DOWNLOAD PDF SYSTEMATIC STUDIES IN THE MELASTOMATACEAE

Chapter 1 : Cochrane Handbook for Systematic Reviews of Interventions | Cochrane Training

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Meta-analysis A systematic review is a form of analysis that medical researchers carry out to synthesize all the available evidence on a particular question, such as how effective a drug is. A meta-analysis is a type of systematic review. Instead of drawing a conclusion from a single study, a meta-analysis looks at numerous studies for the answer. It pools numerical analyses from studies of similar design. A meta-analysis can also form part of a further systematic review. A panel of experts usually leads the researchers who carry out a systematic review. There are set protocols for the detailed search and analysis of the medical literature. A systematic review is considered a high form of evidence. The conclusions contribute to the formation of a medical consensus on the best form of treatment. The findings also inform policies set by state healthcare systems, such as whether they should fund a new drug. Conducting a review A systematic review compares results from a range of studies. Clinical guidelines lay out the treatment choices to be followed by health care providers and professionals. These guidelines depend on recommendations made on the basis of systematic reviews of all the available medical evidence. The method of conducting these reviews is important, because it must ensure the recommendations will result in the best healthcare for patients. There are step-by-step instructions for conducting systematic reviews. The Cochrane Library is a collection of systematic reviews that is widely respected by the international medical community. It follows a scientifically rigorous protocol to produce robust reviews. They provide a meticulous process through which researchers can synthesize data from a range of studies. Define the research question Researchers must first decide what research question they need an answer for. The aim could be, for example: Decide which studies to include in the review This will be partly decided by the research question, but further "eligibility criteria" will define in advance which studies the team will include or exclude. The studies must have a rigorous design, for example, a randomized control trial RCT. Search for the studies Step 3 outlines the sources to be consulted, and the search terms used to search for them. In a Cochrane review, specially trained search coordinators do this. The search should also involve attempts to reveal unpublished studies. Select the studies and collect the data Data are taken from studies that meet the predetermined eligibility criteria. The data may have to come from a variety of formats. Assess the risk of bias in the included studies This ensures that all the studies reviewed are relevant and reliable. For example, was the randomization in the trial double-blinded? Or was there a risk of bias, for example, in selecting participants for treatment or comparison? It is acceptable to include some studies of a lower quality, as long as the researchers take this kind of bias into account. Analyze the data and undertake meta-analyses This is the core process of a systematic review, and the main step towards synthesizing conclusions. The previous steps must be complete before carrying out this step. Address any publication bias Publication bias is when a study is specifically chosen for inclusion, or cherry-picked. This can lead to a misrepresentation of the true effects of treatment. Present the final results of the review The team publishes the work, with a table showing a summary of findings. Decision makers can use this published outcome.

Chapter 2 : Melastomataceae - Wikipedia

Systematic studies of Rhexia L. (Melastomataceae) / on ResearchGate, the professional network for scientists. For full functionality of ResearchGate it is necessary to enable JavaScript.

