

A comparison of the moss flora of the Mascarenes

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Abstract: Based upon recent checklists, the moss floras of the Mascarenes (Seychelles, Réunion, Mauritius) is compared. The diversity of species varies much amongst the islands and is lowest in the Seychelles (110 species) but highest in Réunion (366 species), whereas Mauritius has 246 species. Interestingly the young volcanic islands Réunion and Mauritius have much higher species numbers as the Seychelles which were part of the Gondwana continent. The richness of mosses in Réunion is due to the higher altitude (3069m), higher rainfall and the better state of conservation (30% of surface consist of intact forest), whereas the maximum altitude of the other islands hardly exceeds 800 m and most forests are destroyed.

The moss flora of the islands have only few species on common and are thus almost not related. All islands have only 33 species in common. The Seychelles, which are situated about 1900 km from Réunion and Mauritius, share only 42 viz. 49 species with the latter. Réunion and Mauritius, which are 170 km away, share only 107 species. This indicates that the factor chance played an important role in the colonization of the islands. Insofar the term "Mascarenes" is a geographical but not a floristic one. The Mascarenes were mainly colonized by species from Africa and Madagascar, but also from SE-Asia und the austral region. The main floristic element is African, which is in contrast to the prevailing trade winds and might indicate that the colonization at least of the young volcanic islands happened during a different wind system in the past.

1. Introduction

The Mascarenes consist of three groups of islands, which are very different regarding their size, elevation, geological age and number of mosses (tab. 1).

Mauritius is situated 900 km E of Madagascar and consists of volcanic rocks which originated about 8 million years ago (Fisk et al. 1989). The island is relatively small (1865 km²) and low with only a few mountains reaching 800 m altitude. The natural forests were destroyed already in the 19. century and replaced by sugar cane plantations with the exception of the Black River Gorge National Park in the SW of the island, where small parts of the natural vegetation as well as secondary vegetation survived.

Réunion is situated 170 km E of Mauritius at the same latitude (between 20° and 21°S). It is with 2511 km² only slightly larger as Mauritius but with 3069m much higher. It is with 2 Ma also much younger than Mauritius (Fisk et al. 1989). Due to the steepness, natural habitats in the interior of the island are in a good state of conservation with the only exception of the coastal and lowland regions, which are densely populated.

The **Seychelles** are an archipelago consisting of 115 Islands dispersed within the Indian Ocean. Most of them are low coral islands, 42 are granitic and part of the former Gondwana continent, which were never been submerged during their geological history. The islands were connected with India until 65 mya. Similar to Mauritius, the highest elevations do not exceed 900 m, most islands are much lower.

The question is now, to which extent are the moss floras of the islands related? Are there any relations to age, size or elevation? Is there a “Mascarenian” element in the moss flora of the islands? From where did the colonization of the islands take place?

2. Methods

The basis for this evaluation was

- for Réunion the checklist by Ah-Peng & Bardat (2005), who listed 404 species incl. infraspecific taxa. Without varieties and with regard to corrections by Frahm (in prep.), the total number was reduced to 366.

- for Mauritius the moss flora by Frahm et al. (2009), which consists of 238 species. An earlier bryophyte flora of Mauritius by Tixier (1996) was overlooked since it was published by the sugar cane company in Mauritius. This raised the number of species to 246.

- for the Seychelles by Frahm & Ho (2009), which is based on O’Shea et al. (2006) and consists of 110 species.

The data for the Seychelles and Réunion reflect the present state of knowledge and are based on the original literature, however, the checklist for Réunion is based on a manuscript on disk entitled “Mosses from Africa 3 sensu Index Muscorum” compiled by Gillis Eén. It includes many dubious records, perhaps errors in the Index Muscorum. This list has tentatively also been used for the compilation of the moss flora of Mauritius (Frahm et al. 2009), but records of many species could not be confirmed by the original literature, which were accordingly omitted. Thus the number of species of mosses in Réunion is surely too high.

The data were entered in a spreadsheet and evaluated.

Tab. 1: Bryological and geographical data for the Mascarenes Islands.

