

An ethnobotanical survey of southern African Menispermaceae

H. De Wet^{a,*}, B.-E. Van Wyk^b

^a Department of Botany, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa

^b Department of Botany and Plant Biotechnology, University of Johannesburg, PO Box 524, Auckland Park 2006, South Africa

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Abstract

The family Menispermaceae is highly specialized in its rich diversification of biologically active bisbenzylisoquinoline alkaloids. Because of this richness the family is used worldwide in traditional medicines to treat a wide variety of ailments. An ethnobotanical survey focusing specifically on the seven genera and 13 species of this family indigenous to South Africa has yielded 64 valuable anecdotes, of which 38 are new records. *Cissampelos capensis* [dawidjies (wortel)] is the best known and most used medicinal plant, especially by Khoisan and other rural people in the western region of South Africa. The survey had confirmed the known medicinal uses and added several additional anecdotes for this species. Although poorly recorded and hardly ever sold on traditional medicine markets, *Albertisia delagoensis* and *Cissampelos hirta* turned out to be very important in rural areas of KwaZulu-Natal for treating a range of different ailments. Medicinal uses for *Tiliacora funifera*, *Tinospora caffra* and *Tinospora tenera* are recorded for the first time. A summary of all published and unpublished ethnobotanical information for southern African Menispermaceae is presented.

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1. Introduction

The family Menispermaceae consists of 75 genera, with 520 species (Watson and Dallwitz, 1992). Because of its richness in bisbenzylisoquinoline alkaloids, this family is used worldwide in traditional medicine to treat a variety of ailments (Barbosa-Filho et al., 2000; De Wet et al., 2004, 2005). A literature survey revealed that twenty-one genera are used for medicinal purposes in Africa and twenty-nine genera in the rest of the world. The following nine genera are being used both in Africa and the rest of the world: *Cissampelos*, *Cocculus*, *Dioscoreophyllum*, *Jateorhiza*, *Sphenocentrum*, *Stephania*, *Tiliacora*, *Tinospora* and *Trichlisia* (Neuwinger, 2000; Duke, 2007; De Wet, 2006). The southern African Menispermaceae comprise seven genera and thirteen species, of which one genus and three species are endemic to the region (Table 1). In South Africa, some ethnobotanical information has been recorded (summarized in

Arnold et al., 2002) but only one species, *Cissampelos capensis* (L.f.) Diels [dawidjies (wortel)], is a well-known and much used medicinal plant, particularly in the Eastern and Western Cape Provinces (Watt and Breyer-Brandwijk, 1962; Smith, 1966; Rood, 1994). Noteworthy is the almost total absence of published records for *Cissampelos hirta* Klotzsch, *Albertisia delagoensis* (N.E. Br.) Forman, *Stephania abyssinica* (Dill. & A. Rich.) Walp., *Tinospora* species and *Tiliacora funifera* (Miers) Oliver. The aim of this study was to systematically document and record all published and unpublished ethnobotanical information and to selectively enrich these records through own field studies and surveys.

2. Materials and methods

A list of all South African Menispermaceae species is given in Table 1, together with their author citations (not repeated hereafter). A thorough literature study of all published medicinal and other uses of Menispermaceae in southern Africa is presented here. Type of references includes books (18), journals (15), online (1) and unpublished data (3). In addition, unpublished information and anecdotes were

* Corresponding author.

E-mail address: hdewet@pan.uzulu.ac.za (H. De Wet).

Table 1
List of all 13 species of the family Menispermaceae indigenous to South Africa

Genera	Species
<i>Albertisia</i> Becc.	<i>Albertisia delagoensis</i> (N.E. Br.) Forman
<i>Antizoma</i> Miers	<i>Antizoma angustifolia</i> (Burch.) Miers ex Harv. <i>Antizoma miersiana</i> Harv.
<i>Cissampelos</i> L.	<i>Cissampelos capensis</i> (L.f.) Diels <i>Cissampelos hirta</i> Klotzsch <i>Cissampelos mucronata</i> A. Rich. <i>Cissampelos torulosa</i> E. Mey. ex Harv.
<i>Cocculus</i> DC.	<i>Cocculus hirsutus</i> (L.) Diels
<i>Stephania</i> Lour.	<i>Stephania abyssinica</i> (Dill. & A. Rich.) Walp.
<i>Tiliacora</i> Colebr.	<i>Tiliacora funifera</i> (Miers) Oliver
<i>Tinospora</i> Miers	<i>Tinospora caffra</i> (Miers) Troupin <i>Tinospora fragosa</i> (Verdoorn) Verdoorn & Troupin <i>Tinospora tenera</i> Miers

