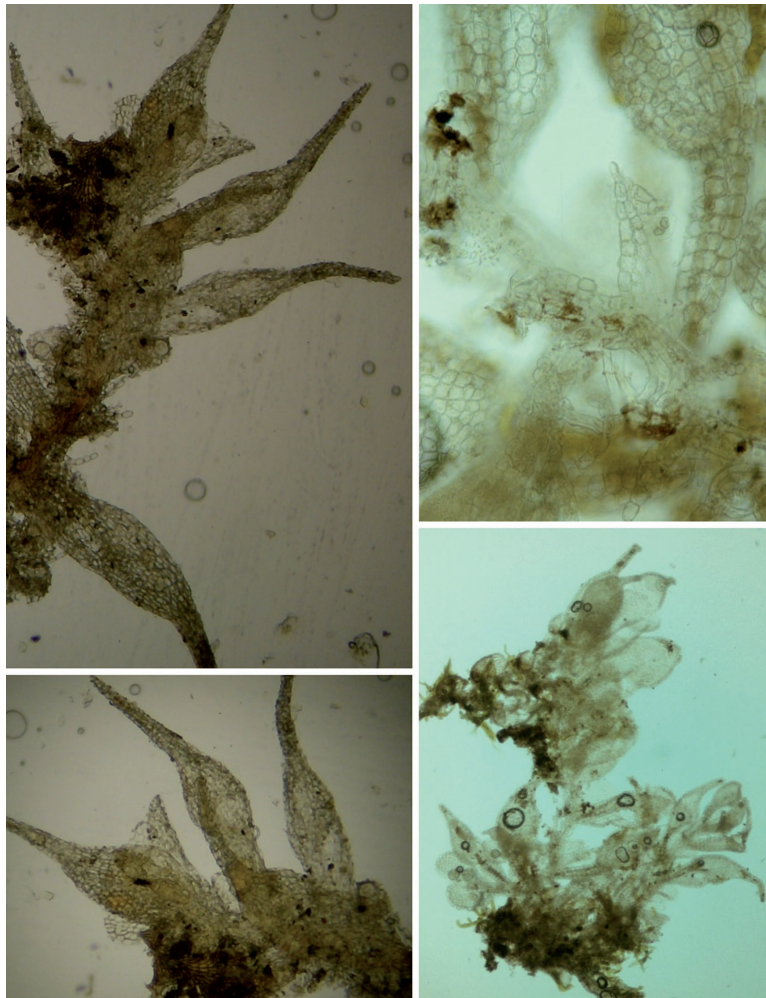




**Figs 157 and 158 (next page). *Colura saroltae* Pócs**

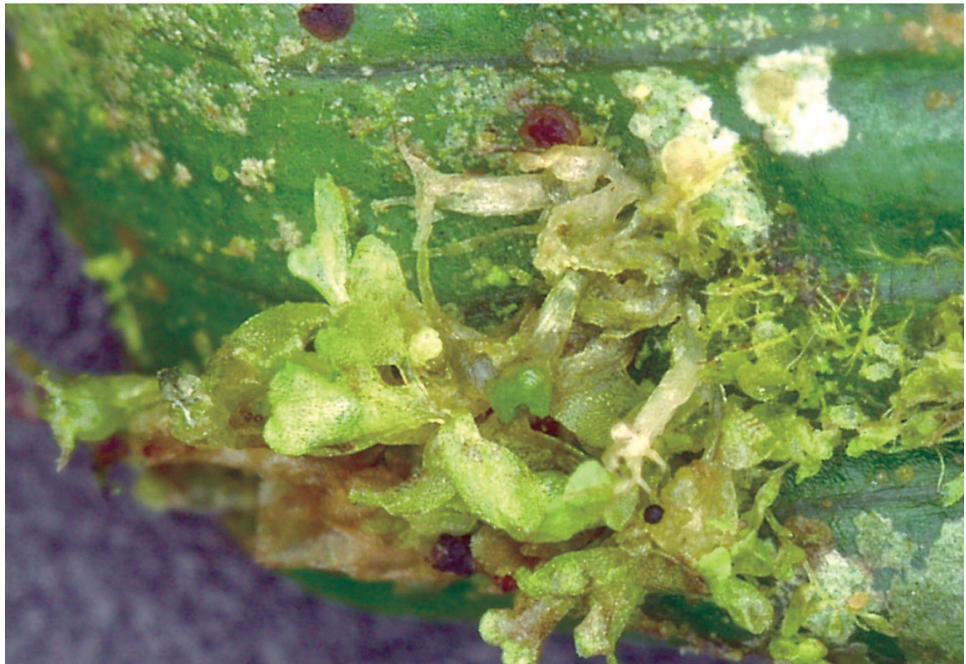
Plants epiphytic on twigs of ericaceous shrubs, pale green, in patches of 1.5-3 cm wide. Stems up to 15 mm long. Leaves distichous, 1.6-2 mm long, all possessing a claviform sac, free part 0.1 mm long and wide, with rounded apex. Lobe 0.6-1 mm wide, margin plane, crenulated towards apex. Cells of lobe 5 x 30  $\mu\text{m}$ , walls with nodular trigones and intermediate thickenings. Valve not detachable, ligulate, up to 200  $\mu\text{m}$  long and 150  $\mu\text{m}$  wide, bordered by 27-30 hyaline cells, the central tissue of 64-73 cells with uniformly thickened walls. Underleaves bilobed, about 1 mm long, with acute lobes 10-12 cells wide at base. Dioicous. Perianth lateral on the main axis, narrowly pyriform with five weak keels, 1.5 mm long and 0.8 mm wide, rostrum lacking. **Habitat:** Ericaceous shrubs in swamp vegetation of montane forest, on small branches, 2000-2950 m. **Distribution in Rwanda: Nyungwe NP:** Rwasekoko, Mt. Bigugu. **Distribution in Africa:** Tanzania (Kilimanjaro).

