北極圏と中緯度高山に生育しているチョウノスケソウにおける葉の内部構造の比較

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A comparison on internal structures of a leaf in *Dryas octopetala* between populations growing in the Arctic and mid-latitude alpine

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An arctic and alpine plant, *Dryas octopetala*, has a widespread occurrence from the high arctic tundra to mid-latitude mountains in the northern hemisphere. Foliar traits of this species show large variations between populations, especially in the high Arctic and mid-latitude alpine (e.g., Wada et al., 2003; Wada, 2008). For examples, semi-evergreen leaf habit has been reported in the subarctic tundra (Jonasson, 1989), while deciduous leaf habit in the mid-latitude alpine of Japan (Shimizu, 1982). Most studies, however, have been reported external morphology of a leaf, and no study examines variation in internal structure of a leaf between populations. In this study, we examine internal structures of a leaf of *D. octopetala*, such as sizes of epidermal and mesophyll cells, as well as external morphological traits such as leaf area and its shape, in order to elucidate the reason why this species has large variations in foliar traits such as morphology, phenology, and photosynthetic performances (Sekikawa and Wada, 2017).

北極・高山植物の一種であるチョウノスケソウ（*Dryas octopetala* L.）は，北半球の高緯度北極ツンドラから中緯度山岳地まで広い範囲に分布している。本種の葉特性は個体群間，特に高緯度北極圏と中緯度高山の間で大きな変異を示す（和田ほか，2003；和田，2008）。例えば，亜寒帯においては半常緑性（Jonasson, 1989）とされるが，日本の中緯度高山においては落葉性と言われている（清水，1982）。しかしながら，多くの研究は葉の外部形態について報告しており，個体群間における葉の内部構造について調べた研究はない。本研究では，チョウノスケソウの葉の内部構造，表皮細胞や葉肉細胞のサイズについて，葉面積や葉のかたちといった外部形態についても同様に調べ，葉の形態や生物季節そして光合成能力（関川・和田，2017）といった葉特性になぜ大きな変異がみられるのか，その理由を明らかにしようとした。

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