	Mauritius	Réunion	Seychelles
Size km ²	1865	2511	455
Max. elevation m	828	3069	905
Age (ma)	20	2	65-160
Number of mosses	246	366	110
endemic species	0	[72]	4

The extreme discrepancy of the species numbers of mosses (110 – 246 – 366 species) cannot be correlated with factors such as age, size or elevation of the islands. Although the highest island Réunion has the highest number of species, it is the youngest one and the Seychelles as the oldest islands have the lowermost species numbers. This raises questions such as

- which species are found only on Mauritius, Réunion or the Seychelles?
- which species are shared by Mauritius, Réunion or the Seychelles or part of the islands?
- Can the Gondwanan element in the moss flora of the Seychelles be recognized? Are the mosses from Mauritius colonizer typical for long distance dispersal?
- To which extent is the richness of the moss flora of Réunion based upon the high elevation?

3. Results

The results of the evaluation are summarized in tab. 2.

Only 33 species are found in all islands, which is a remarkable low number and only 6,3 % of the total species.

Fifty three species reported from the Seychelles (almost half of its moss flora) are found only on this archipelago and no other islands of the Mascarenes. Mauritius has 82 species (33% of the species) which are exclusively found on this island, Réunion 206 species (56,2%).

One hundred seven species are found on Mauritius as well as Réunion, which is almost half of the moss flora of Mauritius but a quarter of the moss flora of Réunion. Taking into account the higher elevation of Mauritius and therefore the species which have no adequate habitat on Mauritius, we have an accordance of about 50% of mosses on both islands. In contrast, the Seychelles share only 42 species with Réunion and 49 species with Mauritius, which is a remarkably low number. The low percentage of accordance of Réunion might be due to the higher elevation since only part of the species from Réunion can exist on the Seychelles. The percentage of species from the Seychelles in common with Réunion or Mauritius is, however, around 40%.

Tab. 2: Relationships between the moss floras of the Mascarenes

		see appendix	Percentage of total
Species only on the Seychelles	53	5	48,1
Species only on Mauritius	82	7	33
Species only on Réunion	206	6	39,7
Species common on all islands	33	1	6,3
Species on the Seychelles and Mauritius	49	4	19,9 (Mauritius) 44,5 (Seychelles)
Species on the Seychelles and Réunion	42	3	11,4 (Réunion) 38,1 (Seychelles)
Species on Réunion and Mauritius	145	2	58,9 (Mauritius) 39,6 (Réunion)
Species in total	519		
Species on Mauritius	246		
Species on Réunion	366		
Species on the Seychelles	110		

The poor moss flora of the Seychelles is striking: there is no one species of *Leucobryum*, *Polytrichum* is present with one species (but 4 in Réunion), *Pogonatum* is lacking (but 7 species in Réunion), *Schlotheimia* is lacking (but 11 in Réunion), *Sphagnum* is lacking (even in Mauritius are 5 species). The Seychelles are not more undercollected than the other islands, since species of *Pogonatum* or *Polytrichum* would have been collected. The lack of species on the Seychelles cannot be explained by the geology (granite in contrast to volcanic soil on the other islands), nor the humidity (the highest parts are even more humid than the according regions on Mauritius) or the restriction of wet forests to small areas (similar to Mauritius). All islands are under the influence of the southeastern trade winds and have almost the same chances to be colonized by moss spores. It almost seems as if there has been an extinction event on the Seychelles. Or is this an effect of the small size?

The high number (55) percentage of species on the Seychelles (appendix 5), which area confined to this archipelago, shows that it probably has conserved part of the Gondwanan flora. Its high age is reflected by a comparably "high" rate of endemism.

