

CONVENCIÓN SOBRE EL COMERCIO INTERNACIONAL DE ESPECIES
AMENAZADAS DE FAUNA Y FLORA SILVESTRES



Decimocuarta reunión de la Conferencia de las Partes
La Haya (Países Bajos), 3-15 de junio de 2007

EXAMEN DE LAS PROPUESTAS DE ENMIENDA A LOS APÉNDICES I Y II

A. Propuesta

Enmendar la anotación a las *Euphorbia* spp. incluidas en el Apéndice II como sigue:

Solamente las especies suculentas, sin tallo en forma de lápiz, no coraliformes, no candelabriformes, con las formas y dimensiones indicadas, excepto las especies incluidas en el Apéndice I:

- a) *Euphorbia* spp. suculentas con **tallos en forma de lápiz**: plantas enteras sin espinas, con tallos erectos de hasta 1 cm de diámetro y más de 25 cm de longitud, sin ramas o con ramificaciones que parten sobre todo de la base, sin hojas o con hojas muy pequeñas;
- b) *Euphorbia* spp. suculentas **coraliformes**: plantas enteras sin espinas, con ramificaciones múltiples, a veces con tallos afilados de hasta 3 cm de diámetro y más de 50 cm de longitud, sin hojas o con hojas poco visibles o efímeras; y
- c) *Euphorbia* spp. suculentas **candelabriformes**: plantas enteras con tallos angulados o alados y espinas en pares confinadas en los bordes, al menos de 3 cm de diámetro y más de 50 cm de longitud, con o sin ramas.

B. Autor de la propuesta

Suiza

C. Justificación

1. Taxonomía

1.1 Clase: Magnoliopsida

1.2 Orden: Euphorbiales

1.3 Familia: Euphorbiaceae

1.4 Género, especie o subespecie, incluido el autor y el año: *Euphorbia* Linné 1753.

1.5 Sinónimos científicos: (solo los nombres relevantes para las especies *Euphorbia* suculentas) *Tithymalos* Haworth (nom. Illeg.), *Tithymalos* Gärtner 1790, *Dactylanthes* Haworth 1812, *Medusea* Haworth 1812, *Treisia* Haworth 1812, *Tirucallia* Rafinesque 1836, *Lacanthis* Rafinesque 1837, *Anthacantha* Lemaire 1857, *Arthrothamnus* Klotzsch & Garcke 1859 (nom. Illeg.), *Sterigmanthe* Klotzsch & Garcke 1859, *Lyciopsis* (Boissier) Schweinfurth 1867.

1.6 Nombres comunes: español: euforbia
 francés: euphorbe
 inglés: spurge

1.7 Número de código: ---

2. Visión general

2.1 Antecedentes

La mayoría de las Partes en la Convención, incluida la autora de la propuesta, son Estados del área de distribución de *Euphorbia* spp. El género *Euphorbia* contiene cerca de 2.000 especies, la mayoría de ellas herbáceas, con una distribución mundial en zonas templadas y tropicales. Las especies arborescentes, arbustivas y suculentas se encuentran casi exclusivamente en las regiones tropicales y subtropicales, y las verdaderamente suculentas, que totalizan más de 500, se dan principalmente en las regiones más secas de África y Madagascar, donde su hábito de crecimiento varía de pequeñas matas perennes a arbustos y árboles grandes (Carter in Egli, ed., 2002). Todavía no se ha propuesto una clasificación infragenérica totalmente satisfactoria de este complejo género, a escala mundial, y en el *Illustrated Handbook of Succulent Plants* (Carter in Egli, ed., 2002) se adopta un concepto artificial muy amplio, basado en caracteres morfológicos, como las formas de crecimiento, para dividir la suculenta *Euphorbia* spp. en cinco grupos parcialmente artificiales con varios subgrupos.

La inclusión de *Euphorbia* spp. en el Apéndice II entró en vigor el 1 de julio de 1975. Está anotada con #1 [Designa todas las partes y derivados, excepto: a) las semillas, las esporas y el polen (inclusive las polineas); b) los cultivos de plántulas o de tejidos obtenidos *in vitro*, en medios sólidos o líquidos, que se transportan en envases estériles; y c) las flores cortadas de plantas reproducidas artificialmente]. Las especies no suculentas se excluyeron con efecto de 18 de septiembre de 1997, y es excepcional en las inclusiones en la CITES que plantas sean objeto de una inclusión dividida sobre la base de las características morfológicas en lugar de taxonómicas. El criterio de suculencia carece de mayor precisión, lo que permite interpretaciones y un cumplimiento incoherente. Por lo tanto, se estableció como referencia la *Lista CITES de taxa Euphorbia suculenta (Euphorbiaceae)*, 2ª edición, (Carter y Egli, 2003), que contiene referencias de cerca de 900 nombres de taxa aceptados de *Euphorbia* spp., que son suculentos, incluidos taxa subespecíficos. Se incluyeron 10 especies de Madagascar en el Apéndice I con efecto de 18 de enero de 1990, y de 16 de febrero de 1995 en un caso. Todos son artículos de coleccionista enanos, comerciados para la horticultura, con tuberas subterráneas y principalmente hojas suculentas. El Comité de Flora los incluyó en la lista de taxa para el examen periódico de los Apéndices en su 15ª reunión (Ginebra, mayo de 2005). Se excluyeron expresamente de la CITES varios cultivares: *E. trigona* Miller 1768 (18/09/97), *E. lactea* Haworth 1812, con ciertas características (12/01/2005) y *E. 'Mili'* con ciertas características (12/01/2005). Esto refleja los esfuerzos por reducir la carga sobre las Autoridades Administrativas de concesión de licencias e información respecto a especímenes que tienen su origen en la reproducción artificial y se comercian internacionalmente en grandes cantidades.

El comercio internacional de *Euphorbia* spp. suculentas se analizó en un examen específico, insistiendo en especímenes vivos reproducidos artificialmente. Se identificaron los principales taxa y los principales países. Según los datos sobre el comercio CITES, hay 328 especies registradas en el comercio internacional. El informe concluye con varias recomendaciones, entre ellas la transferencia a un Apéndice de protección menor o la supresión de 249 especies *Euphorbia*, pero excluyendo todos los taxa de Madagascar (Taylor, 2001).

La expedición de permisos de importación y exportación, y la información correspondiente, para plantas reproducidas artificialmente de manera predominante y en número cada vez mayor, impone una carga a las Partes, sin producir ningún beneficio evidente para la conservación, en tanto que se deben asignar los recursos de la CITES en primer lugar para acciones que tengan un efecto positivo sobre la conservación. Por lo tanto, sería útil limitar las inclusiones en la CITES a especies real o potencialmente amenazadas recolectadas en el medio silvestre, que podrían beneficiarse de la vigilancia y la restricción del comercio internacional. Aparte de

examinar las especies incluidas en el Apéndice I, el Comité de Flora, desde su 15ª reunión, ha tratado por lo tanto de hallar medios para reducir el número de *Euphorbia* spp. suculentas incluidas en el Apéndice II.

2.2 Razón de la propuesta

Si se eximieran específicamente determinadas especies suculentas, o se incluyeran específicamente en el Apéndice II determinadas especies, se podrían plantear considerables problemas en la identificación de especies exentas e incluidas. Esto puede evitarse mejorando más la definición morfológica de 'suculenta', es decir, abordando grupos que comparten una forma de crecimiento común y dimensiones mínimas (véanse las ilustraciones en el Anexo 1). Las dimensiones mínimas pueden evitar la confusión de plántulas y especímenes jóvenes; p. ej., declaración falsa de especies globosas o enanas como plántulas de especies en forma de lápiz, coraliformes o candelabriformes.

Las *Euphorbia* spp. suculentas que preocupan real o posiblemente respecto a la conservación, como las especies incluidas en el Apéndice I (véase el Anexo 3, en inglés únicamente), o formas de crecimiento favorecidas por los coleccionistas y que contienen especies enanas, raras y endémicas, como globulares, de tallo tuberculado, medusoides, muy espinosas y con formas (casi) geofíticas con raíces tuberosas no están afectadas por esta propuesta

3. Características de la especie

3.1 Distribución

El género *Euphorbia* está distribuido mundialmente en zonas templadas y tropicales. Las *Euphorbia* spp. suculentas están concentradas en el Viejo Mundo (Carter, 1997).

3.2 Hábitat

Las *Euphorbia* spp. se encuentran en una amplia gama de hábitat, desde acuáticos a semiáridos. Las *Euphorbia* spp. suculentas crecen predominantemente en hábitat semiáridos.

3.3 Características biológicas

Las *Euphorbia* spp. varían de hierbas, arbustos y árboles anuales a perennes. Las *Euphorbia* spp. suculentas van desde pequeñas matas perennes hasta arbustos y árboles grandes.

3.4 Características morfológicas

Las *Euphorbia* spp. se caracterizan por una inflorescencia especializada denominada 'ciatio', que consiste en un involucre en forma de copa con numerosas flores machos que rodean a una flor hembra solitaria; las flores macho se reducen a tallos columnares, y la flor hembra a un ovario con el perianto reducido a un borde, ocasionalmente lobulado. Las ciatias están dispuestas además en cimas normalmente dicotomas. El látex lechoso, con frecuencia sumamente cáustico, siempre está presente (Carter, 1997). Las *Euphorbia* spp. suculentas presentan un tejido especial, sobre todo en los tallos, pero también en hojas y en raíces en determinados taxa. Esto está vinculado a tallos y hojas densos y raíces tuberosas, respectivamente. En ciertos tallos suculentos, las hojas son de vida breve y/o de reducido tamaño, y determinados taxa son geofíticos, o casi, desde las tuberas subterráneas. Además, las ramas, las inflorescencias o los estípulos se transforman frecuentemente en espinas.

3.5 Función de la especie en su ecosistema

Variada. Es consumida excepcionalmente por grandes herbívoros, debido al látex lechoso, pero, por ejemplo, la *E. dregeana* (E. Meyer ex Boissier, 1862) la comen rinocerontes en África meridional. La depredación por insectos es muy diversa.

