



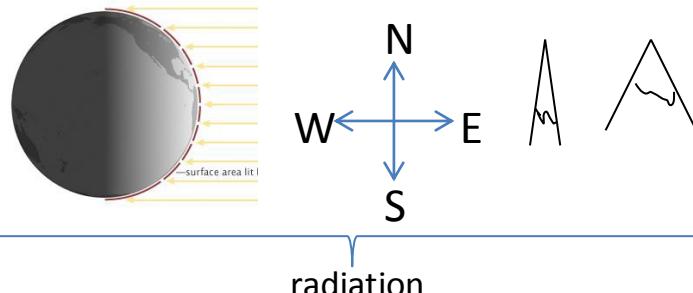
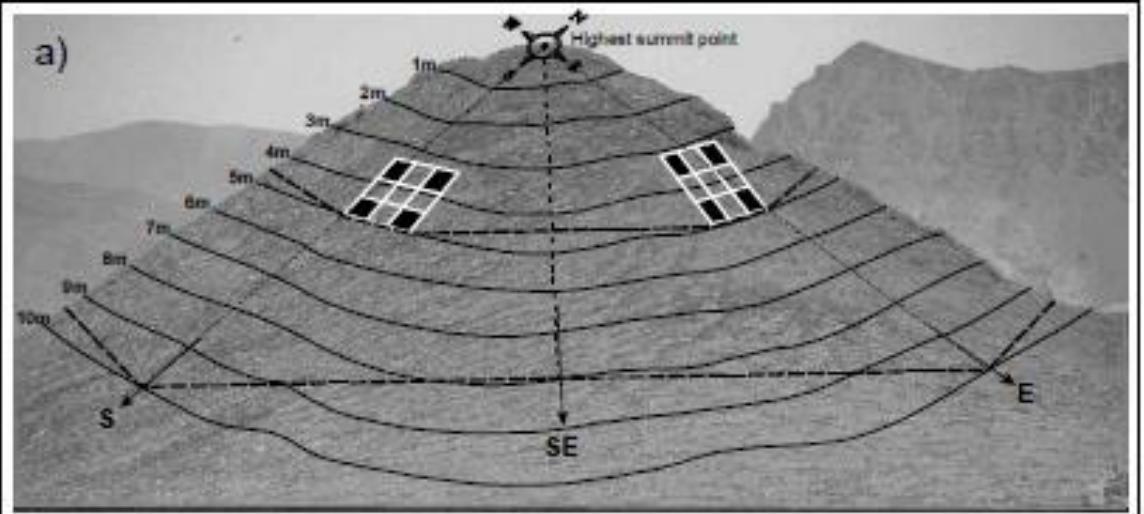
The Sunny Sides of Summits:

Influence of aspect on diversity, distribution and leaf size of plant species in an alpine environment