Taxa endemic to southern Africa are shown in bold.

collected from herbarium sheets in the following herbaria (abbreviated as in Holmgren et al., 1990): BLFU, BOL, GRA, JRAU, NBG, NH, PRE, PRU and ZULU. Ethnobotanical surveys were done in the northern regions of KwaZulu-Natal, where seven of the 13 species occur, as well as in the Eastern Cape Province. These surveys took the form of informal interviews, in which the plants of interest were identified *in situ*. Data were recorded using field survey sheets and in some instances also a dictaphone. A Zulu interpreter (Simon Khumalo) helped with the informal interviews in KwaZulu-Natal (Table 2). The following voucher specimens of the relevant plants were shown to the people who were interviewed in the KwaZulu-Natal area: *A. delagoensis* — Van Wyk & De Wet 4075 (ZULU); *Cissampelos mucronata* — De Wet 33 (ZULU); *Cissampelos torulosa* — De Wet 95 (ZULU); *T. funifera* — De Wet 4063 (ZULU); *Tinospora tenera* — De Wet 4064 (ZULU); *Tinospora caffra* — Van Wyk & De Wet 4074 (ZULU) and fresh plant material of *C. hirta*. The survey in the Karoo region of the Eastern Cape Province was focused on the southern African endemic *C. capensis* — De Wet 11 (ZULU). The six people (Table 2) interviewed in this area are well known for their knowledge of medicinal plants in their districts. They were all interviewed in Afrikaans, which is their first language.

3. Results

3.1. *A. delagoensis*

Vernacular names. Zulu: *umgangandanda* (Pooley, 1998), *umqhumane* (Nsele, 2003, pers. comm.), *ungandingandi* (Buthelezi, 2003, pers. comm.; Makhanya, 2003, pers. comm.; Tembe D., 2003, pers. comm.); Thonga: *cudodo* (Pooley, 1998), *cumbato* (Pooley, 1998).

Root extract is drunk for:

- Worms, also for baby with worms (Buthelezi, 2003, pers. comm.; Mbonambi, 2003, pers. comm.; Nsele, 2003, pers. comm.; Zikhali, 2003, pers. comm.)

- Menstrual pain (Zikhali, 2003, pers. comm.)
- Better sexual performance in men (Buthelezi, 2003, pers. comm.; Makhanya, 2003, pers. comm.; Mthembu, 2003, pers. comm.)
- Chest problems (Mbonambi, 2003, pers. comm.)
- Body pain, as when suffering from influenza (Mthembu, 2003, pers. comm.)
- Burn root: put ash on sores (Mthembu, 2003, pers. comm.)
- Back pain (Mthembu, 2003, pers. comm.)
- To clean stomach of baby: boil root and leaves (Mthembu, 2003, pers. comm.; Tembe D., 2003, pers. comm.)
- Pregnant women drink root to clean stomach, so that the unborn child will stay healthy (Tembe D., 2003, pers. comm.)

Table 2
List of persons with knowledge of the traditional uses of Menispermaceae that were interviewed during field survey work