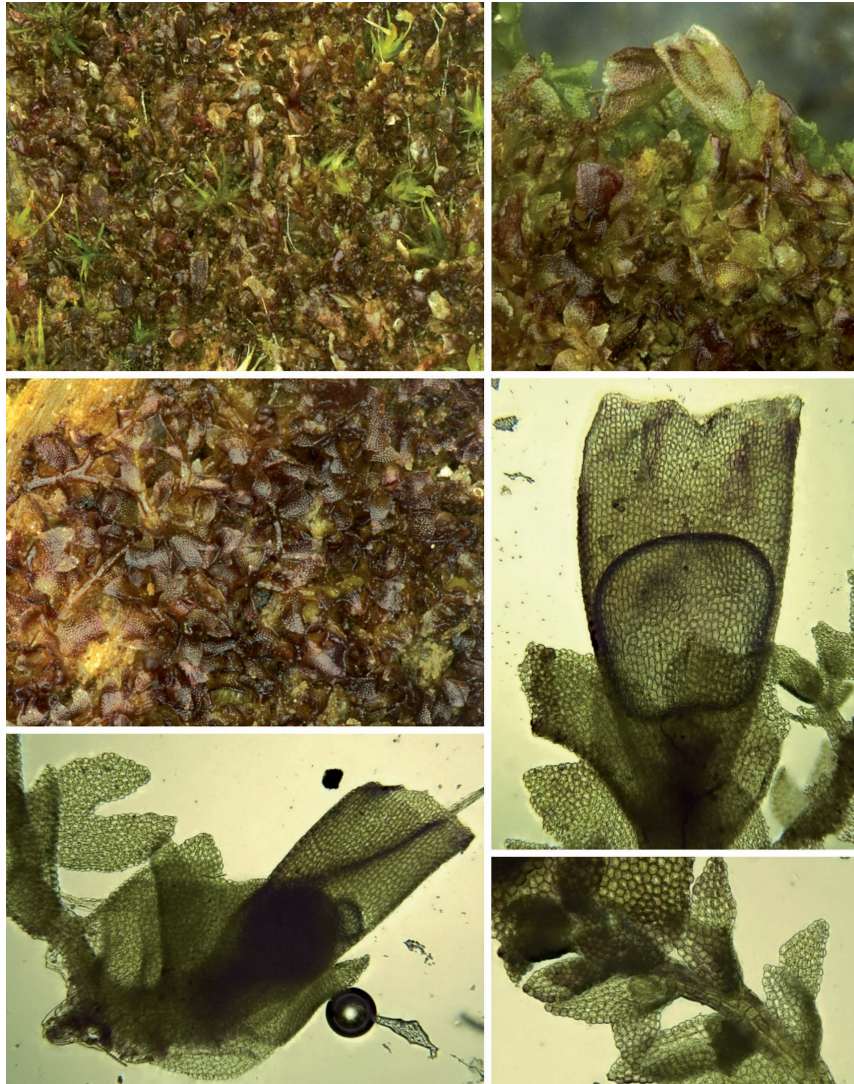




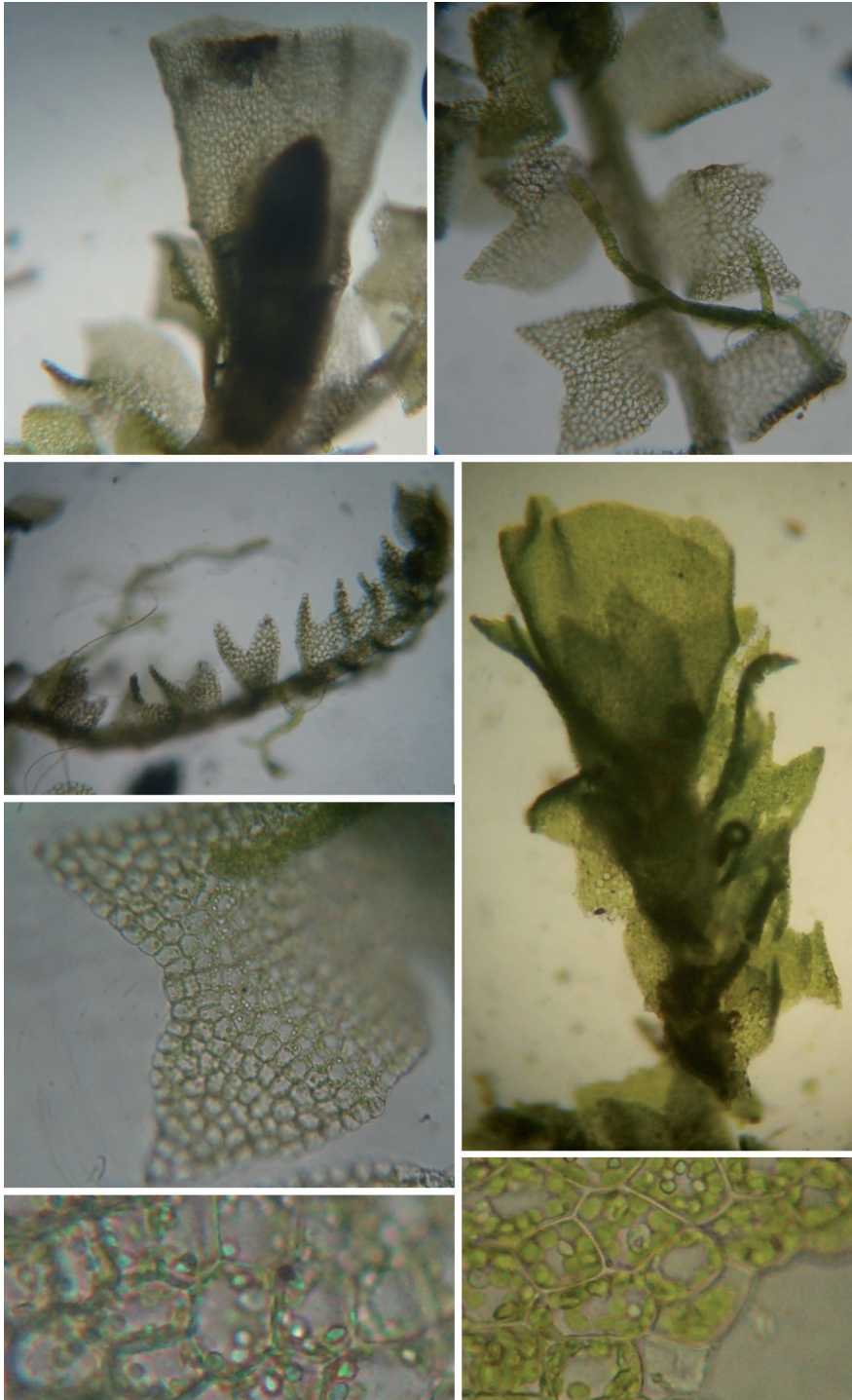
**Figs 159 and 160 (next page). *Colura tenuicornis* (A.Evans) Steph.**

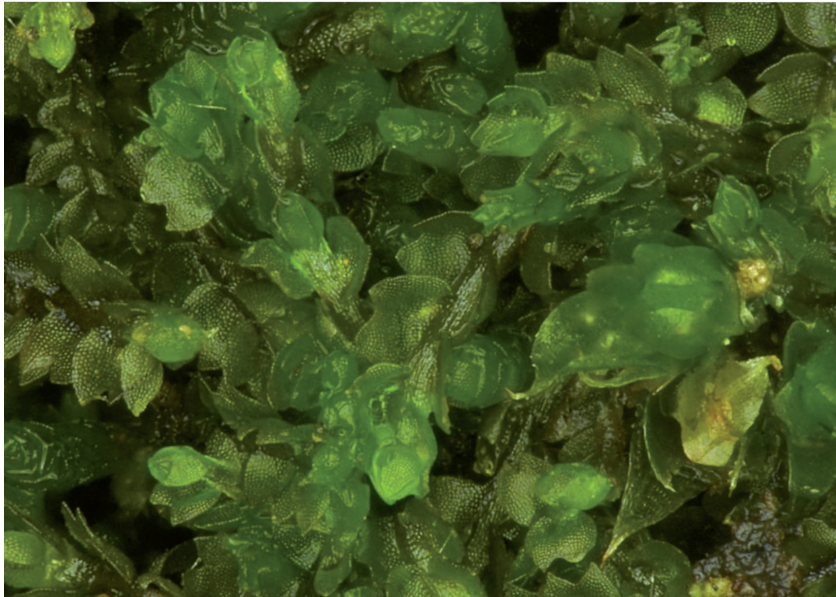
Plants pale green. Stems up to 4 mm long. Leaves distichous, ascending to erect, 0.7-1.4 mm long, all possessing a claviform sac, dorsal lobe smaller than ventral lobe, ovate to orbicular, overlapping stem and decurved, ventral lobe ovoid, sac-like, abruptly narrowed into a beak of c. 1/2 of total leaf length. Cells of lobe 16-24 x 20  $\mu$ m, walls without nodular trigones Valve movable, ovate, bordered by c. 12-15 hyaline cells, the central tissue of c. 8-11 cells with uniformly thickened walls. Underleaves bilobed, about 0.5 mm long, with subulate lobes up to 2 cells wide at base. Autoicous. Perianth lateral on the main axis, narrowly pyriform with 5 narrow acute papillose spreading 0.2-0.25 mm long horns, 1.5 mm long and 0.8 mm wide, rostrum short, 1-celled. **Habitat:** Epiphyllous or epiphytic on twigs of ericaceous shrubs in montane forest, 2000-2500 m. **Distribution in Rwanda: Nyungwe NP:** Rwasekoko, Karamba, Uwinka, Kamiranzovu. **Distribution in Africa:** Sierra Leone, São Tomé, Cameroon, Gabon, DR Congo, Burundi, Kenya, Tanzania, South Africa. Also Comoros, Madagascar, Mauritius, Réunion, Seychelles.



