

Zeitschrift: Candollea : journal international de botanique systématique = international journal of systematic botany

Herausgeber: Conservatoire et Jardin botaniques de la Ville de Genève

Band: 51 (1996)

Heft: 2

Artikel: Cyperus subgen. Kyllinga (Rottb.) J. V. Suringar (Cyperaceae) in Somalia

Autor: Arnstein Lye, Kåre

DOI: <https://doi.org/10.5169/seals-879418>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 01.04.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

Cyperus subgen. *Kyllinga* (Rottb.) J. V. Suringar (Cyperaceae) in Somalia

KÅRE ARNSTEIN LYE

ABSTRACT

LYE, K. A. (1996). *Cyperus* subgen. *Kyllinga* (Rottb.) J. V. Suringar (Cyperaceae) in Somalia. *Candollea* 51: 421-432. In English, English and French abstracts.

In Somalia 10 taxa of *Cyperus* subgen. *Kyllinga* are recognized. One new species is described, illustrated and mapped, viz. *C. brunneofibrosus* Lye. One new combination is coined, viz. *Cyperus erectus* subsp. *jubensis* (Chiov.) Lye. Distribution maps are prepared for all species.

RÉSUMÉ

LYE, K. A. (1996). *Cyperus* subgen. *Kyllinga* (Rottb.) J. V. Suringar (Cyperaceae) en Somalie. *Candollea* 51: 421-432. En anglais, résumés anglais et français.

En Somalie, l'auteur reconnaît 10 taxa du genre *Cyperus* subgen. *Kyllinga*. Une nouvelle espèce, *C. brunneofibrosus* Lye, est décrite et illustrée. Une nouvelle combinaison, *Cyperus erectus* subsp. *jubensis* (Chiov.) Lye est réalisée. Des cartes de distribution pour chaque espèce sont présentées.

KEY-WORDS: Taxonomy – CYPERACEAE – *Cyperus* – *Kyllinga*.

Introduction

The genus *Cyperus* is one of the largest and most difficult genera in tropical Africa. In the arid or semi-arid Somalia it is represented by more than eighty species. Many species are, however, known from immature and poorly collected material only, and then their taxonomic status remains somewhat obscure.

There are still unsolved problems as to the circumscription of the genera and subgenera of the *Cyperaceae*. In the present work only the subgenus *Kyllinga* is dealt with. In many regional floras *Kyllinga* is treated as a separate genus, e.g. CLARKE (1901-1902), CHERMEZON (1937), HOOPER (1972) and KOYAMA (1985). However, when studied on a world-wide basis it is evident that this genus is heterogeneous and of polyphyletic origin – as was shown for *Mariscus* by LYE (1992). *Kyllinga* was treated as a subgenus of *Cyperus* by KÜKENTHAL (1935-1936), KERN (1974) and HAINES & LYE (1983). In “Flora Europaea” (DE FILIPPS, 1980) *Kyllinga* was regarded as merely a section of *Cyperus*. Agreement is not expected until more extensive molecular data becomes available.

The present work is based on studies of herbarium material from B, BM, BR, C, EA, FR, FT, G, HBG, K, L, LD, LISU, LYON, M, P, UPS, WAG and Z.

Cyperus subgen. **Kyllinga** (Rottb.) J. V. Suringar, *Cyperus* Mal. Archipel: 42. 1898.

≡ *Kyllinga* Rottb., *Descr. Icon. Nov. Pl.*: 12. 1773.

A medium-sized subgenus of about 70 species widely distributed in the tropical and subtropical regions of both hemispheres, but with the majority of species found in Africa. In Somalia 10 species.

1. *Cyperus eximius* (C. B. Clarke) Mattf. & Kük. in Engl., *Pflanzenr.* 101: 567. 1936 (Figs. 1 K & 3).

≡ *Kyllinga eximia* C. B. Clarke in Dyer, *Fl. Trop. Africa* 8: 287. 1901.

Type: Ethiopia, Harerghe region, Harradigit in Ogaden, 1885, *F. L. and W. D. James & J. G. Thrupp s.n.* (K holotype).

Distribution and habitat. – On sandy soil in grassland or bushland or on rocks, from sea level to about 550 m. Scattered in south Somalia; Ethiopia, Kenya.

Additional collections. – **SOMALIA:** Somalia, 1912, *Scassellati s.n.* (FT); **NORTH SOMALIA: Togdheer province:** Hagarsarawein (= Sareweina or Sararweyne, ca. 9°55'N & 45°50'E?), 500 m, 26 Dec 1941, *E. F. Peck* 383 (K). **Nugal province:** Haud, 480 m, Apr 1932, *B. Godfrey-Fausset* 14 (K); **SOUTH SOMALIA: Gedo province:** Ganana, Lugh, 14 Apr 1893, *E. Ruspoli & D. Riva* 1154 bis (FT) & 1275 (FT); km 711 on El Uak-Garba Harre road, 8 km after Semarde, station 10, 4 Nov 1986, *M. Tardelli* 188 (FT) & 189 (FT); **Shabeellaha Dhexe province:** ca. 10-15 km SE of Balad on Uarsciek road, 30 Nov 1976, *G. Moggi, R. Bavazzano & M. Tardelli s.n.* (FT); **Banaadir province:** 23 km on Mogadishu-Balad road, 150 m, 11 May 1983, *M. Thulin & A. M. Warfa* 4545 (K, UPS); **Shabeellaha Hoose province:** ca. 46 km SW of Afgooye (Afgoi) along road to Shalaambood, ca. 1 km E of road towards the dunes, 44°44'E & 1°48'N, 40 m, 4 Jun 1987, *V. Alstrup & A. Michelsen* 105 (K); **Jubbada Hoose province:** Jubbada Hoose, *M. Tardelli & R. Bavazzano* 387 (FT); Cosciru 7 km from Chisimaio Airport, 19 Aug 1975, *R. Bavazzano* 856 (FT) & 857 (FT); Bulahaji district: Kismaiyo towards Vamoni through Bulahaji, 22 Jun 1978, *S. M. Kasmi, A. A. Elmi & Rodol* 655 (K); 18 km NE of Kismaiyo on road to Mogadishu, 42°35'E & 0°13'S, 50 m, 25-26 Jun 1983, *J. B. Gillett, C. F. Hemming & R. M. Watson* 24939 (K).

