

# Virtual Global Taxonomy Initiative Forum

## 2 to 4 December 2020

### Morocco's efforts in taxonomy



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# Moroccan fauna

Moroccan fauna is rich and varied with around 25,000 identified species, 11% of which are endemic to Morocco. This fauna includes 113 Mammals, 317 Birds, 98 Reptiles, 11 Amphibians, 1189 Fishes and 17893 Invertebrates.

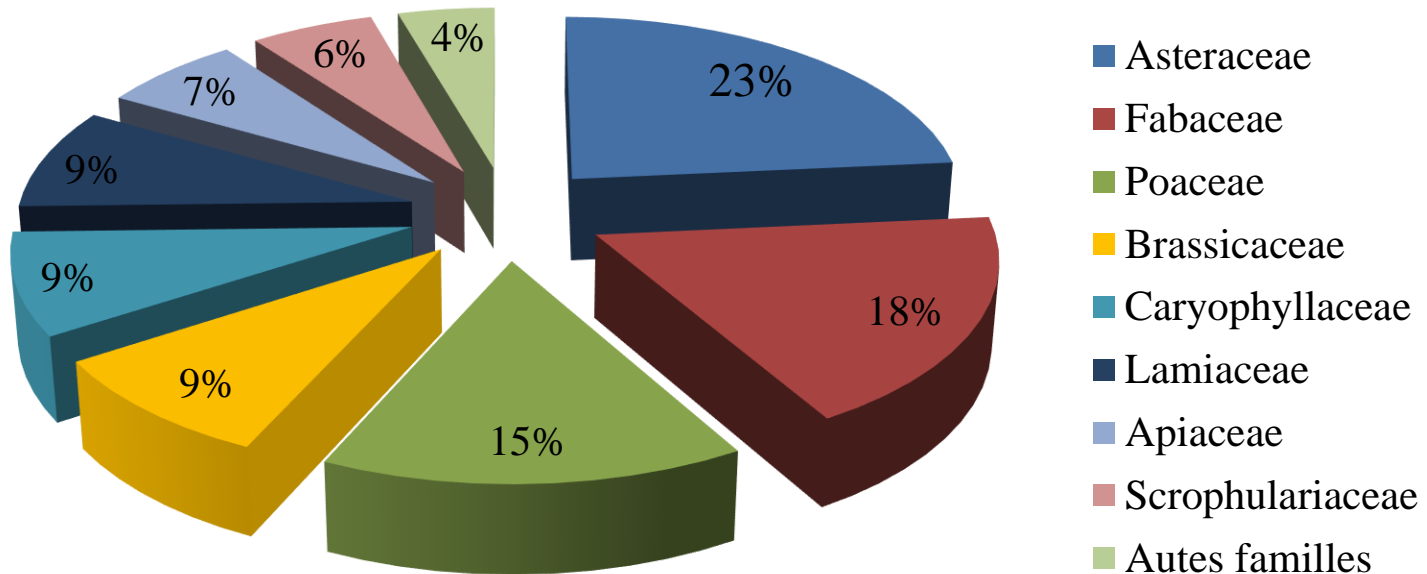


# Diversity of Moroccan vascular flora

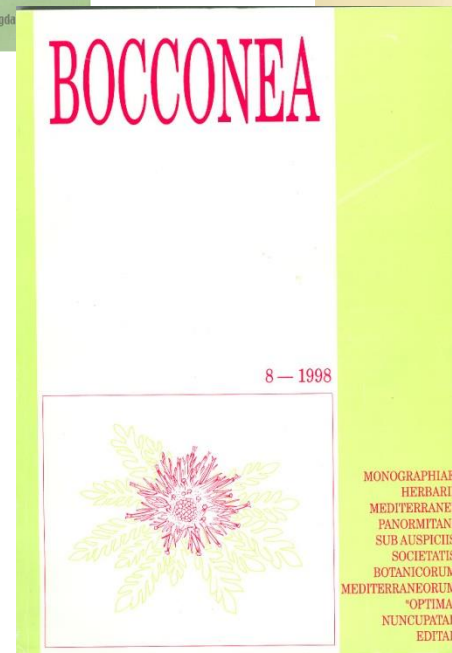
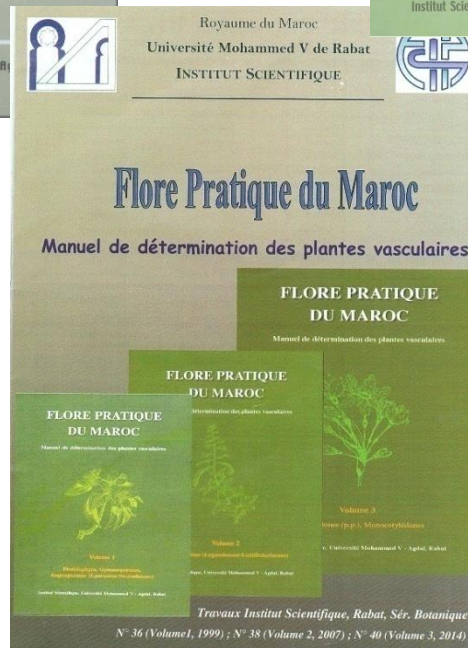
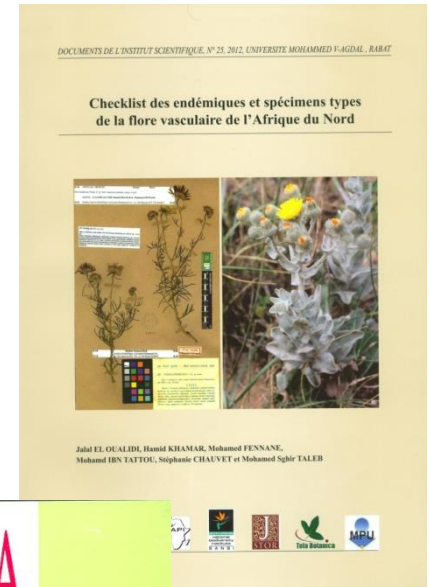