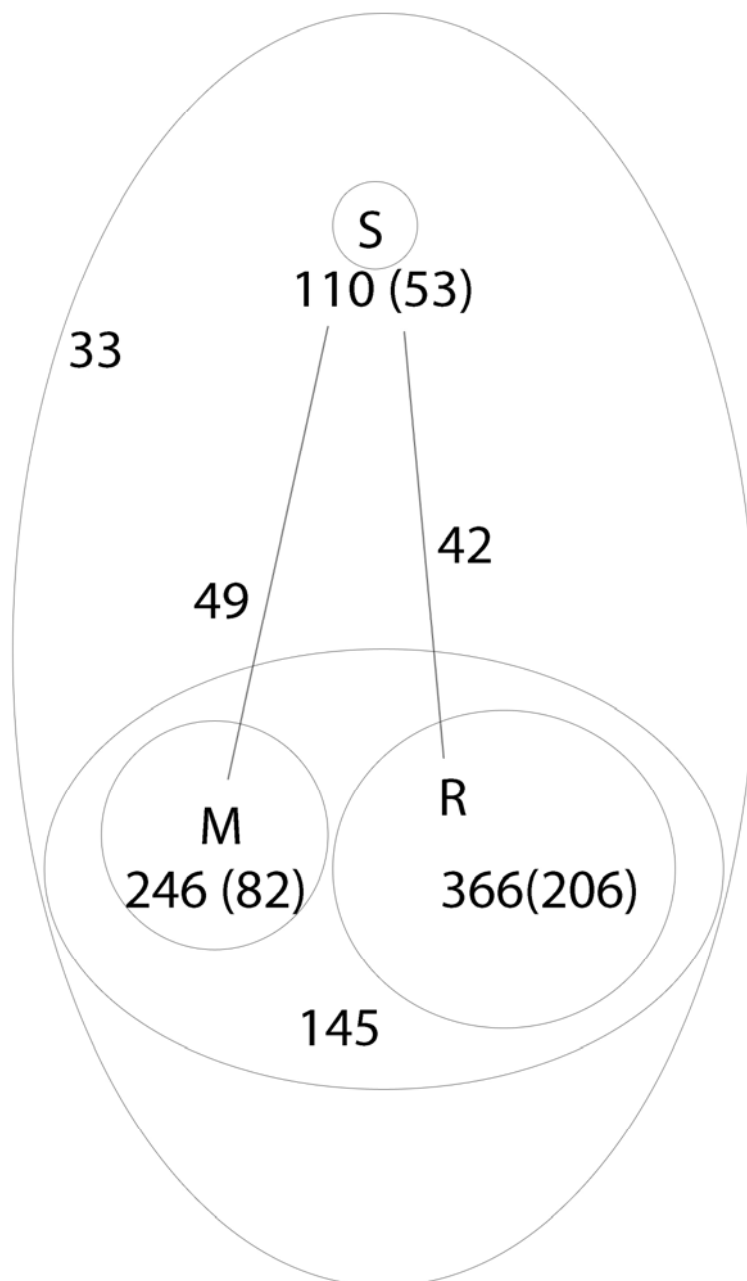


Fig. 1: Bryofloristic relationships between the Mascarenes Island based on mosses. S = Seychelles, M = Mauritius, R = Réunion. Numbers = species numbers, in brackets = species only found on this island.

4. Phytogeographical elements

The Mascarenes are located approx. 3300 km (Seychelles) or 5000 km (Réunion, Mauritius) away from Indonesia but only 800 km (Réunion) viz. 980 km away from Madagascar. This should cause a stronger floristic affinity to Africa. On the other hand, the prevailing wind system is the SE trade wind.

The presence of SE-asiatic floristic elements on the Mascarenes can be explained (except for introduction by man) mainly by long distance dispersal and demonstrate the enormous success of spore dispersal. The spores are released in the source range and dispersed over the Indian Ocean, in which the islands cover only an extremely small part. The size of the Indian Ocean between Indonesia and the Mascarenes is about 14 million km², whereas the area of the islands is about 6000 km². So the chance for a spore to meet an island is 1:2333. The chance is even much lower if one considers that the species does not occur everywhere in the source range and if it lands on an island, must meet an appropriate habitat.

It is difficult to set up a list of phytogeographical elements of all species due to the lack of information. However, a genus can be used for a case study. *Campylopus* is one of the largest moss genera and almost worldwide distributed. It is present on the Mascarenes with 25 species and therefore quite representative. These 25 species belong to the following phytogeographical elements:

1. African: *arctocarpus*, *arcuatus*, *aureonitens*, *cambouei*, *crateris*, *flaccidus*, *flavicoma*, *hildebrandtii*, *julaceus*, *nanophyllus*, *praetermissus*, *pseudobicolor*, *robillardei*, *smaragdinus*, *trachyblepharum*.
2. neotropical and African (tropical montane-subalpine): *jamesonii*, *fragilis*, *flexuosus*, *pilifer*, *nivalis*.
3. Austral: *introflexus*, *pyriformis*.
4. SE-Asian: *schmidii*.
5. Endemic: *fuscolutescens*.
6. Gondwanan: *thwaitesii*.

Fifteen of twenty-five species belong to the African element, which seems to be not surprising since this is the nearest continent. However, Africa is situated against the prevailing wind system!

Four species are endemic on the Seychelles but no one is known from Mauritius (tab. 1) , which reflects the younger age. In contrast, seventy-two species were indicated as endemic for Réunion (17%) by Ah-Peng & Bardat (2005), a number which is certainly wrong because many of the species marked as endemic are more widespread. Generally the indication of rates of endemism in bryophytes are dubious because they will not last long but tend to decline with increasing taxonomic and floristic research.