Name	Locality	Notes
KwaZulu-Natal:		
Phiwile	Mtubatuba	Healer
Buthelezi	market	
Magret	Kosi Bay	Knowledge from grandfather
Makhanya		
Sokale	Kosi Bay	Sangoma
Manzini		
Zodwa	Mabibi	Mother was a healer
Mbonambi		
Thembeni	Mtubatuba	Healer
Motha	market	
John	Kosi Bay	Knowledge from other healers
Mthembu		
Vusi	Kosi Bay	Grandfather was a healer
Mthembu		
Regina	St. Lucia	–
Mthiyane		
Litina Nsele	Mabibi	–
Thoka	Dukuduku Forest,	Healer
Nxumalo	St. Lucia	
Solomon	St. Lucia	–
Shabalala		
Deliwe	Kosi Bay	–
Tembe		
Thethi	Kosi Bay	Works as a healer in KwaMbonambi
Tembe		
Magidiva	Mabibi	Knowledge from other people who used these plants on her family
Zikhali		
Thembi	Mtubatuba	Healer
Zondo	market	
Eastern Cape Province:		
Piet Cupido	Murraysburg (originally from Richmond)	Has considerable experience through self-medication
Jan	Graaff-Reinet	Grandfather was a “bossiedokter” (traditional healer)
Oormeyer		
Andries	Murraysburg	Knowledge from a “bossiedokter” from Victoria West
Salmons		
Kiewiet	Murraysburg	Grandmother was a “bossiedokter”
(Hottie)		
Steenkamp		
Poppie Teo	Graaff-Reinet, Farm Clifton	Grandmother was a “bossiedokter”
Ernst	Graaff-Reinet,	Knowledge from mother
Williams	Farm Bloemhof	

- To stop diarrhoea and vomiting (Tembe D., 2003, pers. comm.; Tembe T., 2003, pers. comm.)
- Stomach problems, not eating well (Tembe T., 2003, pers. comm.)
- Fever (Jansen and Mendes, 1983).

3.2. *Antizoma angustifolia*

Vernacular names. Afrikaans: *maag-bitterwortel* (Rood, 1994); Damara>Nama: *orab* (Von Koenen, 2001).

Root tea is drunk for:

- Blood purification for boils (Rood, 1994)
- Emetic and purgative action (Rood, 1994)
- Kidney stones (Rood, 1994)
- Bladder problems (Rood, 1994)
- Stomach pain (Von Koenen, 2001)
- Burning pain in stomach (Hedberg and Staugård, 1989)
- Dysentery (Rood, 1994)
- Diarrhoea (Von Koenen, 2001)
- Blood in stool (Von Koenen, 2001)
- Gastrointestinal problems (Watt and Breyer-Brandwijk, 1962)
- General pain (Von Koenen, 2001)
- Coughs (Von Koenen, 2001)
- Colic (Hedberg and Staugård, 1989)
- Gall-bladder problems (Hedberg and Staugård, 1989)
- Liver complaints indicated by lack of appetite (Hedberg and Staugård, 1989)
- Easy delivery: expectant women are encouraged to take the decoction from their fourth month of pregnancy. This causes the fetus to stay mobile for an easy delivery (Von Koenen, 2001).

Leaves and root are chewed or drunk as a tea for:

- Digestive problems and general malaise (Von Koenen, 2001).

3.3. *Antizoma miersiana*

Vernacular names. Afrikaans: *bloubos* (Venter, 2003, pers. comm.).

- Boiled root is drunk for stomach ulcers (Archer, 1994).

3.4. *Cissampelos capensis*

Vernacular names. Afrikaans: *dawidjies (wortel)* (Smith, 1966), *fynblaarklimop* (Smith, 1966).

For the colonist the difference between *dawidjies (wortel)* (Menispermaceae) and *dawidjiewortel* (Cucurbitaceae) was very distinct, but later on the difference in the names grew faint and nowadays both names are used in both families (Smith, 1966).

Root extract or decoction is drunk for:

- Gravel and glandular swelling (Watt and Breyer-Brandwijk, 1962)
- Gall stones (Rood, 1994)
- A weak brandy tincture for dysentery (Smith, 1895)