2. *Cyperus comosipes* Mattf. & Kük. in Engl., *Pflanzenr.* 101: 568. 1936 (Fig. 4).

≡ *Kyllinga leucocephala* Boeck. in *Flora* 58: 257. 1875 [non *Cyperus leucocephalus* Retz.].

Type: Tanzania, Uyanzi district, 1860-1862, *J. H. Speke & J. A. Grant s.n.* (K holotype).

= *Kyllinga eximia* var. *kelleri* C. B. Clarke in Dyer, *Fl. Trop. Africa* 8: 288. 1901.

Type: Ethiopia, Abdallah, *A. Keller* 80 (K lectotype designated here) and 87 (K syntype).

Distribution and habitat. – In seasonally damp places in bushland and grassland. Uncommon in south Somalia; East Africa.

Additional collections. – **NORTH SOMALIA: Bari province:** Qardho district: Kubo, 3 km from Qardho, 49°08'E & 9°30'N, 3 Nov 1983, *S. M. A. Kazmi & M. Hussein* 5695 (UPS). **SOUTH SOMALIA: Gedo province:** between Soban Alle (42°40'E & 3°50'N) and Usciacca Guran (42°49'E & 3°53'N), 28 Oct 1913, *G. Paoli* 1028 (FT); 5 km from El Uak on road to El Bur Saar, station 5, 3 Nov 1986, *M. Tardelli* 110 (FT) & 111 (FT); 14 km from El Uak on road to Garba Harre, station 6, 3 Nov 1986, *M. Tardelli* 121 (FT) & 124 (FT); El Uak-Garba Harre road, 18 km El Uak, station 7, 3 Nov 1986, *M. Tardelli* 127 (FT), 128 (FT) & 130 (FT); El Uak-Garba Harre road (703 km), station 9, 4 Nov 1986, *M. Tardelli* 144 (FT) & 153 (FT); Gersale, El Uak-Garba Harre (km 711) 8 km after Semarole, station 10, 4 Nov 1986, *M. Tardelli* 169 (FT), 170 (FT), 176 (FT) & 177 (FT); near Uaf, km 745 on El uak-Garba Harre road, 55 km

from Cell Cad (El Ade), station 12, 4 Nov 1986, *M. Tardelli 218* (FT) & *219* (FT); **Bay province:** 51 km on road between Qansaxdhere and Bardera, 360 m, 3 Jun 1989, *M. Thulin & B. A. Mohamed 6860* (UPS); **Shabeellaha Dhexe province:** 71 km NE of Cadale along road to Ceeldheer, 46°35'E & 3°17'N, 75 m, 6 May 1990, *M. Thulin, M. Hedrén & A. M. Dahir 7252* (K, UPS).

3. *Cyperus brunneofibrosus* Lye, *spec. nova* (Fig. 1 A-C, 2 & 5).

Type: Somalia, Bakool province: 17 km E of Wojid (Uegit) on road to Oddur, 3°51'N & 43°23'E, 22 May 1983, *J. B. Gillett & C. F. Hemming 24356* (K holotype).

Herbae perennes. Culmus 5-15 cm altus. Anthela simplex contracta. Spiculae 3-4 mm longae et 1-2 mm latae, 1-3 florum. Squamae 3-4 mm longae. Nux 1.0 mm longa.

A densely tussocky perennial with a short woody rhizome with many culm bases densely covered by numerous old leaf-sheaths splitting up into dense “socks” of brownish fibres. Roots many, greyish, up to 0.5 mm in diam. Culms 5-15 cm long and 0.5-0.8 mm thick, angular to terete, glabrous. Leaves many (5-8) from within the fibrous “socks”, and usually one cauline from the lower part of the culm; cauline sheath light reddish brown, membranous; the blades to about 10 cm long and 1-2 mm wide, flat, densely short-hairy on margin and midrib; the lower surface with a slightly keeled midrib; the upper with a slightly sunken central part and several more or less distinct lateral nerves. Inflorescence a terminal hemispheric head 5-10 mm in diam. consisting of numerous crowded sessile spikes. Involucral bracts to 5 cm long and 2 mm wide, spreading or reflexed, leaf-like and densely short-hairy on margin and midrib. Spikelets 3-4 mm long and 1-2 mm wide, oval, brownish (at least as dry), 1-3 flowered. Glumes 3-4 mm long, oval, as dry cinnamon-tinged but perhaps white when fresh; the midrib distinct near the apex only, slightly excurrent into a very short (0.1-0.2 mm long) straight or recurved mucro of the same colour as the glume or slightly paler; lateral nerves very indistinct. Stamens usually 3, with 1.2-1.4 mm long linear anthers. Style with a 1.5 mm long unbranched part and divided into 2 stigmas at apex. Nutlet about 1.0 mm long and 0.5 mm wide, elliptic, lenticular, reddish-brown, minutely papillose.

Distribution and habitat. – On shallow soil over limestone rocks and in sand or loam in bushland, 150-415 m. Rare in Central Somalia; also in Ethiopia.

