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Methodology of forest insect and disease survey in central Europe "Fluctuation of Insects and Diseases"

WORKING PARTY MEETING

S. Michele all'Adige, Italy

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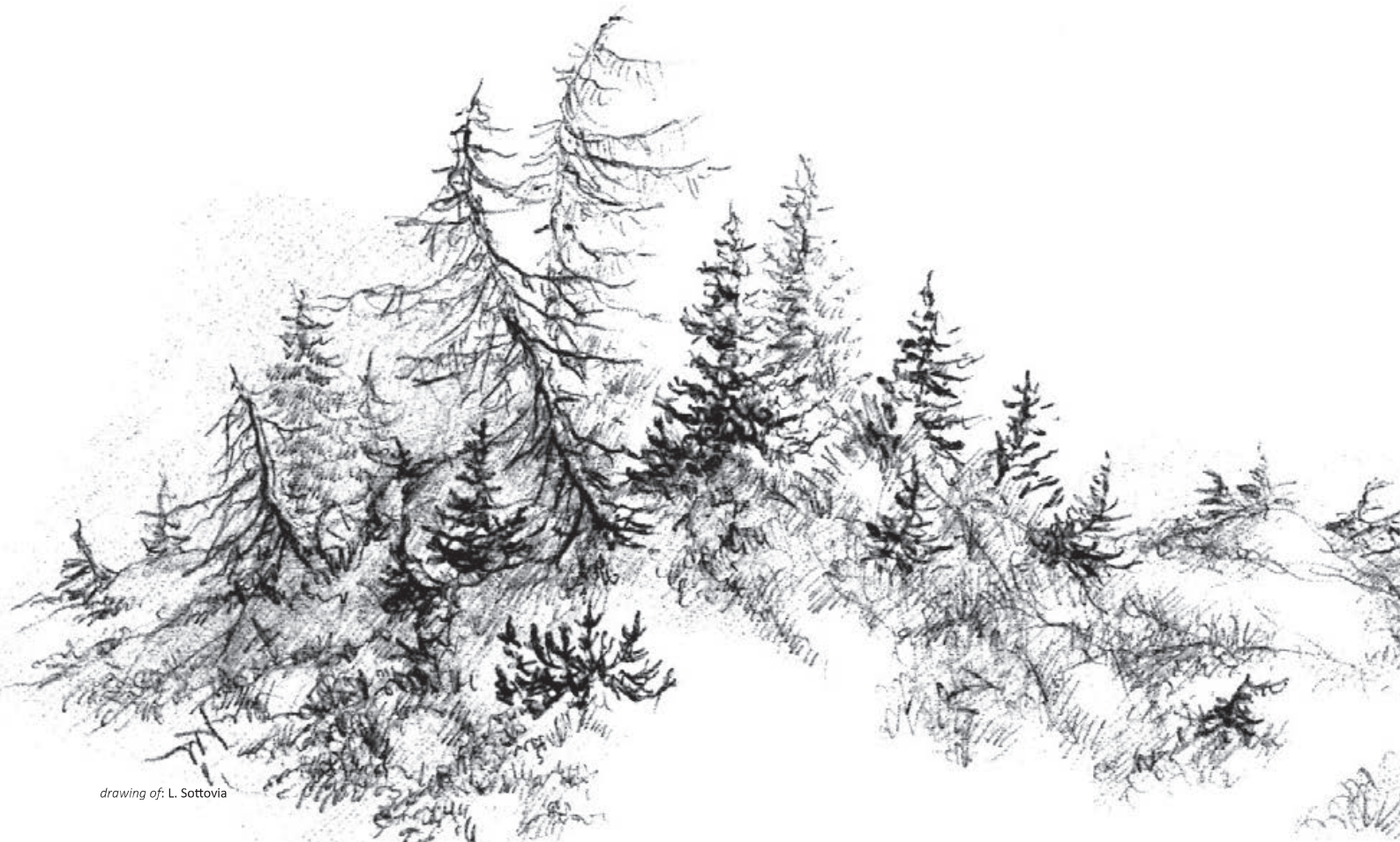
Book of Abstracts



drawing of: L. Sottovia

6. Biological control of *Dryocosmus kuriphilus* in Trentino chestnut stands

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Since its first report in Italy in 2002, *Dryocosmus kuriphilus*, the Asian chestnut gall wasp (ACGW), has spread very rapidly, reaching Trentino-Alto Adige in 2007. Even though the evaluation of the direct damage caused by the ACGW to fruit production is difficult, severe infestations can weaken the trees and reduce their vegetative development.
All the eradication attempts carried out failed and this pest is now established in all the Italian chestnut growing areas. Therefore, a biological control strategy was adopted in Italy to control the ACGW populations by means of the specific parasitoid *Torymus sinensis*. This hymenopteran lays eggs within ACGW galls and develops as ectoparasite on ACGW larvae.
T. sinensis individuals, reared under semi-field conditions, were coupled in the lab and then released in the forest. The adaptation and spread of its populations were checked by collecting and rearing ACGW galls after each release. Moreover, a multiplication area was established in 2011 to increase the number of parasitoids to release. In Trentino, between 2010 and 2014, 123 releases of *T. sinensis* were carried out in chestnut stands of Trentino, covering the most infected areas. Surveys conducted in the field show that the parasitoid has established and can reproduce successfully, colonizing the entire chestnut growing area of the province. The parasitisation rates (number of *T. sinensis* larvae/larval chambers) observed in summer 2014 reached values of 80% and in 2015 a decreased amount of galls was observed. These results are very encouraging and suggest a good efficacy for this biological control method.