It is hypothesized that Al accumulation is symplesiomorphic for Melastomataceae and Memecylaceae, and that the feature characterizes the most primitive families in the Myrtales. Indeed, Al accumulation is also characteristic of Crypteroniaceae, Rhynchocalycaceae and Vochysiaceae. Crypteroniaceae and Rhynchocalycaceae probably take a basal position in a sister clade of the Memecylaceae and Melastomataceae, while Al accumulation suggests a basal position for Vochysiaceae in the Myrtaceae clade. Chenery and Sporne concluded that Al accumulation is a primitive character mainly characteristic of woody and tropical representatives of fairly advanced families e. The feature has been suggested to provide useful systematic information at different taxonomic levels in recent phylogenetic studies of the angiosperms Jansen et al. With respect to other metals, there is a significant variation in shoot heavy metal content at the classification level of order or above, which implies that these differences can be attributed to rather deep evolutionary processes. Accordingly, it is suggested that phylogeny influences the trait of heavy metal accumulation in flowering plants Broadley et al. Species of the Rubiaceae and Melastomataceae are among the most abundant and diversified plant families throughout the tropics. Moreover, it had already been noticed in the 18th century that leaves of Memecylon edule Roxb. Furthermore, Kukachka and Miller suggested that within the family Melastomataceae, systematic trends might be evident as all or many of the genera studied in this family show high Al concentrations in the wood. Their intrafamilial classification was poorly understood and relied largely on the system of Triana Recently, a cladistic analysis of morphological and anatomical characters resulted in a new subfamilial and tribal classification Renner, This system has now been tested, based on analyses of sequences from the rbcL and ndhF genes and the rpl16 intron Clausing and Renner, The present paper focuses on the occurrence of Al accumulators in Melastomataceae. We therefore examined leaves of herbarium material since the leaves of accumulating species generally contain high concentrations of Al. It is our aim to review the distribution of Al in representatives of all tribes and subfamilies, and to determine the systematic value of the feature in view of recent phylogenetic insights. A summary of the literature data allows a comparison of our results with earlier data. Finally, suggestions are presented on the evolution of Al accumulation in the order Myrtales. Further understanding of the distribution and evolution of Al accumulators and the physiological processes may contribute to the development of more resistant crops or plants that can be used for food, forage for animals or for recuperation of degraded lands. The feature was plotted on a molecular phylogenetic tree for Melastomataceae and Memecylaceae Clausing and Renner, , as well as for the order Myrtales Conti et al. The classification of Renner is followed throughout this paper. In 22 specimens the colour turned red to dark red, whereas a negative test was found for all other specimens tested. Within the Memecylaceae, all specimens tested were positive except one specimen of Memecylondichotomum. Many accumulators were found in the Kibessieae, Astronieae, Miconieae and Microlicieae. Positive and negative specimens occurred in the Oxyspora alliance of the Sonerileae, while numerous species of the Sonerilaâ€”Bertoloniaâ€”Gravesia alliance, the Melastomeae and Miconieae reacted negatively. Negative tests were also obtained for all Blakeeae. Positive tests were found for Rhynchocalyx Rhynchocalycaceae , Axinandra and Crypteronia Crypteroniaceae , but a specimen of Dactylocladus Crypteroniaceae was negative. For most species investigated here, only one leaf sample was tested. However, for five species two specimens were investigated. There was a striking difference between the two specimens of Memecylon dichotomum, with one sample producing a crimson colour and the other being clearly negative. The specimens of Crypteronia paniculata differed to a lesser extent. No differences were found between the different specimens of the other species; the specimens of Melastromastrumsegregatum were distinctly positive, whereas the samples of Arthrostemmaciliatum and Maietaguianensis were negative. Chenery a, a, b detected the major groups in which Al accumulation is dominant, namely Memecylaceae, Kibessieae, Astronieae, Merianeae, Rhexia Rhexieae , Microlicieae and Mico nieae. In only a small proportion of the