- Mucous membrane infection (Rood, 1994)
- Menstrual problems (Von Koenen, 2001)
- Prevention of miscarriage (Von Koenen, 2001)
- Difficult labour (Von Koenen, 2001)
- Expelling the placenta (Von Koenen, 2001)
- Appetite stimulant (Von Koenen, 2001)
- Blood purification (Watt and Breyer-Brandwijk, 1962; Rood, 1994; Van Wyk and Gericke, 2000; Oormeyer, 2001, pers. comm.; Williams, 2002, pers. comm.)
- Antisyphilitic use (Watt and Breyer-Brandwijk, 1962)
- Cholera (Watt and Breyer-Brandwijk, 1962)
- Colic (Watt and Breyer-Brandwijk, 1962; Salmons, 2001, pers. comm.)
- Erysipelas internally and externally: mixed with *Pentzia incana* (Thunb.) Kuntze and *Pentzia globosa* Less (Watt and Breyer-Brandwijk, 1962).
- Bladder problems (Watt and Breyer-Brandwijk, 1962; Rood, 1994)
- Snakebite (Watt and Breyer-Brandwijk, 1962)
- Stomach pain (Cupido, 2001, pers. comm.; Steenkamp, 2001, pers. comm.)
- Stomach problems: mixed with bird-lime (Salmons, 2001, pers. comm.)
- Influenza: mixed root with “Boegoe” [*Agathosma betulina* (Berquis) Pillans] (Steenkamp, 2001, pers. comm.)
- Toothache: chew root (Cupido, 2001, pers. comm.)
- A sedative effect by chewing the rhizome (Van Wyk and Gericke, 2000)
- For treating pain, using infusions (Van Wyk and Gericke, 2000)
- Biliary complaints (Oormeyer, 2001, pers. comm.)
- Measles: mix root with half a teaspoon Epsom Salt (Theo, 2001, pers. comm.)
- Fever: mixed root with “grandpa powder” (a headache powder, which contains aspirin, paracetamol and caffeine), vinegar and sugar (Cupido, 2001, pers. comm.)
- Headache: smoke inhaled through nostrils to treat headache (Van Wyk and Gericke, 2000)
- Diabetes (Van Wyk and Gericke, 2000)
- Tuberculosis (Van Wyk and Gericke, 2000)
- Stomach and skin cancers (Van Wyk and Gericke, 2000)
- Purgative (Van Wyk and Gericke, 2000)
- Good-luck charm: root is carried around (Von Koenen, 2001).

Leaves are used for:

- Ulcers and syphilis sores: paste is used (Watt and Breyer-Brandwijk, 1962; Rood, 1994)
- Snakebite wound: paste is used (Smith, 1895).

Caution is advised with regard to dosage, as the leaves are said to be poisonous (Watt and Breyer-Brandwijk, 1962).

3.5. *Cissampelos hirta*

Vernacular names. Zulu: *khalimelo* (Zondo, 2003, pers. comm.), *indlebelenkawu* (Mthembu, 2003, pers. comm.; Nsele, 2003, pers. comm.), *intandela* (Makhanya, 2003, pers. comm.), *umanyokane*

(Tembe D., 2003, pers. comm.), *unukani* (Tembe T., 2003, pers. comm.).

Root extract is drunk for:

- Stomach problems of baby (Mthembu, 2003, pers. comm.; Nsele, 2003, pers. comm.; Zondo, 2003, pers. comm.)
- Stomach pain (Makhanya, 2003, pers. comm.; Zikhali, 2003, pers. comm.)
- Lower stomach pain: mixed with root of African potato (*Hypoxis hemerocallidea* Fisch. & C.A. Mey.) (Motha, 2003, pers. comm.)
- Draining the “green stuff” from newborn baby’s stomach (Buthelezi, 2003, pers. comm.; Tembe T., 2003, pers. comm.)
- Stopping a baby vomiting (Nsele, 2003, pers. comm.; Tembe D., 2003, pers. comm.)
- For back pain: mix root with other plants (Manzini, 2003, pers. comm.).

Leaves:

- Mixed leaves (+ leaves of *C. mucronata*) with water, put drops in nose, for “craziness” (Tembe T., 2003, pers. comm.)
- Ringworm on skin: use the sap of leaves (Mthiyane, 2003, pers. comm.)
- Itching skin on private parts: use leaves (with bulb of African potato and leaves of *umvuthuza*), boil and drink as a tea (Mthiyane, 2003, pers. comm.).