4. Estado y tendencias

4.1 Tendencias del hábitat

Los hábitat de *Euphorbia* spp. están sometidos a presión en todo el mundo. Eso es particularmente así en los hábitat semiáridos de *Euphorbia* spp. suculentas que se convierten en plantaciones de sisal o de eucalipto: p. ej., en Madagascar (Supthut y Landolt, 1997), tierras de cultivo, taladas para la producción de carbón; p. ej., en Madagascar (Supthut y Landolt, 1997), con quemas anuales para intensificar el nuevo crecimiento de hierba; p. ej., en Madagascar (Supthut y Landolt, 1997), o sobrepastoreadas, p. ej., en Somalia (Carter, 1997). Como importantes factores en Sudáfrica se mencionan las operaciones mineras y la construcción de carreteras (Carter, 1997).

4.2 Tamaño de la población

Muy variado. Algunas *Euphorbia* spp. se clasifican en la Lista Roja de la UICN como críticamente raras (CR) por numerosas razones, pero muchas especies son muy comunes y están extendidas.

4.3 Estructura de la población

Muy variada.

4.4 Tendencias de la población

Muy variada.

4.5 Tendencias geográficas

No se aplica.

5. Amenazas

En todas las regiones tropicales, el mayor peligro para la supervivencia de *Euphorbia* spp. suculentas reside en la destrucción de hábitat para la extensión de la agricultura, la quema de carbón, etc. La recolección excesiva aparentemente no supone ningún peligro en la mayoría de las zonas de interés (Carter, 1997).

En la Lista Roja de la UICN figuran evaluaciones de 171 especies de *Euphorbia*, 30 de ellas clasificadas como en peligro. Veintitrés de estas últimas son *Euphorbia* spp. suculentas identificadas a nivel de la especie en la *Lista de especies CITES*, 18 son nativas de Madagascar y tres están incluidas en el Apéndice I.

Todas las especies incluidas en el Apéndice I exceden claramente del alcance de esta propuesta, pues presentan formas de crecimiento muy diferentes y son de tamaño mucho menor (véase el Anexo 3). Las especies globosa y de tallo tuberculado están confinadas casi totalmente en África meridional, en la provincia del Cabo, con una alta incidencia de endemismo (Carter, 1997). Su forma varía desde pequeños tallos frondosos hasta plantas enanas y muy ramificadas que forman cojinetes cupuliformes, a ejemplares solitarios o escasamente ramificados con tallos muy gruesos, reducidos a veces a un cuerpo globoso, y fueron algunas de las primeras suculentas introducidas en el cultivo, incluida *E. obesa* (Hooker fil., 1903), *E. meloformis* (Aiton, 1789), y *E. bupleurifolia* (Jacquin, 1797). Todas ellas están muy representadas en horticultura, pero su distribución está parcialmente limitada y corren peligro en el medio silvestre. El mercado internacional se abastece de plantas de reproducción artificial, y ese grupo seguiría claramente incluido en el Apéndice II. Eso es igualmente válido para las especies enanas, globosas de Etiopía (*E. Gymnocalycioides*, M. G. Gilbert y S. Carter, 1984, *E. Piscidermis*, M. G. Gilbert, 1973) y Somalia (*Euphorbia turbiniformis*, Chiovenda, 1929) que pueden ser motivo de preocupación respecto a la conservación. Además, el grupo de pequeñas hierbas de tallos suculento con raíces grandes, carnosas o tuberosas, que se dan desde el valle del Rift hasta el Cuerno de África, contiene un gran número de endémicas con limitada distribución, algunas de las cuales pueden convertirse en artículos de coleccionista, y no resultan afectadas por esta propuesta.

Los grupos afectados por la circunscripción enmendada de *Euphorbia* spp. suculentas que se reproducen fácilmente mediante esquejes figuran entre las *Euphorbia* spp. suculentas reproducidas artificialmente objeto de mayor comercio; p. ej. *E. tirucalli* (Linné, 1753) (coraliforme) y *E. abyssinica* (Gmelin, 1791) (candelabrifformes) (véanse las ilustraciones en el Anexo 2).

La recolección destinada al comercio internacional es conocida por cierto número de especies de Madagascar, y en mucho menor grado de Sudáfrica. Las formas de crecimiento y las dimensiones mínimas excluyen claramente estas taxa del alcance de esta propuesta.

6. Utilización y comercio

6.1 Utilización nacional

Muy variada. *E. antisyphilitica* (Zuccarini, 1832), por ejemplo, se utiliza como planta medicinal por la población local del norte de México. *E. tirucalli* se utiliza mucho para setos en África tropical (Carter, 1997) pero también, por ejemplo, en Brasil, donde se introdujo. *E. millii* (Des Moulins, 1826) se emplea para setos en Madagascar. En muchas regiones se informa de la utilización medicinal de numerosas especies. El uso de plantas ornamentales es múltiple y está generalizado. La especie más utilizada como planta ornamental es la *E. pulcherrima* no suculenta (Willd. ex Klotzsch, 1834) (Poinsettia, Estrella de Navidad, Nochebuena o Pascua), nativa en el sur de México y América Central y utilizada actualmente en todo el mundo. Va seguida de cierto número de *Euphorbia* spp ornamentales suculentas y no suculentas.

6.2 Comercio lícito

Según los datos sobre el comercio CITES, en el comercio internacional hay registradas 328 especies de *Euphorbia* suculentas.

El comercio comunicado de *Euphorbia* spp. suculentas vivas recolectadas en el medio silvestre es primordialmente de Madagascar a Francia (unos 70.000 especímenes, 1995-1999). Las cifras del comercio de especímenes recolectados en el medio silvestre entre otros países varían de unos cuantos especímenes a varios centenares en el mismo periodo (Taylor, 2001).

Principales taxa (Taylor, 2001)

El comercio comunicado muestra grandes cantidades de plantas vivas comerciadas internacionalmente (cerca de 6,5 millones, 1995-1999). El nivel de comercio de plantas reproducidas artificialmente es mucho más alto que el de plantas recolectadas en el medio silvestre (cerca de 6,3 millones, 1995-1999). En este comercio predominan muy pocas especies, entre ellas *E. abyssinica* (250.761, véase la ilustración en el Anexo 2), *E. lactea* Haworth, 1812 (1.060.779), *E. millii* (153.270), *E. tirucalli* (26.694, véase la ilustración en el Anexo 2), *E. trigona* Miller, 1768 (228.126). El comercio de *E. lactea*, *E. tirucalli* y *E. abyssinica* ha crecido mucho en los últimos tiempos. *E. lactea*, *E. millii* y *E. trigona* están exentas de la CITES, y los especímenes y los envíos cumplen determinados criterios. En el informe se identifican más de 200 especies notificadas exclusivamente como reproducción artificial en 1995-1999, y se llega a la conclusión de que se deben examinar y considerar su transferencia a un Apéndice de protección menor o su supresión.

La exportación y la importación de plantas comunicadas de origen silvestre es considerable y concierne casi exclusivamente a especies procedentes de Madagascar incluidas en el Apéndice II. Las exportaciones comunicadas son mucho mayores que las importaciones comunicadas. En las exportaciones comunicadas predominan *E. lophogona* Lamarck 1788 (32.019), *E. millii* (8.152), *E. viguieri* Denis 1921 (6.581) y *E. geroldii* Rauh 1994 (6.509), y en las importaciones comunicadas *E. gottlebei* Rauh 1992 (650), *E. horombensis* Ursch y Léandri 1955 (450) y *E. primulifolia* Baker 1881 (261). Son evidentes las importantes disparidades entre las exportaciones y las importaciones comunicadas.

Principales países (Taylor, 2001)

Como ya se ha dicho, Madagascar muestra, con mucho, el más alto nivel de exportación de *Euphorbia* spp. suculentas recolectadas en el medio silvestre (principal exportador), y Francia muestra el mayor nivel de importación (principal importador).

Los principales países exportadores (1995-1999) de *Euphorbia* spp. suculentas reproducidas artificialmente y recolectadas en el medio silvestre son la República Dominicana (6.140.841 especímenes), Madagascar (414.917), Estados Unidos de América (315.847), Canadá (202.680) y Dinamarca (160.935), y los principales países importadores son Estados Unidos (6.162.231), Francia (277.874), Alemania (229.536), Países Bajos (194.377) y Canadá (143.786).

6.3 Partes y derivados en el comercio

La cera de Candelilla, producida a partir de *E. antisiphilitica* en el norte de México se comercia internacionalmente con arreglo a la CITES. CONABIO ha realizado un estudio en México [véase el documento PC15 Doc. 5.5 (Rev. 1)]. La especie está incluida en una lista de taxa sobre el examen periódico de plantas incluidas en los Apéndices por el Comité de Flora, hasta la CoP15. Las partes y los derivados exceden del alcance de esta propuesta.

6.4 Comercio ilícito

E. bupleurifolia tal vez se comercie parcialmente sin documentos de la CITES, junto a otras plantas suculentas recolectadas en el medio silvestre de Sudáfrica actualmente en el comercio internacional, en cierto grado [p. ej., *Tylecodon* spp. (no incluida en la CITES), *Avonia* spp., *Pachypodium bispinosum* (L.f.) A. DC. (ambas en el Apéndice II)]. Tal vez algunas especies críticas, globulares y en parte recién descritas relativamente de Etiopía y Somalia (véase la sección 5 *supra*) se hayan comerciado ilegalmente en cantidades muy limitadas, pero ahora se dispone de ellas mediante reproducción artificial y la recolección en el medio silvestres es muy difícil y probablemente no sea rentable. Los elevados niveles de exportación de *Euphorbia* spp. recolectadas en el medio silvestre, desde Madagascar (a Francia) indican que tal vez haya comercio ilícito además del comercio lícito.

Las formas de crecimiento y las dimensiones mínimas excluyen claramente todos estos taxa del alcance de esta propuesta.

6.5 Efectos reales o potenciales del comercio

La mayor parte del comercio consiste en algunas especies muy comunes procedentes sobre todo de la reproducción artificial. Al parecer no hay informes acerca de los efectos sobre las poblaciones de especies recolectadas en el medio silvestre para el comercio internacional, sobre todo en Madagascar. Además, aparentemente no se dispone públicamente de dictámenes de extracciones no perjudiciales de países exportadores, o no hay acceso a ellos.

7. Instrumentos jurídicos

7.1 Nacional

No se ha investigado.