5. Discussion

The low number of species common in all islands is a strange fact, especially under consideration that the climatic conditions on all islands are comparable. It corroborates somewhat the hypothesis that mosses are widespread, have wide ranges and are easily dispersed.

A similar analysis has been performed with the islands of the Azores (Frahm). It resulted in the fact that neither distance, altitude, size or age of the islands correlate with the species numbers and led to the conclusion that the distribution pattern of bryophytes is primarily based in chance. Chance (or unknown reasons) seems also to determine the moss flora of the Mascarenes.

Acknowledgements

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Appendix
**1. Species occurring on all islands
(33)**

Acroporium megasporum
Barbula indica
Aerobryopsis capensis
Barbula indica
Brachymerium exile
Bryum apiculatum (nitens)
Calymperes hispidum
Calymperes palisotii
Calymperes taitense
Campylopus arctocarpus
Campylopus arcuatus
Campylopus flexuosus
Campylopus julaceus
Campylopus robillardei
Distichophyllum mascarenicum
Ectropothecium regulare
Fissidens crispulus
Hyophila involuta
Leucoloma longifolium
Leucoloma seychellense
Leucoloma sinuosulum
Leucophanes angustifolium
Macrohymenium acidodon
Macromitrium pallidum
Octoblepharum albidum
Papillaria africana
Philonotis hastata
Philonotis mauritiana
Polytrichum subpilosum
Porotrichum elongatum
Pyrrhobryum spiniforme
Radulina borbonica
Serpotorella cyrtophylla
Syrrhopodon involutus
Trachyphyllum inflexum

**2. Species occurring on Réunion and
Mauritius (145)**

Acroporium megasporum
Aerobryopsis capensis
Anoetangium aestivum
Anomodon pseudotristis
Atrichum androgynum
Barbula indica
Bartramia gigantea

Brachymerium eurychelium
Brachymerium exile
Brachymerium leptophyllum
Brachythecium borgenii
Breutelia magdalenae
Bryum apiculatum (nitens)
Bryum argenteum
Bryum aubertii
Bryum billardierei
Bryum coronatum
Callicostella fissidentella
Callicostella salaziae
Calymperes hispidum
Calymperes palisotii
Calymperes taitense
Calypstrotheca asplenioides
Campylopus arctocarpus
Campylopus arcuatus
Campylopus aureonitens
Campylopus flexuosus
Campylopus hildebrandtii
Campylopus julaceus
Campylopus pilifer
Campylopus praetermissus
Campylopus robillardei
Campylopus thwaitesii
Campylopus trachyblepharum
Cardotiella appendiculata
Cardotiella subappendiculata
Catagonium nitens
Ceratodon purpureus
Chaetomitrium borbonicum
Cyclodictyon vesiculosum
Distichophyllum mascarenicum
Ditrichum difficile
Ectropothecium regulare
Ectropothecium valentinii
Entodon dregeanus
Entosthodon borbonicus
Fissidens crispulus
Fissidens darmyi
Fissidens ovatus
Fissidens palmifolius
Fissidens plumosus
Floribundaria floribunda
Floribundaria vaginans
Funaria hygrometrica
Hildebrandtiella phleoides
Holomitrium borbonicum

