

PUBLICATIONS

(Heinz Müller-Schärer, March 2017)

By March 2017, Heinz Müller-Schärer authored or co-authored 154 publications in internationally refereed journals with 5074 citations, h-index = 39 (28 since 2012) (google scholar), cf. <http://www.unifr.ch/ecology/groupmueller/publications> for full list of publications.

Original research articles

In press

Slodowicz, D., Kikodze, D., Khutsishvili, M., Kalatozishvili, L., Müller-Schärer, H. (2017). Monitoring invasive alien plants in Protected Areas in Georgia. Bulletin of the Georgian National Academy of Sciences, in press.

Slodowicz, D., Descombes, P., Kikodze, D., Broenimann, O., Müller-Schärer, H. (2017). Areas of high conservation value at risk by plant invaders in Georgia under climate change. Ecology and Evolution, in press.

Gentili R, Bonini M and Müller-Schärer H. La gestione di ambrosia ed i potenziali benefici e rischi di *Ophraella communa* in Nord-Italia: i ricercatori incontrano gli stakeholder. (English version: Ragweed management and the potential benefits and risks of *Ophraella communa* in Northern Italy: researchers meet their stakeholders). Notiziario della Società Botanica Italiana, in press.

Müller-Schärer H, Schaffner U and the COST-SMARTER Task Force Ophraella. 2017. COST-SMARTER and risk assessment of *Ophraella communa*. Notiziario della Società Botanica Italiana, in press.

Sun Y, Brönnimann O and Müller-Schärer H. 2017. Climatic suitability of the accidentally introduced leaf beetle *Ophraella communa* in Europe: a potential biological control candidate for ragweed. Notiziario della Società Botanica Italiana, in press.

Lommen STE, Augustinus BA, Schaffner U, Müller-Schärer H and the COST-SMARTER Task Force Ophraella, the COST-SMARTER Task Force Population Dynamics. 2017. Development and impact of *Ophraella communa* in Europe. Notiziario della Società Botanica Italiana, in press.

Lommen STE, Ciappetta S, Ghiani A, Asero R, Gentili R, Müller-Schärer H and Citterio S. 2017. Defoliation of common ragweed by *Ophraella communa* beetle does not affect pollen allergenicity in controlled conditions. Plant Biosystems, in press (<https://doi.org/10.1080/11263504.2016.1244122>)

Sun Y, Brönnimann O, Roderick GK, Poltavsky A, Lommen STE and Müller-Schärer H. 2017. Climatic suitability ranking of biological control candidates: a biogeographic approach for ragweed management in Europe. Ecosphere, in press.

Lommen STE, Jolidon EF, Sun Y, Bustamante Eduardo JI and Müller-Schärer, H. 2017. An early suitability assessment of two exotic *Ophraella* species (Coleoptera: Chrysomelidae) for biological control of invasive ragweed in Europe. European Journal of Entomology, 114: 160–169.

Published

Virag von A, Bon, MC, Closca C, Diaconu A, Haye T, Weiss RM, Müller-Schärer H, Hinz H. 2017. Phenology and temperature dependent development of *Ceutorhynchus assimilis*, a potential biological control agent for *Lepidium draba*. Journal of Applied Entomology, 141: 219-230.

Stutz S, Hinz HL, Konowalik K, Müller-Schärer H, Oberprieler Ch and Schaffner U. 2016. Ploidy level in the genus *Leucanthemum* correlates with resistance to a specialist herbivore. Ecosphere, 7(9): e01460.

Sun Y, Müller-Schärer H and Schaffner U. 2016. Neighbour origin and ploidy level drive impact of an alien invasive plant species in a competitive environment. *PLoS ONE*, 11(5): e0155712.

Stutz S, Štajerová K, Hinz HL, Müller-Schärer H and Schaffner U. 2016. Can enemy release explain the invasion success of the diploid *Leucanthemum vulgare* in North America? *Biological Invasions*, 18: 2077-2091.

Rosche Ch, Durka W, Hensen I, Mráz P, Hartmann M, Müller-Schärer H, Lachmuth S. 2016. The population genetics of the fundamental cytotype-shift in invasive *Centaurea stoebe* s.l.: genetic diversity, genetic differentiation and small-scale genetic structure differ between cytotypes but not between ranges. *Biological Invasions*, 18: 1895-1910.