Additional collections. – **SOMALIA: Galguduud province:** 12 km NNW of Guri Ceel, 45°58'E & 5°35'N, 320 m, 5 Apr 1979, *J. J. Beckett 136* (K); 2 km NW of Mareerguur, 46°25'E & 5°40'N, 19 May 1979, *A. A. Elmi & O. J. Hansen 4087* (K); **Mudug province:** 36 km E of Baxdo, 47°33'E & 5°49'N, 160 m, 4 Jun 1979, *J. J. Beckett 226* (K).

This species is most similar to *C. comosipes*, but differs in its smaller size, usually 1-2 flowered spikelets and glumes drying cinnamon and without distinct lateral nerves. The culm is also less triangular and glabrous in *C. brunneofibrosus*. Perhaps it is more closely related to *C. brunneoalba* Lye from northern Kenya. That plant has more spherical-oblong inflorescence (in *C. brunneofibrosus* hemispherical) with many more crowded and smaller spikelets and glumes. It is also lacking the prominently fibrous base of *C. brunneofibrosus*.

4. *Cyperus welwitschii* (Ridl.) Lye in R. W. Haines & Lye, *Sedges Rushes East Africa*, App. 3: B. 1983 (Fig. 3).

≡ *Kyllinga welwitschii* Ridl. in *Trans. Linn. Soc. London, Bot.* 2: 147. 1884.

Type: Angola, Pungo Andongo, near Calemba on River Cuanza, 1857, *F. M. J. Welwitsch 6779* (LISU holotype, BM isotype).

Distribution and habitat. – On moist sandy soil near rivers or in shrubland, 190-300 m. Uncommon in south Somalia; tropical Africa.

Additional collections. – **SOUTH SOMALIA: Bay province:** Bur Heybo, 44°19'E & 3°00'N, 230-270 m, 27 Apr 1985, *E. M. O'Brien* 22 (K); about 20 km SE of Buur Heybo, 44°25'E & 2°54'N, 190 m, 1 Jun 1989, *M. Thulin & B. A. Mohamed* 6780 (K, UPS); ca. 3 km SW of Buur Diinsoor, 42°58'E & 2°24'N, ca. 300 m, 20 May 1990, *M. Thulin, M. Hedrén & A. M. Dahir* 7608 (UPS); Baidoa district: Mood Mooda, 43°53'E & 3°01'N, 24 Jul 1988, *N. Kilian* 1961 & *W. Lobin* 6811 (FR).

5. *Cyperus microstylus* (C. B. Clarke) Mattf. & Kük. in Engl., Pflanzenr. 101: 578. 1936 (Fig. 1 D-E and 4).

≡ *Kyllinga microstyla* C. B. Clarke in Bull. Misc. Inform. 1895: 229. 1895.

Type: North Somaliland, *E. Lort-Phillips s.n.* (K holotype).

Distribution and habitat. – In silty or sandy soil, 200-400 m. Scattered in Somalia; Ethiopia and Kenya.

Additional collections. – **SOUTH SOMALIA: Bay province:** Bur Heybo, 44°19'E & 3°00'N, 230 m, Apr-May 1985, *E. M. O'Brien* 197 (K); 32 km NE of Dhiinsorr (Dinsor) along the old road to Baydhabo (Baidoa), 2°36'N & 43°15'E, 360 m, 30 May 1987, *I. Friis, K. Vollesen & A. S. Hassan* 4880 (K); Buur Heybo (Buur Eibi), 44°16'E & 2°59'N, 230 m, 1 Jun 1989, *M. Thulin & B. A. Mohamed* 6803 (K, UPS).

6. *Cyperus oblongus* subsp. *jubensis* (Mtoto.) Lye in Lidia 3: 132. 1994 (Fig. 1 F-H & 5).

≡ *Kyllinga flava* subsp. *jubensis* Mtoto. in Ethiop. J. Sci. 13: 39. 1990.

Type: South Somalia, Jubbada Hoose province: Bula Haji district, between Bula Haji and Halinoadoi, 75-110 km from Kismaiyo towards Badhadhe, 24 June 1976, *S. M. A. Kazmi, A. A. Elmi & Rodol* 731 (K holotype).

Distribution and habitat. – On rocky outcrops and in degraded sandy bushland, ca. 50-250 m. Scattered in south Somalia; East Africa.

Additional collections. – **SOUTH SOMALIA: Jubbada Hoose province:** Obe, 5 Jul 1929, *L. Senni* 419 (FT); **Shabeellaha Hoose province:** 5 km from Scialambot along road to Afgoye (63 km), 13 Aug 1979, *G. Moggi & M. Tardelli* 39 (FT) & 40B (FT); Brava district: ca. 12 km S of Quyno Barrow, Cara Cadde, 43°24'E & 0°40'N, 1 Aug 1988, *N. Kilian* 2117 & *W. Lobin* 6969 (FR).

7. *Cyperus erectus* subsp. *jubensis* (Chiov.) Lye, *comb. nova* (Fig. 1 I-J and 4).

≡ *Kyllinga jubensis* Chiov., Fl. Somala 2: 433. 1932.

Type: South Somalia, Jubbada Hoose province: Uamo Ido between Chisimaio and Colbio, Jul 1931, *R. Tozzi* 250 (FT holotype).

Distribution and habitat. – On margin of pool, ca. 20-100 m. Rare in south Somalia; East Africa.

Additional collection. – **SOUTH SOMALIA: Jubbada Hoose province:** Baddada district: 35 km from Badade on Badade-Kolbyo road, 1 Jul 1982, *S. M. Kazmi* 5248 (UPS).

8. *Cyperus aromaticus* (Ridl.) Mattf. & Kük. in Engl., Pflanzenr. 101: 581. 1936 (Fig. 3).