Patricia Monterde Vitoria, Dan Watson & Jay Mackinnon



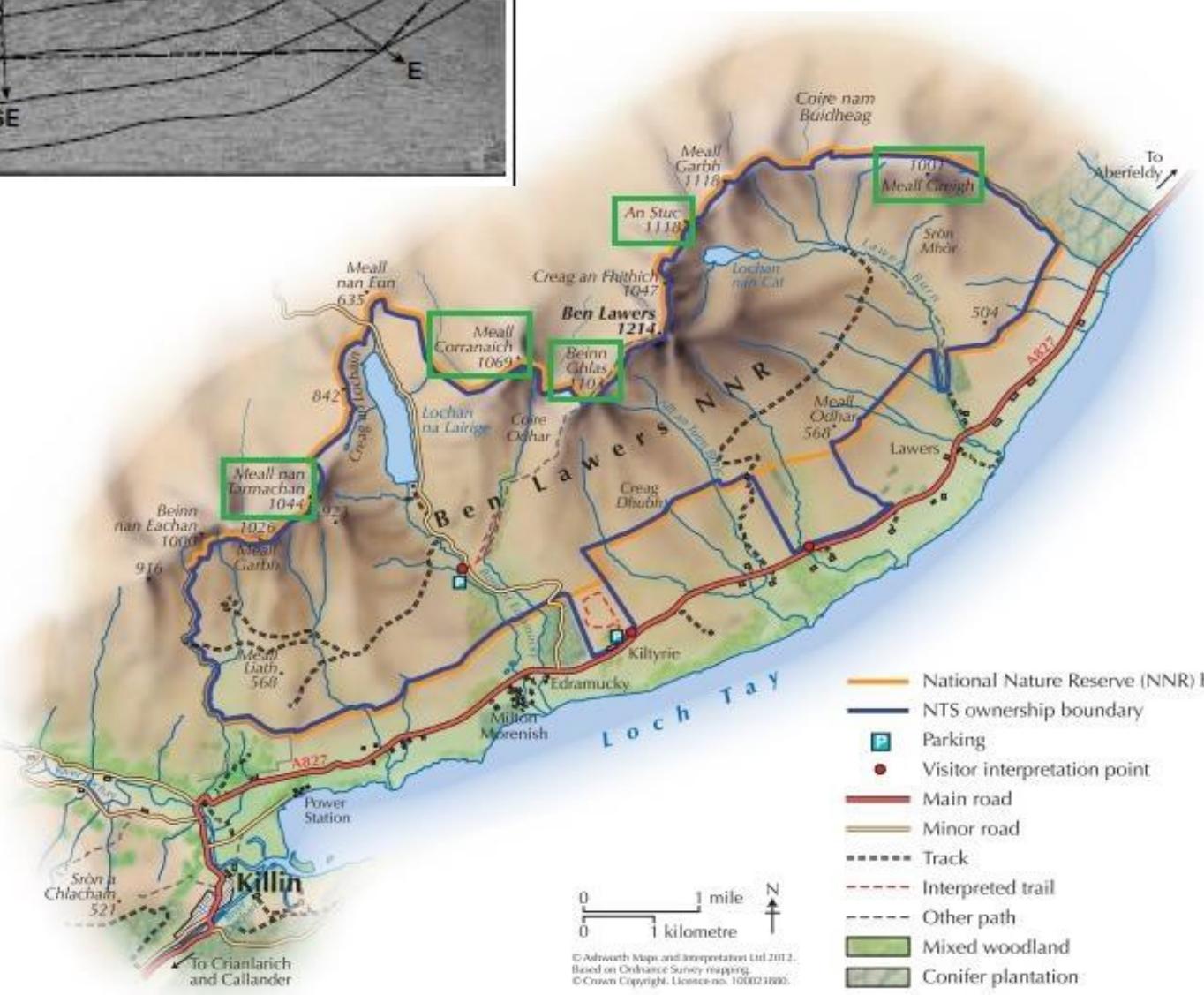
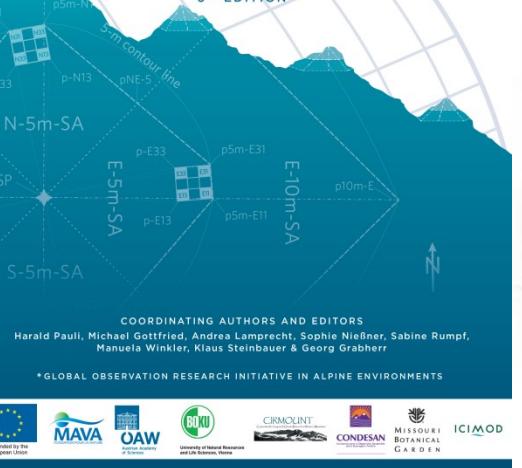
Highest summit point