Holomitrium cylindraceum	Porotrichum stipitatum
Homali dendron exiguum	Porotrichum usagarum
Hymenostylium scaturiginosum	Prionodon ciliatus
Hyophila involuta	Pterogonium gracile
Hypopterygium tamarisci	Pyrrhobryum spiniforme
Isopterygium intortum	Racomitrium lanuginosum
Jaegerina solitaria	Racopilum africanum
Leiomitrium plicatum	Racopilum ayresii
Leptodon fuciformis	Racopilum mauritianum
Leucobryum boryanum	Racopilum tomentosum
Leucobryum isleanum	Radulina borbonica
Leucobryum mayottense	Rhodobryum commersonii
Leucoloma bifidum	Rhynchostegium distans
Leucoloma candidulum	Rutenbergia prionodon
Leucoloma cinclidotioides	Schlotheimia angulosa
Leucoloma fuscifolium	Schlotheimia badiella
Leucoloma lepervancheri	Schlotheimia fornicata
Leucoloma longifolium	Schlotheimia robillardii
Leucoloma persecundum	Sematophyllum crassiusculum
Leucoloma rutenbergii	Sematophyllum schimperii
Leucoloma seychellense	Sematophyllum subpinnatum
Leucoloma sinuosulum	Serpotorella cyrtophylla
Leucophanes angustifolium	Sphagnum perichaetiale
Leucophanes hildebrandtii	Sphagnum rutenbergii
Leucophanes rodriguezii	Sphagnum truncatum
Lopidium struthiopteris	Sphagnum tumidulum
Macrohymenium acidodon	Sphagnum violascens
Macromitrium fimbriatum	Syrrophodon involutus
Macromitrium mauritianum	Syrrophodon mauritanus
Macromitrium pallidum	Taxithelium pseudo-amoenum
Macromitrium voeltzkowii	Tortella humilis
Meiothecium madagascariense	Trachyphyllum inflexum
Mittenothamnium madagassum	Trematodon subambiguus
Mittenothamnium reptans	Trichostomum brachydontium
Neckeropsis lepineana	Trichostomum crispulum
Octoblepharum albidum	Trichostomum tenuirostre
Orthostichidium pentasticha	Ulota fulva
Orthostichopsis longinervis	Warburgiella leptorrhyncha
Papillaria africana	Weissia ayresii
Philonotis gracilescens	
Philonotis hastata	
Philonotis mauritiana	
Pinnatella minuta	
Pogonatum belangeri	
Pogonatum convolutum	
Pogonatum gracilifolium	
Polytrichum commune	
Polytrichum formosum	
Polytrichum subpilosum	
Porotrichum elongatum	
Porotrichum madagassum	

3. Species occurring on the Seychelles and Réunion (42)

Acroporium megasporum
 Aerobryopsis capensis
 Barbula indica
 Brachymenium exile
 Bryum apiculatum (nitens)
 Calymperes hispidum
 Calymperes palisotii
 Calymperes taitense
 Campylopus arctocarpus

Campylopus arcuatus	Calymperes tenerum
Campylopus flexuosus	Campylopus arctocarpus
Campylopus julaceus	Campylopus arcuatus
Campylopus nanophyllus	Campylopus flexuosus
Campylopus robillardiei	Campylopus julaceus
Distichophyllum mascarenicum	Campylopus robillardiei
Ectropothecium regulare	Cyclodictyon vallis-gratiae
Fissidens crispulus	Distichophyllum mascarenicum
Fissidens pellucidus	Ectropothecium regulare
Fissidens sciophyllus	Fissidens crispulus
Garckea flexuosa	Fissidens serratus
Hyophila involuta	Hyophila involuta
Leucoloma longifolium	Isopterygium argyroleucum
Leucoloma seychellense	Leucoloma delicatulum
Leucoloma sinuosulum	Leucoloma dichelymoides
Leucomium strumosum	Leucoloma isleanum
Leucophanes angustifolium	Leucoloma longifolium
Macrohymenium acidodon	Leucoloma seychellense
Macromitrium pallidum	Leucoloma sinuosulum
Octoblepharum albidum	Leucophanes angustifolium
Papillaria africana	Macrohymenium acidodon
Philonotis hastata	Macromitrium pallidum
Philonotis mauritiana	Octoblepharum albidum
Polytrichum subpilosum	Papillaria africana
Porotrichum elongatum	Philonotis hastata
Pyrrhobryum spiniforme	Philonotis mauritiana
Radulina borbonica	Polytrichum subpilosum
Serpotorella cyrtophylla	Porotrichum elongatum
Syrrophodon armatus	Pyrrhobryum spiniforme
Syrrophodon involutus	Radulina borbonica
Syrrophodon mahensis	Serpotorella cyrtophylla
Syrrophodon prolifer	Syrrophodon hispidocostatus
Trachyphyllum inflexum	Syrrophodon involutus
	Syrrophodon revolutus
	Trachyphyllum inflexum
	Vesicularia albo-viridis

**4. Species occurring on the
Seychelles and Mauritius (49)**

Acroporium megasporum
 Aerobryopsis capensis
 Aerobryopsis longissima
 Barbula indica
 Brachymenium exile
 Bryum apiculatum (nitens)
 Bryum leptospeiron
 Callicostella brevipes
 Callicostella seychellensis
 Calymperes graeffeanum
 Calymperes hispidum
 Calymperes palisotii
 Calymperes taitense

