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RESEARCH ARTICLE

MEDICINAL AND OTHER TRADITIONAL USES AND THREATS TO SUSTAINABILITY OF *STEPHANIA ABYSSINICA* (DILLON & A. RICH.) WALP. IN EAST WOLLEGA AND WEST SHEWA, OROMIA REGION, ETHIOPIA

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ABSTRACT: *Stephania abyssinica* (Dillon & A. Rich.) Walp., was studied in terms of its medicinal and other traditional utilization and threat to its sustainability. Although various studies have been carried out on its medicinal usages, its aspects on other traditional values were not described. Hence, the purpose of this study was documentation of belief, cultural, social and economic values, as well as medicinal uses both for human and livestock and factors threatening sustainability of the species. Mix of ethno-botany and ethnographic research design related to traditional domains were employed for gathering qualitative data between September 2018 and January 2020. The data were gathered from 47 interviewees, two focus group interviews and 13 appropriate literature sources. These were systematically built up together typically as medicinal for human and livestock ailments and other traditional uses and the threats to sustainability of the species. Accordingly; 78.57% human ailments, 21.43% livestock ailments and 19 other traditional uses associated with *S. abyssinica* var. *abyssinica* were identified. Threats with various estimates of the degrees of pressure were also described. Finally, suggestive remedial conservation measures were established as recommendations.

Key words/phrases: Conservation, Heritage, Medicinal plant, Stephania, Traditional use.

INTRODUCTION

Study of *Stephania abyssinica* (Dillon & A. Rich.) Walp., focusing on its medicinal and other traditional utilizations and threats to its sustainability can be legitimized according to the contents enlightened in the Education Policy of Ethiopia (FDRE, 1994). Dealing with this has relevant contributions in that the various focuses of basic education mentioned in the policy document include issues of environment, crafts, health services, due

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attention given to concrete local conditions and ways of addressing societal needs. Trial of embracing of indigenous knowledge that might be popular among people of different ethnic groups with contemporary science and technology can be achieved through research and development (Martin, 1995). Indigenous knowledge is basically referred to what indigenous people know and do, and what they have known and done for generations (Debela Hunde *et al*., 2004; Eyong, 2007).

Falconer and Kopell (1990) cited in Kakudidi (2004) explained that culture consists as such ideas, beliefs and customs that are shared and accepted by people in a society. It was also explicated that plants feature in many aspects of culture, art, religion, medicine, politics and social structure. Thus, information on cultural significance of plants can be gathered from anthropological, ethnobotanical and ethnomedicinal studies which generally focus on a particular community. Lambert *et al*. (2005) have also described ecological, income generation, cultural, social and religious roles of plants. *S. abyssinica* var. *abyssinica* is one among such species that fulfill these criteria.

Moreover, knowledge of medicinal plants use is held by traditional societies, but its existence is now under threat due to lack of sufficient information recorded in a systematic way. From ancient times to the present, plants have been used as a source of medicine for primary health care needs (WHO *et al*., 1993; Hamilton, 2004; Lambert *et al*., 2005; Grace and Fowler, 2008; Dayal, 2009; Raina *et al*., 2011; Venkata and Swathi, 2011). In Ethiopia, similar situation was also reported (IBC, 2005; Tilahun Tolassa and Moa Megersa, 2018).

This great interest of using plants as a set of priority health interventions for low-income population in many developing countries has been based on the assumption that the plants will be available on continuing base. Contrary to this, no intensive effort has been made to ensure this condition in face of the threats posed by destruction of plant-rich habitats and over exploitation of wild resources. Thus, explicit conservation measures are imperative (WHO *et al*., 1993; Hamilton, 2004; Lambert *et al*., 2005; Raina *et al*., 2011; Venkata and Swathi, 2011; Bland *et al*., 2016; WHO and UNICEF, 2018). The necessity of this scenario in Ethiopia is also crucial (Getu Alemayehu, 2017; Tilahun Tolassa and Moa Megersa, 2018).