THE GLORIA* FIELD MANUAL

STANDARD MULTI-SUMMIT APPROACH,
SUPPLEMENTARY METHODS AND
EXTRA APPROACHES

5TH EDITION



U10(x3) *Carex bigelowii*-
Racomitrium lanuginosum
moss-heath
U8, U13



U7 (x4) *Nardus stricta*-*Carex bigelowii* grass-heath
U8



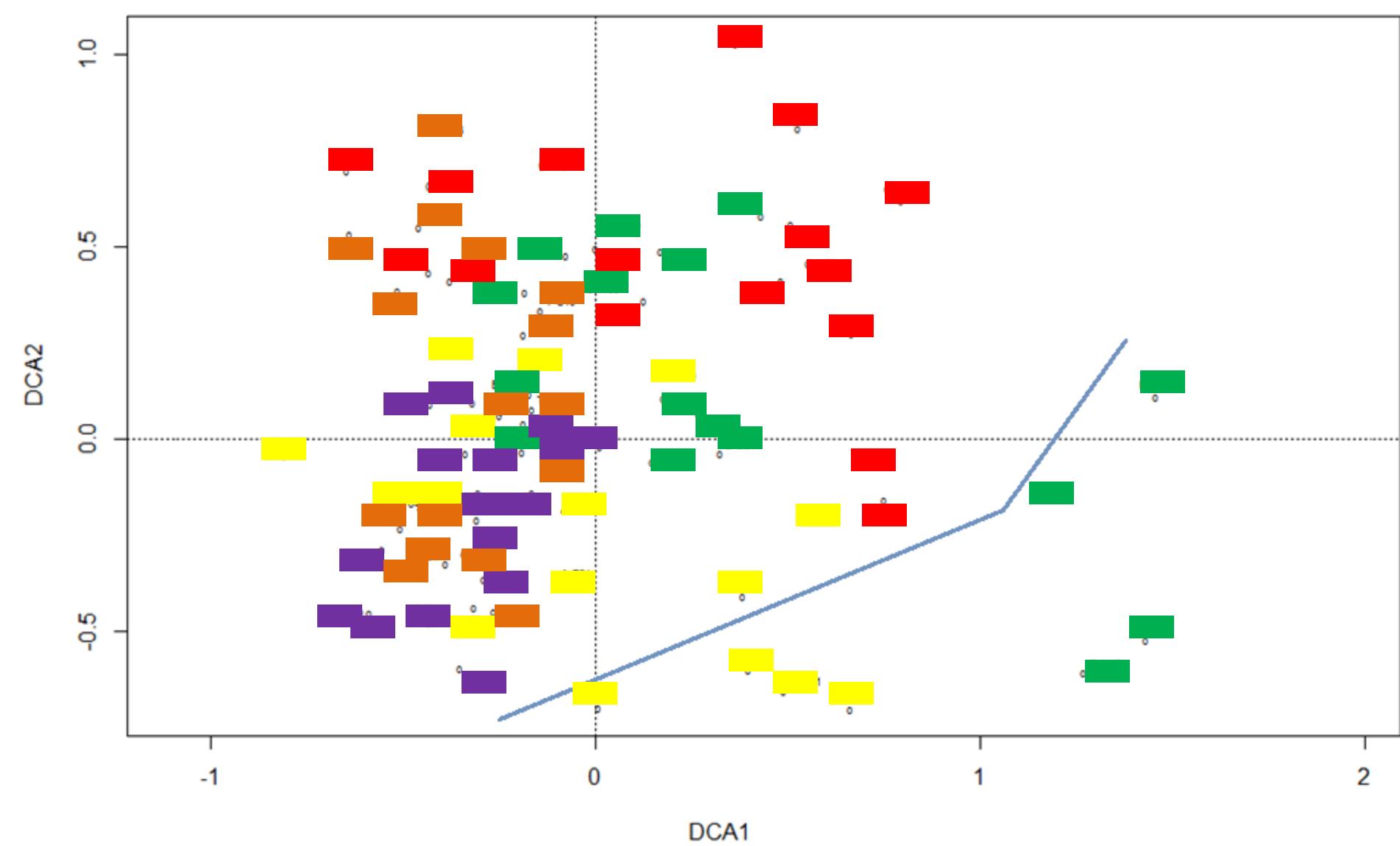
U8 (x4) *Carex bigelowii*-
Polytrichum alpinum
sedge-heath
U13 *Deschampsia cespitosa*-
Galium saxatile grassland

