

Revision of the Polideini (Tachinidae) of America North of Mexico

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Abstract

The Polideini (Tachinidae: Tachininae) as newly defined herein has a distribution throughout the Nearctic, Neotropical and Palearctic regions and comprises the following 36 genera, most of which are assigned to the tribe for the first time: *Arctosoma* ALDRICH, *Barychaeta* BEZZI, *Chlorohystricia* TOWNSEND, *Chromatocera* TOWNSEND, *Chrysotachina* BRAUER & BERGENSTAMM, *Dichocera* WILLISTON, *Dolichostoma* TOWNSEND, *Ecuadorana* TOWNSEND, *Ernestiopsis* TOWNSEND, *Eucheiropaga* JAMES, *Euscopolia* TOWNSEND, *Exoernestia* TOWNSEND, *Exoristoides* COQUILLET, *Ganoproctus* ALDRICH, *Homalactia* TOWNSEND, *Hystricia* MACQUART, *Lydina* ROBINEAU-DESVOIDY, *Lypha* ROBINEAU-DESVOIDY, *Lyphosia* MESNIL, *Mactomyia* REINHARD, *Mauromyia* COQUILLET, *Micronychia* BRAUER & BERGENSTAMM, *Mesembrierigone* TOWNSEND, *Nigrilypha* gen. nov., *Notoderus* CORTÉS, *Ollacheryphe* TOWNSEND, *Opsophasiapteryx* TOWNSEND, *Ostracophyto* TOWNSEND, *Petagnia* RONDANI, *Punamyia* TOWNSEND, *Pyrrhoernestia* TOWNSEND, *Spilochaetosoma* SMITH, *Tarpassita* REINHARD, *Telodytes* ALDRICH, *Trichophoropsis* TOWNSEND and *Xanthopelta* ALDRICH.

The Polideini of America north of Mexico, comprising 16 genera and 43 species, are revised. One new genus is proposed for one new species, *Nigrilypha gnoma* gen. nov., spec. nov., from the American Southwest. *Chromatocera* TOWNSEND, *Exoristoides* COQUILLET, *Homalactia* TOWNSEND and *Micronychia* BRAUER & BERGENSTAMM are removed from synonymy with *Lypha* ROBINEAU-DESVOIDY and reinstated as valid genera, status revived. The following new or revived generic synonyms are proposed for New World Polideini: *Exoristopsis* TOWNSEND, *Neoerigone* TOWNSEND, *Mericina* CURRAN and *Helioplagia* TOWNSEND are synonymized with *Chrysotachina* BRAUER & BERGENSTAMM, syn. nov.; *Heliolydella* TOWNSEND, *Heliolydellops* TOWNSEND and *Myersimyia* TOWNSEND are synonymized with *Exoristoides* COQUILLET, syn. nov.; *Hystriciopsis* TOWNSEND, *Hystriciella* ENGEL and *Engelomyia* TOWNSEND are reinstated as synonyms of *Hystricia* MACQUART, syn. revived; *Paradmontia* COQUILLET and *Jalapamyia* REINHARD are synonymized with *Mauromyia* COQUILLET, syn. nov.; and *Plagiosippus* REINHARD is synonymized with *Micronychia* BRAUER & BERGENSTAMM, syn. nov.