Augustinus BA, Guarino MF, Colombo F, Citterio S, Schaffner U, Müller-Schärer H, Gentili R. 2015. Nuove segnalazioni di *Ambrosia artemisiifolia* e *Ophraella communa* in valtellina (Alpi Centrali, Lombardia). «NATURA BRESCIANA» Ann. Mus. Civ. Sc. Nat. Brescia, 2015, 39: 45-48

Bonini M, Šikoparija B, Prentovi M, Cislacchi G, Colombo P, Testoni C, Grewling L, Lommen S, Müller-Schärer H, Smith M. 2015. Brief communication: A follow-up study examining airborne Ambrosia pollen in the Milan area in 2014 in relation to the accidental introduction of the ragweed leaf beetle *Ophraella communa*. *Aerobiologia*, 32(2): 371–374.

Bonini M, Šikoparija B, Prentovi M, Cislacchi G, Colombo P, Testoni C, Grewling L, Lommen S, Müller-Schärer H, Smith M. 2015. Is the recent decrease of airborne Ambrosia pollen in the Milan area due to the accidental introduction of the ragweed leaf beetle *Ophraella communa*? *Aerobiologia* 31: 499–513. *Change The World, One Article At A Time (by Springer)- Best 2015 journal paper addressing the world's most pressing challenges.*

Essl F, Biro K, Brandes D, Broennimann O, Bullock, J, Chapman D, Chauvel B, Dullinger S, Fumanal B, Guisan A, Karrer G, Kazinczi G, Kueffer Ch, Laitung B, Lavoie C, Leitner M, Moser D, Müller-Schärer H, Petitpierre B, Richter R, Schaffner U, Smith M, Starfinger U, Vautard R, Vogl G, von der Lippe M, Follak S. 2015. Biological Flora of the British Isles: *Ambrosia artemisiifolia*. *Journal of Ecology*, 103: 1069–1098.

Sun Y, Müller-Schärer H, Maron JM, Schaffner U. 2015. Bio-geographic effects on early establishment of an invasive alien plant. *American Journal of Botany*, 104:1-5.

Sun Y, Müller-Schärer H, Maron JM, Schaffner U. 2015. Origin matters: diversity affects the performance of alien invasive species but not of native species. *The American Naturalist*, 185:725-736.

Thalmann DJK, Kikodze D, Khutsishvili M, Kharazishvili D, Guisan A, Broennimann O and Müller-Schärer H. 2014. Areas of high conservation value in Georgia: present and future threats by invasive alien plants. *Biological Invasions*, 17:1041-1054.

Müller-Schärer H, Lommen S. 2014. EU-COST Aktion über „Nachhaltige Bekämpfung von *Ambrosia artemisiifolia* in Europa“ (COST FA1203-SMARTER): Chancen und Herausforderungen. *Julius-Kühn-Archiv*, 445:148-155.

Mráz P, Tarbush E and Müller-Schärer H. 2014. Drought tolerance and plasticity in the invasive *Centaurea stoebe* s.l. (Asteraceae): effect of populations stronger than those of cytotype and range. *Annals of Botany*, 289-299.

Sun Y, Müller-Schärer H and Schaffner U. 2014. Plant neighbours rather than soil biota determine impact of an alien plant invader. *Functional Ecology*, 28: 1545- 1555.

Müller-Schärer H, Lommen STE, Rosellini M, Bonini M, Boriani M, Bosio G, Schaffner U. 2014. The ragweed leaf beetle has successfully landed in Europe: fortunate coincidence or threat? *Weed Research*, 54: 109-119.

Broennimann O, Mráz P, Petitpierre B, Guisan A and Müller-Schärer H. 2014. Contrasting spatio-temporal climatic niche dynamics during the eastern and western invasions of spotted knapweed in North America. *Journal of Biogeography*, 41: 1126-1136.