Basically, *S. abyssinica* var. *abyssinica* is obtained from wild source for local uses; as source of medicine, dyeing material and other cultural activities (Worku Abebe, 2016). But now wild resources' exposure to risks

of depletion are globally rising. Hence, ensuring sustainability of multipurpose medicinal plants (MMP) and supply including *S. abyssinica* var. *abyssinica* are urgent issues for most African countries and in particular to Ethiopia (Lambert *et al*., 2005). Contrary to this situation, many of them face extinction or severe depletion and no sufficient conservation action has been taken (WHO *et al*., 1993).

In Ethiopia, some studies on the ethno-medicinal uses of *S. abyssinica* var. *abyssinica* were conducted (Kupchan *et al*., 1970; Ermias Dagne *et al*., 1993; Eskedar Abebe, 2011; Moa Megersa *et al*., 2013; Beckman, 2014; Alemayehu Washe and Desalegn Fanta, 2016; Tena Regassa, 2016), but these studies did not address the diverse cultural, religious and social values and symbolic functions related to the species.

Thus, the main assumed gap was lack of literature that comprised social, cultural and indigenous belief knowledge related with other traditional uses of *S. abyssinica* var. *abyssinica*. This was the vital problem as it could consequently damage the value of social heritage of the society too (Debela Hunde *et al*., 2004). Besides, urgent scientific assessments that will result in explicit solution are required. This is vital to overcome depletion of MMP, specifically *S. abyssinica* var. *abyssinica* that can be caused by rapid human population growth coupled with increased health care demand, harvesting practices from sole wild source and aggravated natural habitat destruction. In light of these contexts, the purpose of this study was exploration of events associated with *S. abyssinica* var. *abyssinica* including ailment treatment, cultural, religious, social heritages and threats to its existence.

MATERIALS AND METHODS

The study was conducted in the two adjacent administrative zones; East Wollega and West Shewa of Oromia Region, in western Ethiopia (Fig. 1); located between 08º18′36″N to 10º22′8″N latitude and 36º6′22″ E to 37º42′ 36″E longitude. Altitudinal measures of the two zones vary between 1,300 to 3,060 m a.s.l. Vegetation types of the area are dry and moist evergreen montane forest (Fikadu Gurmessa *et al*., 2013; IBC, 2005).

Soils of East Wollega and West Shewa were mainly described as reddish brown clay dominated nitosols (Abdisa Gemeda *et al*., 2001; Tena Regassa, 2016; Zerihun Tadesse, 2015). Human population size of East Wollega and West Shewa zones were 1,213,503 and 2,058,676, respectively (CSA, 2008). Socio-economy of the people of the areas dominantly relies on mix of crop farming and livestock rearing (Yazachew Etefa and Kasahun Dibaba, 2011; Megerssa Tolessa, 2016). The temperature range of the study

area from 2006–2018 years at Nekemte town was 11.9–28.2ºC and its average of which was 18.79ºC. Average annual rain fall was 2048.56 mm and highest in May, June, July, August and September.

