CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA
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Nineteenth meeting of the Conference of the Parties
Panama City (Panama), 14 – 25 November 2022

MEDICINAL PLANT NAMES SERVICES

1.  This information document is submitted by the Royal Botanic Gardens, Kew, United Kingdom of Great Britain and Northern Ireland in relation to document CoP19 Doc. 82 on *Medicinal and aromatic plant species*.[*]

2.  This document is to inform Parties about the Medicinal Plant Names Services (MPNS) Database as it is referenced in the proposed draft decisions for *Medicinal and aromatic plant species.*

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[*] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

**What is Kew's Medicinal Plant Names Services (MPNS)?**

1. A global reference catalogue of more than 34,000 plant species used and traded for medicinal purposes from diverse global traditions, or cited in regulations, trade, natural product chemistry.
2. The Royal Botanic Gardens, Kew (Kew) hosts, curates and publishes the International Plant Name Index (www.ipni.org) and World Checklist of Vascular Plants: both now visible through Plants of the World Online (https://powo.science.kew.org/ ). The taxonomy is actively curated to reflect the 10,000 changes to plant nomenclature published every year as new molecular (DNA) and chemical evidence accrues as to the relationships between species.
3. The Medicinal Plant Names Service (MPNS) database builds upon these core taxonomic references by collating scientific and non-scientific names used in relevant legislation and literature and is mapped onto Kew's comprehensive nomenclature and taxonomy.
4. MPNS indexes 0.7 million alternative terms used to refer to these plants and the products derived from them in multiple languages and scripts: common names, pharmaceutical names from pharmacopoeia, trade and scientific names as they are employed in the literature and regulations.
5. MPNS is publicly and freely available through www.kew.org/mpns.

**Relevance to CITES**

Medicinal and aromatic plant species regulated by CITES require Non-Detriment Findings to ensure exports of specimens are not detrimental to wild populations. The pharmaceutical literature and terminologies are perplexing for CITES Authorities and, as with CITES Checklists, understanding the alternative names in use in trade is essential for CITES implementation (Figure 1).
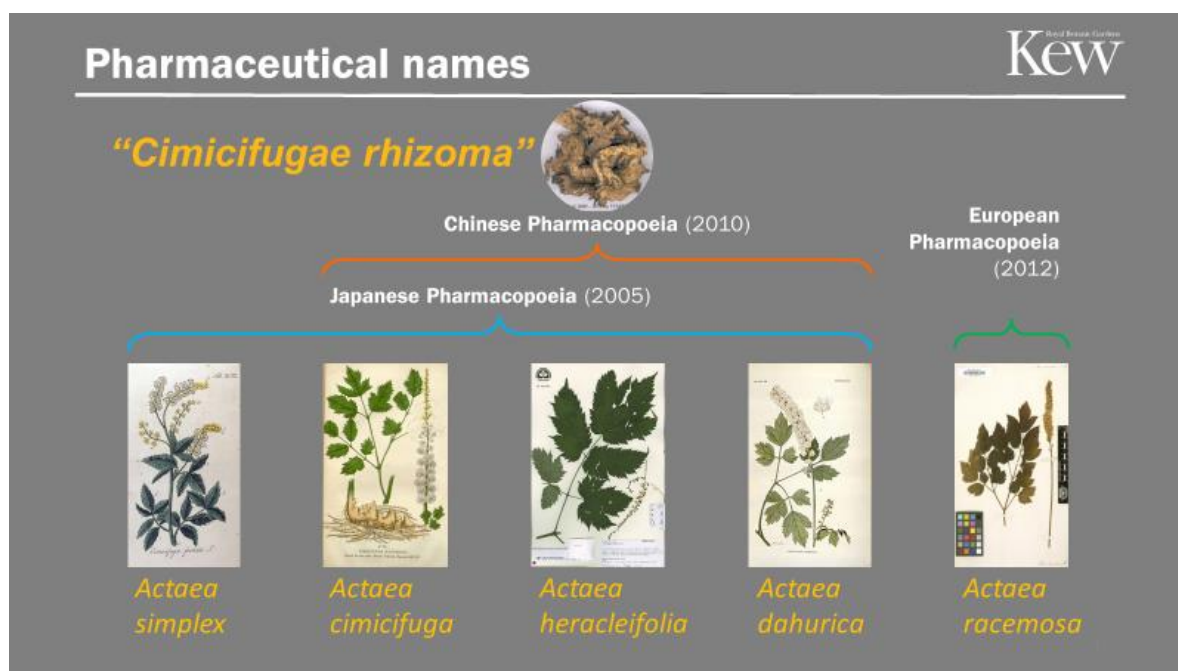


Figure 1: Case study of a pharmaceutical name "*Cicimifugae rhizome"* and how it refers to five plant species; *Actaea simplex, Actaea cimicifuga, Actaea heracleifolia, Actaea dahurica, Actaea racemosa*. The five species have differing chemistries and uses. The Medicinal Plant Names Service links these names together citing the medicinal sources, pharmaceutical names and taxonomic resources.