genera tested are there specimens that proved to be negative according to our tests, while all specimens tested by Chenery a, b were positive, namely Cambessedesia, Conostegia, Dionycha, Gravesia, Loreya, Mecranium, Osbeckia and Pachyloma. On the other hand, Al accumulation was detected in Dinophora and Sandemania, but the single specimens of these genera were negative according to Chenery b. However, these authors did not mention negative wood tests in their paper. Except for Dichaetanthera, all genera that reacted positively in wood tests belong to the Memecylaceae, Kibessieae, Astronieae, Merianeae and Miconieae. It is suggested that taxa with positive wood tests largely correspond with genera or species that show Al accumulation in the leaves, but two counter examples exist, namely Charianthus and Loreya. Similar results were obtained by comparing wood and leaf tests in Rubiaceae Jansen et al. However, a more detailed study of wood samples is needed to test this hypothesis in members of the Myrtales. Furthermore, most Al accumulators also show high Al levels in tissues of the bark, seeds and fruits. In some representatives of Memecylaceae Memecylon, Miconia , Myrtaceae Eugenia and Vochysiaceae Qualea, Vochysia , Al concentrations have been reported to be even higher in the bark than in the leaves Silva, ; Masunaga et al. The lower Al levels in secondary xylem could be linked with observations that localization of Al in the leaves of some Al accumulators is mainly in the phloem elements Haridasan et al. This may indicate that Al in accumulators is transported in higher concentrations through the phloem than the xylem. Genera with a very large number of Al accumulators include Clidemia 20 accumulators out of 21 species tested , Leandra out of , Melastoma 41 out of 41 , Memecylon out of , Miconia out of , Mouriri 33 out of 38 and Tibouchina 60 out of In contrast, Al accumulation appears to be entirely lacking in Medinilla zero out of 17 , Monochaetum zero out of 13 , Sonerila zero out of nine and Pleiochiton zero out of six. Bredia two out of four , Chaetostoma three out of five , Dissotis 15 out of 23 , Macrocentrum three out of six , Phyllagathis three out of seven and Tristemma four out of seven. In most other genera, from which a number of representatives have been tested, the majority of specimens are either positive [e. Astronia ten out of 11 , Driessenia three out of four] or negative [e. Bertolonia one out of four , Blakea one out of 11 , Poikilogyne one out of four]. This implies that, in general, the character is rather consistent at the generic level, which is in accordance with the general consistency found in Rubiaceae and several other angiosperm families Jansen et al. The old data summarized by Hutchinson are not included as these represent Al percentages of ash analyses. It is suggested that the precise Al concentration is correlated with the number of positive and negative specimens for each genus or species. A similar congruence between the mean relative leaf Al content and the number of accumulating species within a genus is demonstrated in Rubiaceae, for instance Jansen et al. However, more quantitative analyses are needed to verify this for the Memecylaceae and Melastomataceae. Moreover, variation in Al concentration among individuals of a species or between different species of a genus may be due, to some extent, to differences in growing conditions. It is well known that environmental influences, especially soil pH, determine the amount of soluble and toxic Al in the soil. There is also seasonal variation in Al levels in plant organs Mazorra et al. Hence, one must be careful in concluding that a genus or species is an Al accumulator, or that Al accumulation is completely absent, based on a limited number of tests. Also, one may not exclude the possibility that some of the herbarium specimens tested are misidentified. Unfortunately, the publications of Chenery a, b give no information at the species level and do not refer to herbarium material. The systematic significance of Al accumulation in Memecylaceae and Melastomataceae The distribution of Al accumulators is plotted on a molecular phylogenetic tree for Melastomataceae and Memecylaceae Clausing and Renner, ; Fig. It is clear that Al accumulation is most common in the primitive taxa of the Melastomataceae, especially Kibessieae, Astronieae, Merianeae and Miconieae, and, except for a few specimens, the feature characterizes all members of the Memecylaceae, which include primary forest trees or more rarely shrubs. Most of the species in these taxa probably represent strong accumulators. Most interesting is the fact that the primitive status of Al accumulation, as suggested on the basis of statistical correlations Chenery and Sporne, , is also supported for the study group. Indeed, the tribes that are entirely or almost completely characterized by Al accumulators are primitive. This implies that Al accumulation represents a primitive plesiomorphic character state, which is inherited from the common ancestor of Memecylaceae and Melastomataceae. Similarly, the presence of Al accumulators is mainly restricted to the basal Rubioideae among the Rubiaceae Jansen et al.

Since the feature is much more variable in the derived members of the Melastomataceae, Al accumulation shows poor phylogenetic signals, and allows only few systematic implications within this family. The genus Macrocentrum was traditionally placed in Bertolonieae, but falls at the base of the Miconieae and Merianieae Clausing and Renner, However, this may also be explained by the occurrence of epiphytes in this group see below. The large number of Al accumulators also supports the relationship between the Rhexieae and Microlicieae. The genus Arthrostemma, however, which was placed in the Melastomateae following Renner , shows a conspicuous lack of accumulation, but this is probably due to its herbaceous habit see below. Species of Arthrostemma are erect or somewhat perennial herbs Almeda, , but Rhexia frequently comprises woody shrubs. Hypotheses on the absence of Al accumulation in some Melastomataceae The lack of Al accumulation in numerous more or less derived clades of the Melastomataceae needs special attention. One possibility is that the habit may be a selective factor for high Al concentrations in the leaves. Except for some remarkable exceptions, it is well known that herbs generally do not accumulate Chenery, a, b, , but the physiological processes for this relationship are still not understood. The tendency to herbaceousness in several more derived branches of the Melastomataceae tends to be closely related to a relatively low shoot Al content. For example, the tribe Miconieae shows a striking difference in the number of accumulators between the palaeotropical genera approx. The most likely explanation for this contrast is that the palaeotropical Miconieae are more herbaceous and include to a lesser extent trees or treelets. A similar explanation may be given for the two groups in the Sonerileae. Nevertheless, several counter examples of herbaceous genera include accumulating specimens [e. Phyllagathis three out of six , Castratella one out of one , Eriocnema two out of two , Pterogastra one out of one]. Equally, several woody taxa show no accumulation [e. Amphiblemma zero out of two , Comolia zero out of two , Chaetolepis zero out of four , Ernestia zero out of four , Heterocentron zero out of two , Monochaetum zero out of 13]. Hence, it is not a simple matter to determine whether changes in form or habit precede changes in Al response mechanisms. Besides this difference in Al uptake between the woody and herbaceous habit, there might also be a divergence between the perennial or annual condition. The absence of high Al levels might well be caused by the epiphytic habit. Al concentrations in leaves of mistletoes parasitizing plants from the cerrado belt of Brazil depend on the nature of the host species. Genera with epiphytic or hemiepiphytic species include Blakea, Medinilla, Monolena, Topobea and Triolena, and some of the Dissochaeteae known are facultative or obligate epiphytes Clausing et al. This may illustrate that Al accumulation has not been lost during evolution, but is simply not expressed in most of the epiphytes analysed in this study. Two other reasons can be suggested to explain the absence of accumulation in numerous Melastomataceae: Hence, the variation within a genus or species can sometimes be explained by differences in soil acidity. It is not a simple matter, however, to consider the environmental influences without detailed information of growing conditions. Unfortunately, no precise data are available when using herbarium material, and fieldwork is required for further investigation of ecological conditions on Al accumulation. Moreover, in tropical rainforests, Al accumulators and excluders which coexist at the same sites vary greatly in leaf Al concentrations e. Haridasan, ; Cuenca and Herrera, , This clearly indicates that plants colonizing acid soils may successfully use different strategies and that these are not entirely under environmental control. Besides Melastomataceae and Memecylaceae, Al accumulation is very common in the Vochysiaceae.

