Title	**Effect of 30 years of road traffic abandonment on epiphytic moss diversity**
Author	Vítězslav Plášek & Arkadiusz Nowak & Marcin Nobis & Grzegorz Kusza & Katarzyna Kochanowska
Journal	Environ Monit Assess, Vol. 186
Abstract	Road traffic emits a cocktail of pollutants that can influence the vegetation and plant diversity in neighboring areas. However, the recovery potential of bryophytes after traffic abandonment is still little explored. In addition, the effects of the main pollutants of road verges, such as metals and salinity, on moss flora need to be investigated. In our study, we compared the moss richness and diversity in two closely related veteran tree allees of high conservation importance. The allees in Gryżów and Lubrza, Poland, were chosen because of their similarity in age, geographical location, type of surrounding areas, and tree species. The only difference was that the trees in Gryżów had not been exposed to direct road pollution for almost 30 years. The moss richness and diversity differed significantly between the sites. Altogether, 20 moss species were recorded on 229 trees, 17 species in Gryżów (abandoned road), and 13 in Lubrza (busy road). We found considerable differences between moss cover on the road-facing and opposite sides of tree trunks. In Lubrza, mosses on the road-facing side were very scarce. The moss cover in Gryżów was highly balanced between trunk sides as well as among trunk heights. Typical epiphytic species such as Bryum moravicum, Dicranoweisia cirrata, Leskea polycarpa, and Orthodicranum tauricum preferred the Gryżów tree stands, where they were present in numbers almost twice as high as that at Lubrza. The study shows that constructing a bypass road could be an effective conservation measure for veteran tree protection with their epiphytic moss flora.
Year	2014
Pages	8943–8959
keywords	Moss monitoring, Road salting, Tree conservation, Epiphytes, Tilia cordata, Orthotrichum, Poland

Title	**Short-term effect of deep shade and enhanced nitrogen supply on *Sphagnum***

	***capillifolium* morphophysiology**
Author	Samuel Alexander Festing Bonnett, Nick Ostle and Chris Freeman
Journal	Plant Ecology, Vol. 207(2)
Abstract	*Sphagnum capillifolium* mesocosms collected from an ombrotrophic blanket bog were subjected to controlled photon flux densities (control and shaded) and nitrogen (low and high) treatments between November 2003 and August 2004. Shading significantly reduced biomass of *S. capillifolium* ($P < 0.001$), whilst nitrogen (N) supply significantly increased biomass ($P < 0.05$) suggesting that *S. capillifolium* was limited by N. There was no significant interaction between shading and N on biomass. *S. capillifolium* responded to shading via morphophysiological and biochemical alterations to the photosynthetic tissues such as (1) break down of anthocyanins involved in photoprotection of chloroplasts, (2) translocation of N from mineralized N or old tissues and (3) allocation of translocated N to photosynthetic pigments. The results suggest that *S. capillifolium* can tolerate both low and high light intensities, as well as high N supply via morphophysiological responses but does not acclimate to deep shade, since biomass was reduced. Anthocyanins rather than carotenoids appear to play an essential role in photoprotection with translocation serving as the important source of N. It has been suggested that global change in temperature and N availability may lead to increased vascular plant growth that could increase shade leading to a shift from Sphagnum spp. to vascular species in peatlands. However, the species *S. capillifolium* appears to tolerate deep shade and high N deposition due to the mechanisms shown here suggesting that this species may continue to persist in peatland ecosystems.
Year	2010
Pages	347- 358
keywords	*Sphagnum capillifolium* mesocosms, nitrogen, short term effect