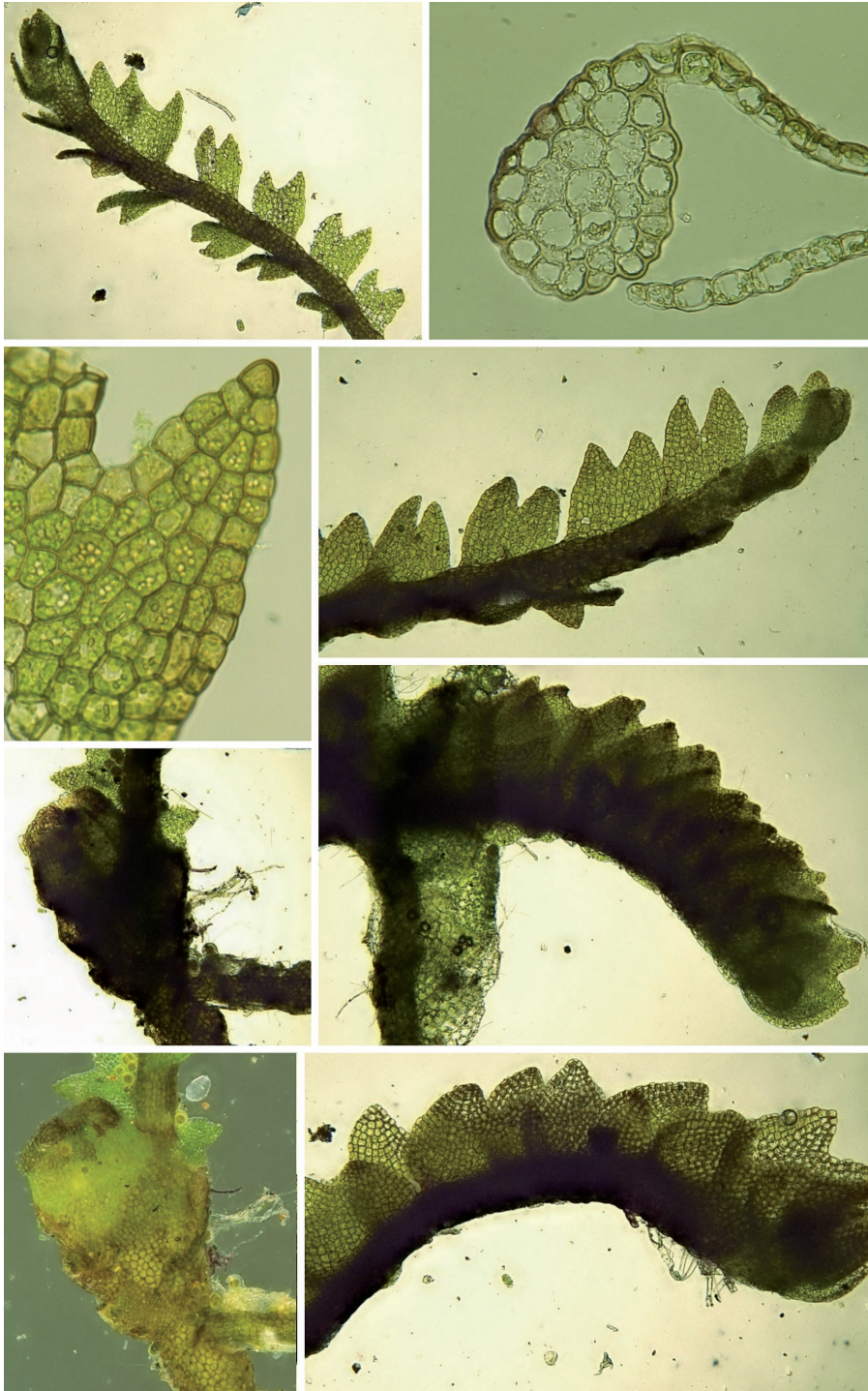


**Figs 161 and 162 (next page).** *Cyindrocolea atroviridis* (Sim) Váňa  
 Synonym: *Cephaloziella atroviridis* (Sim) E.W.Jones. Plants pale green to brown or reddish. Stems irregularly branched, 60-105  $\mu\text{m}$  in diameter, 6-7 cells thick in section, cells thin-walled. Leaves obcnate with narrow base to triangular-ovate, bilobed to 1/3-1/2, 250-380  $\times$  200-320  $\mu\text{m}$ , obliquely to nearly transversely inserted, insertion not reaching the dorsal midline of the stem, lobes with acute to somewhat obtuse apices. Cells thin-walled, without trigones, 15-18  $\times$  20  $\mu\text{m}$ . Underleaves lacking. Autoicous. Perianths conical to conical-cylindrical, with mouth wide, truncate. **Habitat:** On rotten wood in montane forest, 2500 m. **Distribution in Rwanda:** Nyungwe NP: Uwinka. **Distribution in Africa:** Sierra Leone, Ghana, Nigeria, Cameroon, Central African Republic, DR Congo, Zimbabwe, Mozambique, Lesotho, South Africa. Also Madagascar.

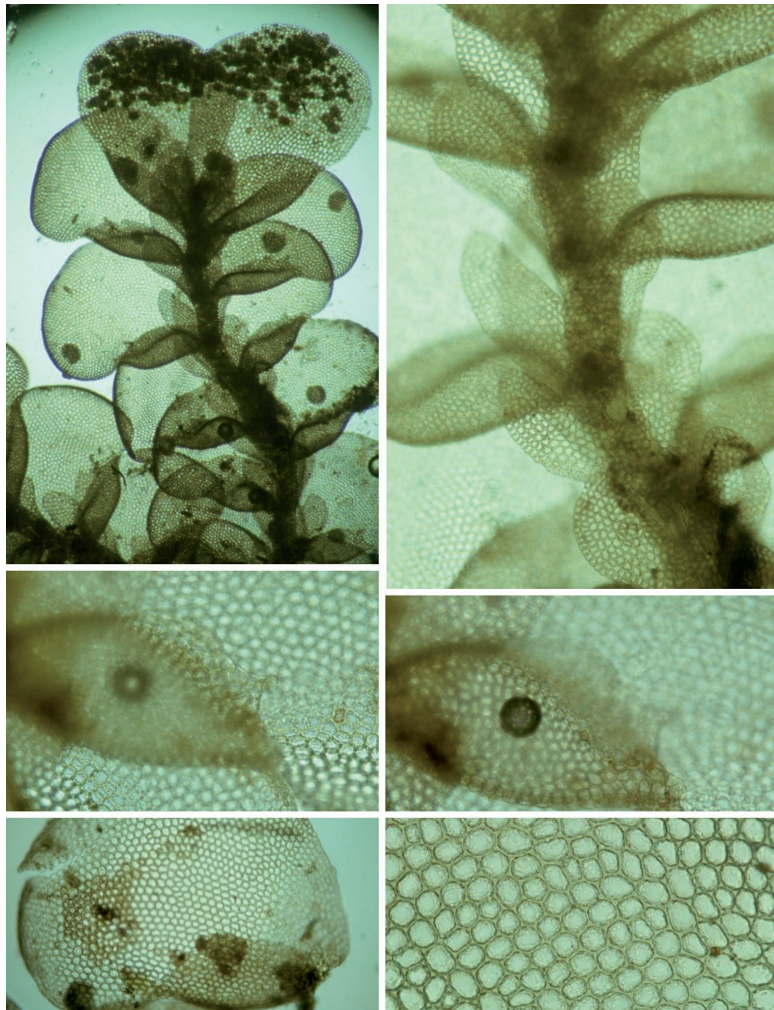




**Figs 163 and 164 (next page).** *Cylindrocolea gittinsii* (E.W.Jones) R.M.Schust. Plants terrestrial, vivid green. Stems irregularly branched, 70-85  $\mu\text{m}$  in diameter, 4-8 mm long. Leaves distant, subrectangular, bilobed to 1/3-2/5, 80-120  $\times$  90-160  $\mu\text{m}$ , obliquely to nearly transversely inserted, insertion not reaching the dorsal midline of the stem, lobes with acute to somewhat obtuse apices. Cells thin-walled, without trigones, 10-12  $\times$  10-14  $\mu\text{m}$ . Underleaves lacking. Monoicous. Perianths conical to conical-cylindrical, with mouth narrowed at apex. **Habitat:** On earth in *Eucalyptus* plantations and rock fissures in dry forest, 1650-1800 m. **Distribution in Rwanda:** Central Rwanda: Huye (Butare). **Akagera:** Nyarubuye. **Distribution in Africa:** Cameroon, Uganda, Kenya.