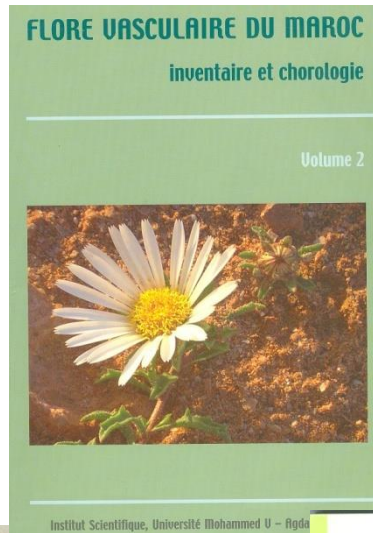
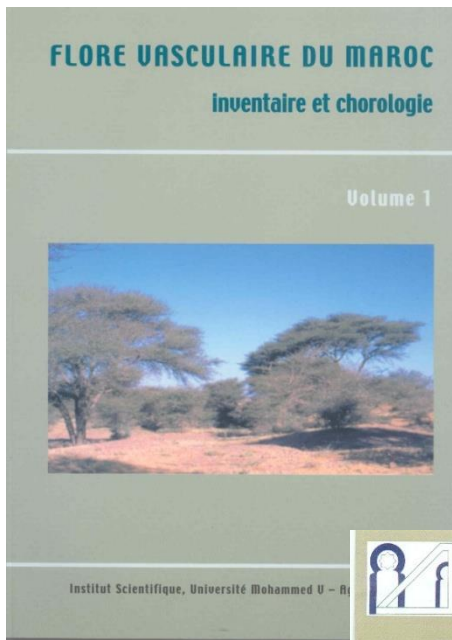
## (155 Families)

|                                     | Nombre           |
|-------------------------------------|------------------|
| Genera                              | 981              |
| Species                             | 3913             |
| Subspecies types (autonyms)         | 426              |
| Additional subspecies               | 872              |
| <b>Total species and subspecies</b> | <b>5211</b>      |
| <b>Endemic taxa</b>                 | <b>951 (18%)</b> |