Chapter 3 : Medical research: Systematic review and meta-analysis

Systematics of Miconia subcompressa, a Hispaniolan endemic comprised of three eco-geographic subspecies Walter Stephen Judd, Lucas Charles Majure, Gretchen Mary Ionta, Kurt Maximillian Neubig Abstract The pattern of morphological variation in Miconia subcompressa, a species endemic to the mountains of southern Hispaniola, is assessed by a consideration of numerous herbarium specimens many collected by the authors and a phenetic Principal Components analysis of 14 vegetative characters, and morphological entities are compared with a phylogenetic hypothesis based on nrDNA-sequence variation ITS, ETS including several accessions of this species from across its geographic and elevational range as well as related species of Miconia sect. Chaenopleura, especially those of the Massif de la Hotte, Haiti. Our morphological data, incorporating recently collected herbarium material, indicate that the populations of M. Finally, Miconia subcompressa may be paraphyletic, as preliminary molecular evidence suggests that M. Prodomus systematis naturalis regni vegetabilis 3. Flora Brasiliensis 14 3: Melastomaceae et Cucurbitaceae Portoricenses a cl. Molecular Phylogenetics and Evolution Memoirs of the Wernerian Natural History Society 4: International Journal of Plant Sciences Conradina cygniflora Lamiaceae , a new, endangered species from Florida. A modest proposal for appropriate recognition and usage. Patterns of stamen diversification in a megadiverse Neotropical genus. Bulletin of the Torrey Botanical Club Selecting nuclear DNA sequence loci for plant species-level phylogeny reconstruction. Philosophical Transactions of the Royal Society, Botany Sagraea Melastomataceae from the Macaya Biosphere Reserve, Haiti, and twelve relevant new species combinations. Chaenopleura Miconieae, Melastomataceae in the Greater Antilles. Systematic Botany Monographs Systematics of the Miconia subcompressa complex of Hispaniola, including the description of two new species. Revision of the species of the Miconia crotonifolia complex. A revision of the species of the Miconia desportesii complex on Hispaniola. Miconieae , a new species from Hispaniola. Miconia howardiana, a new species from Hispaniola. V 1 Miscellaneous new species from the Dominican Republic. Miconieae , a new species from the Massif du Nord, Haiti, and sixteen new names and combinations. Journal of the Botanical Research Institute of Texas 7: Homoplasy is the rule not the exception. Journal of the Botanical Research Institute of Texas: Printed for the author, London. Biology and Philosophy 2: Species concepts and phylogenetic theory: Columbia University Press, New York, pp. Doctoral dissertation, Gainesville, FL. Imprenta de Sancha, Madrid. The principles and practice of numerical classification. Maximum Likelihood-based phylogenetic analyses with thousands of taxa and mixed models. Sinauer Associates, Sunderland, MA. A global directory of public herbaria and associated staff. A paraphyletic species and an adaptive shift from zoochorous trample burrs to anemochorous nuts. Transactions of the Linnean Society of London A note of caution. Kongliga Vetenskaps Academiens Handlingar Practical taxonomic procedure for biologists. Columbia University Press, New York. Smithsonian Contributions to Botany

Chapter 4 : Systematic review - Wikipedia

Request full-text. A systematic study of the genus Heterocentron (Melastomataceae) / Article Â· January with 4 Reads.