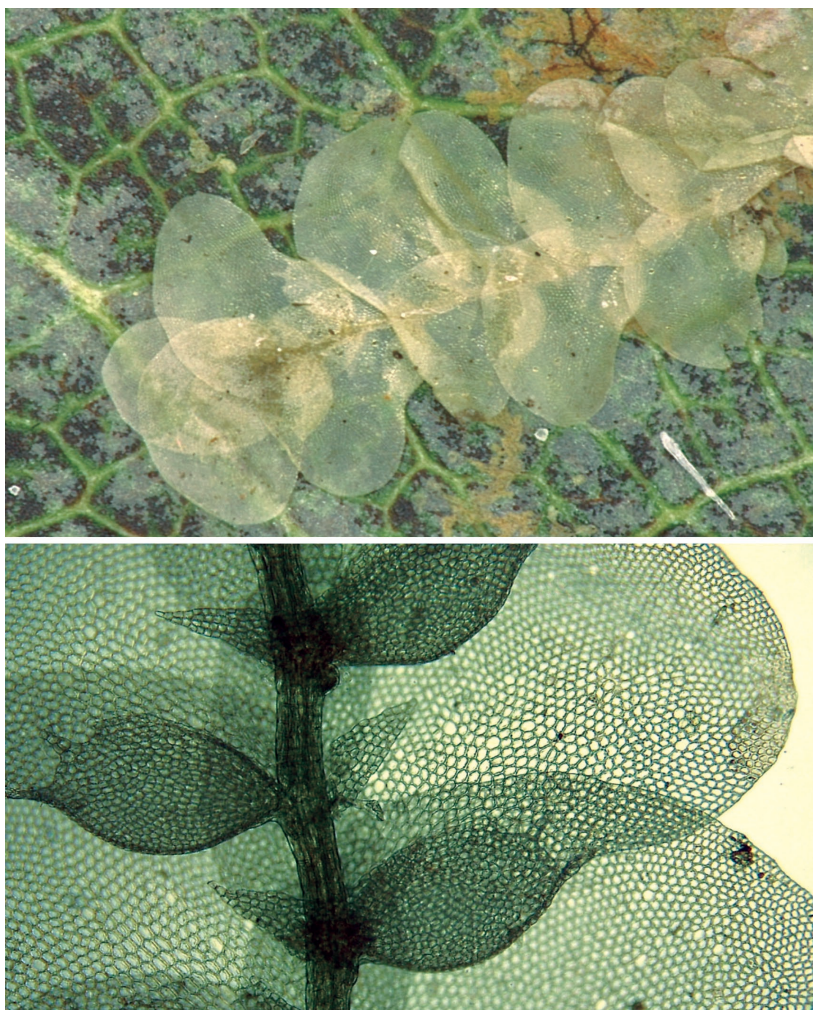






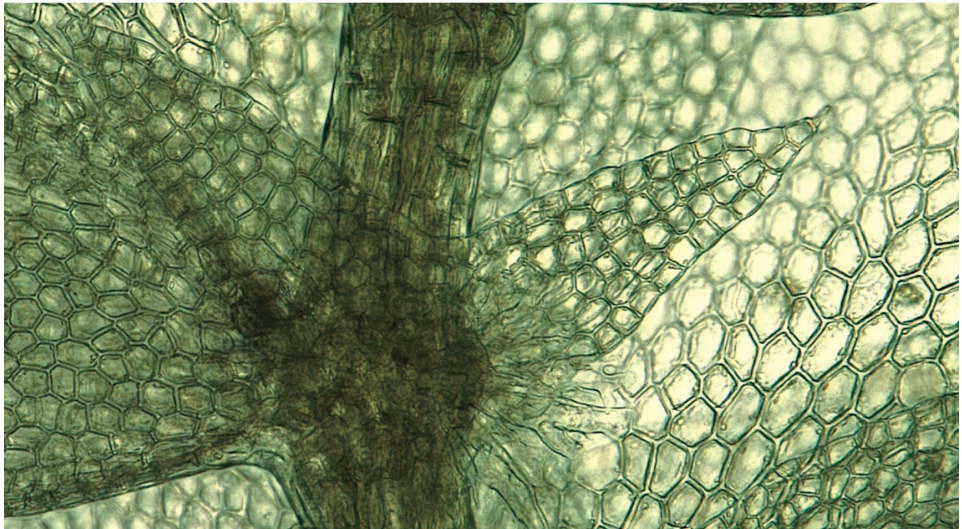
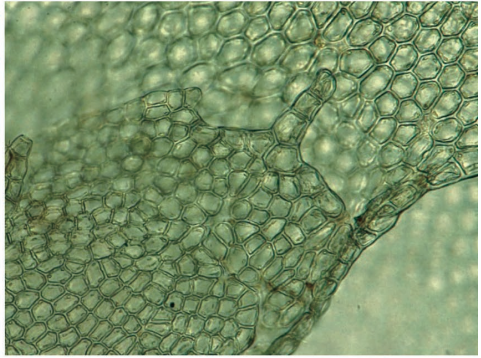
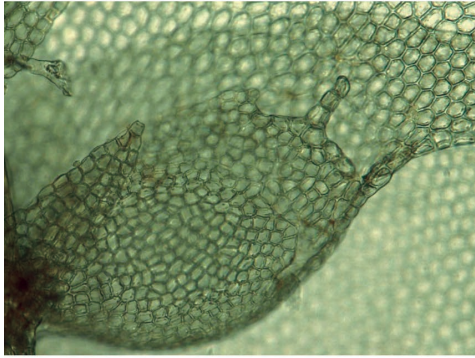
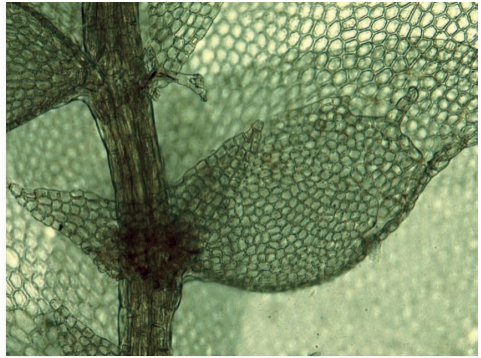
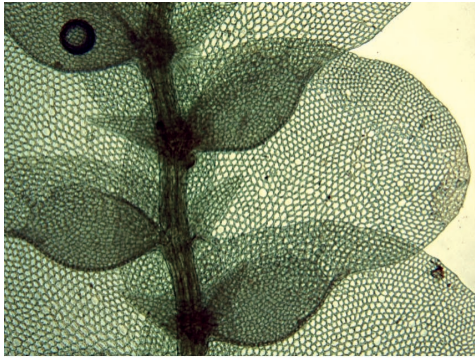
**Fig. 165. *Diplasiolejeunea aulae*** E.W.Jones

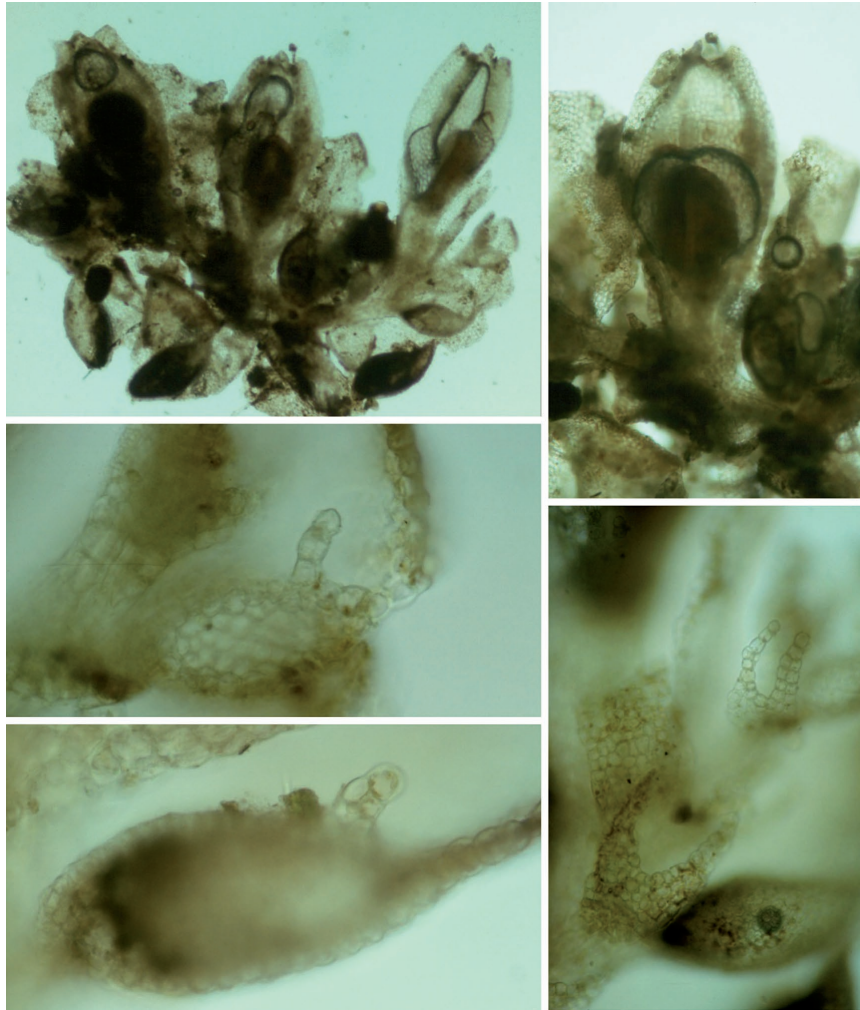
Plants medium-sized, 1.3-1.5 mm wide. Sterile leaves imbricate, alternate. Lobes ovate to obovate, rounded at apex, 0.9 x 0.6-0.7 mm, dorsal margin convex, ventral margin forming a wide but distinct angle with the weakly arched keel. Lobules inflated proximally and along the keel, ovate, c. 0.5 the length of the lobe, apical tooth 2-4 cells long, partly or entirely of 2 ranks of cells, proximal tooth of 1-2 cells on the angle, often incurved, usually also a small tooth at the base of the apex of the lobule close to its junction with the lobe. Underleaves bifid, 4-5 x wider than stem, lobes 0.3-0.35 mm long, 8-10 cells wide at base, apex obtusely pointed or rounded. Gemmiferous leaves of a shoot, 1.3-1.6 x 0.6 mm, dorsal and ventral margin usually deflexed, lobule long, narrow, fusiform. **Habitat:** Epiphyllous or epiphytic on small branches in montane forest, 2000 m. **Distribution in Rwanda: Nyungwe Forest:** Gisakura. **Distribution in Africa:** Ghana, Uganda. Also Madagascar.