Boriani M, Calvi M, Taddei A, Tantardini A, Cavagna B, Spadoni Andreani F, Montagna M, Lommen S, Müller-Schärer H. 2013. *Ophraella communa* segnalata in Italia su *Ambrosia*, L'Informatore agrario 34, 2. (in Italian)

- Sun Y, Collins AR, Schaffner U and Müller-Schärer H. 2013. Dissecting impact of plant invaders: do invaders behave differently in the new range? *Ecology* 94, 2124–2130.
- Hahn MA, Lanz T, Fasel D and Müller-Schärer H. 2013. Increased seed survival and seedling emergence in a polyploid plant invader. *American Journal of Botany* 100, 1555-1561.
- Hahn MA and Müller-Schärer H. 2013. Cytotype differences modulate eco-geographical differentiation in the widespread plant *Centaurea stoebe*. *Ecology* 94, 1005–1014.
- Maron JL, Waller LP, Hahn MA, Diaconu A, Pal RW, Müller-Schärer H, Klironomos JN and Callaway RM. 2013. Effects of soil fungi, disturbance, and propagule pressure on exotic plant recruitment and establishment at home and abroad. *Journal of Ecology* 101, 924-932.
- Collins AR, Thalmann D and Müller-Schärer H. 2013. Cytotypes of *Centaurea stoebe* found to differ in root growth using growth pouches. *Weed Research* 53, 159-163.
- Asadi G, Ghorbani G, Karimi J, Bagheri A, and Mueller-Schaerer, H. 2013. Host impact and specificity of tortoise beetle (*Cassida rubiginosa*) on Canada thistle (*Cirsium arvense*) in Iran, *Weed Technology*, 27, 405-411.
- Eschen R, Müller-Schärer H and Schaffner U. 2013. Plant interspecific differences in arbuscular mycorrhizal colonization as a result of soil carbon addition. *Mycorrhiza* 23, 61-70.
- Hahn MA, van Kleunen M and Müller-Schärer H. 2012. Increased phenotypic plasticity to climate may have boosted the invasion success of polyploid *Centaurea stoebe*. *PLoS ONE* 7 (11) e50284
- Hahn MA, Buckley YM and Müller-Schärer, H. 2012. Increased population growth rate in invasive polyploid *Centaurea stoebe* in a common garden. *Ecology Letters* 15, 947-954.
- Mráz P, Španiel S, Keller A, Bowmann G, Farkas A, Šingliarová B, Rohr RP, Broennimann O and Müller-Schärer H. 2012. Anthropogenic disturbance as a driver of microspatial and microhabitat segregation of cytotypes of *Centaurea stoebe* and cytotypic interactions in secondary contact zones. *Annals of Botany* 110, 615-627.
- Mráz P, Garcia-Jacas N, Gex-Farbry E, Susanna A, Barres L and Müller-Schärer H. 2012. Allopolyploid origin of highly invasive *Centaurea stoebe* s.l. (Asteraceae). *Molecular Phylogenetics and Evolution*, 62, 612-623.
- Collins AR and Müller-Schärer H. 2012. Influence of plant phenostage and ploidy level on oviposition and feeding of two specialist herbivores of spotted knapweed, *Centaurea stoebe*. *Biological Control* 60: 148-153.
- Collins AR, Naderi R and Müller-Schärer H. 2011. Competition between cytotypes changes across a longitudinal gradient in *Centaurea stoebe* L. (Asteraceae). 2011. *American Journal of Botany*, 98: 1935–1942.
- Callaway RM, Waller LP, Diaconu A, Pal, R, Collins AR, Mueller-Schaerer H, Maron JL. 2011. Escape from competition: neighbors reduce *C. stoebe* performance at home but not away., *Ecology* 92:2208–2213.
- Gerber, E, Schaffner U, Gassmann A, Hinz, HL, Seier M and Müller-Schärer H. 2011. Prospects for biological control of *Ambrosia artemisiifolia* in Europe: learning from the past. *Weed Research*, 51, 559-573.
- Simberloff D. et al. 2011. Non-natives: 141 scientists object. *Nature (Correspondence)* 475, 36.
- Treier UA and Müller-Schärer, H. 2011. Differential effects of historical migration, glaciations, and human impact on the genetic structure and diversity of the mountain pasture weed *Veratrum album* L. *Journal of Biogeography*, 38, 1776–1791.
- Schaffner U, Ridenour WM, Wolf VC, Bassett T, Caroline Müller C, Müller-Schärer H, Sutherland S, Lortie CJ, and Callaway RM. 2011. Plant invasions, generalist herbivores, and novel defense weapons. *Ecology* 92 (4), 829-835.
- Mráz P, Bouchier R, Treier U, Schaffner U, Müller-Schärer H. 2011. Polyploidy in phenotypic space and invasion context: a morphometric study of *Centaurea stoebe*. *International Journal of Plant Sciences* 172 (3), 386-402.