3.6. *Cissampelos mucronata*

Vernacular names. Afrikaans: *dawidjies (wortel)* (Smith, 1966; Hutchings et al., 1996; Pooley, 1998); Zulu: *umbombo* (Hutchings et al., 1996; Pooley, 1998).

Root decoction is drunk for:

- Fever (Van Wyk and Gericke, 2000)
- Headache (Van Wyk and Gericke, 2000)
- Backache (Gelfand et al., 1985; Van Wyk and Gericke, 2000)
- Head, neck and muscle pain (Giess and Snyman, 1986)
- Digestive problems, as a purgative (Von Koenen, 2001)
- Prevention of abortion (Gelfand et al., 1985; Mavi, 1994)
- Stimulating uterus contractions: extract taken postnatal (Giess and Snyman, 1986; Von Koenen, 2001)
- Keeping a baby healthy: pregnant women drink root extract (Mthembu, 2003, pers. comm.)
- Menorrhagia, oedema, throat problems, uterus pain, depressed fontanelle and ascites (Gelfand et al., 1985)
- Dysmenorrhagia: root powder is eaten in porridge (Gelfand et al., 1985; Mavi, 1994; Van Wyk and Gericke, 2000)
- Infertility (Gelfand et al., 1985; Mavi, 1994; Van Wyk and Gericke, 2000)
- Sexual stimulation (Van Wyk and Gericke, 2000)
- Stomach problems (Shabalala, 2003, pers. comm.)
- Cleaning the stomach (Mthembu, 2003, pers. comm.)
- Diarrhoea (Giess and Snyman, 1986; Von Koenen, 2001)
- Bilharzia (Van Wyk and Gericke, 2000)
- Schistosomiasis (Gelfand et al., 1985; Sparg et al., 2000)

- Uterine pain (Van Wyk and Gericke, 2000)
- Wounds: powder of dried root is sprinkled on wounds (Von Koenen, 2001)
- Coughs (Von Koenen, 2001)
- A general feeling of unwellness (Von Koenen, 2001)
- Snakebite (Giess and Snyman, 1986).

Leaves:

- Sore eyes: leaf infusion is dropped into sore eyes (Gelfand et al., 1985).

3.7. *Cissampelos torulosa*

Vernacular names. kidney-leaf (Pooley, 1998); Afrikaans: *dawidjies (wortel)* (Smith, 1966; Hutchings et al., 1996; Pooley, 1998); Zulu: *iphakama* (Zondo, 2003, pers. comm.), *mabuyisa* (Zikhali, 2003, pers. comm.), *ukhalimele-omkhulu* (Hutchings et al., 1996; Pooley, 1998); *umthombo* (Hutchings et al., 1996; Pooley, 1998), *uphindamshaye* (Mbonambi, 2003, pers. comm.); Tsonga-Shangaan: *khadi* [herbarium specimens, Obermeyer 495 (PRE)].

Root decoction is drunk for:

- Syphilis (Watt and Breyer-Brandwijk, 1962; Smith, 1966)
- Kidney pain: mixed with leaves of an unknown plant (Motha, 2003, pers. comm.)
- Toothache: root is chewed (Watt and Breyer-Brandwijk, 1962; Hutchings et al., 1996).

Leaf decoction is drunk for:

- Hallucinations (Watt and Breyer-Brandwijk, 1962)
- Hallucinations: leaf decoction administered as an enema to treat hallucinations (Van Wyk and Gericke, 2000)
- Vomiting blood (Watt and Breyer-Brandwijk, 1962)
- Stopping vomiting (Tembe T., 2003, pers. comm.)
- Scrofula: as an enema (Watt and Breyer-Brandwijk, 1962; Bryant, 1966)
- Stomach problems, especially if one does not eat, such as with AIDS patients (Tembe T., 2003, pers. comm.)
- Itching skin on private parts: boil with bulb of African potato and leaves of *umvuthuza* (*Knowltonia bracteata* Harv. ex Zahlbr.) (Mthiyane, 2003, pers. comm.)
- Skin pain: put leaves in hot water, wash skin with water (Zikhali, 2003, pers. comm.).