Penneys, Assistant Professor Ph. My primary interests are in the systematics, natural history, and evolution of angiosperms. Current projects include phylogenetic studies of Melastomataceae, using a global, multi-locus, molecular phylogeny that will serve as a foundation for a revised familial classification and biogeographical analyses. The Melastomataceae are one of the most diverse families of angiosperms and as such serve as excellent models for small- and large-scale investigations. My research combines fieldwork, herbarium, and molecular methods for studying speciation and adaptive radiations, plant-animal interactions pertaining to pollinator shifts and reward systems, ant- and mite-plant mutualisms, morphological character evolution, conservation, and phylogeography. Historical Biogeography of the Neotropical tribe Miconieae Melastomataceae reveals a pattern of progressive colonization from Amazonia to other Neotropical forests. Proceedings of the National Academy of Sciences. Catalogue of the plants of Colombia. A specialized bird pollination system with a bellows mechanism for pollen transfer and staminal food body rewards. New and reconsidered species of Tropical American Melastomataceae. Preliminary phylogeny of the Astronieae Melastomataceae based on nuclear and plastid DNA sequence data, with comments on the Philippine endemic genus, Astrocalyx. Philippine Journal of Science Special Issue: Combined molecular and morphological phylogenetic analyses of the Blakeeae Melastomataceae. International Journal of Plant Sciences New combinations and a revised circumscription for the Blakeeae Melastomataceae. Botanical Journal of the Linnean Society Digital resource at www. Noteworthy collections of Heterotis rotundifolia in Jamaica and Dominica. Multiplications of floral organs in flowers - a case study in Conostegia Melastomataceae, Myrtales. Ronse De Craene eds. Flowers on the Tree of Life. Phylogenetics and morphology in the Blakeeae Melastomataceae. A new Neotropical berry-fruited tribe. New species of Chalybea Naud. A new species from Ecuador. Proceedings of the California Academy of Sciences Phylogeny of Miconia Melastomataceae: Patterns of stamen diversification in a megadiverse Neotropical genus. International Journal of Plant Science Comparative anatomy and morphology of nectar-producing Melastomataceae. Annals of Botany Preliminary molecular phylogenetic studies in Pachyanthus Miconieae, Melastomataceae. Multiple events of dispersal and radiation of the tribe Miconieae Melastomataceae in the Caribbean. Checklist of the plants of the Guiana Shield Venezuela: A simple and safe method for rapid drying of plant specimens using forced-air space heaters. A cladistic analysis and systematic revision of Charianthus Miconieae: Melastomataceae using morphological and molecular characters. Taxonomic studies in the Miconieae Melastomataceae. A revision of the species of the Miconia desportesii complex on Hispaniola. A preliminary phylogeny of the tribe Miconieae Melastomataceae based on nrITS sequence data and its implications on inflorescence position. Two new species of Charianthus Melastomataceae: Miconieae from the Lesser Antilles. Rediscovery of Ossaea alloeotricha, an endemic of the high-elevation Massif de la Hotte, Haiti, and its transfer to Miconia Melastomataceae: The resurrection and lectotypification of Tetrazygia fadyenii Melastomataceae: A hummingbird-pollinated treelet endemic to Jamaica. Melastomataceae of the World [online]. A guide to the common flowering plant families of Monteverde, Costa Rica. Published by the author.

Chapter 5 : Taxonomy - GRIN-Global Web v

While some studies support this hypothesis,, other investigations show that the systematic and taxonomic value of seed micromorphology may be limited -. The Melastomataceae are one of the largest flowering plant families [10], with genera and over 5, species mainly distributed in tropical and subtropical areas of the world [