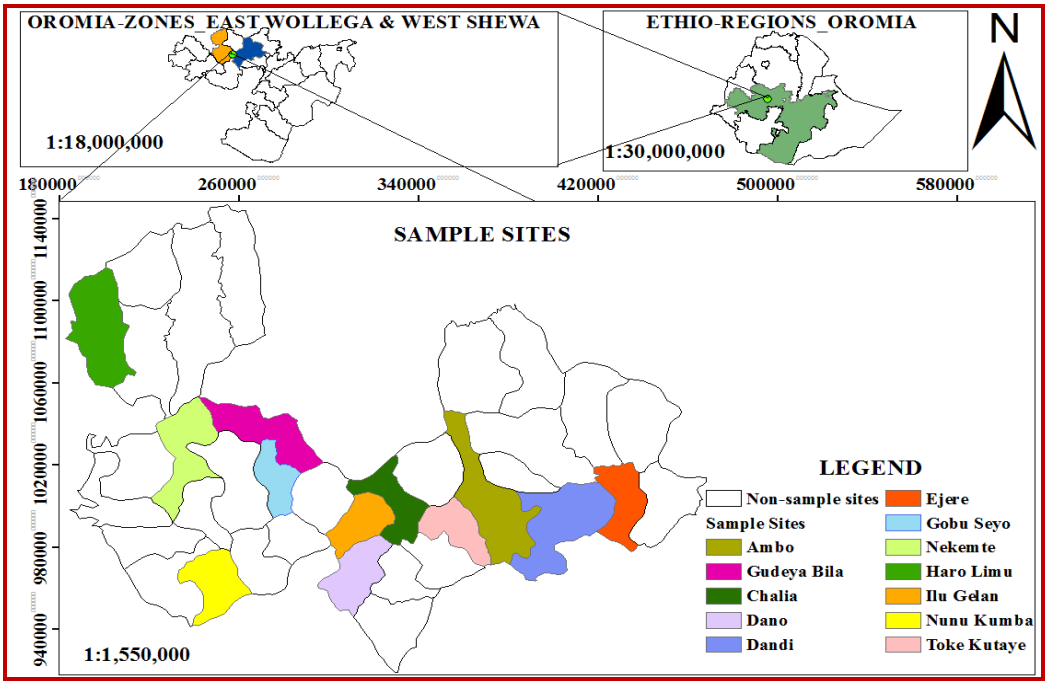

Fig. 1. Map of East Wollega and West Shewa zones describing sample sites.

The design of the study was qualitative type where mix of ethno-botany (Martin, 1995) and ethnographic concepts (Dolores and Tongco, 2007; Teddlie and Yu, 2007) related to traditional domains about *S. abyssinica* var. *abyssinica*; medicinal for human and livestock, belief, cultural, economic and social usages, threats to sustainability of the species and prevalence of uses were explored. Qualitative information was gathered using ethnobotanical methods of Alexiades (1996) and ethnography methods of Reeves *et al.* (2013) which included semi-structured interview, focus group discussion, observations based on checklist and literature data between September, 2018 and January, 2020. Following Kumar (2011), loose list of issues were employed as interview and observation guide to ensure desired coverage of the areas of enquiries, comparability of information across respondents and proper time management.

Population of this study was defined in terms of very broad category (Alvi, 2016), Mecha Oromo, residential in East Wollega and West Shewa administrative zones. From epistemological point of view the intention was

to know prevalence of medicinal, cultural, social and religious uses and threats influencing survival of *Stephania abyssinica* var. *abyssinica*. Mix of convenience and snow ball non-probability sampling techniques were employed. Convenience sampling was selected based on the criterion of samples easily accessibility, geographical proximity, availability at a desired time, willingness of local community members to participate and their familiarity to the desired social heritages of the community (Dolores and Tongco, 2007; Etikan *et al*., 2016). Snow ball sampling was taken as it guides creation of contact with few individuals and direct to other groups until data saturation possibly attained (Kumar, 2011; Alvi, 2016; Etikan and Bala, 2017; Taherdoost, 2016).

The data were collected through creation of first contact with district culture and tourism offices of Ilu Galan and Chalia. These were purposively selected for the rationale that Oda Bisil, the cultural and social centre of Mecha Oromo is scenic historical place (Wandimu Nagash and Boni Tasfaye, 2015) and the searched customs were also relatively better fostered in the areas. There the objectives of the study were explained. After reaching on consensus with local authorities, through following the guidelines of IBC (2012) nomination of key informants were considered. This was conveniently extended to other districts in the two zones; Ambo, Dandi, Dano, Ejere, Tokke Kuttaye, Gobu Sayo, Gudeya Bila, Haro Limu, Nekemte and Nunu Qumba (Fig. 1).

Primary data were collected by involvement of 47 interviewees; 7 female and 40 male and two focus group interviews holding eight and seven members, all of whom were male. Time spent with each interviewee and each focus group interview session ranged from 20–30 and 80–90 minutes, respectively. At least five informants were considered for the data to be reliable (Dolores and Tongco, 2007). The characteristics of the informants included being community elders, household women and men, government office workers residential in the area and those who knew well about the actual customs of the society. Participants' views were partly videotape recorded using HUAWEI G630-U10 mobile camera and soon progressive conversion to text was accomplished in complement with the researcher's field notes.

