

Some new country records of liverworts to Ethiopia: ecological and biogeographical notes

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Abstract: Hylander, K. & Pócs, T. (2022): Some new country records of liverworts to Ethiopia: ecological and biogeographical notes. *Frahmia* 29:1-4.*

The following liverwort species are reported new to Ethiopia: *Cololejeunea diaphana* A. Evans var. *diaphana*, *Cololejeunea jamesii* (Austin) M.E. Reiner & Pócs, *Cololejeunea microscopica* (Tayl.) Schiffn., *Cololejeunea tenuiparietata* Tixier, *Colura berghenii* Jov.-Ast., *Microlejeunea nyandaruensis* Pócs, and *Lejeunea flava* (Sw.) Nees.

1. Introduction

Up to 2010 the liverwort flora of Ethiopia seemed to be quite species poor (119 taxa) compared to other East African countries such as Kenya (241 taxa), Uganda (288 taxa) and Tanzania (392 taxa) (Wigginton 2009). The lower species richness in Ethiopia might not be strange given Ethiopia's generally drier climate compared to these countries. However, based on ecological investigations in Ethiopia's more humid southwestern forests and coffee plantations an addition of 51 new country records were added in 2010 (Hylander et al. 2010) and another ten species in 2014 (Ellis et al. 2014) thus raising the numbers to 169 (Wigginton 2018).

Since then we have been involved in an ecological study of how bryophyte communities change along a fire consequence in heathlands in Bale mountain (Hylander et al. 2021) and a study of how epiphyllous species are distributed along disturbance gradients in Jimma zone (Beche et al. 2022), as well as continued to examine previously collected material from other areas in Southwestern Ethiopia. This has resulted in another seven new country records which we here publish. For a brief historical description of the exploration of the liverwort flora of Ethiopia see Pócs (1994) and Hylander et al. (2010)

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2. New records to Ethiopia

! *Cololejeunea diaphana* A. Evans var. *diaphana* (as *Aphanolejeunea truncatifolia* Horik. in Wigginton [2009].)

Kaffa; Gera; Afromontane forest; 2100 m a.s.l.; 1 april 2019; coord. 7.619 N, 36.114 E (WGS84); *KHY 8472* (ETH); *leg.* Dinkissa Beche, *det. et conf.* Tamás Pócs.

Epiphyllous together with *Cololejeunea obtusifolia* (E.W. Jones) Tixier. In Africa previously known from Angola, Uganda, Malawi and Bioko (Wigginton 2018).

! *Cololejeunea jamesii* (Austin) M.E. Reiner & Pócs (as *Aphanolejeunea fadenii* (Pócs) Pócs in Wigginton [2009] and *Cololejeunea clavatopapillata* Steph. in Pócs et al. [2015].)

Illubabor; Sheka; 25 km N of Tepi along road to Mettu; Afromontane forest, epiphyllous on *Asplenium protensum*; 2300 m a.s.l.; 21 January 2009; coord. 7.39089 N, 35.38821 E (WGS84); *KHY 8216* (ETH); *leg. et det.* Kristoffer Hylander, *conf.* Tamás Pócs.

Epiphyllous on fern in forest edge. In Africa previously known from Kenya, Tanzania, Uganda and Rwanda (Wigginton 2018).

! *Cololejeunea microscopica* (Tayl.) Schiffn. (as *Aphanolejeunea microscopica* (Taylor) A. Evans in Wigginton [2009].)

Bale; Dodolla; Angafu; Erica heathland, on Erica; 3591 m a.s.l.; 12 November 2015; coord. 06°51.007' N, 39°14.754' E (WGS84); *KHY 8548* (ETH); *leg.* Carl Frisk, *det.* Kristoffer Hylander, *conf.* Tamás Pócs.

Among epiphytic liverworts (*Metzgeria* sp.) on *Erica* sp. The species is previously known from tropical America to Africa, including Kenya, Tanzania, Uganda, Malawi, Democratic Republic of the Congo and Rwanda (Wigginton 2018).

! *Cololejeunea tenuiparietata* Tixier

Kaffa; Bonga; Dencha, Boka forest, 6 km S of Bonga; Afromontane forest; 1956 m a.s.l.; 9 December 2006; coord. UTM 37N 796675 194564 (WGS84); *KHY 4598* (ETH); *leg.* Kristoffer Hylander, *det. et conf.* Tamás Pócs.

Epiphyllous along small stream. Previously known only from Rwanda and Democratic Republic of Congo (Wigginton 2018). Described by Tixier (1995) and also illustrated in Fischer (2013).

! *Colura berghenii* Jov.-Ast.

Bale; Dodolla; Angafu; Erica heathland, on Erica; 3550 m a.s.l.; 11 November 2015; coord. 06°51.267' N, 39°14.728' E (WGS84); *KHY 8693* (ETH); *leg.* Carl Frisk, *det. et conf.* Tamás Pócs.

Epiphytic on *Erica* sp. together with *Metzgeria* sp. Previously known only from Rwanda and Tanzania (Wigginton 2018).

! *Microlejeunea nyandaruensis* Pócs

Bale; Dodolla; Angafu; Erica heathland, on Erica; 3661 m a.s.l.; 16 November 2015; coord. 06°50.186' N, 39°14.654' E (WSG84); *KHY 8536* (ETH); *leg.* Carl Frisk, *det.* Kristoffer Hylander, *conf.* Tamás Pócs.

Frequently collected on *Erica* shrubs in the heathlands around Angafu. Other specimens: *KHY 8537* (ETH), *KHY 8538* (ETH), *KHY 8539* (ETH), *KHY 8546* (ETH). Previously known only from Kenya and Rwanda (Wigginton 2018).

! *Lejeunea flava* (Sw.) Nees

Illubabor; Sheka; 25 km N of Tepi along road to Mettu; Afromontane forest, epiphytic; 2300 m a.s.l.; 21 January 2009; coord. 7.39089 N, 35.38821 E (WGS84); *KHY 8124* (ETH); *leg.* Kristoffer Hylander, *det.* Tamás Pócs.

Epiphytic in forest edge. Boggy area. Widespread in all tropical and subtropical continents. In tropical Africa its much more widespread ssp. *tabularis* (Spreng.) S.W. Arnell is considered also a separate, independent species: *Lejeunea tabularis* (Spreng) Gottsche et al., is. The latter can be recognized from its more robust size with wider, subcordate amphigastria with auriculate base (see Jones 1968).

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