≡ *Kyllinga aromatica* Ridl. in Trans. Linn. Soc. London, Bot. 2: 146. 1884.

Types: Angola: Pungo Andongo, near Candumba on River Malemba, 1857, *F. M. J. Welwitsch 6801* (LISU holotype, BM isotype).

= *Kyllinga polyphylla* Kunth, Enum. Pl. 2: 134. 1837 [non *Cyperus polyphyllus* Vahl].

Distribution and habitat. – In somewhat shady habitats in upland areas, probably 1000–1500 m. Rare in northeast tropical Africa, more widespread in the wetter parts of tropical Africa.

Additional collection. – **NORTH SOMALIA: Waqooyi Galbeed province:** Ber es Sogair in Berbera region, Jul-Aug 1891, *L. Robecchi-Bricchetti 114* (FT).

9. *Cyperus alatus* subsp. *albus* (Nees) Lye in Lidia 3: 172. 1995 (Fig. 4).

≡ *Kyllinga alba* Nees in Linnaea 10: 140. 1835.

Type: South Africa, Tambukiland, Zwarte Keyrivier, *C. F. Ecklon s.n.* (B holotype, K isotype).

= *Cyperus cristatus* (Kunth) Mattf. & Kük. in Engl., Pflanzenr. 101: 609. 1936.

≡ *Kyllinga cristata* Kunth, Enum. Pl. 2: 136. 1837.

Type: South Africa, *Drege s.n.* (B holotype, K isotype).

Distribution and habitat. – In grassland or bushland, often in seasonally wet sand, from near sea level to about 200 m. Scattered in south Somalia; south and tropical Africa.

Additional collections. – **SOUTH SOMALIA: Jubbada Hoose province:** Bender Suguma, 18 Jun 1913, *G. Paoli 257* (FT); Chisimaio, dune near Gobuin, 1926, *P. Gorini 436* (FT); Ola Uager, 27 km from Badadda, 41°32'E & 1°14'S, 28 Aug 1959, *G. Moggi & R. Bavazzano 1708* (FT); ca. 3–4 km NO of Sar Uanle, 42°27'E & 0°37'S, 9–18 Jun 1973, *R. Bavazzano s.n.* (FT); **Shabeellaha Hoose province:** Afgoi, 6 Aug 1929, *L. Senni 557* (FT); near Afgoi, 11 May 1975, *M. Rafaelli 549* (FT).

10. *Cyperus aureoalatus* Lye in Lidia 3: 171. 1995 (Fig. 5).

Type: Uganda, Karamoja, Moroto town, 2 Jun 1967, *R. W. Haines 4215* (NLH holotype, K & MHU isotypes).

Distribution and habitat. – In stony ground or sandy soil. Very rare in south Somalia; East Africa.

Additional collection. – **SOUTH SOMALIA: Jubbada Hoose province:** Ghersei, 41°05'E & 0°30'S, 4 Jul 1929, *L. Senni s.n.* (FT).

*Species incertae****Cyperus purpureoglandulosus* Mattf. & Kük. in Engl., Pflanzenr. 101: 570. 1936.**

≡ *Kyllinga sphaerocephala* Boeck. in Flora 58: 258. 1875 [non *Cyperus sphaerocephalus* Vahl].

Type: Tanzania, Zanzibar, 1860, *J. H. Speke & J. A. Grant s.n.* (K holotype).

Distribution. – Recorded from Ali Javio in south Somalia, on maritime sand by Senni (no. 103) according to CHIOVENDA (1932) and CUFODONTIS (1970), but most probably an error, since this is a species from high rainfall areas.

Cyperus sesquiflorus subsp. **appendiculatus** (K. Schum.) Lye in R. W. Haines & Lye, *Sedges Rushes East Africa*, App. 3: B. 1983.

≡ *Kyllinga appendiculata* K. Schum. in *Bot. Jahrb. Syst.* 24: 338. 1897.

Type: Cameroon, Mt. Cameroon, W of Buea, 2500 m, 1889-1892, *P. R. Preuss* 923 (B holotype).

= *Kyllinga odorata* var. *major* Chiov., *Fl. Somalia* 2: 432. 1932.

≡ *Kyllinga cylindrica* var. *major* C. B. Clarke in Dyer, *Fl. Trop. Africa* 8: 283. 1901 [non Nees in *Linnaea* 35: 415. 1868].

Type: Tanzania, Mt. Kilimanjaro, 1884-1885, *H. H. Johnston* 75 (K holotype).

Distribution. – Recorded from Ghersei in south Somalia by Senni (n° 422) according to CHIOVENDA (1932) and CUFODONTIS (1970), but most probably an error since this is an upland species from high rainfall areas.