Characteristics[edit] A systematic review aims to provide a complete, exhaustive summary of current literature relevant to a research question. The first step in conducting a systematic review is to create a structured question to guide the review. The Methodology section of a systematic review will list all of the databases and citation indexes that were searched such as Web of Science , Embase , and PubMed and any individual journals that were searched. The titles and abstracts of identified articles are checked against pre-determined criteria for eligibility and relevance to form an inclusion set. This set will relate back to the research problem. Each included study may be assigned an objective assessment of methodological quality preferably by using methods conforming to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses PRISMA statement the current guideline [8] or the high quality standards of Cochrane. An additional rater may be consulted to resolve any scoring differences between raters. Groups like the Campbell Collaboration are promoting the use of systematic reviews in policy-making beyond just healthcare. A systematic review uses an objective and transparent approach for research synthesis, with the aim of minimizing bias. While many systematic reviews are based on an explicit quantitative meta-analysis of available data, there are also qualitative reviews which adhere to standards for gathering, analyzing and reporting evidence. Defining a question and agreeing an objective method. For example, only selecting research that is good quality and answers the defined question. This combination of data can be visualised using a blobbogram also called a forest plot. Research fields[edit] Medicine and biology[edit] The Cochrane is a group of over 37, specialists in healthcare who systematically review randomised trials of the effects of prevention, treatments and rehabilitation as well as health systems interventions. When appropriate, they also include the results of other types of research. Diagnostic test accuracy reviews assess how well a diagnostic test performs in diagnosing and detecting a particular disease. Methodology reviews address issues relevant to how systematic reviews and clinical trials are conducted and reported. Qualitative reviews synthesize qualitative and quantitative evidence to address questions on aspects other than effectiveness. Overviews of Systematic Reviews OoRs are a new type of study in order to compile multiple evidence from systematic reviews into a single document that is accessible and useful to serve as a friendly front end for the Cochrane Collaboration with regard to healthcare decision-making. The Cochrane Collaboration provides a handbook for systematic reviewers of interventions which "provides guidance to authors for the preparation of Cochrane Intervention reviews. The Campbell Collaboration "helps people make well-informed decisions by preparing, maintaining and disseminating systematic reviews in education, crime and justice, social welfare and international development. The Campbell Collaboration was created in and the inaugural meeting in Philadelphia, USA, attracted 85 participants from 13 countries. Early attempts to transfer the procedures from medicine to business research have been made by Tranfield et al. Based on the experiences they have made in their own discipline, these authors have adapted the methodological steps and developed a standard procedure for conducting systematic literature reviews in business and economics. They proposed several solutions, including limiting studies in meta-analyses and reviews to registered clinical trials, requiring that original data be made available for statistical checking, paying greater attention to sample size estimates, and eliminating dependence on only published data. Some of these difficulties were noted early on as described by Altman:

Chapter 6 : Walter Judd â€“ Biology

Judd, W.S. & Beaman, R.S. () Taxonomic studies in the Miconieae (Melastomataceae). II. Systematics of the Miconia subcompressa complex of Hispaniola, including the description of two new species.

A second edition of the book version of the Handbook will be published by Wiley in mid In addition, an online version will provide additional chapters and supplementary material. A number of chapters are either complete or nearly complete. We are making available draft PDF versions of these chapters to Cochrane members Login required to coincide with the Edinburgh Colloquium. Current version available below. Click here to browse Handbook version 5. The current complete version of the Handbook is 5. All authors should consult the Handbook for guidance on the methods used in Cochrane systematic reviews. The Handbook includes guidance on the standard methods applicable to every review planning a review, searching and selecting studies, data collection, risk of bias assessment, statistical analysis, GRADE and intepreting results , as well as more specialised topics non-randomized studies, adverse effects, economics, patient-reported outcomes, individual patient data, prospective meta-analysis, qualitative research, reviews in public health and overviews of reviews. We produced a limited number of Version 5. There are currently no substantive changes to methods in these chapters. Click here for selected new chapters from Handbook v5. You can also access the Handbook in the following ways: Printable PDF versions of all chapters Version 5. Our Glossary includes definitions of methodological and organisational terms as used by Cochrane. Contact the Editors For further information and for any Handbook enquiries please contact: Jackie Chandler, Handbook Managing Editor, jchandler cochrane. The Handbook editorial team now includes: The Cochrane Collaboration, Details of how to cite individual chapters are available in each chapter.

Chapter 7 : Biology and Marine Biology: UNCW

Abstract Phylogenetic relationships in the myrmecophytic genus Tococa (Melastomataceae) were investigated using morphological data. The data matrix comprised 42 ingroup taxa, two of them previously described as Microphysca, the monotypic genus Myrmidone, and 11 species of the genus Miconia as outgroups.