**Figs 166 and 167 (next page). *Diplasiolejeunea cavifolia* Steph.**

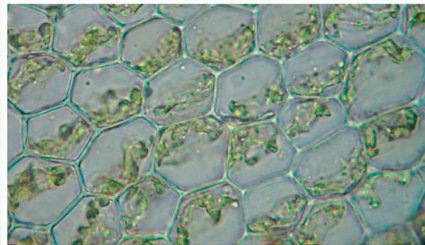
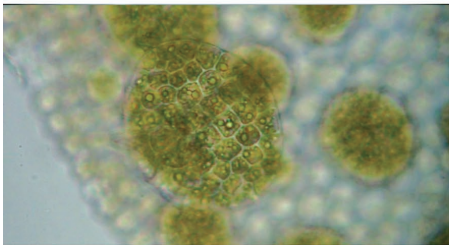
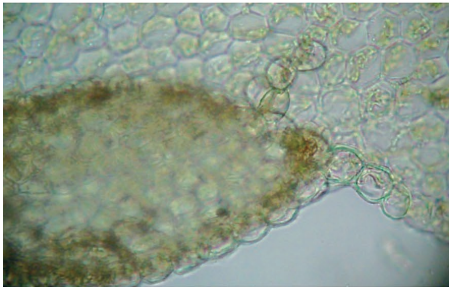
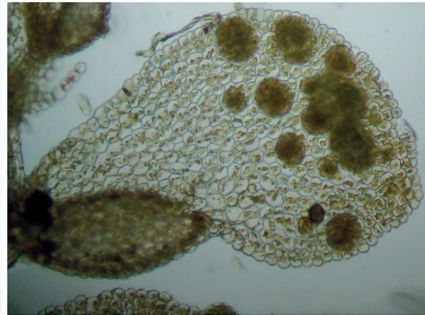
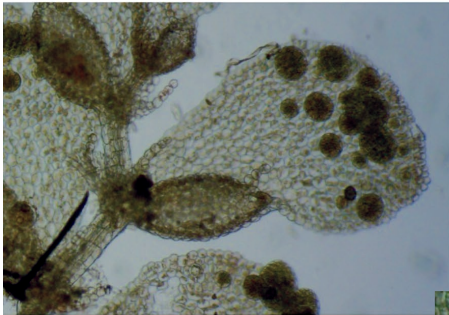
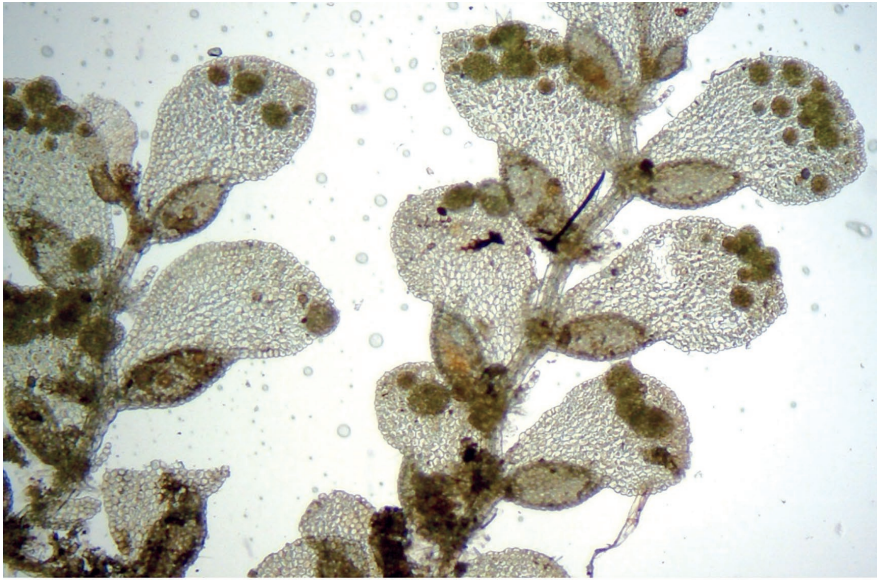
Synonym: *Diplasiolejeunea brachyclada* A.Evans. Plants epiphyllous, medium-sized, 2-2.5 mm wide, pale green. Leaves slightly imbricate, alternate. Lobes entire, ovate to subelliptic, rounded at apex, 0.85-1.25 x 1.2-1.6 mm, dorsal margin distinctly convex, ventral margin slightly convex. Lobules only slightly inflated, ovate, 0.28-0.4 x 0.45-0.68 mm, apical tooth terminated by one or two cells, median tooth 40-60  $\mu$ m long, consisting of one cell or 2 cells in a row, bearing 1 larger cell (rarely 2-3) forming the letter T. Cells with small trigones, ocelli numerous, dispersed and isolated. Underleaves bifid, 4-5 x wider than stem, lobes 0.3-0.35  $\mu$ m long, 9-10 cells wide at base, terminated by 1 or 2-3 adjacent cells. Dioicous (?). Perianths longly exserted, subcylindrical, with 5 keels, 0.7-0.12 x 0.375-0.6 mm, beak short, 15-30  $\mu$ m long. **Habitat:** Epiphyllous or epiphytic in montane forest, 2500 m. **Distribution in Rwanda: Nyungwe NP:** Rwasekoko. **Distribution in Africa:** Ghana, Nigeria, São Tomé, Rio Muni, DR Congo, Uganda, Kenya, Tanzania, South Africa. Also Comoros, Madagascar, Mauritius.