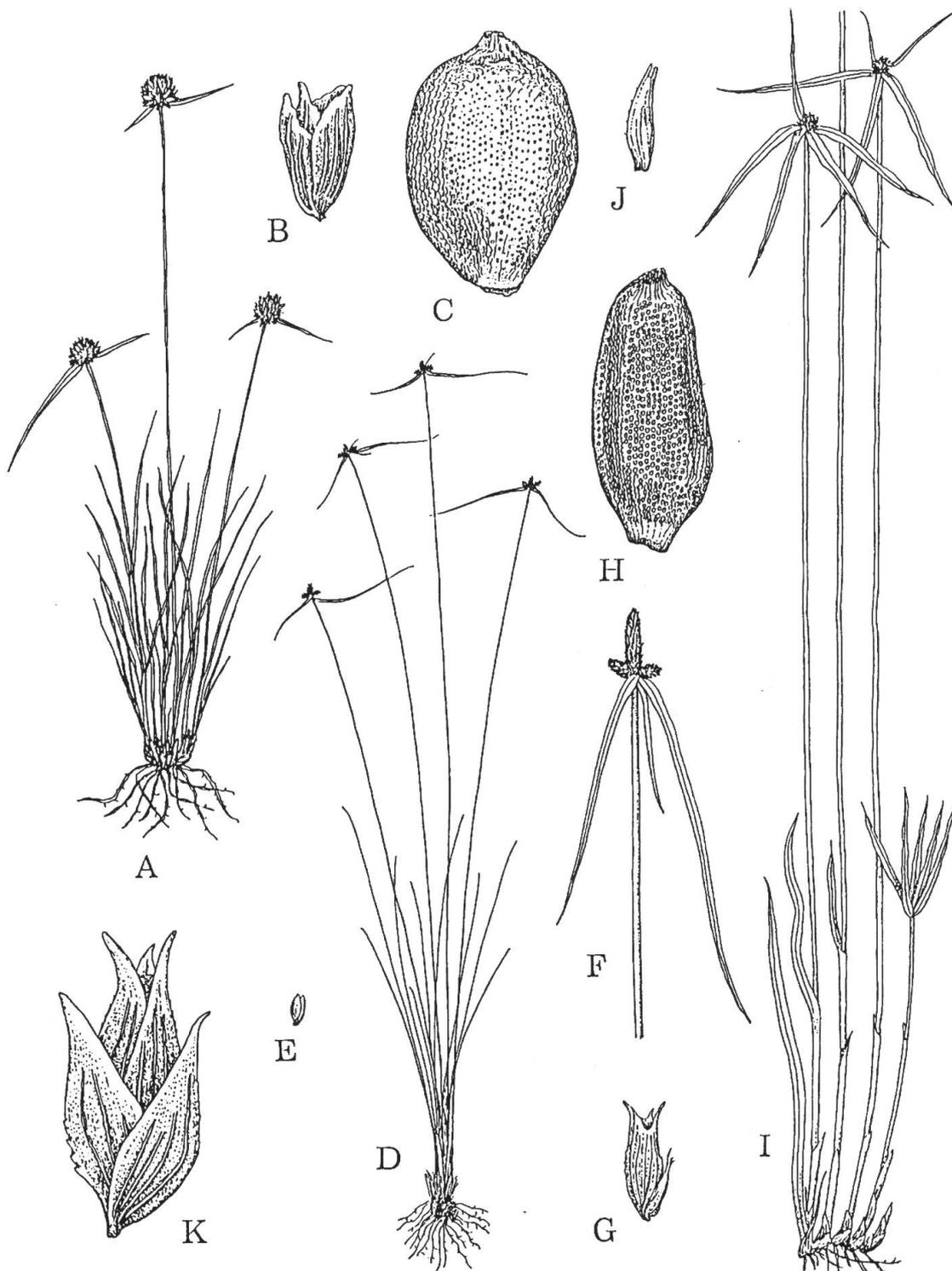


Fig. 1. – Genus *Cyperus* subgen. *Kyllinga* (Rottb.) J. V. Suringar. **A-C:** *Cyperus brunneofibrosus* Lye, from Gillett & Hemming 24356. **A:** habit 0.5×; **B:** spikelet 5×; **C:** nutlet 30×. **D-E:** *C. microstylus* (C. B. Clarke) Mattf. & Kük. from Thulin & Mohamed 6803. **D:** habit ×0.5; **E:** spikelet 5×; **F-H:** *C. oblongus* subsp. *jubensis* (Mtoto.) Lye, from Thulin & Mohamed 6793. **F:** habit 0.5×; **G:** spikelet 5×; **H:** nutlet 30×. **I-J:** *Cyperus erectus* subsp. *jubensis* (Chiov.) Lye, from Kazmi 5248. **I:** habit 0.5×; **J:** spikelet 5×; **K:** *Cyperus eximius* (C. B. Clarke) Mattf. & Kük., spikelet 5×, from Glover & Gilliland 462. Drawn by Gerd Mari Lye.