Real plant vegetative and reproductive parts in field were repetitively observed and persuaded photos were taken during wet and dry consecutive seasons using Etrex VISTA HC GPS at coordinates 09º 05′ 212″ N, 36º 31′ 303″ E and 19,65 m a.s.l. and 09º 04′ 994″ N, 036º 32′ 758″ E and 2018 m

a.s.l. Moreover, as a botanist I identified the plant, *S. abyssinica* var. *abyssinica* using key morphological characteristics closely observed on stem, leaf, flower, fruit and seed. This was achieved through comparison of the plant description and geographical distribution provided in Flora of Ethiopia and Eritrea (Edwards *et al*., 2000). Secondary data were reviewed from 13 pieces of relevant literature; 7 journals, 4 MSc theses and 2 PhD dissertations particularly those undertaken in various regions of Ethiopia and one from Kenya.

Analyses employed were inductive thematic/topical and comparative types. Qualitative data were transformed to quantitative data through listing and tabulation as traditionally treated human and livestock ailments, mode of administration, plant part used and various heritage uses of *S. abyssinica* var. *abyssinica*. Then, their counts were considered after which calculation of percentages were separately dealt with and finally comparison was accomplished. The threatening circumstances to the sustainability of the species were evidentially presented, discussed and culminated with suggestive remedial conservation measures.

RESULTS

The findings of this study are presented beginning with specification of plant description (Fig. 2a-g). Ripe fruits, rhizome, fibrous roots, blooming and destroyed/damaged plants were closely observed.

Responses from participants revealed that almost all parts of the plant: root (34.21%), leaf (21.05%), root and rhizome (15.79%), aerial part (15.79%), rhizome or stem (5.26%), whole parts (5.26%) and shoot (2.63%) were exploited/utilized in the traditional healthcare system of humans and livestock. Mode of preparation and administration are givenin Tables 1 and 2. Usage knowledge prevalence was quantified from verification of ailments treated using *S. abyssinica* var. *abyssinica*. Data from primary sources in the present study revealed a total of eight ailments which account for about 23% (Tables 1 and 2). These were compared with the data obtained from secondary sources. Accordingly, the data were organized by various regions in Ethiopia and one document from Kenya. Thus, the count of recorded ailments by regions; Amhara (9 about 26%), Oromia (8 about 23%), unidentified by region (UIR) i.e., in the source document the described data was to country (Ethiopia) level (5 about 14%), Kenya (3 about 9%) and Southern Nations Nationalities and Peoples Region (SNNPR) of Ethiopia (2 about 6%) were recognized.

Fig. 2. Description of various perspectives of *S. abyssinica* var. *abyssinica*; a) ♀ and ♂ umbelliform inflorescences, b) devastation of climbing stem, c) stem climbing on *Coffea arabica* L., bearing fruits d) collected ripen fruits, e) seed from which exocarp is removed, f) creeping rhizome dugout and g) plant along with root, rhizome, aerial stem and leaves coiled. Photos taken by Fufa Kenea; between July 2019 to February 2020.

Table 1. Mode of traditional application of *S. abyssinica* for treatment of human ailments gathered from participants.

	Treatment	
Human ailment	**Form used**	**Mode of administration**
Constipation	Dry or fresh root and rhizome or stem extract	Oral
Eye disease	Fresh leaf extract	Drop in eye
Rabies (contamination)	Dry or fresh root and rhizome or stem extract	Oral
Wound	Dry leaf pounded and mixed with fresh butter	Dermal

Table 2. Mode of traditional application of *S. abyssinica* var. *abyssinica* for treatment of livestock ailments gathered from participants.

S. no	**Ailment, symptom and way of administration**
1	In case of domestic animals disease manifested by failure to urinate; prepared extract from root and rhizome is administered through oral.
2	Livestock disease case reveals by blood mixed urine; extract of rhizome or stem mixed with very little crushed root extract of *Croton macrostachyus* Hochst. ex Del., *Justicia schimperiana* (Hochst ex Nees) T. and rhizome of *Drynaria volkensii* Hieron is administered orally.
3	Sheep disease that causes abnormal mucus leaking from nose; root extraction is supplied through nostrils.
4	Livestock disease known by symptoms such as salivation, swelling of throat, flatulent and fluffed/erected hair (this is probably anthrax); crushed root and rhizome extract mixed with crushed *Allium sativum* L. extract is administered through nostrils.
5	Root and rhizome or stem extract mixed in food is orally given to dog and other livestock to immunize them against rabies.