**Why is MPNS needed?**

Medicinal plants are traded globally. One plant can be known by different names in different communities, disciplines, and traditions. One name could be applied for different plants by different people. Non-scientific names may be ambiguous and unclear as to which species it refers to. This is essential for communications by professionals in health, nutrition or conservation to employ scientific plant nomenclature appropriately. MPNS is a database for all names that are in use for a plant cited from publications or regulations.
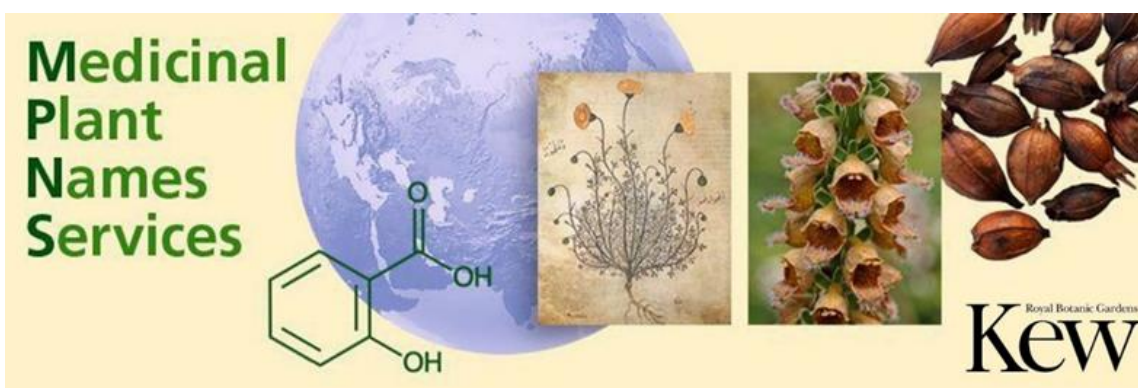
**What does MPNS offer?**

The MPNS database is freely available for day-to-day use by CITES staff and collaborators.

1) You can use the MPNS portal (www.kew.org/mpns) to
    a) Search for any name (common, trade, scientific, etc.) to find:
        i) all associated plants (for example 'ginseng' applies to substances derived from 16 different species).
        ii) the current accepted name and complete scientific synonymy (as potentially used within CITES) and the non-scientific, pharmaceutical and trade names that are in use for each plant.
    b) health regulations and trade references citing each species
    c) access to Kew's wider botanical information
    d) comprehensive searches of external datasets such as PubMed search engine
2) MPNS also offers additional data services including, but not limited to:
    a) **validation** of plant lists, corrections, data integrity, a modern taxonomy and full synonymy
    b) **harmonization** of plant lists shared among multiple organisations
    c) **data downloads** enriching our partner's datasets
    d) **automatic refresh** of datasets or lists supplied previously
    e) **consultancies** advising on how to effectively manage and store plant information.
3) MPNS "Professional training" includes best practice guidelines and recommended workflows for those managing botanical nomenclature for medicinal plants https://www.kew.org/science/training-and-education/continuing-professional-development/herbal-plant-scientific-names

MPNS will now cover all natural health products, adding food supplements, teas, cosmetics, nutrition, allergens or toxins, substitute species and fungi (www.kew.org/plants-for-health). To-date MPNS data and terminologies have been used by The United States Food and Drug Administration (USFDA), World Health Organization (WHO), and the International Organization for Standardization (ISO) for the identification of medicinal plants. MPNS is updated every year, with new plants being added along with a verification of the underlying taxonomy.

**Further information**

- Further information on the MPNS database, search portal & partners: www.kew.org/mpns
- Contact us: MPNS@Kew.org
- Sign up for the MPNS newsletter: https://mailchi.mp/732a7ac370d8/mpns-sign-up
- Read about our plans to cover all health products: https://www.kew.org/plants-for-health

**Selected Publications**

Allkin, B., Patmore, K. (2022). Botanical Nomenclature for Herbal Medicines and Natural Products: Its Significance for Pharmacovigilance. In: Barnes, J. (eds) Pharmacovigilance for Herbal and Traditional Medicines. https://doi.org/10.1007/978-3-031-07275-8_8

ISO 11238:2012. Health Informatics: Identification of medicinal products -- Data elements & structures for the

unique identification and exchange of regulated information on substances. Technical Committee ISO/TC 215, Health Informatics. ISO; 2012: 1 - 41

Rivera, D., Allkin, R., Obón, C., Alcaraz, F., Verpoorte, R., Heinrich, M. (2014). What is in a name? The need for accurate scientific nomenclature for plants. Journal of Ethnopharmacology 152, 393–402. https://doi.org/10.1016/j.jep.2013.12.022