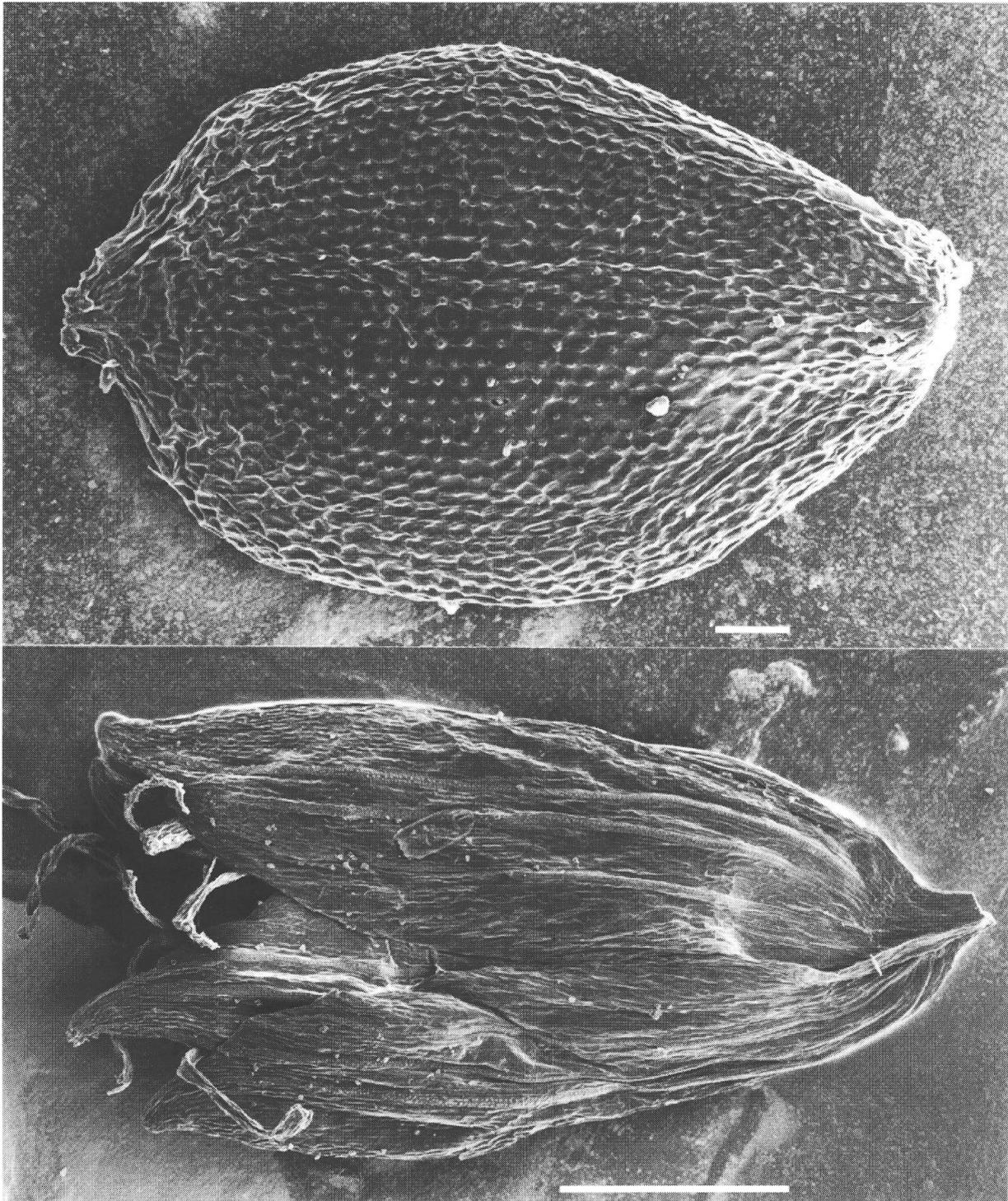


Fig. 2. – *Cyperus brunneofibrosus* Lye. – Below: Spikelet, scale 1 mm. – Above: Achene, scale 0.1 mm. – Both SEM photographs from the type.