7.2 Internacional

La inclusión de *Euphorbia* spp. en el Apéndice II entró en vigor el 1 de julio de 1975. Las especies no suculentas se excluyeron con efecto de 18 de septiembre de 1997. La inclusión comprende partes y derivados (anotación #1). En el Apéndice I están incluidas diez especies de *Euphorbia* (Manual ID CITES, 2006).

8. Ordenación de la especie

8.1 Medidas de gestión

No se conocen.

8.2 Supervisión de la población

No se conoce.

8.3 Medidas de control

8.3.1 Internacional

El comercio internacional se supervisa mediante la CITES.

8.3.2 Nacional

No se ha investigado.

8.4 Reproducción artificial

Algunas especies de *Euphorbia* spp. suculentas se reproducen a escala industrial para el comercio internacional como plantas ornamentales de interior; p. ej., *E. trigona*, *E. tirucallii* (véase la ilustración en Anexo 2), *E. abyssinica* (véase la ilustración en Anexo 2), *E. 'Mili'* y *E. lactea*. Otras muchas especies se reproducen a escala mucho menor para el público en general y para la venta al por menor en jardinerías y florerías. El mercado internacional de determinadas especies que reúnen las condiciones de artículos de coleccionista es muy limitado y está abastecido por un reducido número de viveros especializados; p. ej., en Alemania y en Estados Unidos.

8.5 Conservación del hábitat

No se ha investigado.

8.6 Salvaguardias

De adoptarse esta propuesta, se proponen dos proyectos de decisión que confieren a las Partes y al Comité de Flora el mandato de supervisar la aplicación de la nueva anotación, insistiendo en el posible comercio ilícito de plantas recolectadas en el medio silvestre y, por lo que respecta al último, la instrucción de informar en la CoP15 (véase el documento CoP14 Doc. 31).

9. Información sobre especies similares

El Manual ID CITES (2006) abarca todas las *Euphorbia* spp. del Apéndice I, y facilita así su identificación.

En general, los especímenes vivos de *Euphorbia* se pueden verificar fácilmente en un primer planteamiento, debido al abundante látex lechoso que fluye inmediatamente como consecuencia de daños incluso menores. Sin embargo, la inclusión de parte del género *Euphorbia* con arreglo a criterios morfológicos plantea una gran dificultad. La suculencia no es un fenómeno claramente delimitable, sino más bien gradual. Por lo tanto, se adoptó como referencia una Lista de especies CITES.

Eso no representa un nuevo paso fundamental para introducir características morfológicas adicionales además de la suculencia. Por otra parte, las especificaciones adicionales, propuestas aquí, acompañadas de dimensiones mínimas, son mucho más claras que el criterio de suculencia.

Las formas de crecimiento más relevantes para la conservación, como globular, de tallo tuberculado, medusoide, muy espinosos, así como formas (casi)geofíticas con raíces tuberosas no resultan

afectadas. Las dimensiones mínimas impiden la confusión de plántulas y especímenes jóvenes; p. ej., falsa declaración de especies globosas o enanas como plántulas de especies en forma de lápiz, coraliformes o candelabriformes.

10. Consultas

Esta propuesta se preparó después del plazo de 8 de julio de 2006 para la presentación de propuestas a la Secretaría y la consulta con Estados del área de distribución mediante una notificación a las Partes. En la Resolución Conf. 8.21 se recomienda este procedimiento, cuando no se consulte previamente con los Estados del área de distribución. Sin embargo, la consulta con los Estados del área de distribución no es factible en los casos de taxa con una distribución casi mundial, como ocurre con el género *Euphorbia*.

Por consiguiente, se sugiere que la propuesta se discuta en un grupo de trabajo de Estados del área de distribución interesados en la presente reunión.

11. Observaciones complementarias

De adoptarse esta propuesta, la nueva anotación para *Euphorbia* spp. incluida en el Apéndice II deberá incorporarse en la nueva edición de la Lista de especies incluidas en la CITES.

12. Referencias

Carter, S. (1997): Euphorbiaceae. In S. Oldfield, ed., Status Survey and Conservation Action Plan. Cactus and Succulent Plants. IUCN/SSC Cactus and Succulent Plant Specialist Group. Gland, Switzerland and Cambridge, UK.

Carter, S. (2002): *Euphorbia*. In Egli, U., ed., Illustrated handbook of succulent plants. Springer, Berlin.

Carter, S. & U. Egli (2003): The CITES Checklist of Succulent *Euphorbia* Taxa (Euphorbiaceae), 2nd edition. Federal Agency for Nature Conservation of Germany, Bonn – Bad Godesberg.

Lüthy, J. (2006): CITES Identification Manual. CITES Succulents. The Aloes and Euphorbias of CITES Appendix I & the Genus *Pachypodium*. Federal veterinary office (CITES Management Authority), Bern, Switzerland.

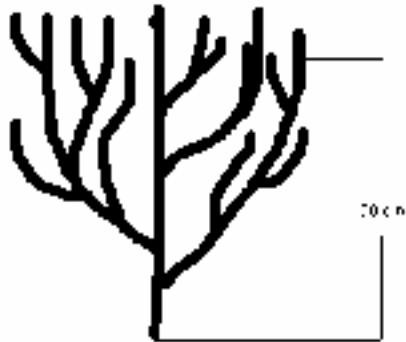
Supthut, D. & R. Landolt (1997): Madagascar 96, Rapport de Mission (3^{ème} partie du projet CITES S-52). Zürich and Birmensdorf.

Taylor, K. (2001): Review of Trade in Artificially Propagated Plants. Royal Botanic Gardens, Kew.

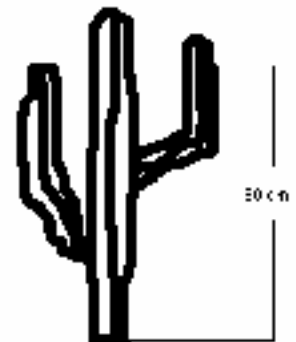
ILUSTRACIONES DE FORMAS DE CRECIMIENTO EN FORMA DE LÁPIZ,
CORALIFORMES Y CANDELABRIFORMES Y DIMENSIONES MÍNIMAS



Forma de lápiz
tallo Ø 1 cm



coraliforme
tallo Ø 3 cm



candelabriforme
tallo Ø 3 cm

ILUSTRACIONES DE *EUPHORBIA* SPP. SUCULENTAS COMERCIALIZADAS FRECUENTEMENTE
ORIGINARIAS DE REPRODUCCIÓN ARTIFICIAL (PROPORCIONADAS POR PLANTAS KI)



candelabriforme: *Euphorbia abyssinica*



coraliforme: *Euphorbia tirucalli*

CITES IDENTIFICATION MANUAL:
THE EUPHORBIAS OF CITES APPENDIX I



Euphorbia ambovombensis

Euphorbia capsaintemariensis

Euphorbia cremersii (Includes the *forma viridifolia* and the var. *rakotozafyi*)

Euphorbia cylindrifolia (Includes the spp. *tuberifera*)

Euphorbia decaryi (Includes the vars. *ampanihyensis*, *robinsonii* and *spirosticha*)

Euphorbia francoisii

Euphorbia moratii (Includes the vars. *antsingiensis*, *bemarahensis* and *multiflora*)

Euphorbia parvicyathophora

Euphorbia quartziticola

Euphorbia tulearensis

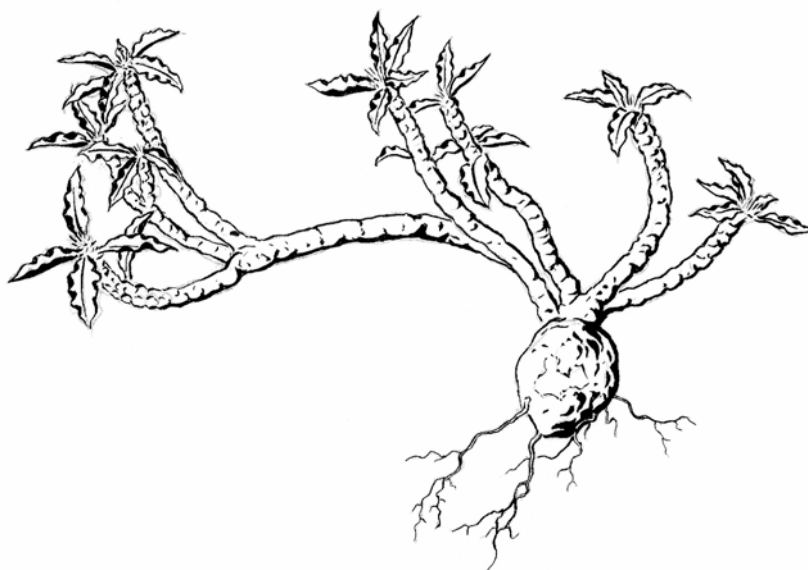


Euphorbia ambovombensis

Common names: None reported.

Scientific synonyms: None.

CITES category: Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf shrublet branching from the base, with a tuberous root; branches with reticulately arranged stipular spines, succulent leaves with undulate margin.
- Roots:** Tuberous, c. 4 x 1 cm.
- Stem:** Branching from the base. Individual branches 10-20 cm long, c. 5 mm Ø, sparsely rebranched, surface covered with stipular spines, arranged in quite a regular, reticulate pattern, around the sunken leaf-scars.
- Leaves:** Arranged in a terminal rosette, lanceolate, to 5 x 1.5 cm, fleshy, dark green with contrasting, light green, reticulate venation above, often with a purplish hue, with strongly undulate margin and tip curved upwards. Stipular spines dissected into short bristles.
- Inflorescence:** Cymes few, 2-3-forked on long peduncles; cyathophylls rounded, 3 x 5 mm, pale buff, nodding; cyathium c. 5 mm Ø; nectar glands yellow; ovary obtusely lobed, sessile.
- Distribution:** S Madagascar, region of Ambovombe



Trade: UNEP-WCMC reported trade shows a considerable number of shipments 1989-2004, containing up to 430 plants. All specimens are declared to originate from artificial propagation in various countries. The species is moderately represented in collections; it is surely not a beginners plant in cultivation, as the tuber is sensitive to over-watering. IUCN red list: VU D2.

Similar species: *E. ambovombensis*, *E. capsaintemariensis* Rauh, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi* Guillaumin, *E. parvicyathophora* Rauh and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabelled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for it's very narrow, nearly terete-sulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.

Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.

Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.

Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.



