

SUPPLEMENTARY MATERIAL 3

Figures S1–S4.

Botanica Pacifica

Liverwort flora of Mt. Ko and adjacent areas (middle Sikhote-Alin, south of the Russian Far East)

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Figure S1 Ko River valley: A – dark coniferous (*Picea-Abies*) forest with fern cover on a river terrace (750 m a.s.l.), B – dark coniferous (*Picea-Abies*) forest along river watercourse (924 m a.s.l.); Mt. Ko: C – altitudinal vegetation zonation of SW-facing slope to Ko River upper course (1750–ca. 1300 m a.s.l.): forb dominated tundra, *Pinus pumila* belt with rock fields, *Betula lanata* belt, dark coniferous forest with *Betula lanata* admixture belt in river valley, D – forb dominated tundra on SW-facing slope to Ko River valley (1750 m a.s.l.), in the background – Ko River valley, E – arete between northern and southern corries leading to the main peak of Mt. Ko (view from 1900 m a.s.l.), F – short trough valley under southern corrie, moraine deposits on the bottom (ca.1400 m a.s.l.) covered with *Pinus pumila* thickets, and the right slope partly covered with *Betula lanata* (view from 1700 m a.s.l.), G – dwarf shrub-forb-lichen tundra on the second top of Mt. Ko (Mt. Stolovaya) (1900 m a.s.l.), H – northern corrie turning into a trough valley, moraine deposits on the bottom covered with *Pinus pumila* thickets till 1300 m a.s.l. and lower (Photos by K. G. Klimova, C, D, F–H: July 2018, A, B, E: August, 2018)



Figure S2 Mt. Ko, saddle between the second peak and the main peak of Mt. Ko (1730 m a.s.l.): A – edges of a bare ground spot of cryogenic origin covered with *Gymnomitrion commutatum*, *Scapania parvifolia*, *Solenostoma rossicum* in lichen-moss-dwarf shrub (*Diapensia obovata*, *Dryas octopetala*, *Rhododendron redowskianum*) tundra, B – NW-facing rocks are the habitat for *Fuscocephaloziopsis pleniceps*, *Frullania subarctica*, *Gymnomitrion parvitextum*, *Herbertus arcticus*, *Radula obtusiloba*, etc. (1735 m a.s.l.), C – lichen-moss-dwarf shrub tundra covering rocky outcrops, a habitat for *Anthelia juratzkana*, *Gymnomitrion commutatum*, *Lejeunea alaskana*, *Mesoptychia heterocolpos*, *Nardia insecta*, *Scapania lingulata*, *Tetralophozia setiformis*, etc. (1750 m a.s.l.); Mt. Ko: D, E, F – areas of swampy dwarf shrub-moss-*Carex* tundra on the southern spur at the base of the main peak of Mt. Ko (1870 m a.s.l.) – collecting place of *Biantheridion undulifolium*, *Gymnocolea inflata*, *Schljakovia kunzeana*, *Solenostoma rossicum*, etc., G – S-facing slope of the main peak of Mt. Ko (1950 m a.s.l.), dwarf thickets of *Rhododendron aureum* in the foreground, H – the main peak of Mt. Ko, lichen-dwarf shrub tundra (2000 m a.s.l.) (Photos by K. G. Klimova, July 2018)



Figure S3 The ridge between Ko and Sputnik mountains (the watershed of the Kafe and Katen River basins): A – dark coniferous (*Picea-Abies*) forest with small-herb-green moss cover in the head of Pritochnyi Stream, Kafe River basin (1200 m a.s.l.), B – *Betula lanata* forest with tall herb cover (1350 m a.s.l.), C – crooked forest belt formed by dense thickets of *Pinus pumila* turning into *Betula lanata* forests on the E-facing slope, in the background – Mt. Sputnik; Mt. Sputnik: D – lichen-dwarf shrub tundra with dwarf clumps of *Pinus pumila* (1770 m a.s.l.), E – clayish soil spot of cryogenic origin covered with liverworts in dwarf shrub-lichen tundra (1770 m a.s.l.), F – flattened main peak of Mt. Sputnik and its bottom covered with lichen-dwarf shrub tundra with dwarf clumps of *Pinus pumila* (view from 1770 m a.s.l.), G – the end of short trough valley under eastern corrie, moraine deposits on the bottom (ca.1400 m a.s.l.) covered with *Pinus pumila* thickets, H – moist dwarf shrub-moss tundra on very steep rocky NE-facing slopes near the peak of Mt. Sputnik, habitat of *Kurzia makinoana* (Photos by K. G. Klimova, July 2018)

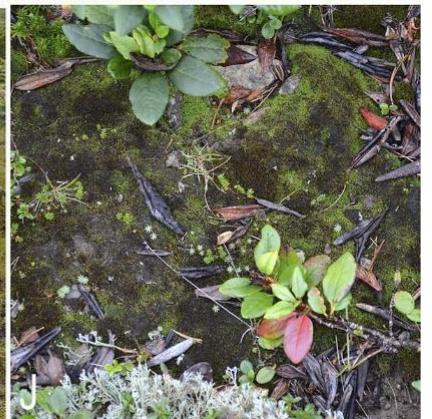


Figure S4 Mt. Sputnik: A – flattened north-east spurs of Mt. Sputnik covered with tundra dominated by dwarf shrubs and lichens, intermingled by *Pinus pumila* thickets (1200 m a.s.l.), in the far background the highest peak – Mt. Ostraya, B – mesophilic forb community on E-facing slope with prolonged snow cover (1680 m a.s.l.), boulders form a temporary watercourse in melting season – unusual habitat of *Radula constricta*, C – on the left – saddle with swampy *Carex*-moss tundra dominated by *Sphagnum* species bordering area covered with dry lichen-dwarf shrub tundra with *Pinus pumila* thickets (1660 m a.s.l.), on the right – snowbed habitat on E-facing slope; D – snowbed habitat on E-facing slope with a preserved snow patch (1650 m a.s.l.), E, H, I – swampy *Carex*-moss-dwarf shrub tundra with hollows and ponds surrounded by *Pinus pumila* and *Rhododendron aureum* thickets (1660 m a.s.l.), F – snowbed habitat on E-facing slope with synusiae formed by *Phyllodoce caerulea*, *Sibbaldia procumbens* with continuous carpets of *Anthelia juratzkana* over soil leaks (1650 m a.s.l.), G – blooming *Phyllodoce caerulea* (1650 m a.s.l.), J – clayish soil spot of cryogenic origin covered with liverwort mats, *Gymnocolea inflata* and *Scapania paludicola* are dominating (1660 m a.s.l.) (Photos by K. G. Klimova, July 2018)