Nineteen other traditional uses of *S. abyssinica* var. *abyssinica* were also recognized from the views of participants. These include belief (47%), culture (26%), economic (11%) and social/communal values (16%). These were further classified as seldom events (13, 68.42%); legally prohibited practice (1, 5.26%); non-influential events (2, 10.53%); event having alternatives (1, 5.26%) and continuous practice (2, 10.53%) based on various rating scales of estimate degrees of pressure threatening sustainability of *S. abyssinica* var. *abyssinica* (Table 5). Some of these were evidently supported by field observations such as equine market segment, household utensil and strap of tendril in door frontage and oxen in farmer yard (Fig. 3a-h).

Fig. 3. Description of traditional uses of *S. abyssinica* var. *abyssinica*: a) Eight veins radiating from leaf base; people consider this as tangible symbolic message convey of eight marked years political 'Gada' system power period, b) Nine veins radiating from leaf base; people consider this as symbolic expression of 9 'Borana's' descendants, among whom the 'Gada' system tradition prevailed, c) Fresh tendrils made coil to be used in celebration of 'Atete Facaaffannaa' ceremony i.e., individual woman festivity which happens at home, d) Thin strap made from tendril, e) Rim of milk pot made of *Lagenaria abyssinica* (Hook.f.) C. Jeffrey, decorated with thin strap of tendril, f) fresh tendril tied on a head of celebrant 'Gada' tradition, g) fresh tendril tied on equine neck at market segment and h) Fresh tendril tied on oxen head at termination of farming season. Photos taken by Fufa Kenea (August, 2019).

Table 3. Various heritage uses of *S. abyssinica* var. *abyssinica*, traditionally known among Mecha Oromo of the study area. B = Belief, C = Culture, Csh = category of symbolic heritage, E = Economy and S = Social.

S. no	Heritage uses associated to *S. abyssinica* var. *abyssinica*	Csh
1	Before the night of celebration of 'Buta' ceremony tonight, stem of *S. abyssinica* var. *abyssinica* was brought to the celebrant home in secret manner and hidden around; the next morning this will be searched by singing special song accustomed for the ceremony. This was for the reason that the leaf was regarded as symbolic indication or nature script through palmate veins count which are eight or nine in leaf lamina[a] (Fig. 3a & b)	C
2	After the celebration of 'Buta' ceremony invitation, on the third or fifth day, while going to horse ride field known as 'Goodaa Garmaama Fardaa' the aerial stem and leaves of *S. abyssinica* var. *abyssinica* is taken there to be used for spraying river water on crowds and also tied on head of the celebrant called 'Luba'[a] (Fig. 3f)	C
3	*S. abyssinica* var. *abyssinica*, 'kalaalaa' was exploited during celebration of traditional ceremony made for respecting game fighter/killer, 'Ajjeesaa'. On the first day of the celebration, 'kalaalaa' was harvested from specified local river and on the fifth day the harvested 'kalaalaa' was thrown away at same river[b]	S
4	Stem of *S. abyssinica* var. *abyssinica* coiled and coupled with malted grain, placed on plate served as indication of good future fortune while committing marriage engagement[a]	B
5	During special dancing period, 'Mararoo sirbuu' as the day of wedding approached the celebrant girl put on herself the stem of *S. abyssinica* var. *abyssinica* as a sign of honour among her companion[a]	C
6	*S. abyssinica* var. *abyssinica*, 'kalaalaa' was used in poem of song for expression of deep love to opposite sexes[c]	C
7	Farmers of Mecha Oromo warp aerial stem of *S. abyssinica* var. *abyssinica* on oxen head (Fig. 3h) when season of land plough over[a]	B
8	Individuals in position of worshiping 'Ofaa' sprit warp the stem of *S. abyssnica* var. *abyssinica* around their head[a] (Fig. 3f)	B
9	On celebration day of 'Boranticha' sprit tendrils of *S. abyssinica* var. *abyssinica* were made in circle shape (Fig. 3c) fitting the bottom of 'cuggee farsoo' (pot holding local drink) and this container was placed upon it and the drink is poured to the participants[a]	B
10	Hanging stem of *S. abyssinica* var. *abyssinica*/leaf extract bottled, on roof at door front thinking as defence against demon/evil spirit[a]	B
11	In the year when drought longevity and pestilence (epidemic disease) catastrophe encountered the community elder women of Mecha Oromo, twisting stem of *S. abyssinica* var. *abyssinica* on head, waist and grasping it at hand they pray seeking God mercy[a]	B
12	On occasion of thunder accident while getting prepared for celebration of mercy ceremony of thunder, 'jaarii bakakkaa' stem of *S. abyssinica* var. *abyssinica* is grasped at hand as norm during begging grains, heading get ready for the ceremony[a]	B
13	When individual woman celebrate 'Atete Facaaffannaa', tendrils of *S. abyssinica* var. *abyssinica* were made in circle shape (Fig. 3c) and placed in room called 'Gola'. Up on it milk and local drink pouring called 'Dhibaayyuu' and family blessing are made[a]	B
14	'Gada' blessing was made, carrying wet stem of *S. abyssinica* var. *abyssinica* at hand when local women celebrate 'Atete' in common[a]	B

