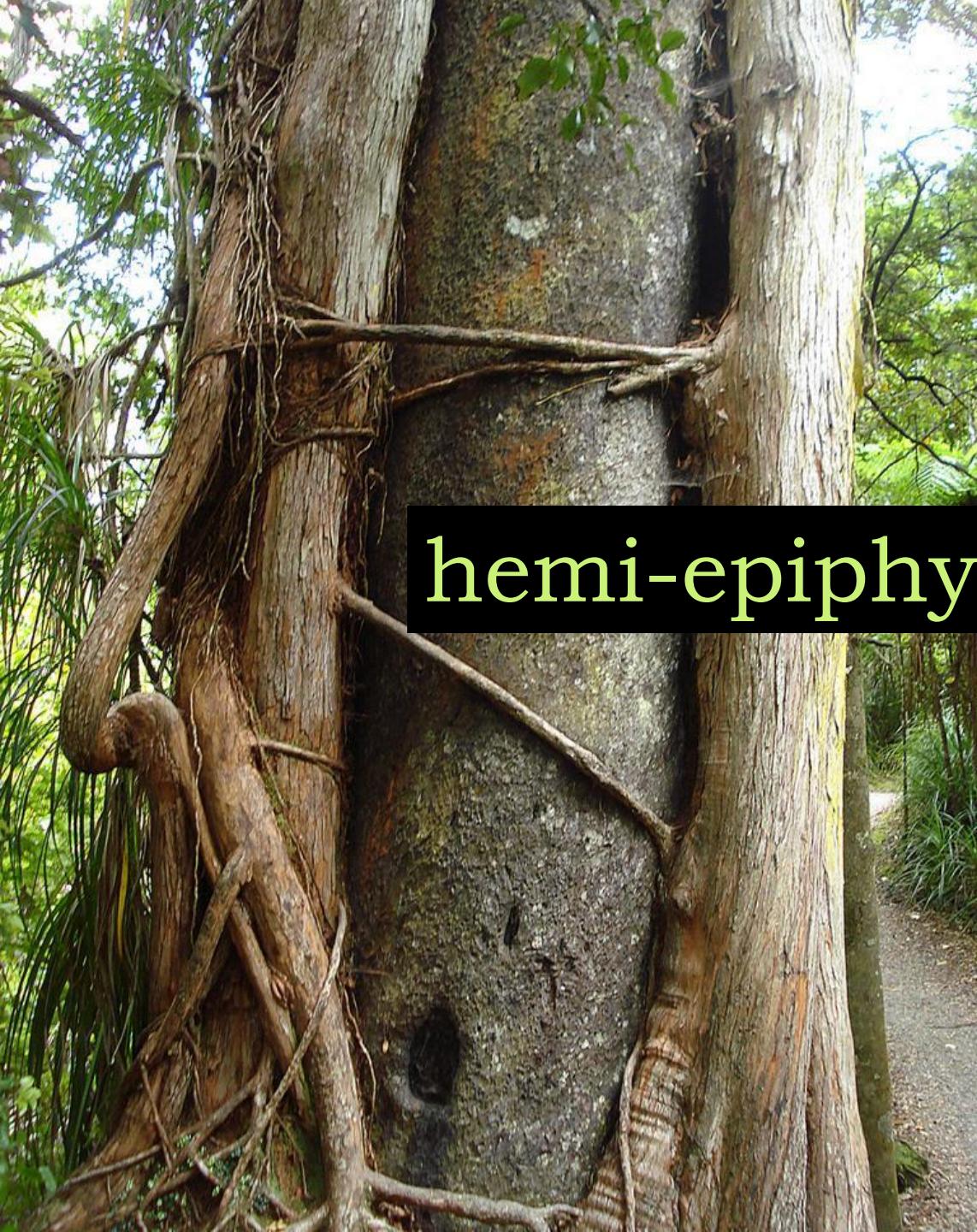
succulents



Peperomia

Peperomia blanda
P. tetraphylla
P. urvilleana





hemi-epiphytic trees



Metrosideros

Metrosideros robusta
M. bartlettii





Obligate:
Almost always as epiphytes

Facultative:
Just as often terrestrial as epiphytic

Occasional:
Survive and
reproduce

Accidental:
Do not often survive
to reproductive
maturity









Thank you

Environmental Research Institute
University of Waikato

Photos:
Catherine Bryan
Leon Perrie
Phil Bendle
Bill Clarkson
Birds Ferry Lodge
P.B. Pelser
Maurice Needham
Phil Garnock-Jones
Petra Ballings
Kahuroa