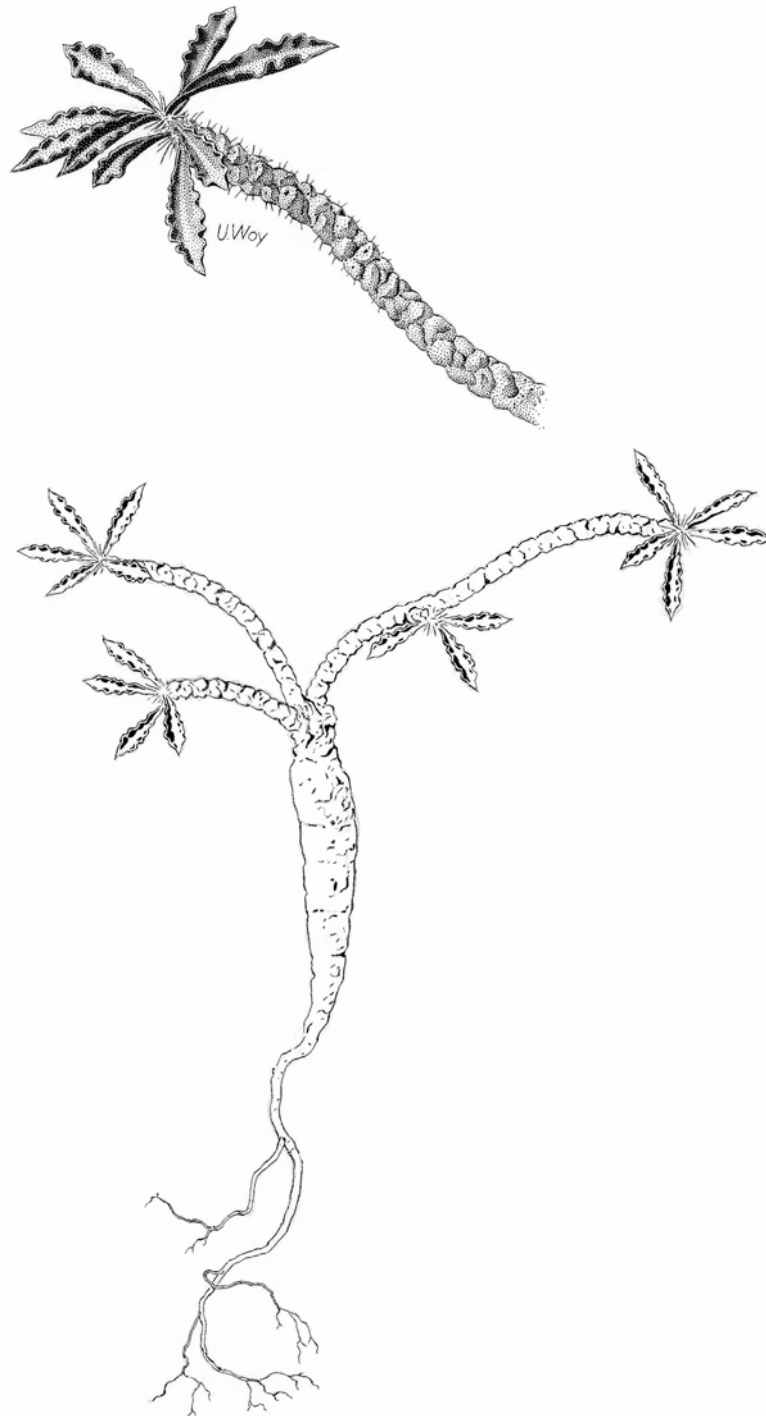
Euphorbia capsaintemariensis

Rauh 1970

Common names: None reported

Scientific synonyms: *E. decaryi* var. *capsaintemariensis* (Rauh) Cremers 1984 (homotypic)

CITES category: Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf shrublet branching from the base, with a tuberous root. Strongly succulent, canaliculated leaves with undulate margin.
- Roots:** Tuberous, 5-10 cm Ø.
- Stem:** Branching from the base. Individual branches to 10 cm long, 5-10 mm Ø, decumbent, forming a dense, irregular cluster, silvery, surface bulgy from elevated leaf-bases (podaria), separated by lines arranged in a reticulate pattern, roughened due to leaf-scars and rudimentary stipular spines.
- Leaves:** Arranged in a terminal rosette, lanceolate, to 2.5 x 0.8 cm, strongly fleshy, channelled above, reddish green, with undulate margin; without obvious lateral veins, subsessile. Stipular spines bristly, papery, deciduous.
- Inflorescence:** Cymes subterminal, 1-2-forked, erect on c. 5 mm long peduncles; cyathophylls spreading, ovate-acute, 3 x 5 mm, greenish-pink with red margins; cyathium c. 5 mm Ø, subsessile; nectar glands elliptic, orange.
- Special features:** Branches root easily to produce new plants, but allegedly do not form a tuber.
- Distribution:** S Madagascar; Cap Sainte Marie to Lavanono, calcareous soils, 100 m.



Trade: There is no UNEP-WCMC reported trade. The species is moderately represented in collections; it is surely not a beginners plant in cultivation, as the tuber is sensitive to over-watering. The species is common (Lavrano pers. comm.).

Similar species: *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis*, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi* Guillaumin, *E. parvicyathophora* Rauh and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabelled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for it's very narrow, nearly terete-sulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.

Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.

Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.

Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.

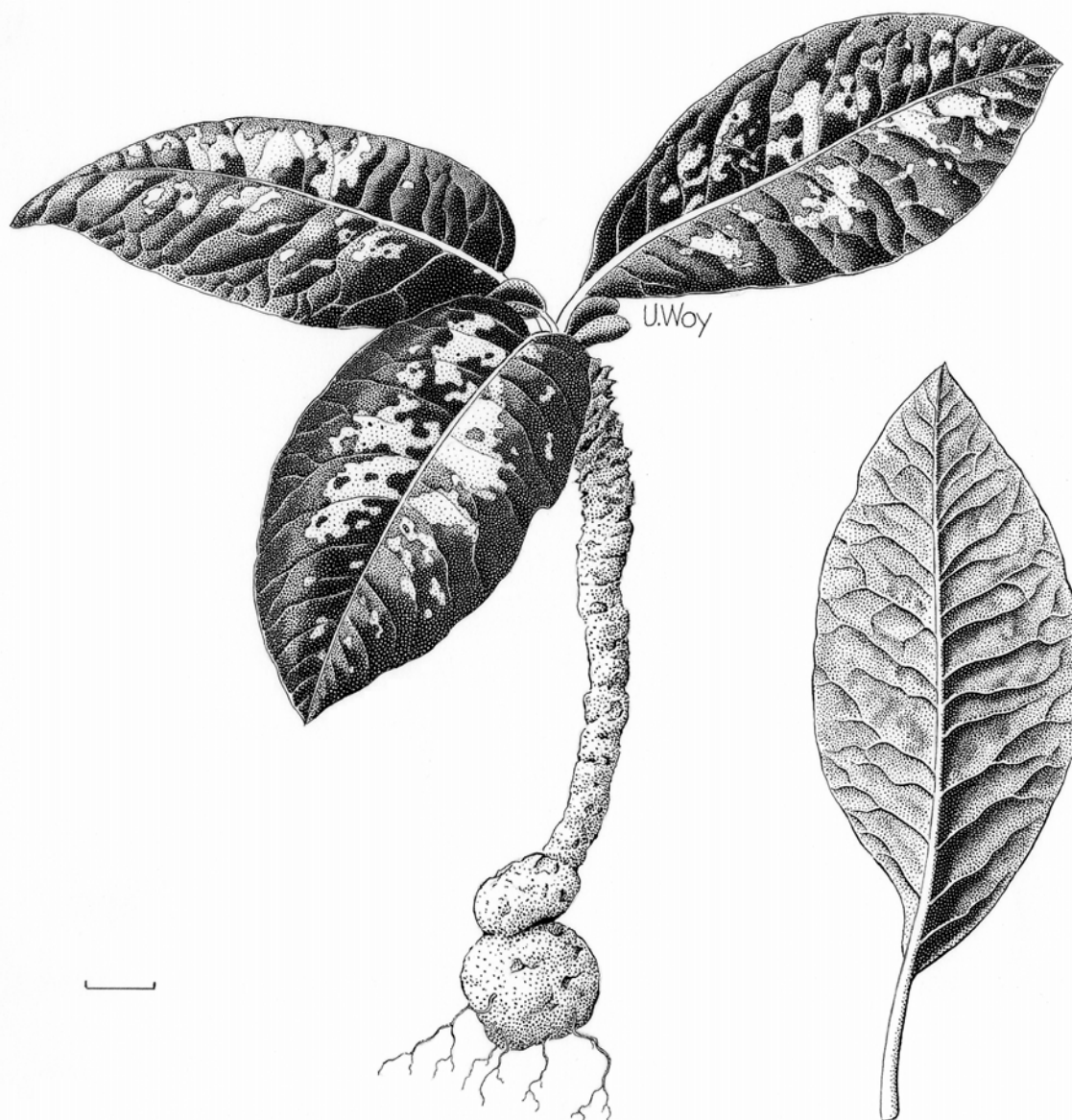


Euphorbia cremersii

Common names: None reported

Scientific synonyms: *E. cremersii* forma *viridiflora* Rauh 1991 (heterotypic); possibly synonymous with the following *E. cremersii* var. *rakotozafyi* (Cremers) Rauh 1995 (heterotypic) = *E. francoisii* var. *rakotozafyi* Cremers 1984 (basonym)

CITES category: Appendix I since 16.02.1995



bar = 1 cm

Characteristics: Dwarf geophyte with tuberous root and short stems, branching at ground-level; leaves broad, dark green with silvery spots and crisped margins.

Roots: Globose, 2-5 cm Ø, merging into stem.

Stem: Branching at ground-level. Individual branches to 10-15 cm long, 10 mm Ø, slightly club-shaped, surface roughened, covered with stipular spines near branch tips.

Leaves: Non-succulent, coriaceous, deciduous, arranged in a terminal rosette, lanceolate, to 8 x 3 cm, base ± cordate, dull green with silvery spots above, reddish beneath, margins crisped, red, petiole to 1 cm. Stipular spines 3 mm, bristly, irregularly curled, deciduous.

