

B R E V I O R A

Museum of Comparative Zoology



US ISSN 0006-9698

CAMBRIDGE, MASS.

3 FEBRUARY 2015

NUMBER 541

WHAT IS THE LEAF BEETLE *CALLIGRAPHA SCALARIS* (LECONTE)?

JESÚS GÓMEZ-ZURITA¹

ABSTRACT. Since the description of *Calligrapha scalaris* (LeConte, 1824), a leaf beetle reported as an occasional serious pest of American elm, this taxon has been affected by remarkable taxonomic confusion. Most authors have invoked their particular and generally flawed concept of *C. scalaris* (LeConte) without reference to John E. LeConte's type material at the Museum of Comparative Zoology (Cambridge, Massachusetts). In this study, I have revised the series for *C. scalaris* (LeConte) conserved as part of J. LeConte and G. Horn collections, and confirmed that it includes as many as nine *Calligrapha* species, most of them lacking an association with *Ulmus*. Among these specimens, a couple of them from Texas are recognized as generally consistent with the original description and the only potentially elm-feeding animals. Thus, despite legitimate doubts for their availability to J. LeConte at the moment of the species description, they are designated here as neo- and paraneotypes, respectively, in an effort to maximize taxonomic stability. The species is redescribed on the basis of the neotype and diagnosed from all other species in this group, defined here as the "Calligrapha scalaris" group, including a provisional identification key for 14 species and for specimens conforming to the respective types. Finally, the study of syntype material from the Museum für naturkunde (Berlin) of *C. multiguttis* (Stål, 1865), an early synonym of *C. scalaris* (LeConte), allowed recognition of several other *Calligrapha* taxa affected by this synonymy, including *C. ignota* Brown, *C. knabi* Brown, and *C. tiliae* Brown (= *Chrysomela multiguttis* Stål [pars] **nov. syn.**).

INTRODUCTION

Since I started to study the biology, evolution, and, more recently, systematics of the leaf beetle genus *Calligrapha* Chevrolat, 1836 (Gómez-Zurita, 2005; Gómez-Zurita *et al.*, 2004, 2006; Montelongo and

Gómez-Zurita, 2013, 2014), no other species has been more problematic for its identification in collections than *C. scalaris* (LeConte, 1824). Every author in every collection seems to interpret this taxon in a slightly different way, "a matter of individual opinion", as pointed out by Knab (1909). The difficulties associated with this taxon were nicely illustrated by W. J. Brown (1945), who demonstrated the existence of a species complex of very similar entities, at least morphologically,

¹Animal Biodiversity and Evolution, Institut de Biologia Evolutiva (CSIC-Univ. Pompeu Fabra), Pg. Marítim Barceloneta 37, 08003 Barcelona, Spain; e-mail: j.gomez-zurita@ibe.upf.csic.es