# Richness of the eight important families of the vascular flora of Morocco



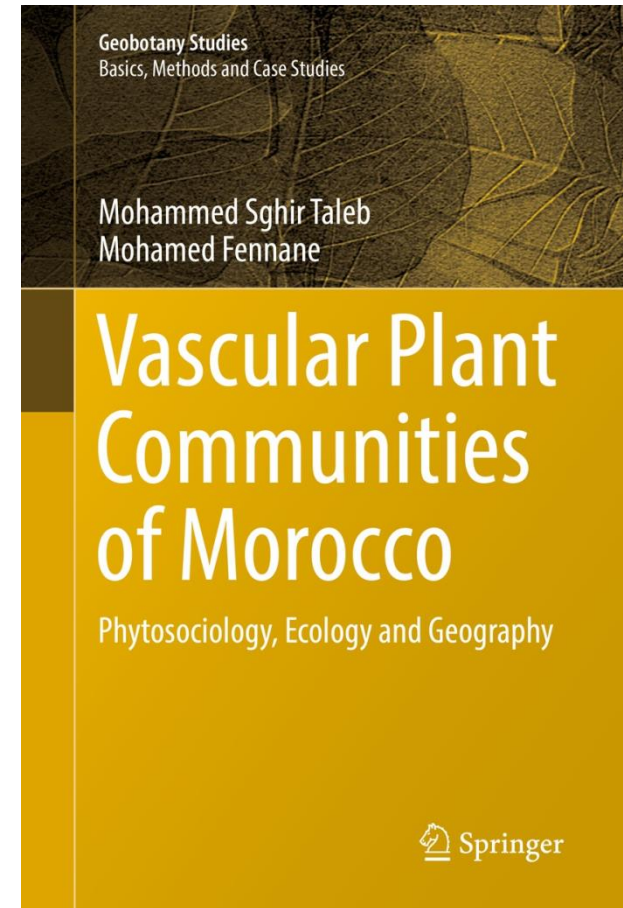
# Scientific productions





# Scientific prodactions

This book represents a capitalization and a synthesis of all the existing phytosociological informations and represents a reference for future phytosociological research.



# Development of a red book of the vascular flora

This book, currently in publication, concerns the evaluation of all the vascular flora of Morocco

SUMMARY OF THE FIVE CRITERIA (A-E) USED TO EVALUATE IF A TAXON BELONGS IN AN IUCN RED LIST THREATENED CATEGORY (CRITICALLY ENDANGERED, ENDANGERED OR VULNERABLE).<sup>1</sup>

| A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4   |  |  |  |
|---|--|--|--|
|   | Critically Endangered  | Endangered   | Vulnerable   |
| A1  | ≥ 90%  | ≥ 70%  | ≥ 50%  |
| A2, A3 & A4   | ≥ 80%  | ≥ 50%  | ≥ 30%  |
| <p>A1 Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased.</p> <p>A2 Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>A3 Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years), [a] cannot be used for A3]</p> <p>A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.</p> <p>based on any of the following:</p> <ul style="list-style-type: none"> <li>(a) direct observation [Except A3]</li> <li>(b) an index of abundance appropriate to the taxon</li> <li>(c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality</li> <li>(d) actual or potential levels of exploitation</li> <li>(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.</li> </ul> |  |  |  |
| B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)   |  |  |  |
|   | Critically Endangered  | Endangered   | Vulnerable   |
| B1. Extent of occurrence (EOO)  | < 100 km <sup>2</sup>  | < 5,000 km <sup>2</sup>  | < 20,000 km <sup>2</sup>   |
| B2. Area of occupancy (AOO)   | < 10 km <sup>2</sup>   | < 500 km <sup>2</sup>  | < 2,000 km <sup>2</sup>  |
| AND at least 2 of the following 3 conditions:   |  |  |  |
| (a) Severely fragmented OR Number of locations  | ≤ 1  | ≤ 5  | ≤ 10   |
| (b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals.  |  |  |  |
| (c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals.   |  |  |  |
| C. Small population size and decline  |  |  |  |
|   | Critically Endangered  | Endangered   | Vulnerable   |
| Number of mature individuals  | < 250  | < 2,500  | < 10,000   |
| AND at least one of C1 or C2  |  |  |  |
| C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):   | 25% in 3 years or 1 generation (whichever is longer)                     | 20% in 5 years or 2 generations (whichever is longer)                    | 10% in 10 years or 3 generations (whichever is longer)                   |
| C2. An observed, estimated, projected or inferred continuing decline AND at least 1 of the following 3 conditions:  |  |  |  |
| (a) (i) Number of mature individuals in each subpopulation  | ≤ 50   | ≤ 250  | ≤ 1,000  |
| (ii) % of mature individuals in one subpopulation =   | 90-100%  | 95-100%  | 100%   |
| (b) Extreme fluctuations in the number of mature individuals  |  |  |  |
| D. Very small or restricted population  |  |  |  |
|   | Critically Endangered  | Endangered   | Vulnerable   |
| D. Number of mature individuals   | < 50   | < 250  | D1. < 1,000  |
| D2. Only applies to the VU category<br>Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.  | -  | -  | D2. typically:<br>AOO < 20 km <sup>2</sup> or<br>number of locations ≤ 5 |
| E. Quantitative Analysis  |  |  |  |
|   | Critically Endangered  | Endangered   | Vulnerable   |
| Indicating the probability of extinction in the wild to be:   | ≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.) | ≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.) | ≥ 10% in 100 years   |