Inflorescence: Cymes subterminal, nutant, 1-2-forked on c. 2 cm long peduncles; cyathophylls rounded, to 7 x 13 mm, pale brown, overlapping and covering, but not enclosing the cyathium; cyathium ± 4 mm Ø; nectar glands pale yellow.

Distribution: NW Madagascar, S of Maevatanana, forest of Ankarafantsika, also reported from Bongolava on sandy soils in shady places of dry forest and possibly more to the west, from Bemarivo (var. *rakotozafyi*).



Trade: Export of wild-collected plants prior to App. I-listing: 1991: 310, 1992: 258 (according to national sources). UNEP-WCMC reported trade shows a considerable number of shipments 1989-2004, including many shipments of wild-collected plants 1992-1995, i. E. prior to App. I-listing, containing up to 100 specimens. Notwithstanding, the species is moderately represented in collections today; cultivation is not quite easy. IUCN red list: VU D2.

Similar species: The species is hard to tell apart from *E. moratii* Rauh, if not in flower. Both show the same general appearance with a globose subterranean tuber and a short stem with a terminal rosette of quite soft, caducous leaves. Inflorescences of *E. cremersii* show distinctive, nutant cymes with larger cyathophylls. *E. primulifolia* Baker, *E. quartzicola* Léandri and *E. itremensis* Kimnach & Lavranos are similar dwarf geophytic euphorbias; they however have much shorter, nearly absent stems. There are further species with similar growth-form, but lacking spotted leaves, in continental Africa, e.g. *E. orbiculifolia* S. Carter, *E. tuberosa* Linné and *E. brunellii* Chiovenda.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.

Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.

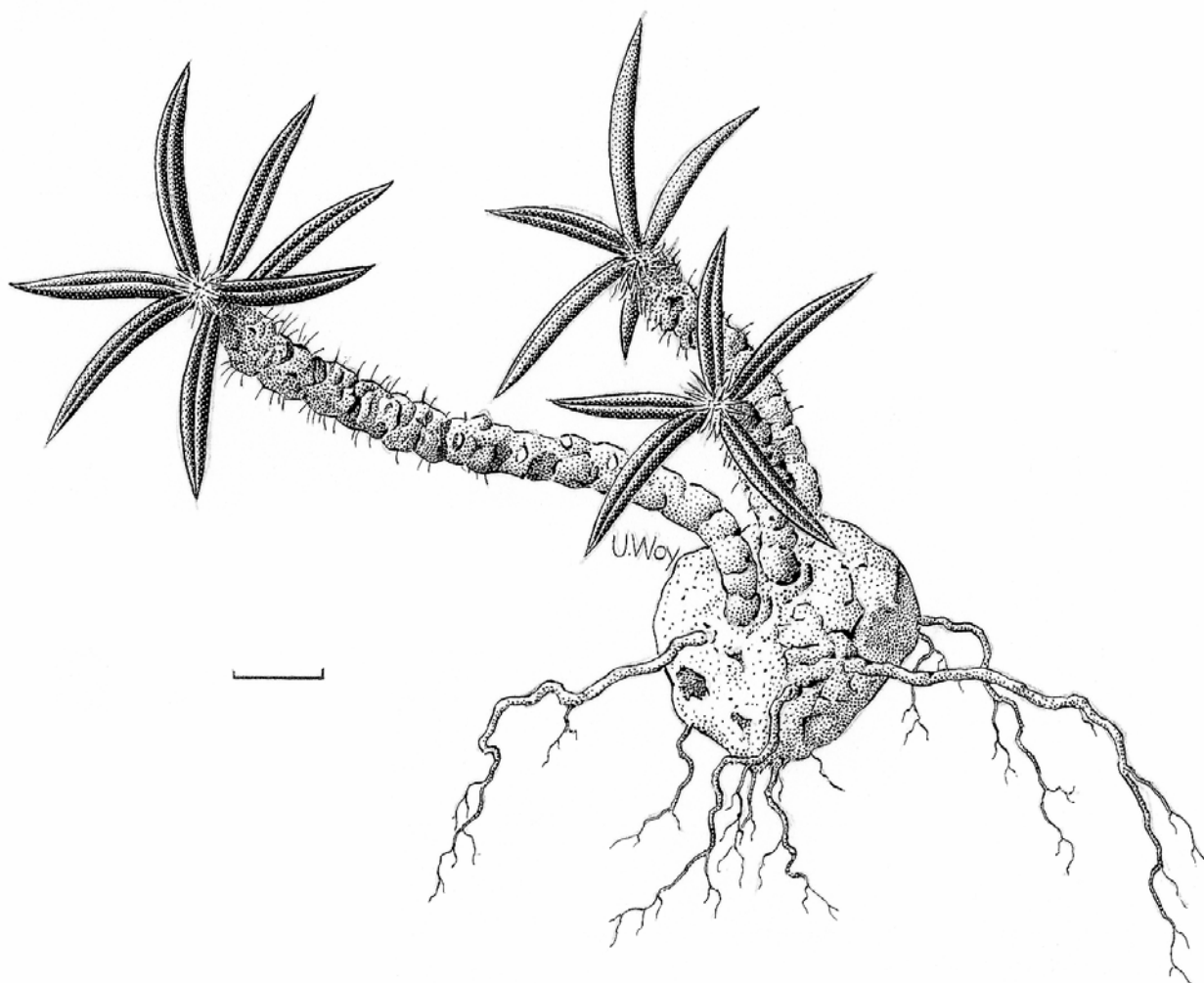
Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.

Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.



Euphorbia cylindrifolia

- Common names:** None reported
- Scientific synonyms:** *E. cylindrifolia* ssp. *tuberifera* Rauh 1963 (heterotypic)
- CITES category:** Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf, flat, densely clustering shrublet with tuberous root and short stems; leaves terete.
- Roots:** Tuberous, to 10 cm Ø.
- Stem:** Stoloniferous, rooting below ground. Individual branches prostrate, to 15 cm long, ± 5 mm Ø, sparsely branched, surface bulgy from elevated leaf-bases (podaria), separated by lines arranged in a reticulate pattern, roughened due to leaf-scars and rudimentary stipular spines.
- Leaves:** At branch tips, directed backwards, fleshy, to 2.5 cm long, terete, 3 mm Ø, deeply channelled above, dark green to purplish; stipular spines minute, arranged in transversal lines below the leaf-scars, eventually deciduous.
- Inflorescence:** Cymes subterminal, simple, on c. 3 cm long peduncles; cyathophylls rounded, $\pm 7 \times 6$ mm, surrounding the cyathium, yellowish-pink, nodding; cyathium ± 2 mm Ø; nectar glands elliptic, yellow.

Distribution: SE Madagascar; widely distributed, E Amboasary to Tsihombe and possibly beyond, dry, thorny woodland.



Trade: UNEP-WCMC reported trade shows a very high number of shipments 1981-2004, in comparison with other dwarf Madagascan euphorbias. Most shipments contain low numbers, but there are some shipments with more than a hundred plants and one export from MG in 1986 of 10'000 plants (to DE). All specimens are reported to originate from artificial propagation. The species is moderately represented in collections; cultivation is not quite easy, as the tuber is sensitive to over-watering. IUCN red list: EN B1ab(iii)+2ab(iii). Common in some locations.

Similar species: *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis* Rauh, *E. cylindrifolia*, *E. decaryi* Guillaumin, *E. parvicyathophora* Rauh and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabelled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for it's very narrow, nearly terete-sulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.
Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.
Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.
Sajeva, M. & M. Conzanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.



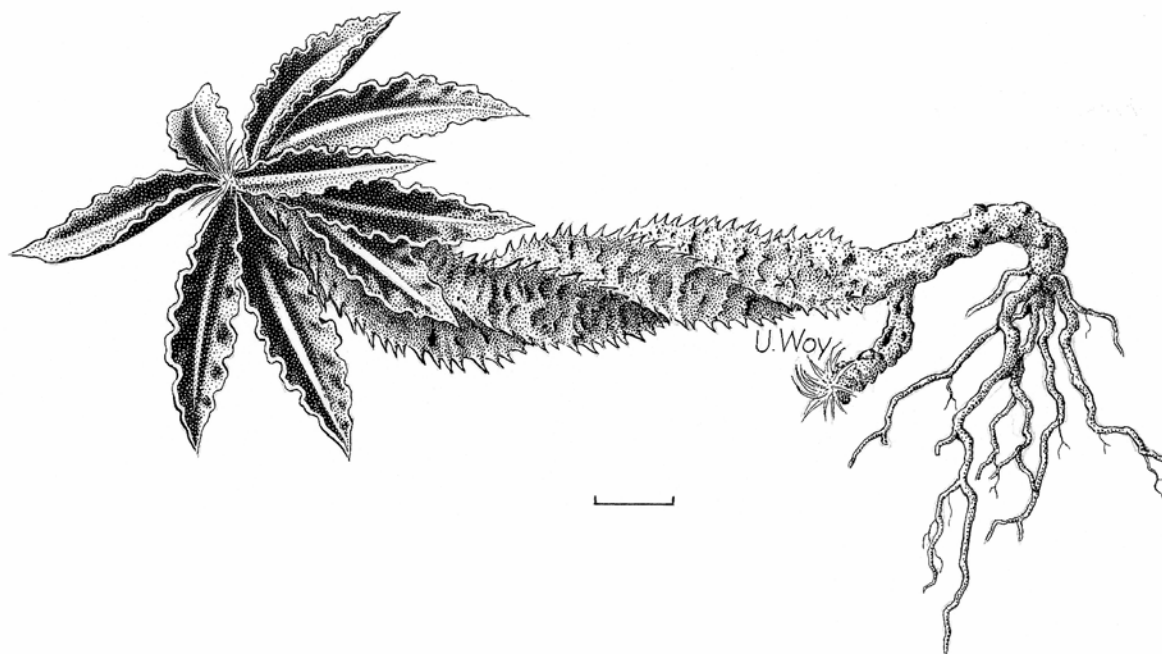
Euphorbia decaryi

Guillaumin 1934

Common names: None reported

Scientific synonyms: *E. decaryi* var. *ampanihyensis* Cremers 1984 (heterotypic)
E. decaryi var. *spirosticha* Rauh & Buchloh 1987 (heterotypic)
(*E. decaryi* var. *robinsonii* Cremers 1984 (heterotypic) is possibly a synonym of *E. capsaintemariensis* var. *tulearensis* Rauh)

CITES category: Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf shrublet with tuberous root and short stems, with spirally arranged spines near tips; leaves with undulate margins.
- Roots:** Tuberous, to 10 cm Ø.
- Stem:** Stoloniferous, rooting below ground. Aerial stems erect to curved and decumbent. Individual branches to 15 cm long, ± 5 mm Ø, sparsely branched, surface bulgy through elevated leaf-bases (podaria) with sunken leaf-scars and and roughened with papery stipular spines near branch tips.
- Leaves:** At branch tips, fleshy, dark green to greyish-green or pinkish to purplish, spotted at the base, ovate, canaliculate, to 5 x 1.5 cm, margins of lower leaves straight, in upper leaves strongly undulate, petiole ± 5 mm, red; stipular spines in tight spiral series, ± 4 mm, base expanded around the leaf-scar, simple or divided into bristles, membranous, eventually deciduous.
- Inflorescence:** Cymes simple, on c. 1.5 cm long peduncles; cyathophylls pinkish-yellow, margins red, ± 6 x 4 mm, nodding; cyathium 4 mm Ø; nectar glands elliptic, yellow.