Thébault A, Gillet F, Müller-Schärer, H and Buttler A. 2011. Polyploidy and invasion success: trait trade-offs in native and introduced cytotypes of two Asteraceae species. *Plant Ecology* 212, 315-325.

Henery ML, Bowman G, Mráz P, Treier, UA, Gex-Fabry E, Schaffner, U and Müller-Schärer H. 2010. Evidence for a combination of pre-adapted traits and rapid adaptive change in the invasive plant *Centaurea stoebe*. *Journal of Ecology* 98, 800-813.

Rapo C, Müller-Schärer H, Vrieling K and Schaffner U. 2010. Is there rapid evolutionary response in introduced populations of tansy ragwort, *Jacobaea vulgaris*, when exposed to biological control?" *Journal of Evolutionary Ecology*, 24, 1081-1099.

Crémieux L, Bischoff A, Müller-Schärer H and Steinger T. 2010. Gene flow from foreign provenances into local plant populations: fitness consequences and implications for biodiversity restoration. *American Journal of Botany* 97, 94-100.

Bischoff A and Müller-Schärer H. 2010. Testing population differentiation in plant species: how important are environmental maternal effects. *Oikos* 119, 445-454.

Spiegelberger T, Müller-Schärer, H., Matthies, D. and Schaffner, U. 2009. Sawdust addition reduces the productivity of nitrogen-enriched mountain grasslands. *Restoration Ecology* 17 (6), 865-872.

Broz AK, Manter, DK, Bowman G, Müller-Schärer H and Vivanco, JM. 2009. Plant origin and ploidy influence gene expression and life cycle characteristics in an invasive weed. *BMC Plant Biology* 9:33 (doi:10.1186/1471-2229-9-3380)

Eschen R, Müller-Schärer H & Schaffner U. 2009. Aboveground environment type, soil nutrient content and arbuscular mycorrhizal fungi explain establishment success of *Centaurea jacea* on ex-arable land and in late-successional grasslands. *Plant and Soil* 322, 115-123.

Treier, U.A., Broennimann, O., Normand, S., Guisan, A., Schaffner, U., Steinger, T. and Müller-Schärer, H. 2009. Shift in cytotype frequency and niche space in the invasive plant *Centaurea maculosa*. *Ecology* 90 (5), 1366-1377.

Hesse, E., Rees, M. and Müller-Schärer, H. 2008. Life history variation in contrasting habitats: flowering decisions in a clonal perennial herb (*Veratrum album*). *The American Naturalist* 172, E196-E213 (selected for Faculty of 1000 Biology: <http://www.f1000biology.com/article/id/1158050/evaluation>)

Crémieux, L., Bischoff, A., Šmilauerová, M., Lawson, C.S., Mortimer, S.R., Doležal, J., Lanta, V., Edwards, A.R., Brook, A.J., Tscheulin, T., Macel, M., Lepš, J., Müller-Schärer, H. and Steinger, T. 2008. Potential contribution of natural enemies to patterns of local adaptation in plants. *New Phytologist* 180, 524–533.

Müller-Schärer, H. and Schaffner, U. 2008. Classical biological control: exploiting enemy escape to manage plant invasions. *Biological Invasions* 10, 859-874.

Bischoff, A., Steinger, T. and Müller-Schärer, H. 2008. The importance of plant provenance and genotypic diversity of seed material used for ecological restoration. *Restoration Ecology*, 18, 338-348.

Salzmann, Handley, R. J. and Müller-Schärer, H. 2008. Functional significance of triazine-herbicide resistance in defence of *Senecio vulgaris* against a rust fungus. *Basic and Applied Ecology* 9, 577-587.

Handley, R. J., Steinger, T., Treier U. A. and Müller-Schärer, H. 2008. Testing the Evolution of Increased Competitive Ability (EICA) hypothesis in a novel framework. *Ecology* 89, 407-417.

Broennimann, O., Treier, U.A, Müller-Schärer, H., Thuiller, W., Peterson, A.T. & Guisan, A. 2007. Evidence of climatic niche shift during biological invasion. *Ecology Letters* 10, 701-709.

Smit, C., Vandenberghe, C., den Ouden, J. and Müller-Schärer, H. 2007. Nurse plants, tree saplings and grazing pressure: changes in facilitation along a biotic environmental gradient. *Oecologia* 152, 265-273.

Hesse, E., Rees, M. and Müller-Schärer, H. 2007. Seed bank persistence of clonal weeds in contrasting habitats: implications for control. *Plant Ecology* 190, 233-243.