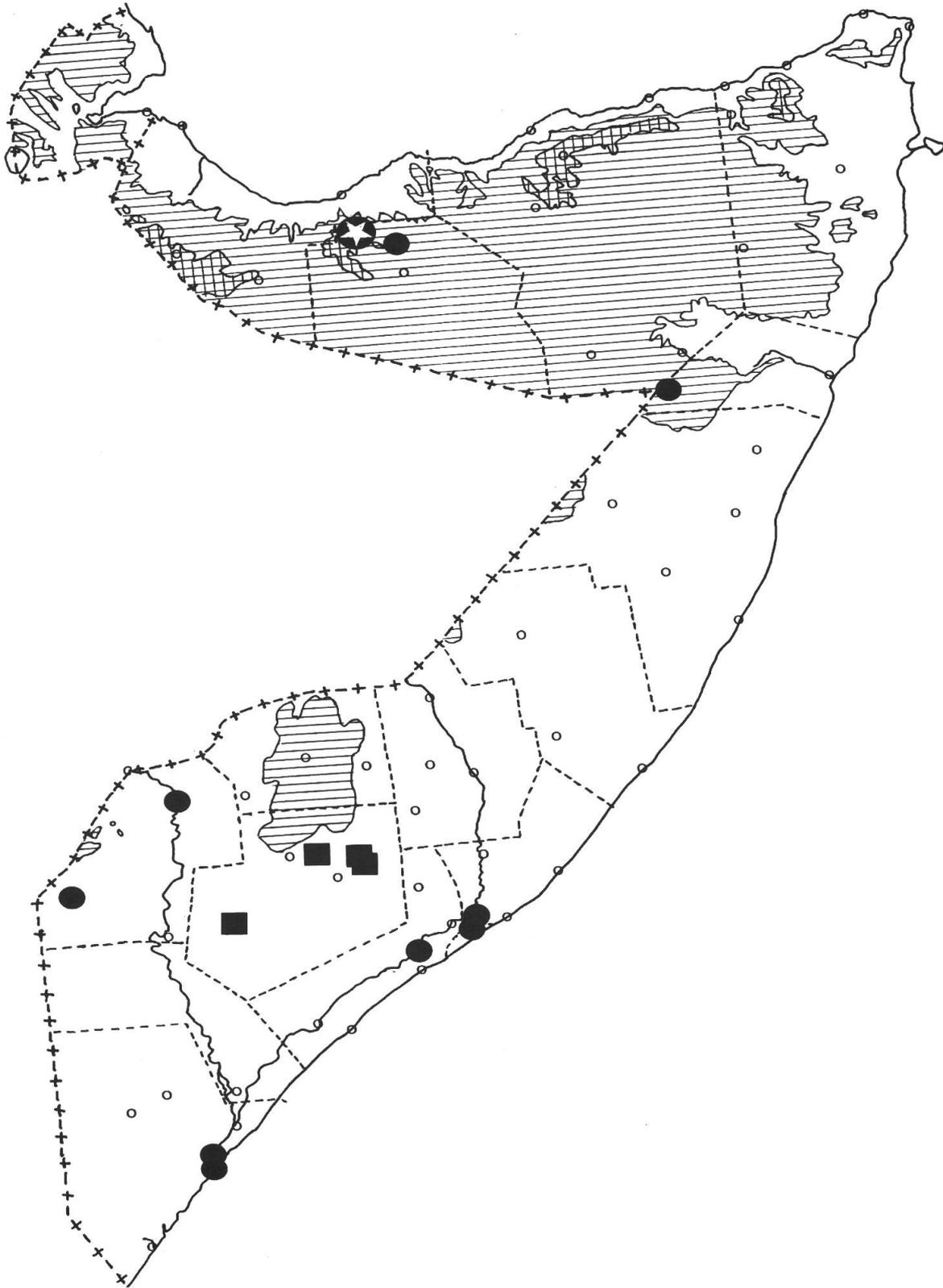


Fig. 3. – Distribution of *Cyperus eximius* (C. B. Clarke) Mattf. & Kük. (dots), *Cyperus welwitschii* (Ridl.) Lye (squares) and *Cyperus aromaticus* (Ridl.) Mattf. & Kük. (white asterisc) in Somalia.

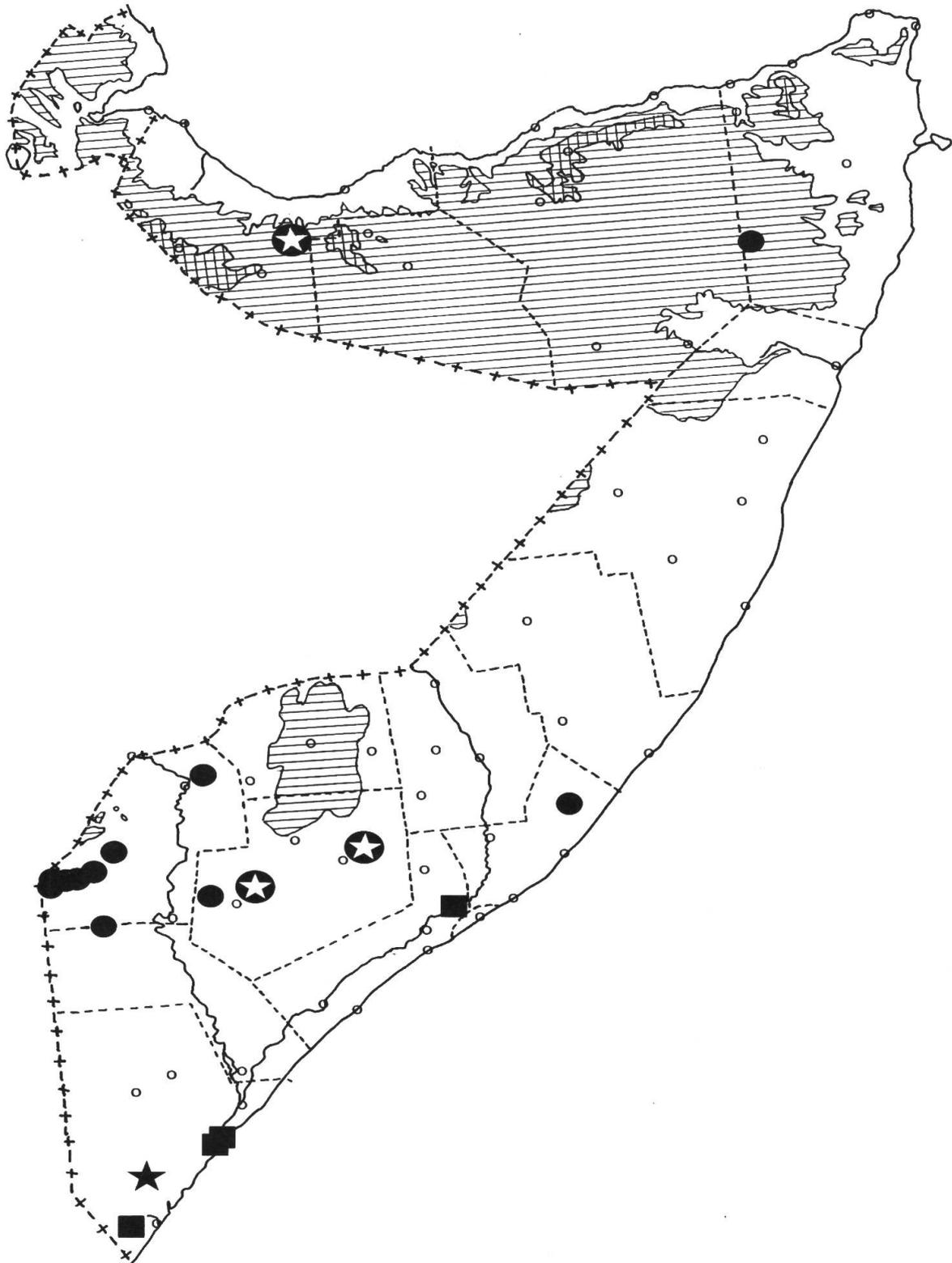


Fig. 4. – Distribution of *Cyperus comosipes* Mattf. & Kük. (dots), *Cyperus alatus* subsp. *albus* (Nees) Lye (squares), *Cyperus microstylus* (C. B. Clarke) Mattf. & Kük. (white asterisks) and *Cyperus erectus* subsp. *jubensis* (Chiov.) Lye (black star) in Somalia.