Distribution: SE-S Madagascar; disjunct, 30 km S of Ampanihy (var. *ampanihyensis*), near Ampotaka S of Ampanihy (var. *spirosticha*), Tolanaro (Fort Dauphin) area (var. *decaryi*), sandy soils. Var. *robinsonii* from Tulear is possibly a synonym of *E. capsaintemariensis* var. *tulearensis* Rauh.



Trade: UNEP-WCMC reported trade shows a very high number of shipments 1980-2004, in comparison with other dwarf Madagascan euphorbias. Most shipments contain low numbers, but there are some shipments with several hundred plants and further two very large exports from MG in 1988 of 4560 plants and in 1989 of 2500 plants of unreported origin, i.e. possibly wild-collected (to DE). Little trade in wild-collected plants is reported; only three shipments containing a few plants 1992-1995, i. e. after App. I-listing. The species is moderately represented in collections; cultivation is not quite easy, as the tuber is sensitive to over-watering. IUCN red list: EN B1ab(iii)+2ab(iii).

Similar species: *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis* Rauh, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi*, *E. parvicyathophora* Rauh and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabeled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for its very narrow, nearly teretesulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.
Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.
Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.
Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.
Sajeva, M. & M. Constanzo (2000): Succulents II. The illustrated dictionary. Le Lettere, Firenze.



Euphorbia francoisii

Léandri 1946

Common names: None reported.

Scientific synonyms: *E. francoisii* var. *crassicaulis* Rauh 1997 (heterotypic)

CITES category: Appendix I since 18.01.1990



bar = 1 cm

Characteristics: Very attractive, dwarf, compact plant with tuberous root, short, prickly stems and leathery, nicely coloured leaves.

Roots: Tuberous.

Stem: Erect to curved, branching at the base with age and forming clusters. Individual branches 5-10 cm long, 10-15 mm Ø, surface roughened with densely set stipular spines.

Leaves: Arranged in a terminal rosette, quite variable in shape and colour, irregularly oblong, varying from 2 x 0.3 to 6 x 2 cm, fleshy, curved downwards, with weakly undulate margins, light green below, silvery greenish to pink to carmine above, sometimes with dark green spots, mostly dark green around the midrib and towards the base with light green or pink spots, midrib and base of lateral nerves often contrasting in colour; stipular spines to 4 mm, divided into numerous bristles, irregularly curved, arranged around the leaf-scars in a roughly reticulate pattern. Var. *crassicaulis* stated to differ by stems 30 x 2 cm and leaves 10 x 3 cm.

Inflorescence: Cymes at branch tips, 1-2-forked, on c. 2 cm long peduncles; cyathophylls rounded, to 7 x 12 mm, pinkish, spreading; cyathium ± 3 mm Ø; nectar glands yellow, ovary subsessile.

Distribution: SE Madagascar, Tolanaro (Fort Dauphin) to Amboasary near the coast, in sand dunes, Andrahomana near Ranopiso (var. *crassicaulis*).



Trade: UNEP-WCMC reported trade shows a considerable number of shipments 1981-2004, containing up to 365 plants. All specimens are declared to originate from artificial propagation in various countries, with the exception of a single specimen, exported in 1994 (to US) that was declared as wild-collected. For a number of exports from MG 1984-1992 with up to 200 specimens, the origin is not reported. The species is moderately represented in collections; it can be propagated from seeds, but also by rooting cuttings. Common throughout its range. IUCN red list: CR B1ab(iii,v).

Similar species: *E. francoisii* from south-eastern Madagascar is sometimes compared with the species-group of *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis* Rauh, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi* Guillaumin, *E. parvicyathophora* Rauh and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group of tuberous taxa. It has stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. *E. francoisii* has the same general growth form like the before-mentioned species, but bigger and quite distinctive, very colourful leaves; it has rather plane leaf blades with minutely down-curved margins in comparison with the more canaliculate leaves of the other species. Finally, the flowers of *E. francoisii* are quite different.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.

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Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.

Sajeva, M. & M. Constanzo (2000): Succulents II. The illustrated dictionary. Le Lettere, Firenze.



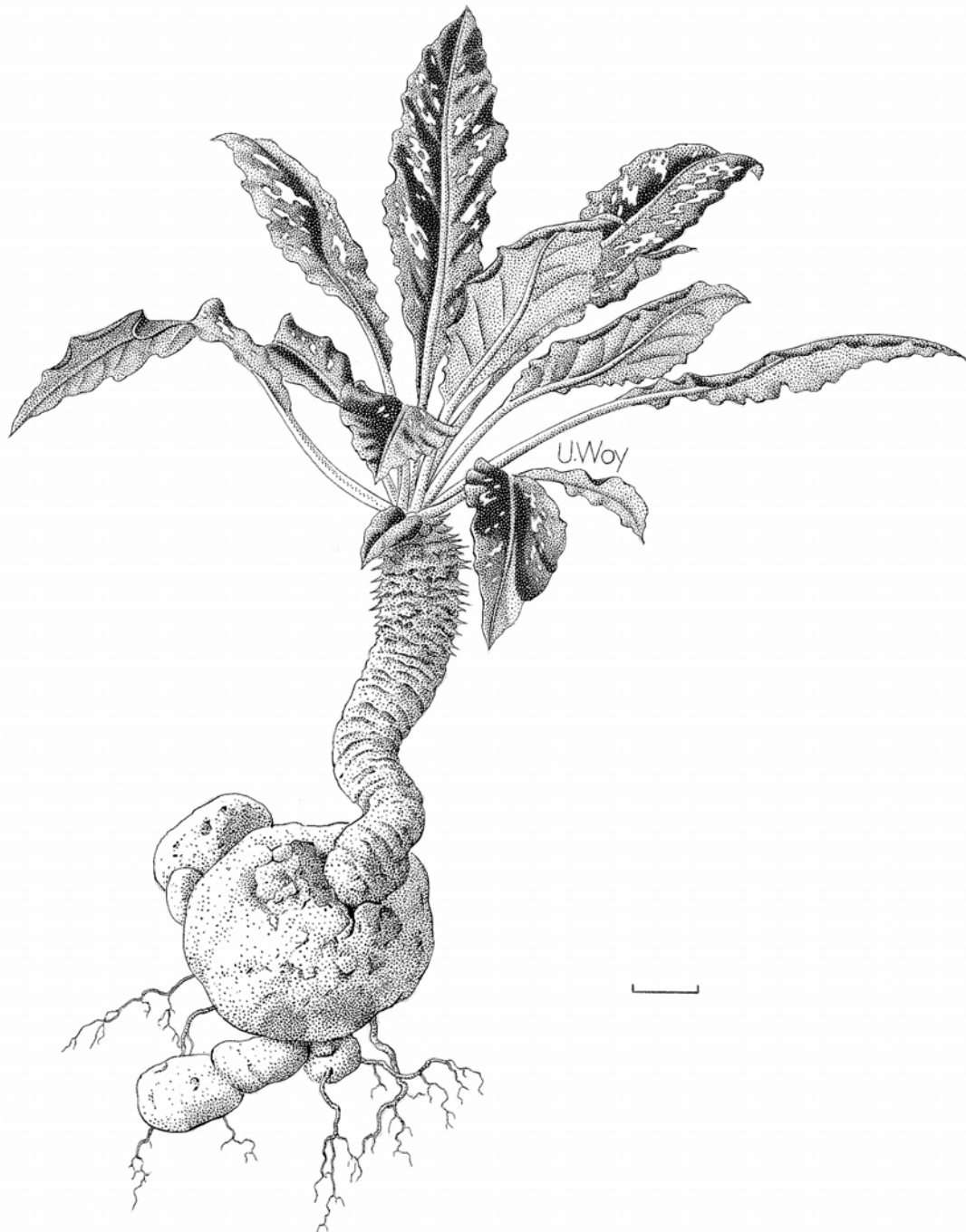
Euphorbia moratii

Rauh 1970

Common names: None reported

Scientific synonyms: *E. moratii* var. *antsingiensis* Cremers 1984 (heterotypic)
E. moratii var. *bemarahensis* Cremers 1984 (heterotypic)
E. moratii var. *multiflora* Rauh 1991 (heterotypic)

CITES category: Appendix I since 18.01.1990



bar = 1 cm

Characteristics: Dwarf geophyte with conspicuous tuberous root, short stem and big, dark green leaves in a rosette. Inflorescences with very long, narrow, spreading cyathophylls.

Roots: Tuberous, to 10 x 4.5 cm, subglobose with flattened top.

Stem: Below ground, to 5 cm, ± 1.5 cm Ø, Erect to curved.

Leaves: Arranged in a terminal rosette, lanceolate, to 9 x 2 cm, dull green, sometimes with light spots, margins reddish, ± undulate, petiole to 1 cm.

Inflorescence: Cymes subterminal, simple or 3-5 forked (var. *multiflora*), on ± 1.5 cm long peduncles; cyathophylls triangular, to 5 x 2.5 mm, greyish-brown or pink (var. *bemarahensis*), spreading; cyathium 2.5 mm Ø; nectar glands greenish-brown, ovary acutely lobed, subsessile.