**5. Species which only occur on the
Seychelles (53)**

Acanthorrhynchium papillatum
 Acroporium diminutum
 Acroporium lamprophyllum
 Brachymenium dicranoides
 Bryum alpinum
 Callicostella africana
 Calymperes afzelii
 Calymperes couguiense
 Calymperes erosum
 Calymperes motleyi

<i>Calymperes norkettii</i>	<i>Anacolia laevisphaera</i>
<i>Calymperes pallidum</i>	<i>Andreaea borbonica</i>
<i>Campylopus flacidus</i>	<i>Andreaea tsaratananae</i>
<i>Clastobryophilum bogoricum</i>	<i>Anisothecium cardotti</i>
<i>Cyclodictyon hildebrandtii</i>	<i>Anoetangium mafatense</i>
<i>Dicranella acroclada</i>	<i>Anoetangium raphidostegium</i>
<i>Dicranella polii</i>	<i>Anomobryum laceratum</i>
<i>Ectropothecium brachycladulum</i>	<i>Anomodon tristis</i>
<i>Ectropothecium chenagonii</i>	<i>Aongstroemia filiformis</i>
<i>Ectropothecium perrottii</i>	<i>Aongstroemia julacea</i>
<i>Ectropothecium seychellarum</i>	<i>Astomum borbonicum</i>
<i>Ectropothecium squarrifolium</i>	<i>Atractylocarpus madagascariensis</i>
<i>Fissidens bristatosus</i>	<i>Barbula unguiculata</i>
<i>Fissidens ceylonensis</i>	<i>Bartramia ithyphylla</i>
<i>Fissidens flacidus</i>	<i>Bartramia longifolia</i>
<i>Fissidens jeffreyi</i>	<i>Blindia acuta</i>
<i>Fissidens marthae</i>	<i>Blindia magellanica</i>
<i>Fissidens minutus</i>	<i>Brachymenium gemmiferum</i>
<i>Fissidens reflexus</i>	<i>Brachymenium pulchrum</i>
<i>Fissidens seychellensis</i>	<i>Brachythecium chauvetii</i>
<i>Fissidens zollingeri</i>	<i>Brachythecium decurrens</i>
<i>Himantocladium cyclophyllum</i>	<i>Brachythecium plumosum</i>
<i>Isopterygium gracile</i>	<i>Brachythecium valentinii</i>
<i>Isopterygium subleptoblastum</i>	<i>Breutelia borbonica</i>
<i>Leucoloma strumosum</i>	<i>Breutelia gnaphalea</i>
<i>Leucophanes glaucum</i>	<i>Breutelia perrieri</i>
<i>Leucophanes octoblepharioides</i>	<i>Breutelia stenodictyon</i>
<i>Leucophanes seychellarum</i>	<i>Breutelia stuhlmannii</i>
<i>Luisierella barbula</i>	<i>Bryoerythrophyllum campylocarpum</i>
<i>Macromitrium sclerodictyon</i>	<i>Bryum cadetii</i>
<i>Macromitrium subpungens</i>	<i>Bryum celluare</i>
<i>Mitthyridium fasciculatum</i>	<i>Bryum pseudotriquetrum</i>
<i>Neckeropsis boiviniana</i>	<i>Calyptothecium acutifolium</i>
<i>Papilliopsis mahensis</i>	<i>Campylopus crateris</i>
<i>Pelekium gratum</i>	<i>Campylopus fragilis</i>
<i>Pinnatella mucronata</i>	<i>Campylopus introflexus</i>
<i>Syrrhopodon albidus</i>	<i>Campylopus jamesonii</i>
<i>Syrrhopodon croceus</i>	<i>Campylopus nivalis</i>
<i>Taxithelium instratum</i>	<i>Campylopus pyriformis</i>
<i>Taxithelium planulum</i>	<i>Campylopus schmidii</i>
<i>Trichosteleum debettei</i>	<i>Campylopus smaragdinus</i>
<i>Trichosteleum stictum</i>	<i>Cyclodictyon albicans</i>
<i>Vesicularia crassiramea</i>	<i>Cyclodictyon borbonicum</i>
	<i>Cyclodictyon brevifolium</i>
	<i>Cyclodictyon perrottetii</i>
	<i>Daltonia angustifolia</i>
	<i>Daltonia latimarginata</i>
	<i>Daltonia onraedtii</i>
	<i>Dicranella cratericola</i>
	<i>Dicranella flavipes</i>
	<i>Dicranella subsubulata</i>