S. no	Heritage uses associated to *S. abyssinica* var. *abyssinica*	Csh
15	Local women spread stem of *S. abyssinica* var. *abyssinica* over a wet place, on Wednesday before the day of Easter while celebrating cultural memorandum of coffee ceremony and 'mullu affeeluu' to enjoy their spiritual union[a]	S
16	In marketing of equine; donkey, horse and mule aerial stem of *S. abyssinica* var. *abyssinica* is served as sign of advertising to sell[d] (Fig. 3g)	C
17	Thin strap made from tendril of *S. abyssinica* var. *abyssinica* (Fig. 3d) is used for sewing certain house hold utensils such as basketry, locally called 'gundoo', 'gombisoo eelee' and rim of containers of milk and milk product, 'qabee' or 'ciicoo'[e] (Fig. 3e)	E
18	The term "Kalaalaa' is in common use as name of places[c]	S
19	*S. abyssinica* is served as domestic animal fodder[e]	E

[a] seldom events; [b] legally prohibited practice; [c] non-influential event; [d] event having alternative; [e] continuous practice

DISCUSSION

Stephania abyssinica var. *abyssinica* is a dioecious plant bearing male and female reproductive organs on separate plants. Phenology, blooming and numerous fruit production, leaf and flower morphology, fruit anatomy were comparable with features explained in Flora of Ethiopia (Edwards *et al*., 2000; Grace and Fowler, 2008; Anyango, 2011; Tigist Leyikun, 2015; Alemayehu Washe and Desalegn Fanta, 2016; Fig. 2; Fig. 3).

Ideas generated from the participants revealed count of ailments; for humans (3, 37%), for livestock (4, 50%) and that common to both was (1, 13%). Among the total of eight ailments; human ailments were constipation, eye disease and wound. Whereas anthrax, blood mixed urine, micturition failure and abnormal nose mucus leak of sheep were ailments of livestock. But, rabies was unique because it was common to human and livestock ailments treated by *S. abyssinica* var. *abyssinica* (Tables 1 and 2). Hence, ailments of livestock and humans treated by *S. abyssinica* var. *abyssinica* compared from the views of participants showed excess over that of human ailments by 13%.

Evidence searched in 13 different pieces of literature revealed a total of 27 ailments in which 22 (82%), 3 (11%) and 2 (7%) were human, livestock and common to both, respectively. The analysis of these and the primary data from participants showed maximum prevalence of traditional therapeutic knowledge of using *S. abyssinica* var. *abyssinica* in Oromia and minimum values in SNNPR. The ratio of human, livestock and common ailments from the views of participants; 37: 50: 13 and secondary sources; 82: 11: 7. These when compared; the latter gathered from thirteen different pieces of literature were < the former in one i.e., ailments compiled from the views of participants of this study.

Similarity of ailments gathered from the views of participants and those found in the reviewed documents were compared. Anthrax, rabies and wound mentioned in the present study were also reported in earlier researches (Aberra Geyid *et al*., 2005; Endalew Amenu, 2007; Anyango, 2011; Seyoum Getaneh and Zerihun Girma, 2014; Getnet Chekole *et al*., 2015). Moreover, constipation, urination failure and blood mixed urination treated traditionally using *S. abyssinica* var. *abyssinica* were in harmony with what was described in Edwards *et al*. (2000); Grace and Fowler (2008); Worku Abebe (2016). Likewise, abnormal mucus leak from sheep nose treatment can be considered analogous with what was depicted for common cold treatment for human (Moa Megersa *et al*., 2013). Grace and Fowler (2008) described the use for eye disease treatment but this was not reported in Ethiopia.