Macel, M., Lawson, C.S., Mortimer, S.R., Šmilauerova, M., Bischoff, A., Crémieux, L., Doležal, J., Edwards, A.R., Lanta, V., Bezemer, T.M., van der Putten, W.H. Igual, J.M., Rodriguez-Barrueco, C., Müller-Schärer, H. and Steinger, T. 2007. Climate versus soil factors in local adaptation of two common plant species. *Ecology* 88, 424-433.

Smit, C., Gusberty, M. and Müller-Schärer, H. 2006. Safe for tree saplings, safe for seeds? *Forest Ecology and Management* 237, 471-477.

Gvritishvili, M., Kikodze, D. and Müller-Schärer, H. 2006. Preliminary data on fungal antagonists of False Hellebore (*Veratrum album* ssp. *lobellianum*) in Georgia and their potential as effective biocontrol agents. *Proc. Georgian Acad. Sci. Biol. Ser. B.*, 110-113.

Bischoff, A., Crémieux, L., Smilauerova, M., Lawson, C. L., Mortimer, S.R., Dolezal, J, Lanta, V, Edwards, E.A., Brook, A.J., Macel, M, Leps, J., Steinger, T. and Müller-Schärer, H. 2006. Detecting local adaptation in widespread grassland species – the importance of scale and local plant community. *Journal of Ecology* 94, 1130-1142.

Kleijn, D. and Müller-Schärer, H. 2006. The relation between unpalatable species, nutrients and plant species richness in Swiss montane pastures. *Biodiversity and Conservation* 15, 3971-3982.

Spiegelberger, T., Matthies, D., Müller-Schärer, H., Schaffner, U. 2006. Scale-dependent effects of land use on plant species richness of mountain grassland in the European Alps. *Ecography* 29, 541-548.

Bischoff, A., Vonlanthen, B., Steinger, T. and Müller-Schärer, H. 2006. Seed provenance matters – effects on germination of four plant species used for ecological restoration on arable land. *Basic and Applied Ecology* 7, 347-359.

Frantzen, J. and Müller-Schärer, H., 2006. Modeling the impact of a biocontrol agent, *Puccinia lagenophorae*, on interactions between a crop, *Daucus carota*, and a weed. *Biological Control* 37, 301-306.

Smit, C., den Ouden, J. and Müller-Schärer, H. 2006. Unpalatable plants facilitate tree sapling survival in wooded pastures. *Journal of Applied Ecology* 43. 305-312. .

Eschen, R., Müller-Schärer, H. and Schaffner, U. 2006. Soil carbon addition affects growth of plants in a species-specific way. *Journal of Applied Ecology* 43, 35-42.

Smit, C., Béguin, D., Buttler, A. and Müller-Schärer, H. 2005. Safe sites for tree regeneration in wooded pastures: A case of associational resistance? *Journal of Vegetation Science* 16, 209-214.

Kleijn, D., Treier, U. and Müller-Schärer, H., 2005. The importance of nitrogen and carbohydrate storage for plant growth of the alpine herb *Veratrum album*. *New Phytologist* 166, 565-575.

Müller-Schärer, H., Schaffner, U. and Steinger, T. 2004. Evolution in invasive plants: implications for biological control. *Trends in Ecology and Evolution* 19, 417-422.

Müller-Schärer, H., Lässig, R., Hirsch Hadorn, G. 2003. Interdisziplinärität auf dem Prüfstand. *GAIA* 12 (4), 241-242.

Haldimann P., Steinger, T. and Müller-Schärer, 2003. H. Low genetic differentiation among seasonal generations in *Senecio vulgaris* as revealed by AFLP analysis. *Molecular Ecology* 12, 2541-2551.

Grace, B. S. and Müller-Schärer, H., 2003. Managing crop-weed interactions: Biological control of *Senecio vulgaris* in carrots (*Daucus carota*) with the rust fungus *Puccinia lagenophorae*, *Basic and Applied Ecology* 4, 375-384.

Steinger, T., Haldimann, P., Leiss, K. and Müller-Schärer, H., 2002. Does natural selection promote population divergence? A comparative analysis of population structure using amplified fragment length polymorphism markers and quantitative traits. *Molecular Ecology* 11: 2583-2590

Frantzen, J., Rossi, F. and Müller-Schärer, H., 2002. Integration of biological control of *Senecio vulgaris* into chemical weed control. *Weed Science*, 50, 787-793.