6. Species which only occur on Réunion (206)

Aerobrydium subpiligerum
Amphidium tortuosum

<i>Dicranoloma billardierei</i>	<i>Leucoloma cirrosulum</i>
<i>Dicranoloma borbonicum</i>	<i>Leucoloma mafatense</i>
<i>Didymodon maschalogenus</i>	<i>Leucoloma membranaceum</i>
<i>Ditrichum punctulatum</i>	<i>Leucoloma onraedtii</i>
<i>Ectropothecium occulum</i>	<i>Leucoloma sanctae-mariae</i>
<i>Ectropothecium viridulum</i>	<i>Leucoloma subcespitulans</i>
<i>Entodon geminidens</i>	<i>Macrocoma tenuis</i>
<i>Entodon macropodu</i>	<i>Macromitrium belangeri</i>
<i>Entosthodon lepervanchei</i>	<i>Macromitrium fasciculare</i>
<i>Eurhynchium acicladium</i>	<i>Macromitrium gimalacii</i>
<i>Eustichia longirostris</i>	<i>Macromitrium rufescens</i>
<i>Felipponea assimilis</i>	<i>Macromitrium scleropodium</i>
<i>Fissidens asplenioides</i>	<i>Macromitrium serpens</i>
<i>Fissidens brevifrons</i>	<i>Mielichhoferia borbonica</i>
<i>Fissidens ellipticus</i>	<i>Mittenothamnium limosum</i>
<i>Fissidens intramarginatus</i>	<i>Mittenothamnium microthmanioides</i>
<i>Fissidens planifrons</i>	<i>Neckera valentiana</i>
<i>Fissidens pseudoplumosus</i>	<i>Orthodontium loreifolium</i>
<i>Grimmia eongata</i>	<i>Orthostichidium involutifolium</i>
<i>Grimmia laevigata</i>	<i>Orthostichopsis subimbricata</i>
<i>Grimmia longirostris</i>	<i>Orthostichopsis sublivens</i>
<i>Gymnostomiella vernicosa</i>	<i>Palamocladium leskeoides</i>
<i>Hedwigium integrifolium</i>	<i>Pelekium versicolor</i>
<i>Hildebrandtiella rotundifolia</i>	<i>Philonotis perigonialis</i>
<i>Hookeria splachnifolia</i>	<i>Philonotis scabrifolia</i>
<i>Hylocomnium brevirostre</i>	<i>Philonotis submarchica</i>
<i>Hymenostylium recurvirostrum</i>	<i>Phyllodon perplanicaulis</i>
<i>Hypnum bicolor</i>	<i>Phyllodon truncatulus</i>
<i>Hypnum boryanum</i>	<i>Phyllogonium viscosum</i>
<i>Hypnum cupressiforme</i>	<i>Physcomitrium spathulatum</i>
<i>Hypnum jutlandicum</i>	<i>Pilotrichella isleana</i>
<i>Hypnum macrogynum</i>	<i>Pilotrichella mascarenica</i>
<i>Hypnum radiatum</i>	<i>Pilotrichella phleoides</i>
<i>Isopterygium citrinellum</i>	<i>Plagiomnium rhynchphorum</i>
<i>Isopterygium molle</i>	<i>Plagiothecium nitens</i>
<i>Isopterygium radicans</i>	<i>Pogonatum perichaetiale</i>
<i>Leiomela bartramioides</i>	<i>Pogonatum urnigerum</i>
<i>Lepidopilidium caespitosa</i>	<i>Pogonatum usambaricum</i>
<i>Lepidopilidium flexuosum</i>	<i>Polytrichum piliferum</i>
<i>Lepidopilidium hirsutum</i>	<i>Porothamnium variifoloides</i>
<i>Lepidopilidium isleanum</i>	<i>Pseudephemerum nitidum</i>
<i>Leptodontium flexifolium</i>	<i>Pseudopohlia microstoma</i>
<i>Leptodontium longicaule</i>	<i>Pseudoscleropodium purum</i>
<i>Leptodontium pungens</i>	<i>Pseudosymblepharis bombayensis</i>
<i>Leptodontium viticulosoides</i>	<i>Pseudosymblepharis circinnatula</i>
<i>Leptophascum leptophyllum</i>	<i>Ptychomitrium subcrispatum</i>
<i>Leptotrichella lutaria</i>	<i>Racomitrium membranaceum</i>
<i>Leucobryum javense</i>	<i>Racomitrium subsecundum</i>
<i>Leucobryum juniperoideum</i>	<i>Racopilum capense</i>
<i>Leucoloma boivinianum</i>	<i>Racopilum schmidii</i>
<i>Leucoloma capillifolium</i>	<i>Rhacocarpus purpurascens</i>