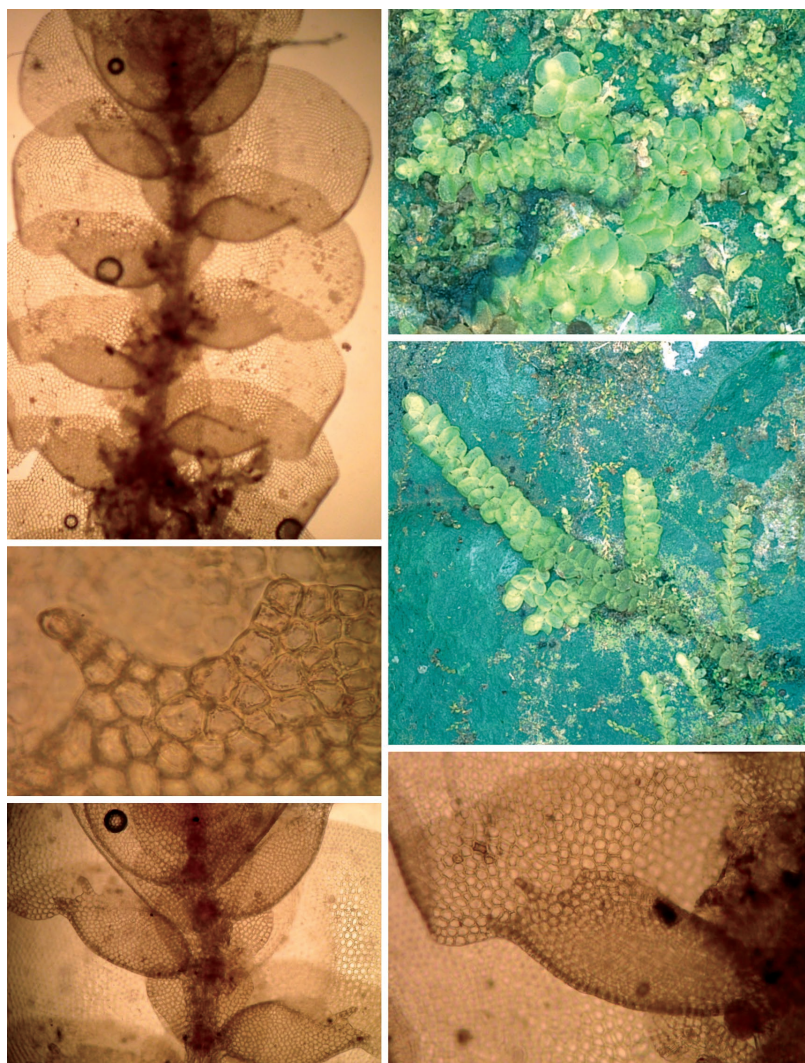




**Figs 168 and 169 (next page). *Diplasiolejeunea cornuta* Steph.**

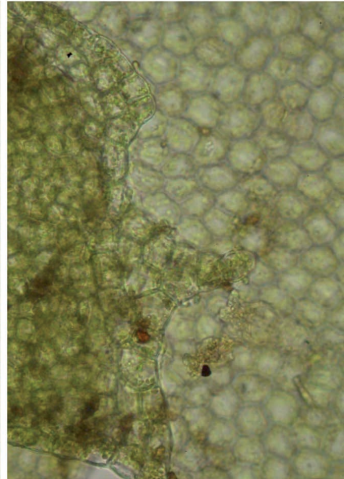
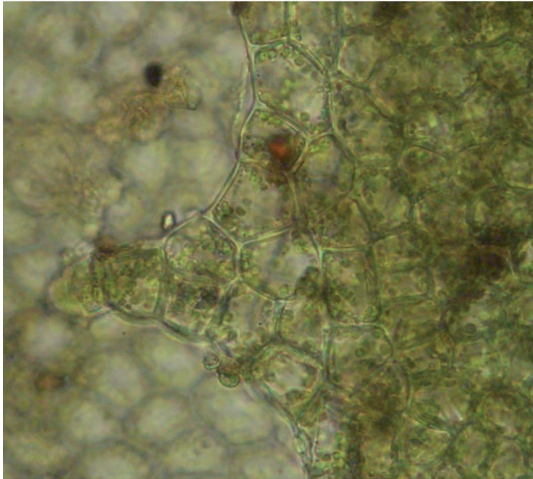
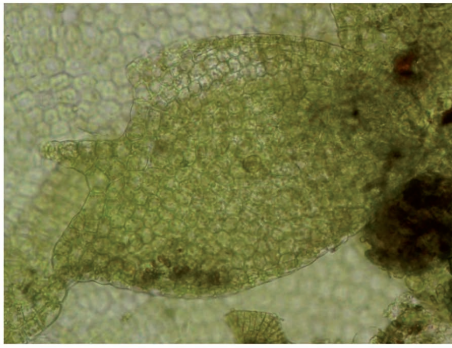
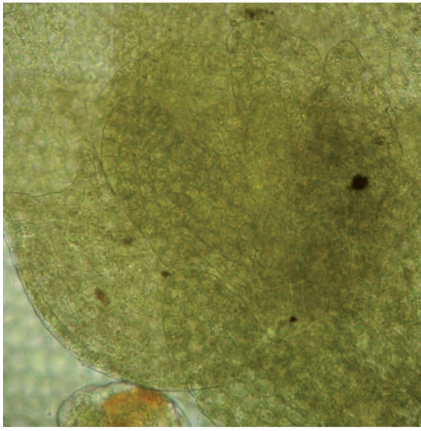
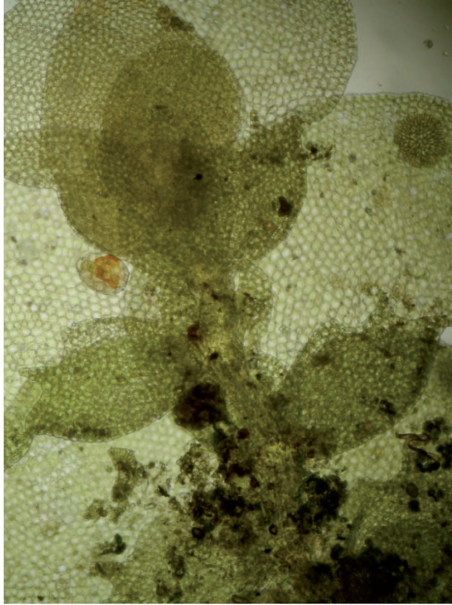
Plants epiphytic or epiphyllous, small, 1.2 mm wide, pale green to pale brown. Leaves distant to slightly imbricate, alternate. Lobes entire, ovate, asymmetrical, rounded or slightly apiculate at apex, 0.55-0.73 x 0.35-0.54 mm. Lobules inflated, fusiform, 0.25-0.33 x 0.1-0.2 mm, generally with 2 teeth, apical tooth with 2 cells, median tooth arched, with 2 cells in a row, 25-50  $\mu$ m long, hyaline papilla inserted at internal face of lobule. Cells thin-walled, with small trigones, central cells 20-26 x 18-24  $\mu$ m, ocelli numerous, dispersed and isolated, basal ocelli often present, 40 x 60  $\mu$ m. Underleaves bifid, 2-3 x wider than stem, lobes acicular, 0.08-0.11 mm long, 2-3 cells large at base, ending with a row of 2-6 cells. Monoicous. Perianths longly exserted, obovate to subcylindrical, 0.675 x 0.375 mm, with 5 keels, prolonged to horns, beak 50  $\mu$ m long. **Habitat:** Epiphyllous or epiphytic in montane forest, 2000-2500 m. **Distribution in Rwanda:** Nyungwe NP: Rwasenkoko, Karamba, Kamiranzovu, Gisakura. **Distribution in Africa:** Ghana, DR Congo, Kenya, Tanzania, Malawi, Zimbabwe. Also Comoros, Madagascar, Mauritius, Réunion, Seychelles.