Schaffner, U., Kleijn, D., Brown, V. and Müller-Schärer, H., 2001. *Veratrum album* in montane grasslands: a model system for implementing biological control in land management practices of high biodiversity habitats. *Biocontrol News and Information* 22 (1), 19N-28N.

Scheepens, P. C., Müller-Schärer, H. and Kempenaar, C., 2001. Opportunities for biological weed control in Europe. *BioControl* 46 (2), 127-138.

Leiss, K. A., Müller-Schärer, H., 2001. Adaptation of *Senecio vulgaris* (Asteraceae) to ruderal and agricultural habitats. *American Journal of Botany* 88, 1593-1599.

Leiss, K. A., Müller-Schärer, H., 2001. Performance of reciprocally sown populations of *Senecio vulgaris* from ruderal and agricultural habitats. *Oecologia* 128, 210-216.

Frischknecht, P. M., Schuhmacher, K., Müller-Schärer, H. and Baumann, T. W., 2001. Phenotypic plasticity of *Senecio vulgaris*: from contrasting habitat types: growth and pyrrolizidine alkaloid formation. *Journal of Chemical Ecology* 27 (2), 343-358.

Frantzen, J. Paul, N. D. and Müller-Schärer, H., 2001. The system management approach of biological weed control: some theoretical considerations and aspects of application. *BioControl* 46 (2), 139-155.

Leiss, K. A., Müller-Schärer, H., 2001. Population dynamics of the annual plant *Senecio vulgaris* in ruderal and agricultural habitats. *Basic and Applied Ecology* 2, 53-64.

Wyss, G. S. and Müller-Schärer, H., 2001. Effects of selected herbicides on the germination and infection process of *Puccinia lagenophorae*, a biocontrol agent of *Senecio vulgaris*. *Biological Control* 20, 160-166.

Müller-Schärer, H. and Fischer, M., 2001. Genetic structure of *Senecio vulgaris* in relation to habitat type and population size. *Molecular Ecology* 10, 17-28.

Hinz, H. L. and Müller-Schärer, H., 2000. Suitability of two root-mining weevils for the biological control of scentless chamomile, *Tripleurospermum perforatum*, with special regard to potential non-target effects. *Bulletin of Entomological Research* 90 497-508.

Hinz, H. L. and Müller-Schärer, H., 2000. Influence of host condition on the performance of *Rhopalomyia* n. sp. (Diptera: Cecidomyiidae), a biological control agent for scentless chamomile, *Tripleurospermum perforatum*. *Biological Control*, 18, 147-156.

Müller-Schärer, H., Scheepens, P. C. and Greaves, M. P., 2000. Biological control of weeds in European crops: recent achievements and future work. *Weed Research* 40, 83-98.

Guadagnini, M., Herzig, R., Erismann, K. H. und Müller-Schärer, H., 1999. In-vitro-Züchtung, Selektion und Erprobung von metall-akkumulierenden Tabakvarianten zur Bodensanierung. *TerraTech* 6, 52-54.

Wyss, E., Villiger, M. and Müller-Schärer, H., 1999. The potential of three native insect predators to control the rosy apple aphid, *Dysaphis plantaginea*. *BioControl* 44, 171-182.

Wyss, G. S. and Müller-Schärer, H., 1999. Infection process and resistance in the weed pathosystem *Senecio vulgaris* - *Puccinia lagenophorae* and implications for biological control. *Canadian Journal of Botany* 77, 361-369.

Frey, J. E., Müller-Schärer, H., Frey, B. and Frei, D., 1999. Complex relation between triazine susceptible phenotype and genotype in the weed *Senecio vulgaris* may be caused by chloroplast DNA polymorphism. *Theoretical and Applied Genetics* 99, 578-586.

Frantzen, J. and Müller-Schärer, H., 1999. Wintering of the biotrophic fungus *Puccinia lagenophorae* within the annual plant *Senecio vulgaris*: implications for biological weed control. *Plant Pathology* 48, 483-490.

Ammon, H. U. and Müller-Schärer, H., 1999. Prospects for combining biological weed control with integrated crop production systems, and with sensitive management of alpine pastures in Switzerland. *Journal of Plant Diseases and Protection* 106 (2), 213-220.