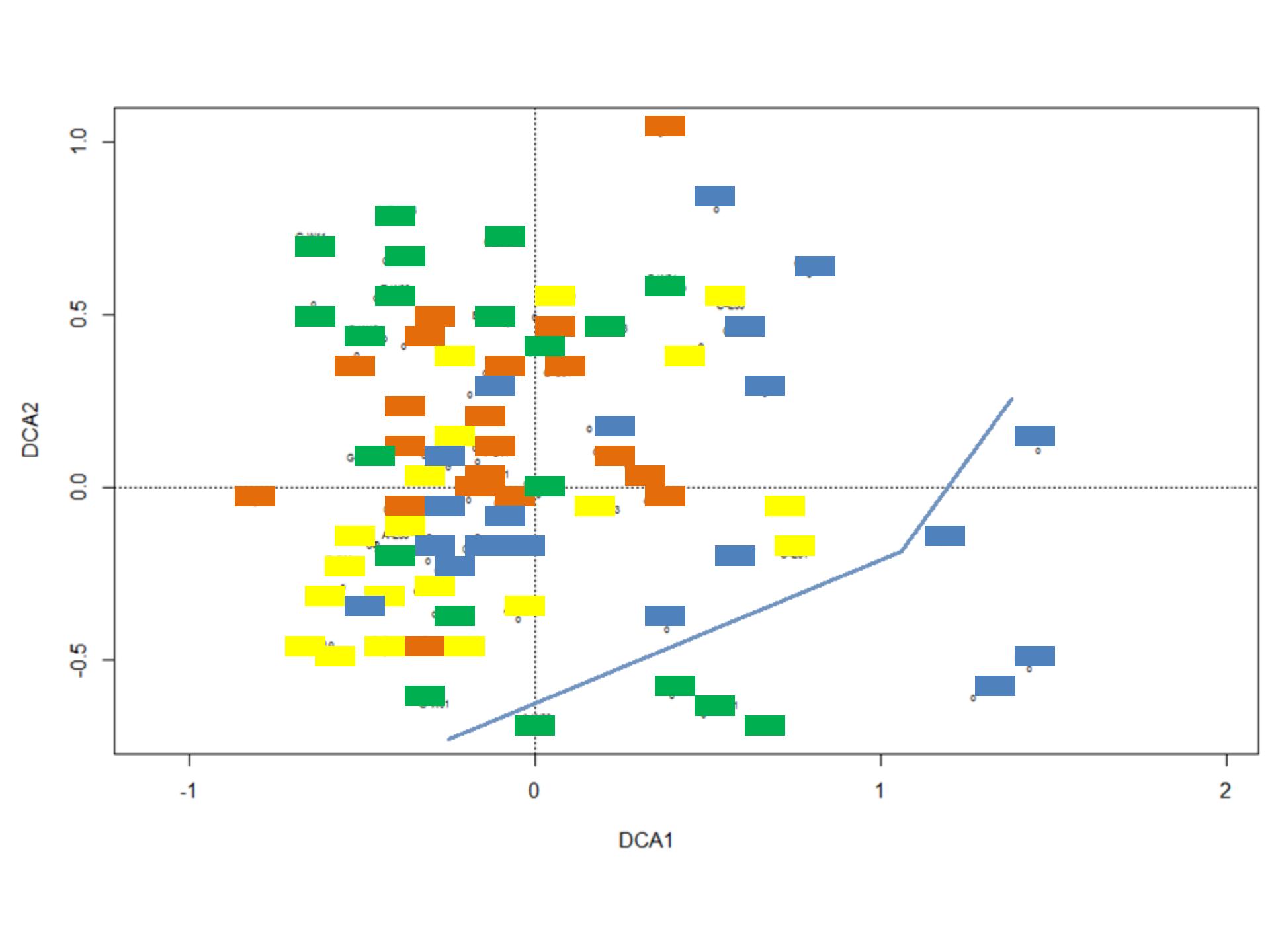


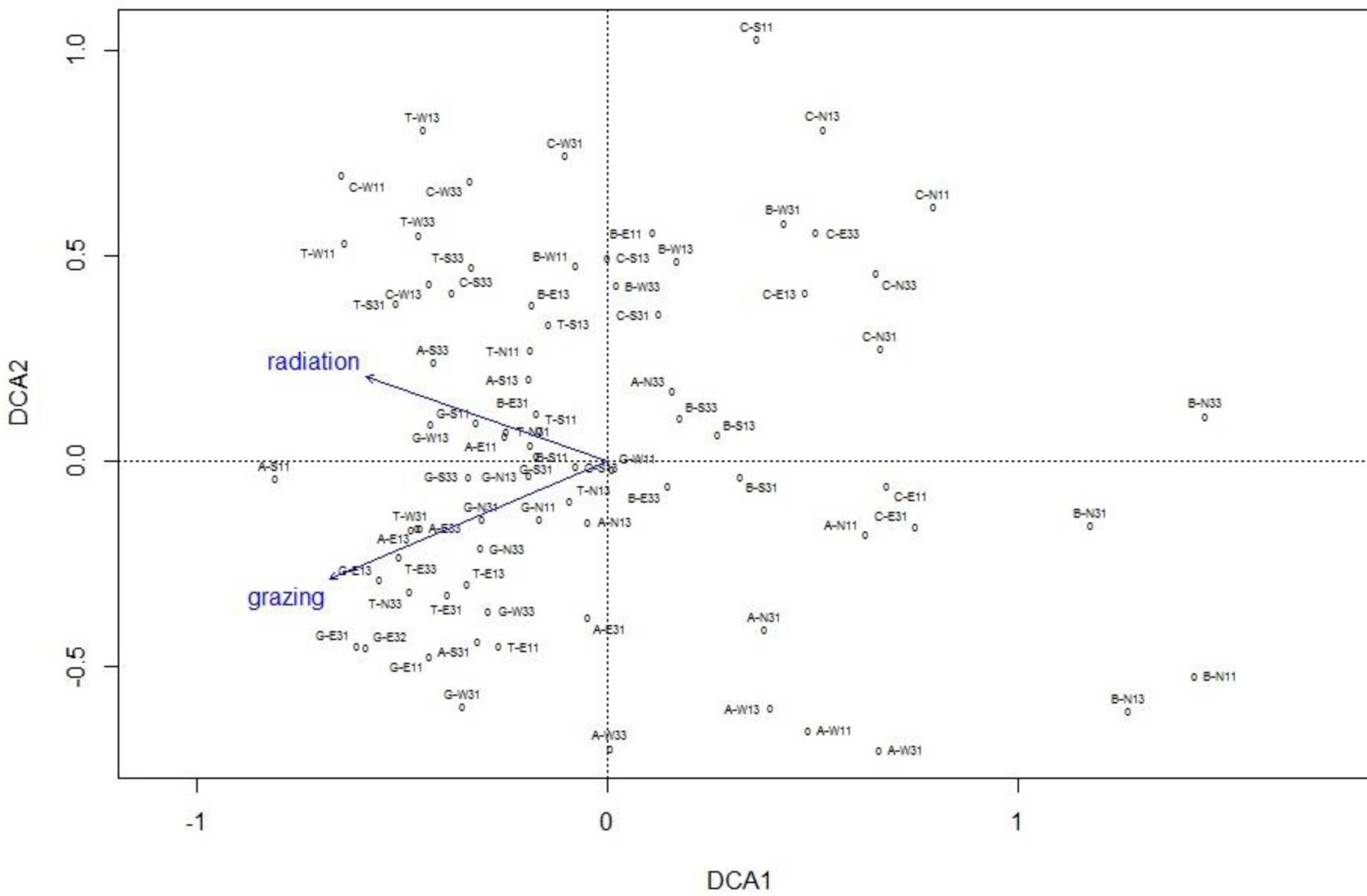
U8 (x5) *Carex bigelowii*-
Polytrichum alpinum
sedge-heath