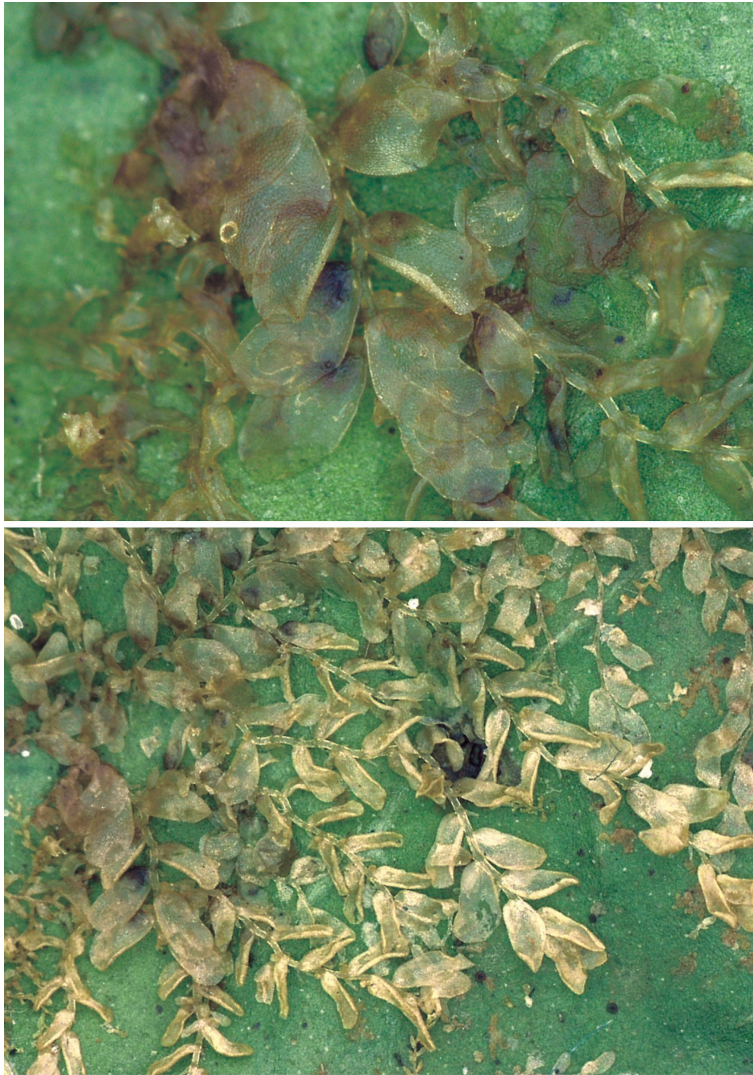




**Figs 170 and 171 (next page). *Diplasiolejeunea cyanguguensis* Tixier**

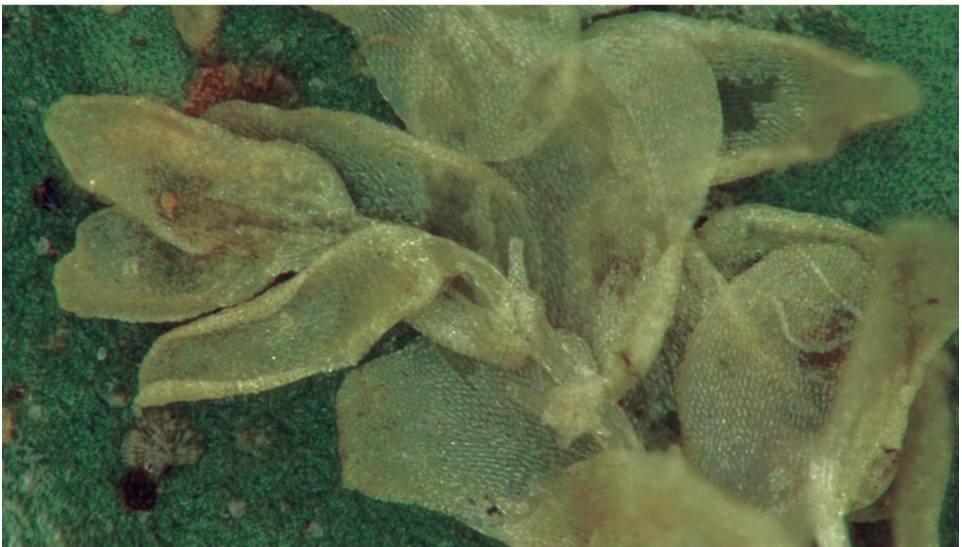
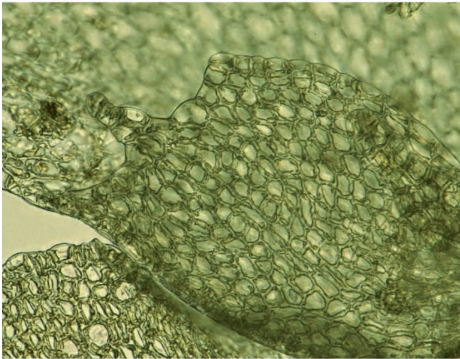
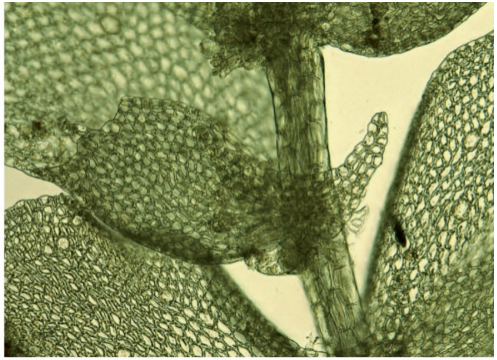
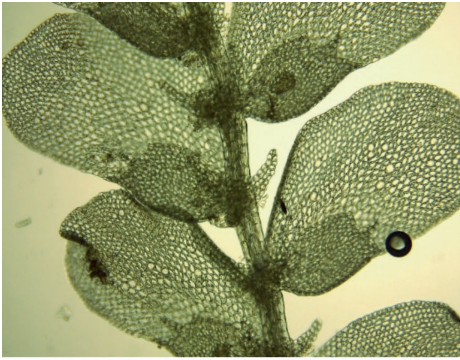
Plants epiphyllous, medium-sized, pale green to yellowish, up to 1 cm long, up to 1.6 mm large. Leaves densely imbricate, alternate, inserted at angle of 90°. Lobes entire, ovate, rounded at apex, not covering stem, up to 1 mm long and 0.8 mm large. Lobules large, only slightly inflated, reaching half of lobe length, 0.5 mm long and 0.3 mm wide, truncate at apex, with 2 teeth, apical tooth hardly visible, median tooth elongated, doubled at apex, both half-teeth 3-4 cells long, submedian tooth more or less arched, long or short, hyaline papilla not observed. Cells thin-walled, ocelli absent, marginal cells 15 µm in diameter, basal cells 40 x 15 µm. Underleaves at each lateral leaf, bifid, each lobe 0.3 mm long, obtuse at apex, up to 10 cells large at base and 3 cells large at apex. **Habitat:** Epiphyllous in montane forest, 1900-2000 m. **Distribution in Rwanda:** Nyungwe NP: Gisakura.