Leaf paste uses:

- Dressing for scrofula (Watt and Breyer-Brandwijk, 1962; Bryant, 1966)
- Syphilitic sores, used by Xhosa people (Smith, 1895; Watt and Breyer-Brandwijk, 1962).

Stem:

- Sharp pain in the side: boiled stem is drunk (Mbonambi, 2003, pers. comm.).

Table 3
The medicinal uses of the 12^a Menispermaceae species in South Africa (categories as defined in Cook, 1995)

Species	Plant part use	Abnormalities	Digestive system disorders	Endocrine system disorders	Genitourinary system disorders	III-defined symptoms	Infections/infestations	Inflammation	Injuries
<i>Albertisia delagoensis</i>	Root	–	4	3	1	–	5	–	–
<i>Antizoma angustifolia</i>	Root	–	9	–	2	–	–	1	–
<i>Antizoma miersiana</i>	Leaves	–	1	–	–	–	–	–	–
<i>Antizoma miersiana</i>	Root	–	1	–	–	–	–	–	–
<i>Cissampelos capensis</i>	Root	–	9	2	3	–	8	–	–
<i>Cissampelos capensis</i>	Leaves	–	–	–	–	–	1	–	–
<i>Cissampelos hirta</i>	Root	–	10	–	–	–	–	–	–
<i>Cissampelos hirta</i>	Leaves	–	–	–	–	–	2	–	–
<i>Cissampelos mucronata</i>	Root	3	5	–	10	1	5	–	1
<i>Cissampelos mucronata</i>	Leaves	–	–	–	–	–	1	–	–
<i>Cissampelos torulosa</i>	Root	–	–	–	1	–	2	–	–
<i>Cissampelos torulosa</i>	Leaves	–	3	–	–	–	8	–	–
<i>Cissampelos torulosa</i>	Plant	–	–	–	–	–	–	–	–
<i>Stephania abyssinica</i>	Root	–	–	–	–	–	–	–	–
<i>Tiliacora funifera</i>	Root	–	–	–	1	–	–	–	–
<i>Tiliacora funifera</i>	Leaves	–	–	–	–	–	–	–	–
<i>Tinospora caffra</i>	Leaves	–	–	–	–	–	–	–	–
<i>Tinospora caffra</i>	Plant	–	–	–	–	–	–	–	–
<i>Tinospora fragosa</i>	Plant	–	–	–	–	–	2	–	–
<i>Tinospora tenera</i>	Leaves	–	–	1	2	–	1	–	–

The number of medicinal records is indicated in the table.

^a *Cocculus hirsutus* is not used for any medicinal purpose in South Africa.

Plant:

- Whole plant is used for ritual purification by the Vhavenda (Mabogo, 1990)
- The plant is taken by pregnant women to make labour easier (Hutchings et al., 1996).

3.8. *Cocculus hirsutus*

Vernacular names. monkey rope [herbarium specimens, Smith 2474, Polwier 88 (PRE)]; Tsonga: *xootso* [herbarium specimens, Liengme 89 (PRE)].

- Stems are used to make conical baskets (*xirundzu*) (Watt and Breyer-Brandwijk, 1962; Liengme, 1981)
- Berries are used for dyeing basket material and are eaten by Shangaan people [herbarium specimen, Gerstner 5451 (PRE)]
- Plant extract is drunk for diseases in babies in Botswana [herbarium specimen, Woollard and Kgathi 2211 (PRE)].

3.9. *Stephania abyssinica*

Vernacular names. Zulu: *umbombo* (Hutchings et al., 1996; Pooley, 1998), *umthambana* (Hutchings et al., 1996; Pooley,

1998), *umthambane* (Hutchings et al., 1996), *umthombo* (Hutchings et al., 1996; Pooley, 1998).

Root decoction is drunk for:

- Boils (+ *Momordica foetida* Schumach.) by Zulus (Watt and Breyer-Brandwijk, 1962).
- A charm to find lost articles or discover secrets (Pooley, 1998)
- A magic medicine as used by the southern Sotho to prevent a person being struck by lightning which has been sent by an enemy (Watt and Breyer-Brandwijk, 1962).