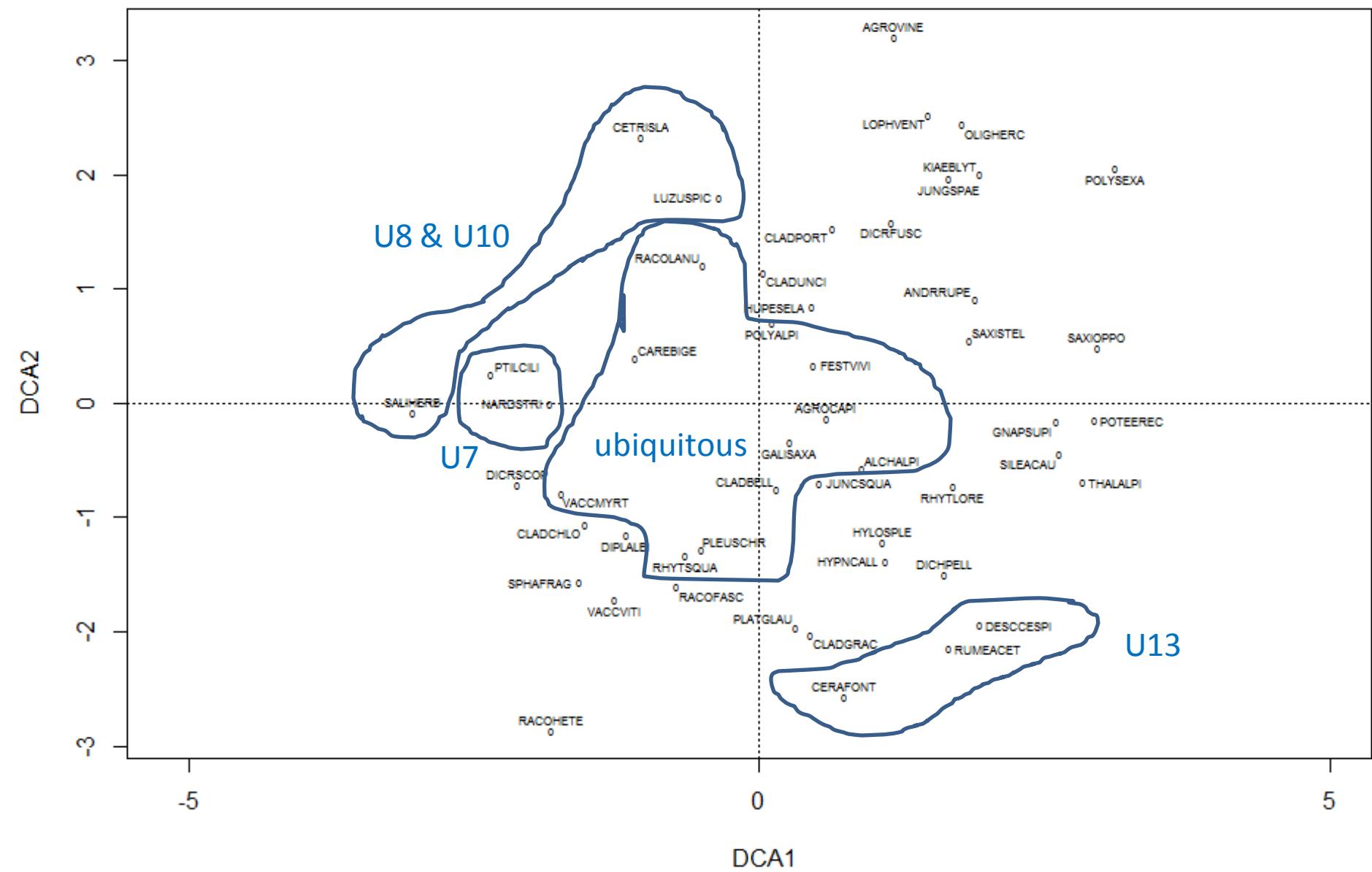
	<i>Agrostis capillaris</i>	<i>Alchemilla alpina</i>	<i>Andraea rupestris</i>	<i>Anthox. odoratum</i>	<i>Carex bigelowii</i>	→
An Stuc N11			3			4
An Stuc N13			4			5
...						
Beinn Ghlas S31	1		5	3		3
Beinn Ghlas S33	4		2			7

