Selection of Nothofagus host trees by the aphids Neuquenaphis staryi and Neuquenaphis edwardsi

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Leaf volatiles were collected from three Nothofagus species growing in close proximity in Los Ruiles National Reserve, Chile. The volatile preparation from leaves of No. alessandrii were attractive to the specialist aphid, Neuquenaphis staryi, but not to the generalist aphid, Ne. edwardsi, while the volatile preparations of No. dombeyi and No. glauca were attractive to Ne. edwardsi, but not to Ne. staryi. This reflects the pattern of aphid/host-plant associations. ?-Agarofuran was found to occur in all leaf volatile preparations and was shown by electroantennography and olfactometry to be attractive for both Neuquenaphis spp., suggesting it may be the Nothofagus host-recognition factor for Neuquenaphis. The factor(s) mediating Ne. staryi's specialization on No. alessandrii remain to be identified. © 2004 Springer Science+Business Media, Inc.