This article has been cited by other articles in PMC. Abstract Low-copy nuclear gene primers were developed for phylogenetic studies across the Melastomataceae. Total genomic libraries from eight species in the Melastomataceae along with one transcriptome were used for marker identification and primer design. Eight exon-primed intron-crossing markers were amplified with success in taxa of nine tribes in the Melastomataceae. The new markers were directly sequenced for eight samples of closely related species of Miconia Chaenanthera clade in the tribe Miconieae. The DNA sequences for the eight loci ranged from to aligned base pairs. Compared with four commonly used markers in other studies, the loci developed here had a higher number of variable sites than plastid spacers 7â€”16 vs. The novel primer pairs should be useful for a broad range of studies of systematics and evolution in the diverse Melastomataceae. Melastomataceae, Miconieae, phylogeny, systematics, single copy The Melastomataceae Juss. The family has ca. Recently, several local radiations with great potential to add to our understanding of evolution in tropical regions have been uncovered by molecular studies Goldenberg et al. The plastid rbcL and ndhF genes and the rpl16 intron have been the popular choice for inferring relationships among major clades in the family Clausing and Renner, ; Goldenberg et al. Low-copy nuclear genes have scarcely been explored, being restricted to partial sequences of the genes GapC and waxy Stone, ; Reginato and Michelangeli, in prep. Low-copy nuclear markers will likely improve understanding of lineage evolution in Melastomataceae. Here, we developed primer pairs for eight putative single-copy nuclear genes. Amplification was tested in several genera from distinct tribes in the family, while further direct sequencing was performed for eight species of the Chaenanthera clade, a ca. Phylogenetic information of the new markers along with previously sequenced markers for the same Chaenanthera samples is presented. Miconieae were used for primer design. The number of total reads yielded was on average ca. Paired reads were imported into Geneious 7. Mapping was performed in Geneious 7. Approximately transcripts passed these criteria and were further mapped against the pool of total genomic de novo assembled contigs from all eight libraries. Then, we selected eight matches with high coverage, appropriate intronic-sized regions, and a single hit per sample. Primers flanking the target intronic regions were designed with Primer3, using the default settings Rozen and Skaletsky, Primer sequences and their putative Arabidopsis homolog are presented in Table 1 , and the gene models showing primer locations are shown in Fig. Primer sequences for the eight putative single-copy nuclear markers developed to amplify across Melastomataceae.

Chapter 8 : Primers for low-copy nuclear genes in the Melastomataceae

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Systematics of the Octopleura Clade of Miconia Melastomataceae: These had previously been described in Ossaea and Clidemia, two traditionally recognized genera of Miconieae, but this natural group is nested within the megadiverse genus Miconia. This study represents the first comprehensive monograph of the clade across its entire range based on a study of over collections from seven herbaria. Thirteen new combinations are made Miconia aguilarii, M. Thirteen new names are provided for epithets preempted in Miconia M. Six new species are proposed M. A taxonomic key, detailed descriptions, distribution maps, and phenological and ecological information are presented for all species, along with SEM images of seed morphology for selected species. A preliminary geospatial conservation assessment is made for each species. Diagnostic illustrations are included for all new taxa and other selected species. A molecular phylogenetic analysis based on four genic loci is presented, along with a reconstruction of ancestral character states. Molecular and morphological data are used to develop a better understanding of the constituent species of the clade and their evolutionary relationships. Three subclades, Approximata, Quinquenervia, and Variabilis, are evident within the Octopleura clade, and supported by morphological synapomorphies. An outcome of spatial crowding in the bud. Canadian Journal of Botany 83 2: Annals of the Missouri Botanical Garden Flora de Nicaragua Vol. Monographs in systematic botany from the Missouri Botanical Garden, St. Proceedings of the California Academy of Sciences 55 4: Manual de plantas de Costa Rica Vol. Monographs in systematic botany from the Missouri Botanical Garden Vol. Systematic Botany Monographs Botany of the Voyage of H. Smith, Elder and Co, London, pp. Flora of the Venezuelan Guayana. Missouri Botanical Garden Press, St. Kongliga, Vetenskaps Academiens Handlingar, pp. Mountain View, California, pp. Librairie Greque-Latine-Allemande, Paris, pp. The role of food, habitat, predation and competition. Department of Ecology and Evolutionary Biology. University of Arizona, Tucson, Arizona, pp. Does food abundance explain altitudinal migration in a tropical frugivorous bird? Canadian Journal of Zoology 88 2: Bulletin of the Torrey Botanical Club Stanford University Press, Stanford, California, pp. Flora Neotropica 2 Supplement. Memoirs of the Wernerian Natural History Society 4: Santa Barbara, California, pp. Bulletin of the Torrey Botanical Club 52 8: Bulletin of the Torrey Botanical Club 56 2: Bulletin of the Torrey Botanical Club 68 4: Universidade Estadual de Campinas, Campinas, pp. International Journal of Plant Science 7: Plant Systematics and Evolution Journal of Experimental Botany International Journal of Plant Sciences Prepared by the Standards and Petitions Subcommittee. Generic realignments among terminal-flowered taxa. Apud Viduam Herissant, Paris, pp. Journal of Tropical Ecology Seed dispersal and frugivory: Analysis of phylogeny and character evolution software. Sinauer Associates, Sunderland, Massachusetts. Neue Arten aus Ecuador IV. Plant Biology 14 5: An annotated list and key. Proceedings of the California Academy of Sciences Series 4, 61 9: The Botanical Review Botanical Journal of the Linnean Society The Journal of the Torrey Botanical Society 2: American Journal of Botany Molecular Phylogenetics and Evolution Trends in Ecology and Evolution 6 6: Neotropical epiphytes with mite and ant domatia. University of Florida, Gainesville, Florida, pp. International Journal of Plant Science Journal of Molecular Evolution Bayesian phylogenetic inference under mixed models. Imprenta de Sancha, Madrid, 67 pp. Typis Gabrielis de Sancha, Madrid, pp. The Botanical Gazette 20 7: Advances in vegetation science â€" Lectures on Mathematics in the Life Sciences Proceedings of the California Academy of Sciences 47 6: Transactions of the Linnean Society of London, Botany Proceedings of the California Academy Sciences 57 7: Plantae Uleanae novae vel minus cognitae. Mites in the canopy. Forest Canopies 2nd Ed. Compiled by the World Conservation Monitoring Centre. Cambridge University Press, Cambridge, pp. Flora de Venezuela Vol. Flora of Ecuador Vol. Smithsonian Contributions to Botany Molecular Biology and Evolution Refbacks There are currently no refbacks.