<sup>1</sup> Use of this summary sheet requires full understanding of the IUCN Red List Categories and Criteria and Guidelines for Using the IUCN Red List Categories and Criteria. Please refer to both documents for explanations of terms and concepts used here.

# Phytosociological Data Base

Accueil Créer Données externes Outils de base de données Feuille de données

Calibri 11

Actualiser tout Enregistrer Orthographe Supprimer Plus

Selection Options avancées Appliquer le filtre Tirer et filtrer Rechercher Remplacer Attendre Sélectionner

Avertissement de sécurité Du contenu de la base de données a été désactivé Options...

BASPH1 BASPH2

BASPH1 - Table BASPH1

| N° d'ordre | Rang | Nom   | Auteur                          | Année      | Titre                                       | Revue                      |
|------------|------|---|---------------------------------|------------|---|----------------------------|
| 001        | Ass  | Myrto communis-Quercetum suberis              | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 002        | Ass  | Tetradlino articulatae-Quercetum cocciferae   | Benabid; Benabid & Fennane      | 1984; 1994 | Connaissances sur la végétation du Maroc    | azaraa, volume Quercetei   |
| 003        | Ass  | Rusco hypophylli-Quercetum canariense         | Rivas-Martinez                  | 1974       | La végétation de la classe Quercetea illici | Anales Inst. Bc Quercetei  |
| 004        | Ass  | Rusco hypophylli-Quercetum cocciferae         | Benabid                         | 1984       | Etude phytosociologique et phytodynam       | Travaux de l'In Quercetei  |
| 005        | Ass  | Smlaci mauritanicae-Quercetum rotundifoliae   | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 006        | Ass  | Tamo communis-Oleetum sylvestris              | Benabid                         | 1984       | Etude phytosociologique et phytodynam       | Travaux de l'In Quercetei  |
| 007        | Ass  | Telino linifoliae-Quercetum suberis           | Zeraia                          | 1981       | Essai d'interprétation des données écolo    | Thèse doctoral Quercetei   |
| 008        | Ass  | Violo cochleatae-Fraxinetum angustifoliae     | Benabid                         | 1984       | Etude phytosociologique et phytodynam       | Travaux de l'In Quercetei  |
| 009        | Ass  | Arbutio unedi-Quercetum rotundifoliae         | Achhal                          | 1986       | Etude phytosociologique et dendrométri      | Thèse doct. d' Quercetei   |
| 010        | Ass  | Balansaeo glaberrimae-Cedretum atlanticae     | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 011        | Ass  | Balansaeo glaberrimae-Quercetum canariense    | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 012        | Ass  | Balansaeo glaberrimae-Quercetum rotundifoliae | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 013        | Ass  | Cytiso triflori-Quercetum canariense          | Benabid                         | 1984       | Etude phytosociologique et phytodynam       | Travaux de l'In Quercetei  |
| 014        | Ass  | Euphorbio brequetii-Quercetum rotundifoliae   | Treguebov                       | 1963       | Etude des groupements végétaux du Mar       | Bull. Mus. Hist Quercetei  |
| 015        | Ass  | Festuco scaberrimae-Quercetum rotundifoliae   | Quézel, Barbéro, Benabid & Riv  | 1992       | Contribution à l'étude des groupements      | Studia Botanica Quercetei  |
| 016        | Ass  | Genisto jahandiezii-Quercetum rotundifoliae   | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 017        | Ass  | Luzulo atlanticae-Quercetum rotundifoliae     | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 018        | Ass  | Paeonio maroccanae-Quercetum rotundifoliae    | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 019        | Ass  | Silleno melliferae-Quercetum rotundifoliae    | Quézel, Barbéro & Benabid       | 1987       | Contribution à l'étude des groupements      | Ecol. Méditer., Quercetei  |
| 020        | Ass  | Teucrio afrae-Quercetum suberis               | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |
| 021        | Ass  | Cytiso arboreae-Quercetum cocciferae          | Quézel, Barbéro, Benabid & Riv  | 1992       | Contribution à l'étude des groupements      | Studia Botanica Quercetei  |
| 022        | Ass  | Erico arboreae-Myrtetum communis              | Quézel, Barbéro, Benabid, Loisi | 1988       | Contribution à l'étude des groupements      | Ecol. Méditer., Quercetei  |
| 023        | Ass  | Erico arboreae-Quercetum cocciferae           | Quézel, Barbéro, Benabid & Riv  | 1992       | Contribution à l'étude des groupements      | Studia Botanica Quercetei  |
| 024        | Ass  | Phillyreo latifoliae-Quercetum cocciferae     | Quézel, Barbéro, Benabid, Loisi | 1988       | Contribution à l'étude des groupements      | Ecol. Méditer., Quercetei  |
| 025        | Ass  | Phillyreo latifoliae-Arbutetum unedonis       | Rivas-Godoy & Galiano           | 1959       | Contribucion al estudio de la Quercetea     | An; Inst. Bot. C Quercetei |
| 026        | Ass  | Phillyreo angustifoliae-Quercetum fruticosae  | Barbéro, Quézel & Rivas-Martin  | 1981       | Contribution à l'étude des groupements      | Phytocoenolo Quercetei     |