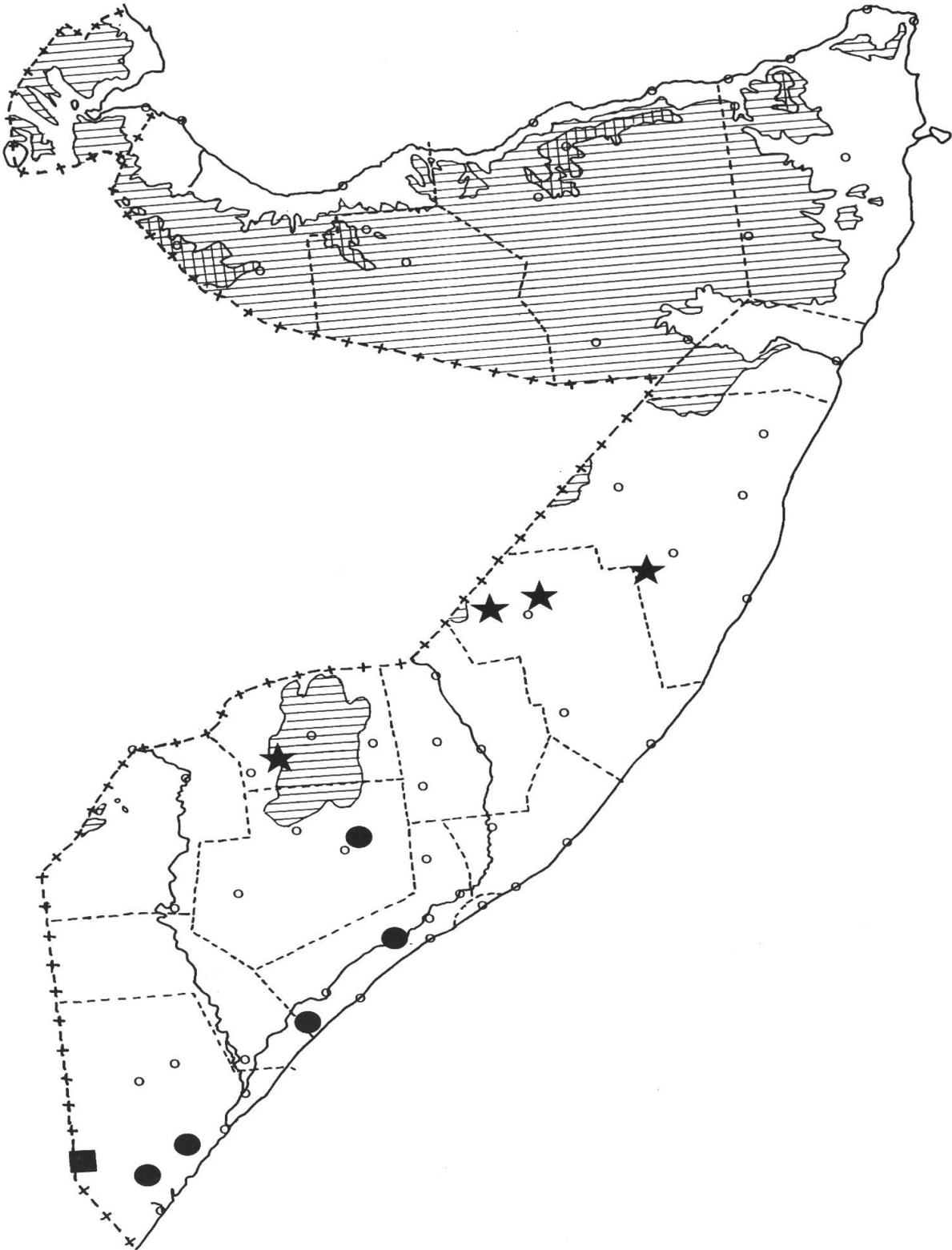


Fig. 5. – Distribution of *C. brunneofibrosus* Lye (black stars), *C. oblongus* subsp. *jubensis* (Mtoto.) Lye (dots) and *C. aureolatus* Lye (square) in Somalia.

ACKNOWLEDGEMENTS

The electroscan photography was made possible through E. Reed at Laboratory of Analytical Chemistry, Department of Electron Microscopy, The Agricultural University of Norway. The photographs were taken by the author. I would also like to thank Gerd Mari Lye for the drawings.

REFERENCES

- CHERMEZON, H. (1937). Cypéracées. In: HUMBERT, H. (ed.), *Flore de Madagascar* 29. Tananarive.
- CHIOVENDA, E. (1932). Cyperaceae. *Fl. Somalia* 2: 432-438. Modena.
- CLARKE, C. B. (1901-1902). Cyperaceae. In: THISELTON-DYER, W. T. (ed.), *Flora of Tropical Africa* 8: 266-524. London.
- CUFODONTIS, G. (1970). Enumeratio plantarum Aethiopiae spermatophyta: Cyperaceae, Kyllinga. *Bull. Jard. Bot. Belg.* 40, Suppl.: 1459-1467.
- DE FILIPPS, R. A. (1980). Cyperus. In: TUTIN, T. G. & al. (ed.), *Flora Europaea* 5: 284-288.
- HAINES, R. W. & K. A. Lye (1983). *The sedges and rushes of East Africa*. Nairobi.
- HOOPER, S. S. (1972). Kyllinga. In: HEPPER, F. N. (ed.), *Flora of West Tropical Africa* ed. 2, 3: 303-307.
- KERN, J. H. (1974). Cyperaceae. In: Van STEENIS, C. G. G. J. (ed.), *Flora Malesiana* ser. 1, 7: 435-753.
- KOYAMA, T. (1985). Cyperaceae. In: DASSANAYAKE, M. D. (ed.), *A revised handbook to the Flora of Ceylon* 5: 125-405.
- KÜKENTHAL, G. (1935-1936). Cyperaceae-Scirpoideae-Cypereae. In: ENGLER, A., *Das Pflanzenreich* 101(IV. 20). Leipzig.
- LYE, K. A. (1992). The history of the genus *Mariscus* (Cyperaceae). *Lidia* 3: 37-72.