Chapter 9 : Study Design - Systematic Review

Systematic Studies in the Melastomataceae: Bellucia, Loreya, and Macairea (Memoirs of the New York Botanical Garden Vol. 50) Susanne Renner Published by The New York Botanical Garden Press ().

Formulate a clear, well-defined research question of appropriate scope. Find existing reviews on your topic to inform the development of your research question, identify gaps, and confirm that you are not duplicating the efforts of previous reviews. Consider using a framework like PICO see below to define you question scope. Define inclusion and exclusion criteria. Clearly state the criteria you will use to determine whether or not a study will be included in your search. Consider study populations, study design, intervention types, comparison groups, measured outcomes. Work with a librarian to help you design comprehensive search strategies across a variety of databases. Approach the gray literature methodically and purposefully. Collect ALL of the retrieved records from each search into a reference manager, such as Endnote, and de-duplicate the library prior to screening. Select studies for inclusion based on pre-defined criteria. It is highly recommended that two independent reviewers screen all studies, resolving areas of disagreement by consensus. Extract data from included studies. Use a spreadsheet, or systematic review software, to extract all relevant data from each included study. It is recommended that you pilot your data extraction tool, to determine if other fields should be included or existing fields clarified. Evaluate the risk of bias of included studies. Use a Risk of Bias tool such as the Cochrane RoB Tool to assess the potential biases of studies in regards to study design and other factors. You can adapt existing tools to best meet the needs of your review, depending on the types of studies included. Present results and assess the quality of evidence. Clearly present your findings, including detailed methodology such as search strategies used, selection criteria, etc. Perform a meta-analysis if the studies allow. Provide recommendations for practice and policy-making if sufficient, high quality evidence exists, or future directions for research to fill existing gaps in knowledge or to strengthen the body of evidence. Distilling the evidence From the Centre for Health Communication and Participation Registering your protocol It is recommended that you register your systematic review protocol prior to conducting your review. This will improve transparency and reproducibility, but will also ensure that other research teams do not duplicate efforts. If you are working with the Cochrane or Campbell Collaborations, you will publish your protocol with those organizations. If you are working independently, consider registration with: An international database of prospectively registered systematic reviews in health and social care. Key features from the review protocol are recorded and maintained as a permanent record. An open source web application that connects and supports the research workflow. Researchers use the OSF to collaborate, document, archive, share, and register research projects, materials, and data. OSF can be used to pre-register a systematic review protocol and to share documents such as a Zotero library, search strategies, and data extraction forms.