Among Mecha Oromo, *S. abyssinica* var. *abyssinica* has other diverse belief, cultural, economic and social functions (Table 5). Hines and Eckman (1993) revealed that in Tanzania various plant species were used for ritual and spiritual functions and served in social structure, religion, art, history and politics of communities. These were in harmony with what Hamilton (2004) and Dayal (2009) explained. Likewise, in Oromo tradition the stem of *S. abyssinica* var. *abyssinica* tied on the head of 'Luba', the priest, was a symbolic expression of formal commitment of covenant in vivid way i.e., to bind oneself peacefully in contract of eight years 'Gada' political power tradition (Asmarom Legesse, 1973; Bekama Addisu, 2008; Fite Birri, 2013; File Jallata, 2016; Fig. 3a and b).

It was obvious that *S. abyssinica* var. *abyssinica* possesses basal nenves i.e., veins in leaves 8–11 (Edwards *et al*., 2000) and 8–10 (Grace and Fowler, 2008). Among Mecha Oromo, these count scripts on the leaf have a secret. The secret was not related with 10 and 11 veins clearly radiating out of the base of the leaf to the wider part of the blade. But, according to the views of participants of this study, it was linked with 8 and 9 main veins radiating out of the base (Fig. 3a and b). The nine veins symbolized as nine 'Borana's' descendants among whom the 'Gada' system tradition is common. 'Borana' was the elder ancestor of Oromo who owned nine progenies. Among these descendants 8 veins count was served as tangible symbolic message convey of eight marked years political 'Gada' system power period. Entire leaf margin was also regarded as indication of full responsibility a winner party held as well as equality all citizens could have without any disparity. Thus, it suggests the reality of link between indigenous knowledge of the community and this specific plant leaf morphology. That is why they took it

with them on celebration of their various traditions (Table 3 and Fig. 3a, b, c and f). The symbolic functions of *Ficus sycomorus* in 'Gada' system were analogous with uses of *S. abyssinica* var. *abyssinica* (Alamayo Hayile, 2007; Wondimu Nagash and Boni Tasfaye, 2015) but it is not deep as such.

Other crucial points revealed were the specified degrees of pressure the four categories of symbolic heritages associated with *S. abyssinica* var. *abyssinica* exerted upon its sustainability (Table 3). Belief held the most percentage but the least was the concern of economic uses. This does not mean that belief was the most threatening anthropogenic factor for the survival of the species under this study, because all events inclusive under belief and 60% of the culture belong to the seldom tradition category. A use in marketing equine has alternate preference, *Momordica foetida* Schumach. Among the concern of social heritage tied to *S. abyssinica* var. *abyssinica*, traditional game fighting was already regarded as illegal action. Use of *S. abyssinica* var. *abyssinica*, 'kalalaa' in poem of song on one hand and place name coined by the word on the other hand have served as potential promotion for the species appreciation, hence add positive values for its conservation. But continuous demand for the economic purposes (10.53%) and the commulative effects of seldom events of belief, culture and social (68.42%) were the threatening anthropogenic activities in the scenarios of this study.

CONCLUSION

Traditional therapeutic uses of *S. abyssinica* var. *abyssinica* widely prevailed in the study area as its exploitation was associated with treatment of twenty two human and six livestock ailments. This was evidenced by ideas generated from the participants and literature reviewed. Four categories of other recognized symbolic heritages associated with *S. abyssinica* var. *abyssinica* were also distinguished. These were the concerns of exploitation for belief, culture, economic and social practices. The components of each of these were structured as continuous, seldom, non-influential, legally prohibited and event having alternative. All events under belief, the majority under culture and a few of social events were seldom practiced traditions whereas exploitation for economic purposes were continuous. In conclusion, major threats identified were habitat destruction, therapeutic uses, demand for economic purposes and commulative effects of seldom events. Hence, *S. abyssinica* var. *abyssinica* is under pressure of high local exploitation. Thus, it is logical to say that this plant needs a high, urgent and integrated conservation measures that can safeguard both its

sustainability and use values prevalent among the community.

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