3.10. *Tiliacora funifera*

Vernacular names. Zulu: *umndiza* (Mbonambi, 2003, pers. comm.).

Root:

- To make women more fertile, mix root with other plant parts (unknown) and drink (Mbonambi, 2003, pers. comm.).

Leaves:

- For face problems, boil leaves, use blanket to cover head and bowl and steam the face (Tembe T., 2003, pers. comm.; Zikhali, 2003, pers. comm.).

Mental disorders	Muscular–skeletal system disorders	Neoplasm	Nutritional disorders	Pain	Poisonings	Pregnancy/birth/ puerperium disorders	Respiratory system disorders	Skin/subcutaneous cellular tissue disorders
–	3	–	1	–	–	1	–	1
–	–	–	–	1	1	1	1	–
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
1	–	1	1	3	6	3	–	–
–	–	–	–	–	1	–	–	1
–	1	–	–	–	–	–	–	–
1	–	–	–	–	–	–	–	–
–	3	–	–	1	1	5	1	–
–	–	–	–	–	–	–	–	–
–	–	–	–	2	–	–	–	–
2	–	–	–	1	–	1	–	–
–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	2
1	–	–	–	1	–	–	–	–
–	–	–	–	–	1	–	–	–
–	1	–	–	–	–	–	1	–
–	1	–	–	–	–	–	–	1

3.11. *Tinospora caffra*

Vernacular names. Afrikaans: *oranje-druiveranker* (Pooley, 1998); orange grape creeper (Pooley, 1998); Zulu: *intindili* (Tembe T., 2003, pers. comm.), *isidumuke* (Pooley, 1998).

Plant:

- Used as a fish poison (Pooley, 1998).

Leaves:

- Body pain: inhale steam of boiling leaves (Zondo, 2003, pers. comm.)
- Sleeping problems: mix leaves with unknown leaves and sprinkle water in room (Tembe T., 2003, pers. comm.).

3.12. *Tinospora fragosa*

Vernacular names. Aaron's rod, *wonderplant* (Van Jaarsveld, 2002), saddle's stirrup (Rodin, 1985), Moses' staff (herbarium specimen *Croeser 35* PRE); Afrikaans: *Aaron-se-staf* (Van Jaarsveld, 2002); Kwanyama: *eposa* (Rodin, 1985), *omaposa* (Rodin, 1985), *omaphsha* (Rodin, 1985); *penyaleng* in the Lydenburg area (Verdoorn, 1941).

Plant:

- Anthrax: plant is given as fodder to healthy cattle (Rodin, 1985)
- Anthrax sores: infusion of twigs and leaves is applied (Rodin, 1985).
- Cough: twigs are chewed and sap swallowed (Neuwinger, 2000)
- Sore throat: twigs are chewed and sap swallowed (Neuwinger, 2000)
- Rheumatism and other bodily pains: stems and leaves used as a Turkish or mustard bath (herbarium specimen, *Barnard 58*, PRE)
- Plants are grown in kraals for good luck and to keep snakes away (Rodin, 1985).

3.13. *Tinospora tenera*

Vernacular name. Zulu: *umdlanlatho* (Zondo, 2003, pers. comm.).

Leaf extract is drunk for:

- Pain in joints (Tembe T., 2003, pers. comm.)
- Better sexual performance in men (Tembe T., 2003, pers. comm.)

- Influenza: mix roots with leaves and inhale steam (Zondo, 2003, pers. comm.)
- Kidney stones: mix root with leaves, drink or use as an enema (Zondo, 2003, pers. comm.)
- Sores on private parts: boil leaves and use water to wash (Shabalala, 2003, pers. comm.)
- Skin problems: boil leaves and steam face (Zikhali, 2003, pers. comm.).

4. Discussion

No medicinal uses for southern Africa were found in the literature for *C. hirta*, *T. funifera*, *T. caffra* and *T. tenera* and only one reference was found for *A. delagoensis*. The field survey work showed that these species are commonly used for a range of ailments, as summarized in Table 3. In South Africa, *C. hirsutus* is used only in basket-making and not in traditional medicine. Ethnobotanical research in the north-eastern parts of KwaZulu-Natal and the eastern parts of the Karoo recorded several new uses and confirmed some uses already documented.