Distribution: W Madagascar, Tsingy of Bemaraha (vars. *moratii*, *antsingiensis* and *bemarahensis*) and Maevatanana (var. *multiflora*, i.e. sympatrically with *E. cremersii* Rauh & Razafindratsira?). Also reported from much further south, from the region of Manja (Lavranos pers. comm.).



Trade: Export of wild-collected plants prior to App. I-listing: 1991: 310, 1992: 258 (according to national sources). UNEP-WCMC reported trade shows a rather moderate number of shipments 1980-2004, with a single shipment of 10 wild-collected plants 1997 (to CH), i. e. after App. I-listing. For many exports from MG to various countries 1980-1989, containing up to 100 plants, the origin is not reported. The species is moderately represented in collections today; cultivation is not quite easy. IUCN red list: VU D2.

Similar species: The species is hard to tell apart from *E. cremersii* Rauh & Razafindratsira, if not in flower. Both show the same general appearance with a globose subterranean tuber and a short stem with a terminal rosette of quite soft, caducous leaves. Inflorescences of *E. cremersii* show distinctive, nutant cymes with larger cyathophylls. *E. primulifolia* Baker, *E. quartzitcola* Léandri and *E. itremensis* Kimnach & Lavranos are similar dwarf geophytic euphorbias; they however have much shorter, nearly absent stems. There are further species with similar growth-form, but lacking spotted leaves, in continental Africa, e.g. *E. orbiculifolia* S. Carter, *E. tuberosa* Linné and *E. brunellii* Chiovenda.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.

Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.

Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.

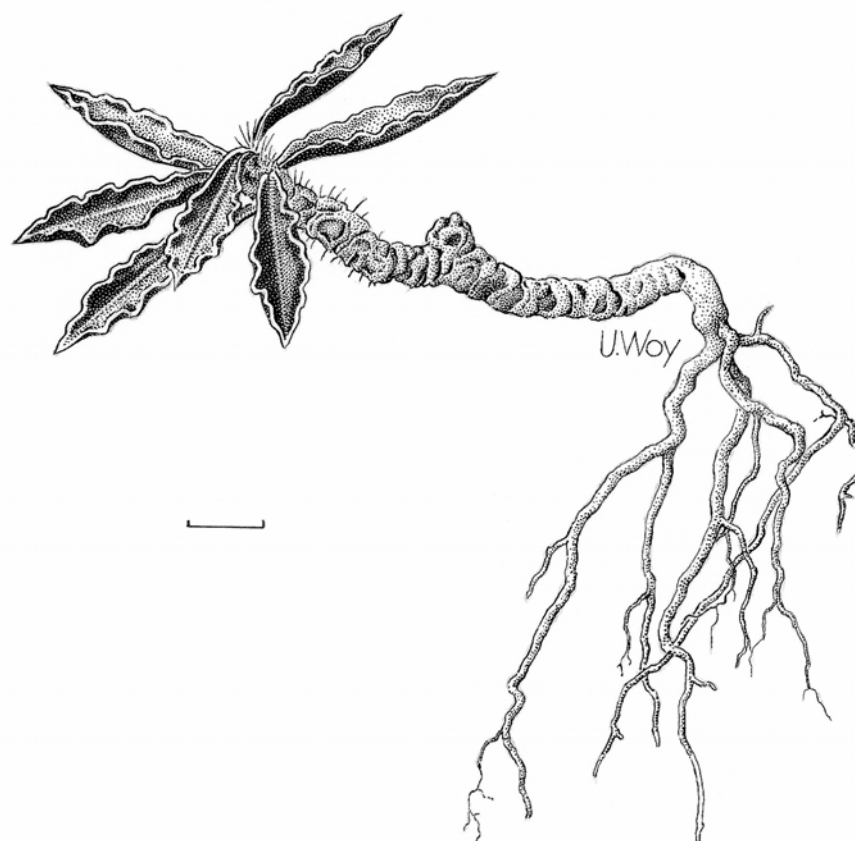
Sajeva, M. & M. Constanzo (1997): Succulents. The illustrated dictionary. Timber Press Portland, Oregon.



Euphorbia parvicyathophora

Rauh 1986

- Common names:** None reported.
- Scientific synonyms:** None.
- CITES category:** Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf, flat shrublet with light grey, spiny branches and succulent leaves with undulate margins.
- Roots:** Rhizomatous, with small random tubers.
- Stem:** Branching from the base and along whole length of decumbent stems. Branches numerous, to 15 cm, ± 1 cm \varnothing , light grey, surface bulgy from elevated, roughly spirally arranged leaf-bases and covered with porrect, bristly, stipular spines.
- Leaves:** Arranged in a terminal rosette, spreading, ovate, to 2.5 x 1.5 cm, fleshy, dark green with contrasting, light green midrib above, often with a purplish hue, with undulate margin. Stipular spines ± 5 mm, base swollen and divided into cartilaginous fringes.
- Inflorescence:** Cymes subterminal, simple, erect on 5 mm long peduncles; cyathophylls spreading, 3 x 3 mm, brownish-pink; cyathium ± 2.5 mm \varnothing ; nectar glands elliptic, greenish-yellow; ovary obtusely lobed.

Distribution: SE Madagascar, Only known from Anjamala, ca. 40 km NE of Toliara, along the Fiherenana river, limestone cliffs in soil pockets.



Trade: There is virtually no UNEP-WCMC reported trade: Only 5 shipments 1988-2003, with a total of 8 specimens, all declared as originating from artificial propagation, 4 specimens originating from MG. The species is little represented in collections; it is quite difficult in cultivation. IUCN red list: CR B1ab(iii)+2ab(iii).

Similar species: *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis* Rauh, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi* Guillaumin, *E. parvicyathophora* and *E. tulearensis* (Rauh) Rauh, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabelled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for its very narrow, nearly teret-sulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

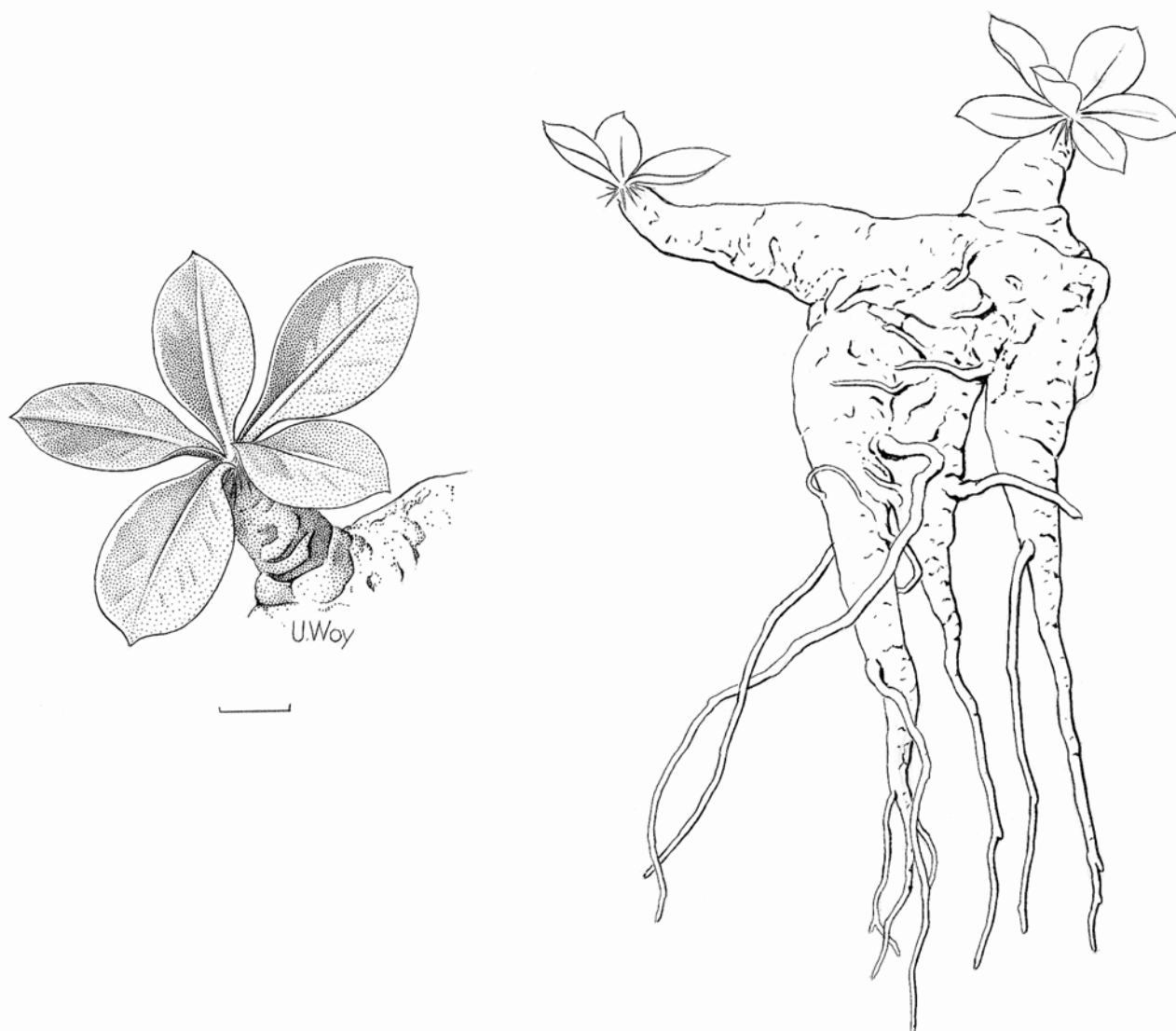
Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.
Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.
Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.



Euphorbia quartzitcola

Léandri 1946

- Common names:** None reported.
- Scientific synonyms:** None.
- CITES category:** Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf geophyte with napiform, branched root and several very short, conical subterranean stems; only stem apices with terminal rosettes of leaves emerging; leaves spreading on soil surface, broad, light green.
- Roots:** Napiform, branched, merging into one or few subterranean stems.
- Stem:** Shortly conical, light grey; surface rather smooth.
- Leaves:** Deciduous, arranged in a terminal rosette, at ground level, ovate, to 5 x 3.5 cm, constricted towards the base, petiole very short to absent, blade slightly undulate, yellowish-green, slightly glossy, shortly pubescent, with a broad midrib; stipules bristly, to 5 mm, deciduous.
- Inflorescence:** Cymes 1-2-forked on short peduncles; cyathophylls spreading, ovate, to 7 x 9 mm, joined at the base, greenish-yellow; cyathium \pm 3 mm \varnothing , hairy; nectar glands elliptic, yellow; ovary subsessile.

