

# On the orchids flora of the Seychelles islands – phytogeographical and ecological notes

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Lindsay  
photo

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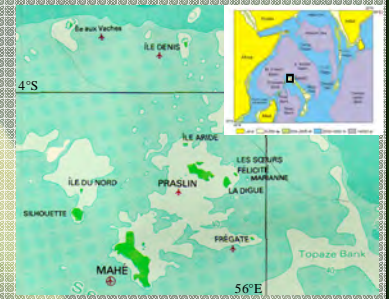
## Introduction

-Seychelles: ca. 155 islands, including 41 granitic islands isolated in the middle of the Indian ocean since their separation from India ca. 70 Millions of years ago (after breakup of Gondwana); the remaining islands are coralline.  
-80,000 inhabitants mostly on 3 of the 4 main islands (Mahé, Praslin, La Digue); first settled in 1770.

-Baker (1877): 12 species recorded

-Robertson (1989): 33 species recorded, including 12 introduced and 21 natives

-This study: 42 species = 25 confirmed (or likely) native records + 12 introduced + 5 doubtful records (reviewing collections recently added at SEY herbarium and reviewing literature)  
(illustrations can be found at: [www.seychellesplantgallery.com](http://www.seychellesplantgallery.com))



The ecology and distribution of the Seychelles native orchids flora are discussed here.

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## Phytogeographical affinities of the Seychelles flora

Out of the 25 confirmed native species:

-5 are endemics plus one possibly new to science, i.e. 20-24 % endemism

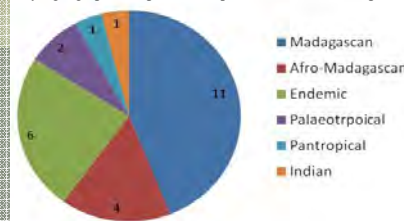
-Madagascan element largely dominant : 44 % of the native species

-Afro-Madagascan element : 16 %

-Only 3 species have a wide distribution: 2 palaeotropical, plus 1 pantropical

-Only one species shows an eastern influence

Phytogeographical spectrum expressed in number of species



→ Influence from south-east Asia reduced compared to other wind dispersed groups, e.g. ferns

→ Endemic element similar to other flowering plants and higher compared to ferns (ca. 15 %)

## Ecological affinities of the Seychelles flora

-Montane forests : 13 species, of which 3 are restricted to ravines and 1 in inselbergs

-Submontane forests : 7 species, of which 3 extend to lowland forests

-Lowland and coastal forests: 2 species not seen recently

-Most of the native orchids of Seychelles are restricted to the inner islands, and only 2 also extend to the outer coral islands

*Cynorkis* sp.A : A submontane inselbergs specialist discovered on Praslin



Species	Biological type	Ecology	Distribution	IUCN
<i>Acampe pachyglossa</i> Reichb.f.	epiphyte	dry coastal forests	Afro-Mada	
<i>Agrostophyllum occidentale</i> Schltr.	epiphyte	montane forests	Madagascan	VU
<i>Angraecum eburneum</i> Bory subsp. <i>superbum</i>	rupicolous	lowland and submontane inselbergs	Madagascan	NT
<i>Angraecum zeylanicum</i> Lindl.	epiphyte	montane forests (ravines)	Indian	
<i>Bulbophyllum humblotti</i> Rolfe	epiphyte	montane forests	Madagascan	
<i>Bulbophyllum intertextum</i> Lindl.	epiphyte	montane forests	Afro-Mada	NT
<i>Bulbophyllum longiflorum</i> Ridley	epiphyte	montane forests	Palaeotropical	
<i>Calanthe millotae</i> Ursch & Genoud ex Bosser	terrestrial	montane forests	Madagascan	CR
<i>Cynorkis fastigiata</i> Thouars	terrestrial	wide randle	Madagascan	NT
<i>Cynorkis purpurascens</i> Thouars	terrestrial	submontane inselberg	Madagascan	CR
<i>Cynorkis</i> sp.A	terrestrial	submontane inselberg	Seychelles	CR
<i>Disperis tripetaloides</i> (Thouars) Lindl.	terrestrial	wide randle	Madagascan	VU
<i>Goodyera sechellarum</i> (S.Moore) Ormerod	terrestrial	montane forests (ravines)	Seychelles	EN
<i>Graphorkis concolor</i> var. <i>alphabetica</i> F.N.Rasm.	terrestrial	dry coastal forests	Madagascan	
<i>Hederorkis sechellensis</i> Bosser	epiphyte	montane forests	Seychelles	EN
<i>Malaxis sechellarum</i> (Kraenzl.) Summerh.	terrestrial	montane forests	Seychelles	NT
<i>Oeocladodes pulchra</i> (Thouars) Cribb & M.A.Clements	epiphyte	Forêt submont	Palaeotropical	EN
<i>Oeocladodes sechellarum</i> (Rolfe) Garay & Taylor	epiphyte	unknown	Seychelles	EX
<i>Oeonella aphrodite</i> (Balf. & S.Moore) Schltr.	rupicolous	lowland and submontane inselbergs	Madagascan	CR
<i>Phaius tetragonus</i> (Thouars) Reichb.f.	terrestrial	montane forests	Madagascan	VU
<i>Platyplepis occulta</i> (Thouars) Rehb.f.	terrestrial	montane forests (ravines)	Afro-Mada	VU
<i>Polystachya concreta</i> (Jacq.) Garay & Sweet	submontane inselberg	submontane inselberg	Pantropical	
<i>Polystachya cultriformis</i> (Thou.) Spreng.	epiphyte	montane forests	Afro-Mada	
<i>Polystachya rosea</i> Ridl.	epiphyte	montane forests and inselbergs	Madagascan	
<i>Vanilla phalaenopsis</i> Reichb.f.	creeper	lowland and submontane inselbergs	Seychelles	NT

## Biological types

-Epiphytic orchids dominate (11 species), especially in the montane belt  
-Terrestrial orchids (10 species) are found in montane and submontane belts  
-Rupicolous orchids (3 species) and long-creeping orchids (1 species) are mostly found in lowland and submontane inselbergs or granite boulders

## Perspectives

-Explorations in undisturbed coastal vegetation fringe and in outer islands  
-Develop collaborations for ongoing taxonomic studies in association with orchid shade house.  
-Review species identities: e.g. *Acampe pachyglossa* (*praemorsa*?), *Agrostophyllum occidentale* (*sechellarum*?), *Angraecum zeylanicum* (*maheense*?), *Cynorkis* sp.A.