Rhaphydorrhynchium crispans
 Rhaphydorrhynchium rubricaula
 Rhodobryum giganteum
 Rhynchostegiella tenelliformis
 Rhynchostegium comorae
 Rhyncostegium pseudodistans
 Rutenbergia borbonica
 Schistidium apocarpum
 Schlotheimia brachyphylla
 Schlotheimia illecebra
 Schlotheimia malacophylla
 Schlotheimia microcarpa
 Schlotheimia richardii
 Schlotheimia squarrosa
 Schlotheimia subforficata
 Schwetschkea grateloupii
 Sematophyllum sinuosulum
 Serporella chenagonii
 Sphagnum bourbonense
 Sphagnum capense
 Sphagnum capillifolium
 Sphagnum ceylonicum
 Sphagnum condensatum
 Sphagnum davidii
 Sphagnum ericetorum
 Sphagnum strictum
 Squamidium brasiliense
 Stereophyllum radiculosum
 Symphyodon pygmaeus
 Syrrhopodon asper
 Syrrhopodon gardneri
 Syrrhopodon gaudichaudii
 Syrrhopodon parasiticus
 Syrrhopodon rodriguezii
 Tayloria isleana
 Tayloria orthodonta
 Thuidium aculeoserratum
 Thuidium assimile
 Thuidium tamariscinum
 Tortella vernicosa
 Trachypodopsis serrulata
 Trachypus bicolor
 Trematodon borbonicus
 Trematodon paradoxus
 Trichosteleum adhaerens
 Trichosteleum constrictum
 Trichosteleum debettei
 Trichosteleum pervilleanum
 Trichostomum cardotii

7. Species which only occur on Mauritius (82)

Aerobryopsis cirrifolia
 Archidium ohioense
 Barbella capillicaulis
 Barbula inclinans
 Brachymenium acuminatum
 Brachymenium nepalense
 Brachythecium implicatum
 Bryoxiphium norvegicum
 Bryum erythrocaulon
 Bryum huillense
 Bryum muehlenbeckii
 Callicostella erosotruncata
 Callicostella lacerans
 Callicostella parvocellulata
 Calliegonella cuspidata
 Calymperes dozyanum
 Calymperes nossi-combae
 Campylopus cambouei
 Campylopus flavicoma
 Campylopus fusco-lutescens
 Campylopus pseudobicolor
 Cyclodictyon aubertii
 Ectropothecium intertextum
 Ectropothecium mauritianum
 Ectropothecium nishimurii
 Ectropothecium paillotii
 Entodon motelayi
 Entosthodon mauritianus
 Fissidens subexasperatus
 Fissidens subplanifrons
 Glossadelphus scutellifolius
 Groutiella laxotorquata
 Groutiella tomentosa
 Gymnostomum calcareum
 Helicodontium lanceolatum
 Holomitrium lepervanchei
 Homaliodendron flabellatum
 Homaliodendron piniforme
 Hydrogonium consanguineum
 Hypnum gracilirameum
 Jaegerina formosa
 Jaegerina retrosquarrosa
 Jaegerina robillardii
 Lepidopillidium subrevolutum
 Lepidopilum lastii
 Leskea mauritiana
 Leucobryum comorense

Leucobryum perrotii
Leucoloma amblyacron
Leucoloma grimmioides
Leucoloma pallidulum
Leucophanes octoblepharioides
Leucophanes renauldii
Macromitrium funicaule
Mesonodon flavescens
Mittenothamnium serratum
Orthostichella longinervis
Orthostichella rigida
Oxystegus rhodesiae
Papillaria acinacifolia
Papillaria renauldii
Pogonatum capense
Rhizofabronia persoonii
Schlotheimia ferruginosa
Schlotheimia microphylla
Scorpiurium circinatum
Sematophyllum aneuron
Sematophyllum corticola
Sematophyllum longinerve
Stereophyllum limnobioides
Syrhopodon apertifolius
Syrhopodon graminifolius
Taxithelium lindbergii
Thamniopsis pappeana
Thuidium pseudoinvolverens
Tortella caespitosa
Tortula rufa
Trichosteleum borbonicum
Trichosteleum microdontum
Trichosteleum perottii
Vesicularia ayresii
Vesicularia bescherellei