Distribution: Central Madagascar, on the Itremo plateau W of Ambatofinandrahana, in an area of ca. 60 x 15 km, running from SSE to NNW, in pure white quartzite sand with traces of soil, ± 1400 m.



Trade: UNEP-WCMC reported trade shows a considerable number of shipments 1984-1999, containing up to 350 plants. Nearly all shipments constitute exports from Madagascar and most of them lack declaration of the origin of the plants. It seems quite probable that this material was at least partly wild-collected. The species is very little represented in collections; it is difficult in cultivation due to its extreme habitat. Locally abundant, 100'000s of plants (Lavranos, pers. comm.), IUCN red list: EN B1ab(iii)+2ab(iii).

Similar species: *E. itremensis* Kimnach & Lavranos 2001 (CITES Appendix II) from Itremo mountains in central Madagascar seems to differ mainly by smaller stipular spines, smaller and narrower leaves, 25-35 x 10-17 mm, that are rather thickish, shiny and less concave, and finally cream to pinkish rather than bright yellow cyathophylls. There seems to be a serious look-alike problem between the two. Further, *E. primulifolia* Baker from W Madagascar (CITES appendix II), is quite similar; it differs by dark glaucous-green leaves 11 x 4 cm, with undulate margin and distinct, reticulate venation. It's flowers appear before the leaves. There are further species with similar growth-form in continental Africa, e.g. *E. tuberosa* Linné, but none with ovate, yellowish leaves.

Bibliography: Carter, S. & U. Egli (2003): The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae). Second edition. German Federal Agency for Nature Conservation.
Carter, S. (in Egli, ed.) (2002): Illustrated handbook of succulent plants – Euphorbia. Springer-Verlag Berlin, Heidelberg, New York.
Inskipp, T. & H. J. Gillett (Eds.) (2005): Checklist of CITES species and Annotated CITES Appendices and reservations. Compiled by UNEP-WCMC. CITES Secretariat, Geneva, Switzerland and UNEP-WCMC, Cambridge, UK.
Kimnach, M. & J. J. Lavranos (2001): A new Madagascan Euphorbia: *E. itremensis*. Cact. Succ. J. (US) 73 (1): 42-47.



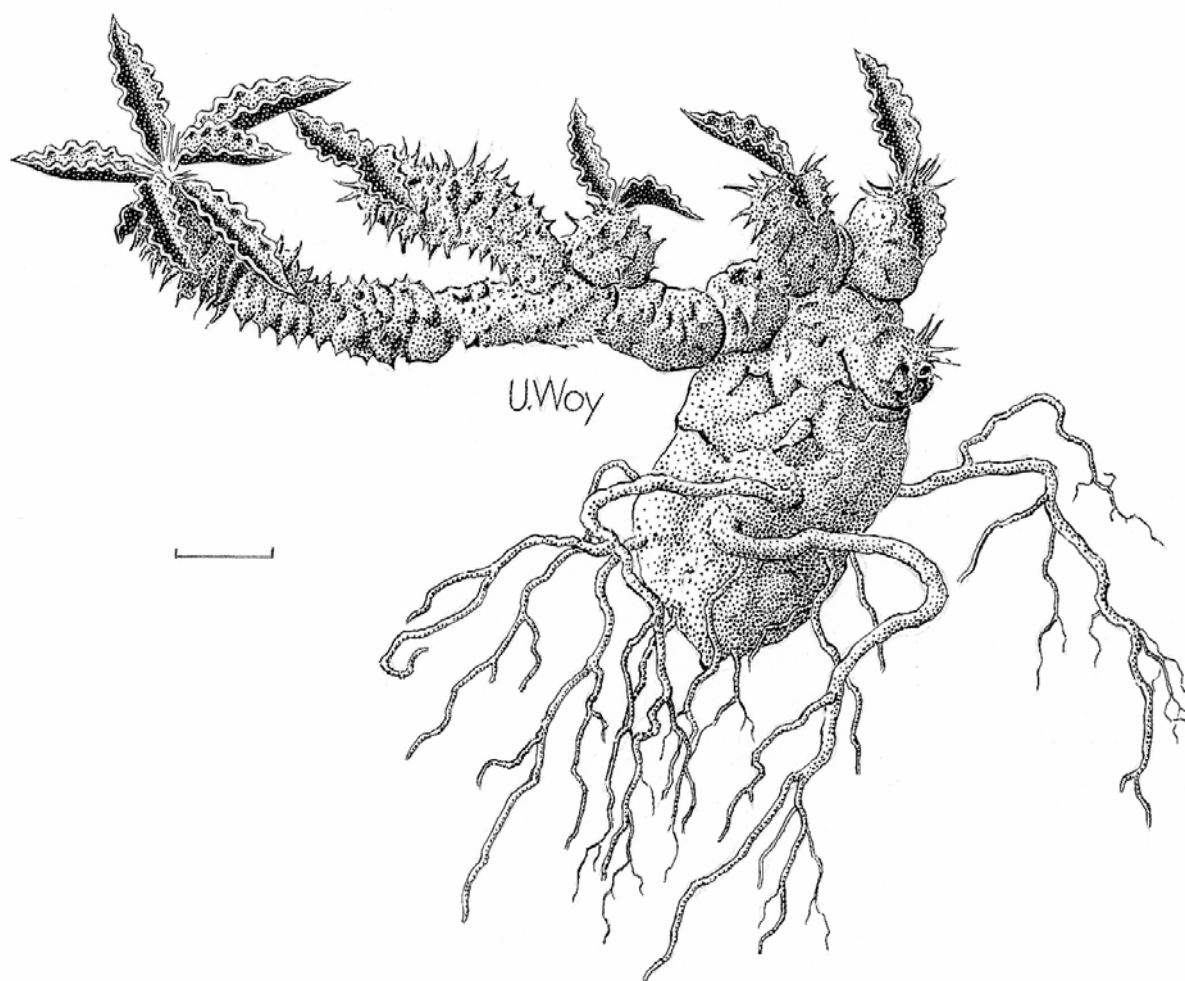
Euphorbia tulearensis

(Rauh) Rauh 1988

Common names: None reported

Scientific synonyms: *E. capsaintemariensis* var. *tulearensis* Rauh 1978 (homotypic)

CITES category: Appendix I since 18.01.1990



bar = 1 cm

- Characteristics:** Dwarf geophyte (or shrublet in cultivation) with light grey, spiny branches and narrow, strongly succulent leaves with undulate margin, curved upwards.
- Roots:** Tuberous, to $\pm 10 \times 5$ cm.
- Stem:** Densely branching from the base. Branches to 20 cm, 5-7 mm \varnothing , light grey, surface bulgy from elevated, roughly spirally arranged leaf-bases and covered with porrect, bristly, stipular spines.
- Leaves:** Arranged in a terminal rosette, spreading, ovate, to 1.5 cm long and a few mm wide, fleshy, canaliculated or deeply folded, variably coloured, dark green to grey-green with contrasting, light grey or green midrib above, often with a purplish hue, with strongly undulate margin, curved upwards and minutely papillate surface. Stipular spines acicular, porrect, to 8 mm, base swollen and divided into cartilaginous fringes.

Inflorescence: Cymes simple, on 2 cm long peduncles; cyathophylls erect, 3 x 3 mm, reddish; cyathium 5 mm Ø; nectar glands orange.

Special features: Rooted branches allegedly do not form a tuber.

Distribution: SE Madagascar, Toliara and St. Augustin areas, at the base of La Table mountain, on limestone hills.



Trade: UNEP-WCMC reported trade shows a very moderate number of shipments 1987-2002. However in 1988, export of 18'000 specimens in a single shipment (to DE) is reported and the origin of these specimens is not indicated. Considering the fact, that this was the very year of scientific publication of this taxon by the German botanist Prof. Werner Rauh, it is almost certain that this material was wild-collected. 1992-1997, only 4 shipments, containing 1-5 specimens, live and dried, were declared as wild-collected. The species is very little represented in collections; it is difficult in cultivation, as the tuber is very sensitive to over-watering. Locally common throughout its restricted range, IUCN red list: CR B1ab(iii,v)+2ab(iii,v).

Similar species: *E. ambovombensis* Rauh & Razafindratsira, *E. capsaintemariensis* Rauh, *E. cylindrifolia* Marnier-Lapostolle & Rauh, *E. decaryi* Guillaumin, *E. parvicyathophora* Rauh and *E. tulearensis*, all originating from the coastal region of southernmost Madagascar, show similar features of thin, bulgy or finely prickly stems from a subterranean tuber and terminal rosettes of very small, strongly succulent, canaliculated leaves, mostly with undulate margins. Size and shape of leaves may depend quite strongly on growing conditions and the taxonomic value of quantitative characters within this group should be thoroughly assessed. Even flower characters are partly very similar in a way that their status of separate species can be seriously doubted in some cases. Mislabelled specimens within this group are therefore not uncommon. However, as they are all listed in App. I, this problem is a taxonomical one and doesn't affect enforcement very much. A revision however would be useful. *E. cylindrifolia* is the most outstanding of them for it's very narrow, nearly terete-sulcate leaves. *E. decaryi* is characterized by spines arranged in longitudinal spirals near stem apices. The western *E. parvicyathophora* and *E. tulearensis* have rather long, acicular spines; the latter has much smaller leaves. The eastern *E. ambovombensis* and *E. capsaintemariensis* have rather papery spines; they can be differentiated by slightly spinier stems with spines forming a reticulate pattern and bigger leaves of the former. *E. suzannae-marnierae* Rauh & Petignat, described in 1996 from Toliara, Mandrare Valley (Ambovombe region), also belongs to this group with stems 10 x 1 cm, leaves 4 x 1 cm with strongly crisped margins, at least towards tips and bristly stipular spines. It is listed in CITES App. II and this leads to a serious look-alike- and enforcement problem. Finally, *E. francoisii* Léandri from south-eastern Madagascar is sometimes compared with the above species-group; it has the same general growth form, but distinctively bigger and very colourful leaves and quite different flowers.

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