Wyss, E., Villiger, M., Hemptinne, J.-L. and Müller-Schärer, H., 1999. Effects of augmentative releases of eggs and larvae of the ladybird beetle, *Adalia bipunctata*, on the abundance of the rosy apple aphid, *Dysaphis plantaginea*, in organic apple orchards. *Entomologia Experimentalis et Applicata* 90, 167-173

- Guadagnini, M., Herzig, R., Erismann, K. H. und Müller-Schärer, H., 1998. Im Labor gezüchtete Pflanzen für die Bodensanierung. *BioWorld* 3, 3-6.
- Frantzen, J. and Müller-Schärer, H., 1998. A theory relating focal epidemics to crop-weed interactions. *Phytopathology* 88, 180-184.
- Müller-Schärer, H. and Rieger, S., 1998. Epidemic spread of the rust fungus *Puccinia lagenophorae* and its impact on the competitive ability of *Senecio vulgaris* in celeriac during early development. *Biocontrol Science and Technology*, 8 59-72.
- Weiner, J., Martinez, S., Müller-Schärer, H., Stoll, P. and Schmid, B., 1997. How important are environmental maternal effects in plants? a study with *Centaurea maculosa*. *Journal of Ecology* 85, 133-142.
- Müller-Schärer, H. and Scheepens, P. C., 1997. Biological control of weeds in crops: a coordinated European research programme (COST-816). *Integrated Pest Management Reviews* 2 (2) 45-50.
- Müller-Schärer, H. and Frantzen, J., 1996. An emerging system management approach for biological weed control in crops: *Senecio vulgaris* as a research model. *Weed Research* 36, 483-491.
- Müller-Schärer, H., 1996. Interplanting ryegrass in winter leek: effect on weed control, crop yield and allocation of N-fertiliser. *Crop Protection*, 15, 641-648.
- Müller-Schärer, H. and Brown, V. K., 1995. Direct and indirect effects of above- and below-ground insect herbivory on plant density and performance of *Tripleurospermum perforatum* during early plant succession. *Oikos* 72, 36-41.
- Saner, M. A., Jeanneret, P. and Müller-Schärer, H., 1994. Interaction among two biological control agents and the developmental stage of their target weed dalmatian toadflax *Linaria dalmatica* (L.) Mill. (Scrophulariaceae). *Biocontrol Science and Technology* 4, 215-222.
- Saner, M. A. and Müller-Schärer, H., 1994. Impact of root mining by *Eteobalea* spp. on clonal growth and sexual reproduction of common toadflax, *Linaria vulgaris* Mill. *Weed Research* 34, 199-204.
- Landau, I., Müller-Schärer, H. and Ward, P. I., 1994. Influence of cnicin, a sesquiterpene lactone of *Centaurea maculosa* (Asteraceae) on specialist and generalist insect herbivores. *Journal of Chemical Ecology* 20, 929-942.
- Müller-Schärer, H. und Wyss, G. S., 1994. Das Gemeine Kreuzkraut (*Senecio vulgaris* L.): Problemunkrautart und Möglichkeiten der biologischen Bekämpfung. *Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz, Sonderheft XIV*, 201-209.
- Schroeder, D., Müller-Schärer, H. and Stinson, C. S. A., 1993. A European weed survey in ten major crop systems to identify targets for biological control. *Weed Research* 33, 449-458.
- Müller-Schärer, H. and Schroeder, D., 1993. The biological control of *Centaurea* spp. in North America: do insects solve the problem? *Pesticide Science* 37, 343-353.
- Steinger, T. and Müller, H., 1992. Physiological and growth responses of *Centaurea maculosa* (Asteraceae) to root herbivory under varying levels of interspecific plant competition and soil nitrogen availability. *Oecologia* 91, 141-149
- Müller-Schärer, H., Lewinsohn, T. M. and J. H. Lawton., 1991. Searching for weed biocontrol agents: when to move on? *Biocontrol Science and Technology* 1, 271-280.
- Müller-Schärer, H., Lehr, C., Klein, M. and Marquardt, K., 1991. Gel- electrophoretic description of European populations of *Terellia virens* (Loew) (Dip.: Tephritidae), and implications for its use as biological control agent of *Centaurea* spp. (Asteraceae) in North America. *Experientia* 47, 859-864.
- Müller-Schärer, H., 1991. The impact of root herbivory as a function of plant density and competition: survival, growth and fecundity of *Centaurea maculosa* (Compositae) in field plots. *Journal of Applied Ecology* 28, 759-776.
- Müller, H., Nuessly, G. S. and Goeden, R. D., 1990. Natural enemies and host-plant asynchrony contributing to the failure of the introduced moth *Coleophora parthenica* Meyrick

(Lepidoptera: Coleophoridae) to control Russian thistle. *Agriculture, Ecosystems and Environment* 32, 133-142.

