



First report of *Colletotrichum siamense* causing anthracnose on *Heliconia rostrata*

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Heliconia rostrata Ruiz & Pavon inflorescences with circular necrotic spots symptoms were collected in Atalaia and Rio Largo, Brazil, in December 2016. *Colletotrichum*-like isolates were obtained by single-spore culture in potato dextrose agar (PDA) according to Sutton (1992). The isolates produced white cottony aerial mycelium, the underside of the colony was uniformly white with a growth rate of 10.4 mm/day. Conidia were 9.66–17.40 × 5.01–8.00 μm ($n = 50$), straight to cylindrical, hyaline and aseptate; morphological characters were consistent with *Colletotrichum gloeosporioides*. To confirm the identity of the isolate, partial sequences of the internal transcribed spacer of rDNA region, glyceraldehyde-3-phosphate dehydrogenase, calmodulin, chitin synthase and actin genes were amplified (Weir et al. 2012) and sequenced (GenBank accession Nos. MH151141, MH151150, MH151136, MH151146 and MH151131, respectively). A Bayesian inference phylogenetic tree (Supplementary Fig. S1) was constructed using a combined sequence alignment and *Colletotrichum gloeosporioides* species complex reference sequences, and *C. boninense* was used as outgroup. Isolate COUFAL0198 was identified as *C. siamense*. To confirm pathogenicity, 20 μl conidial suspension

droplets (10⁶ conidia/ml) were deposited on the inflorescences wounded with a sterile needle. Control received sterile water. Typical anthracnose symptoms were observed in inoculated inflorescences in all inoculated inflorescence after 5 days (Supplementary Fig. S2). No symptoms were observed on the control. The *C. siamense* was re-isolated from diseased inflorescences, fulfilling Koch's postulates. To our knowledge, this is the first report of *C. siamense* causing anthracnose on *Heliconia rostrata* in the world.

References

- Sutton BC (1992) The genus *Glomerella* and its anamorph *Colletotrichum*. In: Bailey JA, Jeger MJ (eds) *Colletotrichum* – biology, pathology and control. CAB International, Wallingford, pp 1–26
- Weir BS, Johnston PR, Damm U (2012) The *Colletotrichum gloeosporioides* species complex. *Stud Mycol* 73:115–180

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