Ent: 1 sur 637 Rechercher

Meille Feuille de données

FR 12:24



# **Data Base of useful and endemic plants**

It contains 1,200 species of endemic plants and useful plants (aromatic and medicinal plants, fodder and food).

# National Herbarium

**Location:** Institut Scientifique, Mohammed V University in Rabat.

It is recognized at the international level and contains more than 120,000 specimens.

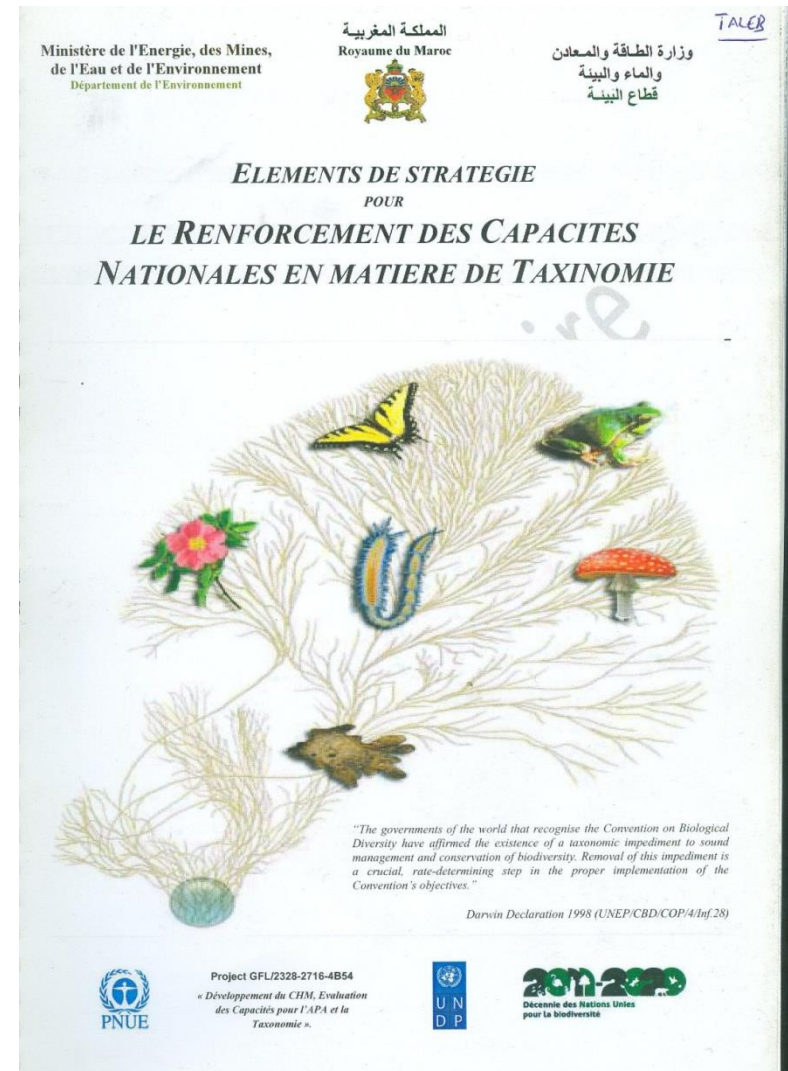


## Field research

- Collecting information on the ecology of species and ecosystems
- Enrichment of the Institute's herbarium with species collected in the field.
- Study of the dynamics of flora and vegetation.
- Constitution of a photo database (more than 4000 photos) for species and ecosystems.

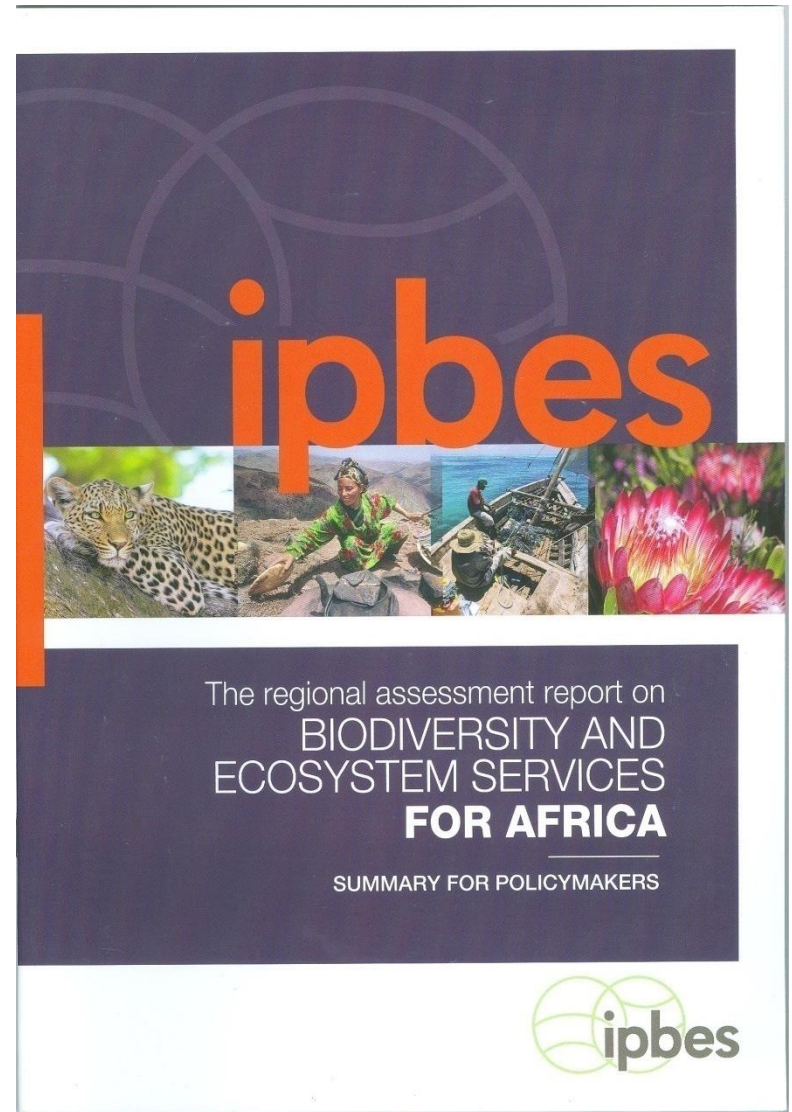


# Strategy element for the strengthening of national capacities in taxonomy





# Participation in the regional assessment of Biodiversity and Ecosystem Services



# Member of the IPBES Multidisciplinary Expert Panel (MEP)




Membre of IUCN CEM:

- Thematic Group Nature based Solution
- Thematic Group ecosystem restoration





A close-up photograph of a flower head, likely from a species in the Asteraceae family. The flower head is composed of numerous small, light-colored florets. Above the florets is a large, white, feathery pappus, which is the seed-dispersal structure. The base of the flower head is surrounded by several brown, pointed bracts. The background is blurred, showing green foliage and brown soil.

Thank you a lot  
for you  
attention!

7 7 2010