Foraging behaviour of bird pollinators on Embothrium coccineum (Proteaceae) trees in forest fragments and pastures in southern Chile

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We investigated the effects of forest patch size on the behaviour of birds feeding on the fower nectar of the proteaceous tree Embothrium coccineum J. R. et G. Forster, which is typically restricted to forest edges in agricultural landscapes in southern Chile. We quantified reproductive parameters of trees (no. inflorescences per branch, total and open flowers per inflorescence) in forest fragments varying from 1 ha (small), to 20 ha (medium) and to >150 ha (large), and in remnant trees in pastures. Visits to flowers by nectar-feeding birds were recorded during 30-min observation periods, spread throughout the day during two flowering seasons, November 1992 and 1993 (n = 242 periods overall). Aggressive encounters among flower visitors were recorded in 1992. We expected less visits to trees in pastures and small forest patches because abundances of Embothrium's main pollinators, the flycatcher Elaenia albiceps and the hummingbird Sephanoides sephaniodes, decreased in smaller patches. W