Müller, H. and Goeden, R. D., 1990. Parasitoids acquired by *Coleophora parthenica* (Lepidoptera: Coleophoridae), ten years after its introduction into Southern California for the biological control of Russian thistle. *Entomophaga* 35, 257-268.

Müller, H., Stinson, C. S. A., Marquardt, K., and Schröder, D., 1989. The entomofaunas of roots of *Centaurea maculosa* Lam., *C. diffusa* Lam. and *C. vallesiaca* Jordan in Europe: Niche separation in space and time. *Journal of Applied Entomology* 107, 83-95.

Müller, H., 1989. Growth pattern of diploid and tetraploid spotted knapweed, *Centaurea maculosa* Lam. (Compositae) and effects of the root-mining moth *Agapeta zoegana* (L.) (Lep.: Cochylidae). *Weed Research* 29, 103-111.

Müller, H., 1989. Structural analysis of the phytophagous insect guilds associated with the roots of *Centaurea maculosa* Lam., *C. diffusa* Lam., and *C. vallesiaca* Jordan in Europe: 1. Field observations. *Oecologia* 78, 41-52.

Müller, H., Schröder, D. and Gassmann, A., 1988. *Agapeta zoegana* (L.) (Lep. Cochylidae), a suitable prospect for biological control of spotted and diffuse knapweed, *Centaurea maculosa* Lam. and *C. diffusa* Lam. (Compositae) in Canada. *The Canadian Entomologist* 120, 109-124.

Goeden, R. D., Ricker, D. W. and Müller, H., 1987. Introduction, recovery, and limited establishment of *Coleophora klimeschiella* (Lepidoptera: Coleophoridae) on Russian thistles, *Salsola australis*, in Southern California. *Environmental Entomology* 16, 1027-1029.

Toth, M., Guerin, P. M., Buser, H.-R., Müller, H., Scocs, G., Sciraki, G. and Arn, H., 1985. Z-11-Tetradecenyl acetate: Sex attractant of *Agapeta zoegana* (Lep. Tortricidae), a potential species for the biological control of knapweed. *The Canadian Entomologist* 117, 1163-1165.

Müller, H., 1983. Untersuchungen zur Eignung von *Stenodes straminea* Haw. (Lep Cochylidae) für die biologische Bekämpfung von *Centaurea maculosa* Lam. (Gefleckte Flockenblume) (Compositae) in Kanada. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 56, 329-342.

Book chapters or books

Müller-Schärer H and Collins AR. 2012. Principles of Integrated Pest Management with Emphasis on Weeds. Encyclopedia of Environmental Management (ed. Jorgensen, S.E.) Taylor and Francis, New York.

Müller-Schärer, H., Steinger, T. 2004. Predicting evolutionary change in invasive, exotic plants and its consequences for plant-herbivore interactions, In: Genetics, Evolution and Biological Control (edited by L. E. Ehler, R. Sforza and T. Maitelle). CABI Publishing, Wallingford, UK, 137-162.

Müller-Schärer, H., 2002. Biologische Verfahren. In: Unkraut: Biologie und Bekämpfung (P. Zwerger und H. U. Ammon, eds.) Ulmer Verlag, Stuttgart, 118-131.

Müller-Schärer, H., 2002. Principles of integrated pest management with emphasis on weeds. In: Encyclopedia of Pest Management, (ed. Pimentel D), Marcel Dekker, Inc., New York.

Müller, H., 1991. Pflanzenreaktionen auf Wurzelherbivoren - Variationen, Ursachen und Mechanismen: Experimente an zweijährigen Kompositen. In: Populationsbiologie der Pflanzen (B. Schmid and J. Stöcklin, eds.). Birkhäuser Verlag Basel; chapter 17: 281-297.

Reports

Kikodze, D., Memiadze, N., Kharazishvili, D., Manvelidze, Z. and H. Müller-Schärer. 2010. The alien flora of Georgia, by the Federal Office of Environment; Swiss National Science Foundations (SCOPES), Georgian Ministry of the Environment; 40pp.