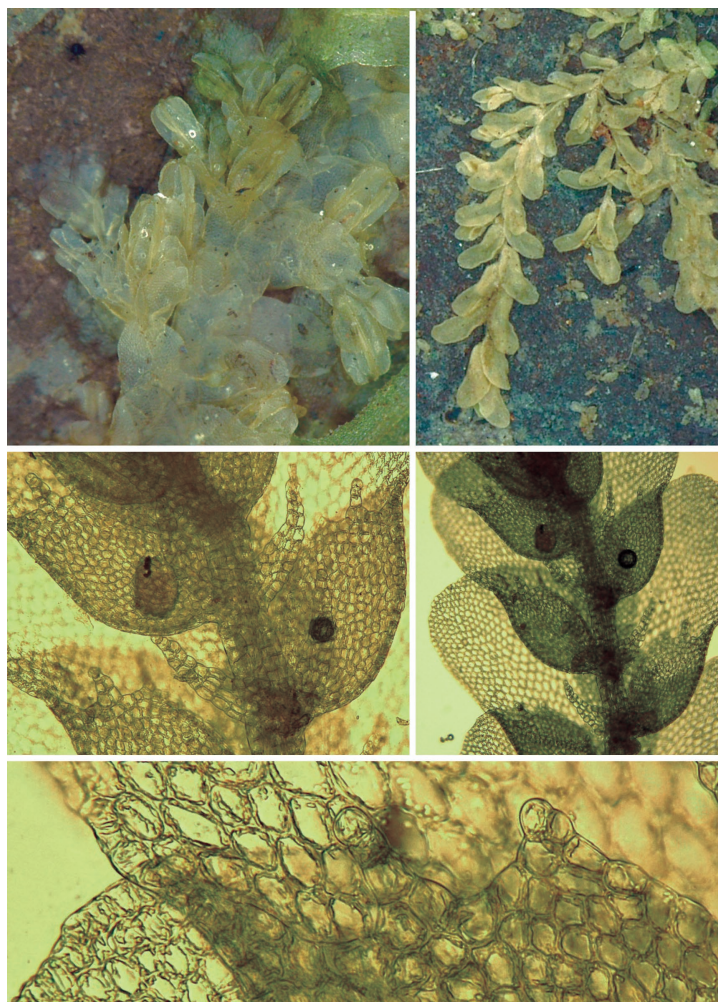




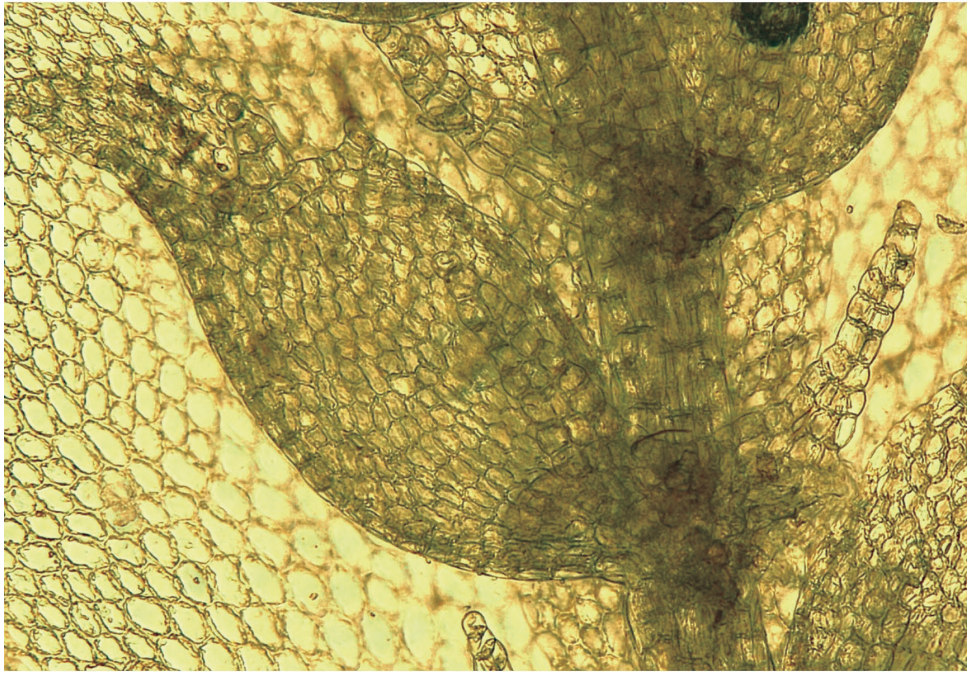
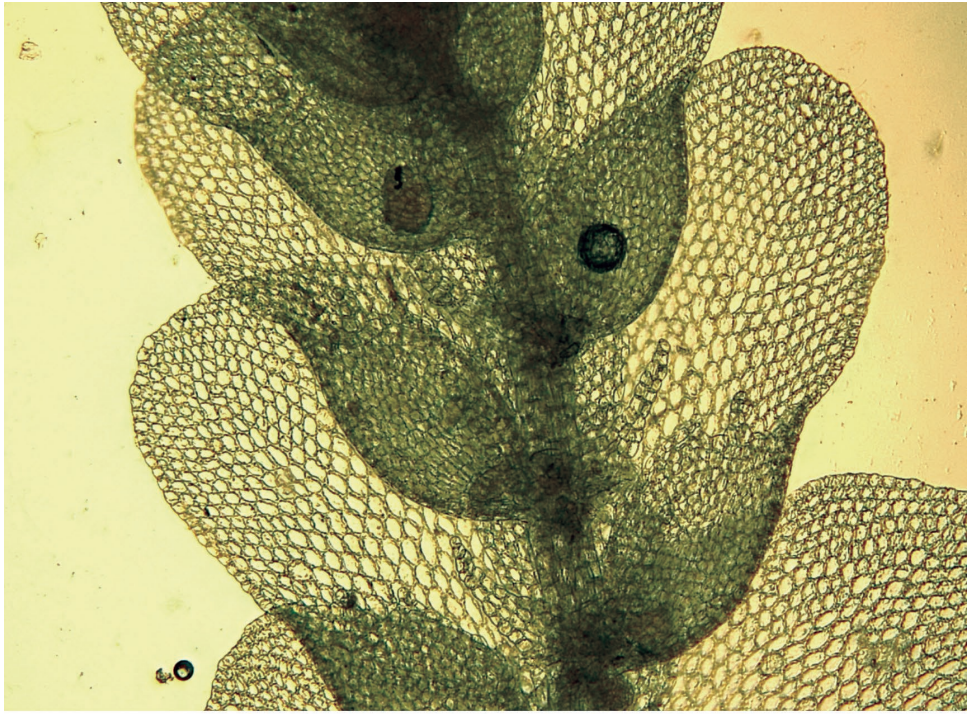
**Figs 172 and 173 (next page).** *Diplasiolejeunea deslooveri* Vanden Berghen  
 Plants epiphyllous, shoots 1.2-1.8 mm wide. Leaves distant or contiguous. Lobe ovate, apex rounded or subtruncate, 0.35-0.55 x 0.65-0.9 mm. One basal ocellus and (2-)3-6(-10) single ocelli present. Lobule large, 0.18-0.24 x 0.3-0.42 mm, inflated, free margin arched, with obtuse tooth, apical tooth triangular, with 2-4 rows of cells, rows at base with 2-4 cells, the two ultimate rows usually unicellular, tooth sometimes ending with a cell bearing 2 joined cells at apex. Underleaves distant, 3-4 x as wide as the stem, 0.18-0.22 0.25-0.42 mm, sinus rounded, lobes 0.15 mm long, at base 6-8 cells wide, ending in 1-2 cells, obtuse. Monoicous. Perianth subcylindric, with truncate apex and 5 cells dilated to auricles, 0.4-0.6 x 0.9-1 mm. **Habitat:** Epiphyllous in montane forest, 1950-1970 m. **Distribution in Rwanda:** Nyungwe NP: Rwankuba, Kamiranzovu. **Distribution in Africa:** Tanzania. Also Madagascar, Mauritius.

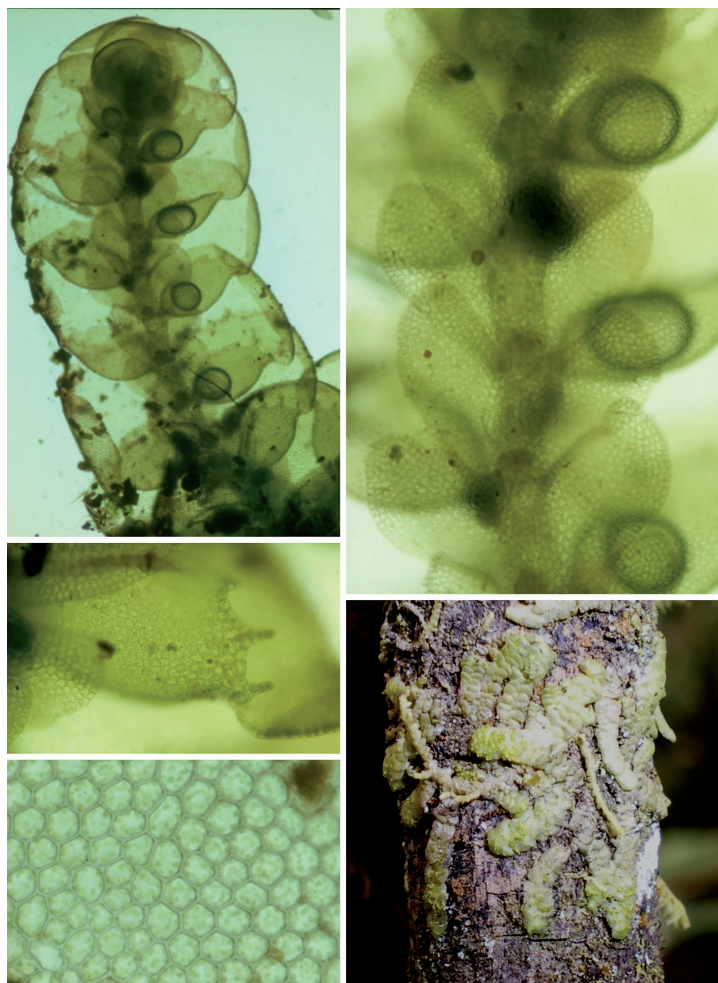






**Figs 174 and 175 (next page). *Diplasiolejeunea kraussiana* (Lindenb.) Steph.** Plants epiphytic or epiphyllous, small, 1.2 mm wide, pale green to pale brown. Leaves distant to slightly imbricate, alternate. Lobes entire, ovate, asymmetrical, rounded or slightly apiculate at apex, 0.55-0.73 x 0.35-0.54 mm. Lobules inflated, fusiform, 0.25-0.33 x 0.1-0.2 mm, generally with 2 teeth, apical tooth with two cells, median tooth arched, with two cells in a row, 25-50  $\mu$ m long, hyaline papilla inserted at internal face of lobule. Cells thin-walled, with small trigones, central cells 20-26 x 18-24  $\mu$ m, ocelli numerous, dispersed and isolated, basal ocelli often present, 40 x 60  $\mu$ m. Underleaves bifid, 2-3 x wider than stem, lobes acicular, 80-110  $\mu$ m long, 2-3 cells large at base, ending with a row of 2-6 cells. Monoicous. Perianths longly exerted, obovate to subcylindrical, 0.67 x 0.37 mm, with 5 keels, prolonged to horns, beak 50  $\mu$ m long. **Habitat:** Epiphyllous or epiphytic in montane forest, 2000 m. **Distribution in Rwanda: Nyungwe NP:** Karamba, Kamiranzovu. **Distribution in Africa:** DR Congo, Burundi, Uganda, Tanzania, Malawi, Zimbabwe, South Africa. Also Madagascar.





**Figs 176 and 177 (next page).** *Diplasiolejeunea runssorensis* Steph.

Plants epiphytic or epiphyllous, medium-sized, 1.6-1.8 mm wide, olive green to pale brown. Stems 1-2 cm long. Leaves densely imbricate, alternate. Lobes entire, convex, ovate, rounded and incurved at apex, 0.9-1.4 x 0.8-1.15 mm. Lobules ovate, basal part inflated, fusiform, 0.42-0.5 x 0.25-0.3 mm, apical tooth acute to obtuse, median tooth acute, 40-60  $\mu$ m long, ending with a row of 2-3 cells, obtuse submedian tooth distinct close to keel, hyaline papilla inserted at internal face of lobule. Cells with thin or uniformly thickened walls with small trigones, central cells 22-29 x 20-26  $\mu$ m, ocelli absent. Underleaves bifid, 3 x as wide as the stem, 0.315-0.5 x 0.3-0.4 mm, lobes rounded at apex, 9-12 cells wide at base, separated by a sinus of 60-100°. Asexual reproduction by gemmae inserted on dorsal face of lobe. Monoicous. Perianths longly exserted, obovate to clavate, 1-1.2 x 0.6-0.75 mm, with 5 slightly winged keels, beak 25  $\mu$ m long. **Habitat:** Epiphyllous or epiphytic on small twigs in montane forest, 1950-2500 m. **Distribution in Rwanda:** Nyungwe NP: Rwasekoko, Karamba, Gisakura, Rwankuba. **Distribution in Africa:** DR Congo, Burundi, Uganda, Kenya, Tanzania. Also Madagascar.