C. capensis is medicinally by far the most used species in southern Africa, followed by *C. mucronata* (Table 3). Digestive system disorders are the most recorded ailments treated with *A. delagoensis*, both *Antizoma* species and all four *Cissampelos* species. Further important medicinal uses (three and more citations) for these species are: for blood purification, anthelmintic and parasite medicine, as aphrodisiac, for pain, women's ailments, venereal diseases and as antiseptic on wounds. The most cited medicinal use for *C. capensis* is for blood purification and it is also the only Menispermaceae species in southern Africa which is used for this purpose. *A. delagoensis* and *C. mucronata* are mostly used to treat worms and parasites and are also important traditional aphrodisiacs. Three of the four *Cissampelos* species (all except *C. mucronata*) are used as analgesic medicines, with *C. mucronata* the only species to be used as an abortifacient. Fever is mostly treated with *C. capensis*, with two citations for *A. delagoensis* and one citation for *T. tenera*. Women's ailments (menstrual- and pregnancy-related problems) are mostly treated with the *Cissampelos* species (except for *C. hirta*), with one citation for *A. delagoensis*. The family Menispermaceae is well known for its curare properties (Dutcher, 1946; Oliver-Bever, 1983; Bisset, 1992), but in southern Africa, *C. capensis* and *T. caffra* are the only species recorded for this use (one citation each). Venereal diseases are treated mostly with *C. torulosa* and to a lesser extent with *C. capensis*, *C. hirta* and *T. fragosa*. Five of the 13 species are used as antiseptic medicines, namely: *A. delagoensis*, *C. capensis*, *C. mucronata*, *C. torulosa* and *T. tenera*, with *C. torulosa* the most important. Only one record could be found for the treatment of cancer (with *C. capensis*). Although Menispermaceae species are commonly used in the rest of Africa and the world for treating malaria (Githens, 1949; Rasoanaivo et al., 1992; Gessler et al., 1995; Camacho et al., 2003; Le Tran et al., 2003; Lohomo-Ekomba et al., 2004), no records of this use (in South Africa) were found for any of the 13 species. *A. delagoensis*, however, is used in South Africa to treat fever and therefore perhaps also malaria.

Of the 13 South African species, *C. mucronata* is most commonly and widely used in Africa (De Wet, 2006). However,

only a few of its uses were recorded in South Africa, despite its widespread occurrence. Only one use was recorded in KwaZulu-Natal, but most of the people interviewed knew that it is related to *C. hirta*, the species that they preferred to use as medicine. *C. mucronata* and *C. torulosa* appear to be less frequently used. All the medicinal uses for *C. hirta* reported here appear to be new records. In the dry interior and western regions of South Africa, the xerophytic *C. capensis* is an important traditional medicine, mostly used for blood purification. According to literature and field studies, the three *Tinospora* species are not very important medicinal plants in South Africa.

The ethnobotanical survey on the South Africa Menispermaceae confirmed its importance for medicinal uses (165 records). The *Cissampelos* species are also the most frequently used medicinal plants in the rest of Africa, followed by *Stephania*, *Tinospora* and *Trichlisia* species. In the rest of the world Menispermaceae is used to the same extent as in Africa, except that *Tinospora* is the most used genus, followed by *Cissampelos* (De Wet, 2006). Similarities exist between the types of ailments treated with the genus *Cissampelos* in South Africa, Africa and the rest of the world. The most important uses are for stomach problems, menstrual problems, pregnancy-related problems, as a diuretic, for wounds and ulcers. *Tinospora* is mostly used in the rest of the world as an anthelmintic, for arthritis and rheumatism, diabetes, fever, malaria, wounds, ulcers and as a tonic (De Wet, 2006).

It can be concluded that a need exists to document indigenous knowledge on traditional plant uses before it becomes lost to future generations. The lack of literature records for some of the South African Menispermaceae genera and species shows that there is still considerable scope for field work to record traditional uses in South Africa.

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