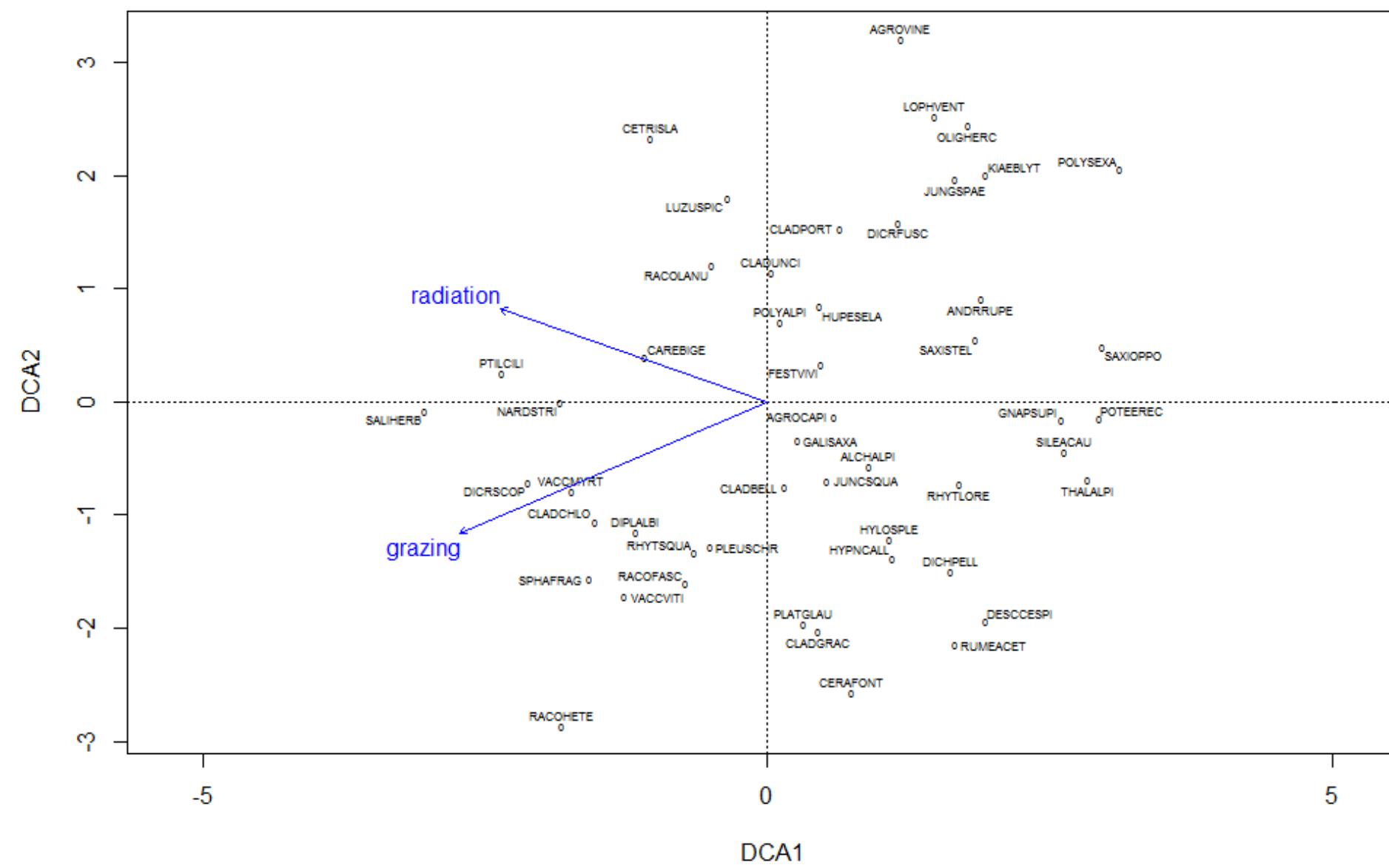




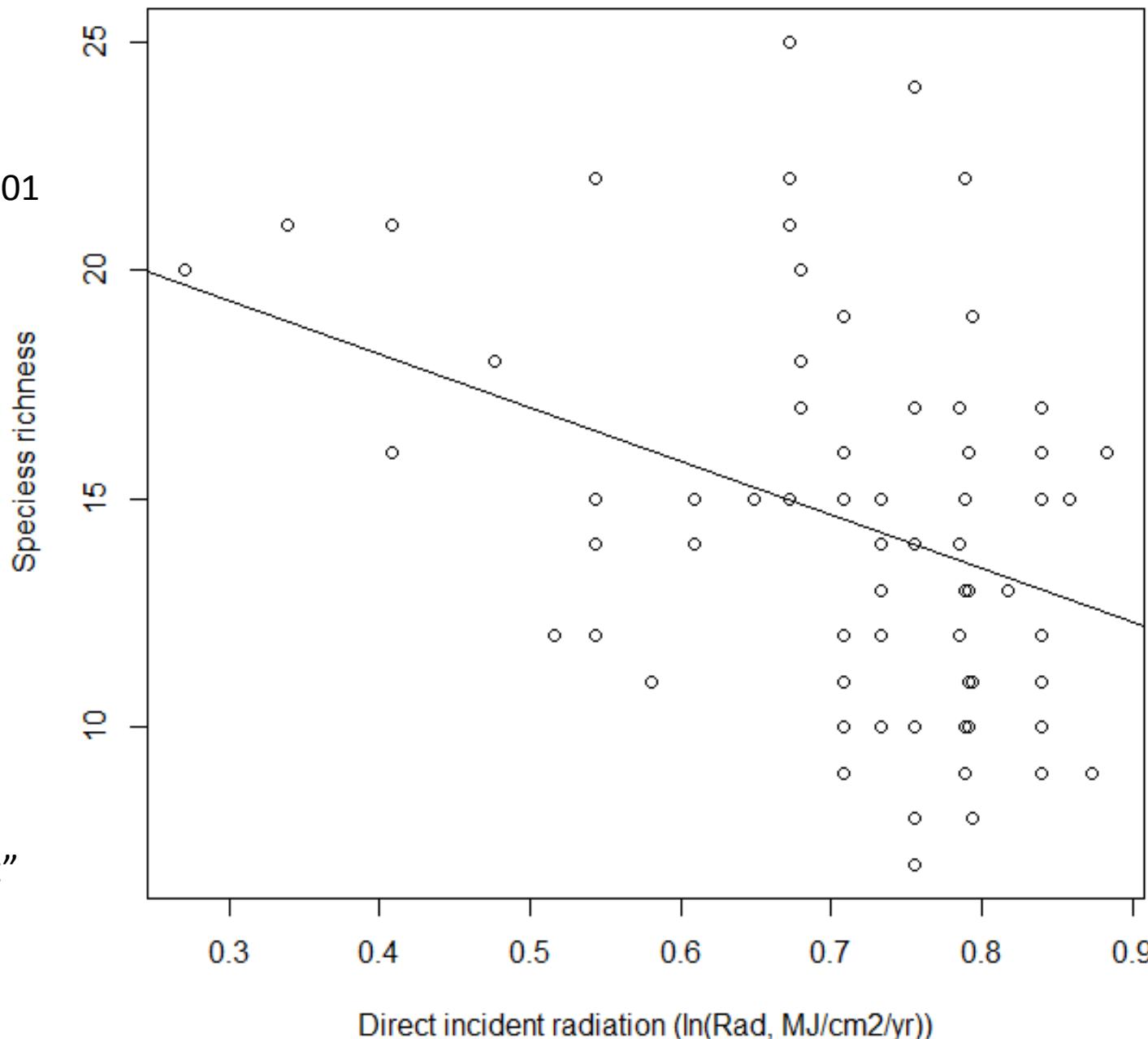


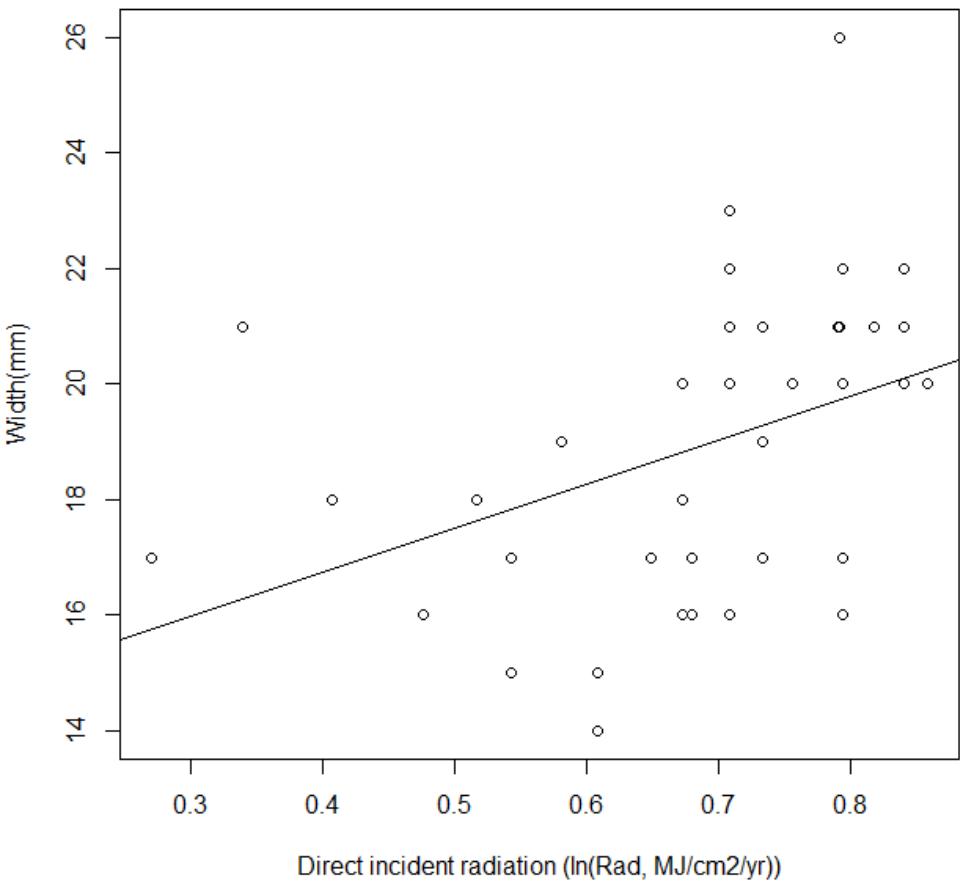






Linear regression
 $F=11.83$, $df=1,78$, $P<0.001$

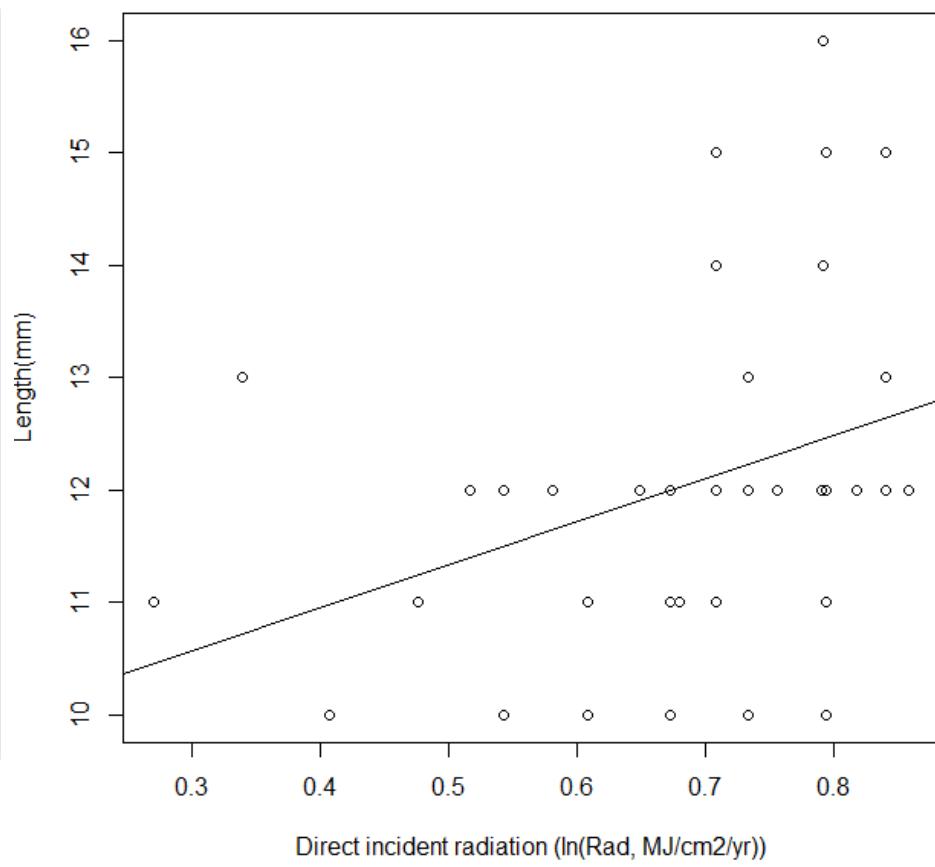




$F=8.4$, $df=1,39$, $P<0.01$

Increase in leaf dimensions (for each 0.1 unit increased) was 4% in width

17.72% of variation in the leaf width explained by incident radiation



$F=5.63$, $df=1,39$, $P<0.05$

Increase in leaf dimensions (for each 0.1 unit increased) was 3.33% in length.

12.62% of the variation in the leaf length explained by incident radiation

thank-you

Lindsay Mackinlay for ideas and design;
Janine Jaffrey, Sarah Watts and Raquel
Baraut Riu for assistance in the field



References

GLORIA summit survey method:

Pauli, H.; Gottfried, M.; Lamprecht, A.; Niessner, S.; Rumpf, S.; Winkler, M.; Steinbauer, K. and Grabherr, G., coordinating authors and editors (2015). *The GLORIA field manual – standard Multi-Summit approach, supplementary methods and extra approaches.* (5th edition) GLORIA-Coordination, Austrian Academy of Sciences & University of Natural Resources and Life Sciences, Vienna. http://www.gloria.ac.at/downloads/GLORIA-FIELDMANUAL_5thEd_2015_ONLINE.pdf

Radiation equations:

McCune, B., & Keon, D. (2002). Equations for potential annual direct incident radiation and heat load. *Journal of Vegetation Science*, 13(4), 603-606.

Vegetation community classification:

Rodwell, J. S. (ed.) 1992. British Plant Communities. Volume 3. *Grassland and montane communities*. Cambridge University Press.