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## The neotropical flower-living genus *Lenkothrips* (Thysanoptera, Heterothripidae): three new species and an identification key

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### Abstract

Three new species are described in the South American genus of flower-feeding thrips, *Lenkothrips* De Santis & Sureda: *L. mollinediae* sp. n. from four species of *Mollinedia* (Monimiaceae) in Brazil and Ecuador; *L. guaraniticus* sp. n. and *L. kaminskii* sp. n. from Malpighiaceae in Brazil. An illustrated key to the five *Lenkothrips* species now recognized is provided.

**Key words:** Brazil; Malpighiaceae; Monimiaceae; *Mollinedia*; Neotropics; new species

### Introduction

Thrips of the family Heterothripidae are restricted to the Americas and comprise about 80 species, 75% of these being described from the Neotropics (ThripsWiki 2014). Except for *Aulacothrips* species, all members within this group are similar in their way of life, and apparently all stages feed on flower tissues and show some degree of host-specificity (Mound & Marullo 1996; Cavalleri *et al.* 2010; Pereyra & Cavalleri 2012). However, the diversity among these flower-living genera is not equally distributed. *Heterothrips* comprises more than 75 species, whereas *Scutothrips* and *Lenkothrips* include only four and two species, respectively (ThripsWiki 2014).

These flower-feeding thrips are similar in their general appearance but *Scutothrips* species have a triangle of strong reticulate sculpture on the metanotum while in *Heterothrips* and *Lenkothrips* this structure bears many microtrichia, often arising from concentric lines. *Lenkothrips* was erected by De Santis and Sureda (1970) as a subgenus of *Heterothrips* to include one Brazilian species with the circumpolar sensorial areas on antennal segments III–IV extending into a continuous loop to the mid-point of their segments. Subsequently, Ullitzka (2003) described a second species from Malpighiaceae flowers in the canopy at Les Nouragues, French Guiana. The biology of these species is poorly studied, but as in other members of this family, they probably exhibit some degree of specialization, breeding on a few closely related plants (Alves-Silva 2010; Pereyra & Cavalleri 2012). The flowers of some Malpighiaceae are tightly closed, such as those of *Brachypterys ovata* in Trinidad from which *Heterothrips lewisi* was described (Mound & Marullo 1996). Thrips are probably the only insects with easy access to these tightly closed flowers, and since adult thrips can commonly be seen to bear many pollen grains, it is likely that they are the specific pollinators of such plants, as is *Thrips setipennis* within the tightly closed flowers of *Wilkiea huegeliana* (Monimiaceae) in Australia (Williams *et al.* 2001).

Here we describe three new *Lenkothrips* species, one from flowers of four *Mollinedia* species (Monimiaceae), and two from flowers of Malpighiaceae. An illustrated key to the five species now recognized is also given. Full bibliographical and nomenclatural details of Thysanoptera are available in ThripsWiki (2014).

confirmation since no larvae were collected. Moreover, the relatively low number of Malpighiaceae species in southern South America (see Davis *et al.* 2002) may restrict the occurrence of *Lenkothrips* in these plants at high latitudes.

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### References

- Alves-Silva, E. (2010) *The importance of sequential flowering Malpighiaceae to the maintenance of thrips (Thysanoptera) diversity in Brazilian Savanna*. MSc Dissertation, Uberlândia, Brazil, Universidade Federal de Uberlândia, 68pp. [in Portuguese]
- Cavalleri, A., Kaminski, L.A. & Mendonca Jr., M.S. (2010) Ectoparasitism in *Aulacothrips* (Thysanoptera: Heterothripidae) revisited: host diversity on honeydew-producing Hemiptera and description of a new species. *Zoologischer Anzeiger*, 249, 209–221.  
<http://dx.doi.org/10.1016/j.jcz.2010.09.002>
- Cavalleri, A., Kaminski, L.A. & Mendonca, M.S. Jr. (2012) A new ectoparasitic *Aulacothrips* (Thysanoptera: Heterothripidae) from Amazon rainforest and the significance of variation in antennal sensoria. *Zootaxa*, 3438, 62–68.
- Davis, C.C., Bell, C.D., Mathews, S. & Donoghue, M.J. (2002) Laurasian migration explains Gondwanan disjunctions: Evidence from Malpighiaceae. *Proceedings of the National Academy of Sciences of the United States of America*, 99 (10), 6833–6837.  
<http://dx.doi.org/10.1073/pnas.102175899>
- De Santis, L. & Sureda, A.E.G. (1970) Un nuevo Heterothripido de Brasil (Thysanoptera). *Studia Entomologica*, 13, 471–473.
- Mound, L.A. (2013) Homologies and host-plant specificity: recurrent problems in the study of thrips. *Florida Entomologist*, 96 (2), 318–322.  
<http://dx.doi.org/10.1653/024.096.0250>
- Mound, L.A. & Teulon, D.A.J. (1995) Thysanoptera as phytophagous opportunists. In: Parker, B.L., Skinner, M. & Lewis, T. (Eds), *Thrips Biology and Management*. Plenum Press, New York, pp. 3–19.
- Mound, L.A. & Marullo, R. (1996) The Thrips of Central and South America: An Introduction. *Memoirs on Entomology, International*, 6, 1–488.
- Pereyra, V. & Cavalleri, A. (2012) The genus *Heterothrips* (Thysanoptera) in Brazil, with an identification key and seven new species. *Zootaxa*, 3237, 1–23.
- ThripsWiki (2014) ThripsWiki - providing information on the World's thrips. Available from: <http://thrips.info/wiki/> (accessed 1 January 2014)
- Ulitzka, M.R. (2003) A new species of *Lenkothrips* De Santis & Sureda, 1970, from French Guyana (Thysanoptera: Heterothripidae). *Entomologische Zeitschrift*, 113 (9), 279–281.
- Williams, G.A., Adam, P. & Mound, L.A. (2001) Thrips (Thysanoptera) pollination in Australian subtropical rainforests, with particular reference to pollination of *Wilkiea huegeliana* (Monimiaceae). *Journal of Natural History*, 35, 1–21.  
<http://dx.doi.org/10.1080/002229301447853>