The following new species are described from America north of Mexico: *Chrysotachina auriceps* spec. nov., *Chrysotachina infrequens* spec. nov., *Chrysotachina longipennis* spec. nov., *Dichocera latifrons* spec. nov., *Exoristoides blattarius* spec. nov., *Exoristoides sabroskyi* spec. nov., *Lypha cristiverpa* spec. nov., *Mauromyia macrobrevis* spec. nov., *Micronychia woodi* spec. nov., *Nigrilypha gnoma* spec. nov., and *Ostracophyto flavicaudalis* spec. nov. The following synonyms at the species level are proposed for America north of Mexico: *Dichocera robusta* BROOKS is synonymized with *Dichocera lyrata* WILLISTON, syn. nov.; *Neodichocera tridens* WALTON is synonymized with *Dichocera orientalis* COQUILLET, syn. revived; *Homalactia brimleyi* CURRAN and *Homalactia facula* REINHARD are synonymized with *Homalactia harringtoni* (COQUILLET), syn. nov.; *Tryphera polidoides* TOWNSEND and *Polidea americana* TOWNSEND (1892b: 82) are synonymized with *Lydina americana* (TOWNSEND, 1892b: 78), syn. nov., and the taxon is treated as an unresolved species complex; and *Lypha intermedia* BROOKS is synonymized with *Lypha setifacies* (WEST), syn. nov. The following are new or revived combinations for New World Polideini: *Chlorohystricia cussiliris* (REINHARD), comb. nov.; *Chromatocera fumator* REINHARD, comb. revived, *C. harrisi* (REINHARD), comb. nov., *C. setigena* (COQUILLET), comb. revived; *Chrysotachina amazonica* (TOWNSEND), comb. nov., *C. cinerea* (TOWNSEND), comb. nov., *C. ruficauda* (CURRAN), comb. nov., *C. setifera* (TOWNSEND), comb. nov., *C. slossonae* (COQUILLET), comb. nov., *C. urichi* (ALDRICH), comb. nov., *C. verticalis* (REINHARD), comb. nov.; *Exoristoides homoeonychioides* (TOWNSEND), comb. nov., *E. johnsoni* COQUILLET, comb. revived; *Hystricia alpina* (TOWNSEND), comb. revived, *H. copulata* (WIEDEMANN), comb. revived, *H. cuestae* (ENGEL), comb. revived, *H. fumipennis* (ENGEL), comb. revived, *H. obscura* (TOWNSEND), comb. revived, *H. ornatipennis* (ENGEL), comb. revived, *H. tarsata* SCHINER, comb. revived; *Mauromyia brevis* (COQUILLET), comb. nov., *M. callitris* (REINHARD), comb. nov., *M. picticornis* (REINHARD), comb. nov.; *Micronychia invasor* (REINHARD), comb. nov., and *M. maculipennis* (ALDRICH), comb. nov. *Hystricia rufohirta* CURRAN (1942), junior secondary homonym of *Hystricia rufohirta* (ENGEL 1920), is given the new replacement name *Hystricia currani*, nom. nov. A lectotype is designated for *Eulasiona setigena* COQUILLET, a valid species of *Chromatocera* TOWNSEND. The species *Lypha setifacies* of authors (not WEST) is the same species as *Lypha fumipennis* BROOKS.

A key is included to the 16 genera of Polideini that occur in America north of Mexico, along with a key to species under each non-monotypic genus. Each genus is characterized and each of the 43 species in

America north of Mexico is described. Distribution maps are included for each species. Numerous illustrations are included as well as colour habitus images of 16 species. Host information is given where known based on published reports and new rearing records taken from collections. The monophyly of the tribe is discussed and the phylogenetic relationships among the genera and species of America north of Mexico are analyzed.

Zusammenfassung

Die Tribus Polideini (Tachinidae: Tachininae) ist, so wie sie in der vorliegenden Arbeit neu definiert wird, in den gesamten Regionen der Nearktis, der Neotropis und der Paläarktis verbreitet. Sie umfasst nunmehr die folgenden 36 Gattungen, von denen die meisten erstmals dieser Tribus zugeordnet werden: *Arctosoma* ALDRICH, *Barychaeta* BEZZI, *Chlorohystricia* TOWNSEND, *Chromatocera* TOWNSEND, *Chrysotachina* BRAUER & BERGENSTAMM, *Dichocera* WILLISTON, *Dolichostoma* TOWNSEND, *Ecuadorana* TOWNSEND, *Ernestiopsis* TOWNSEND, *Eucheiropphaga* JAMES, *Euscopolia* TOWNSEND, *Exoerastia* TOWNSEND, *Exoristoides* COQUILLET, *Ganoproctus* ALDRICH, *Homalactia* TOWNSEND, *Hystricia* MACQUART, *Lydina* ROBINEAU-DESVOIDY, *Lypha* ROBINEAU-DESVOIDY, *Lyphosia* MESNIL, *Mactomyia* REINHARD, *Mauromyia* COQUILLET, *Micronychia* BRAUER & BERGENSTAMM, *Mesembrierigone* TOWNSEND, *Nigrilypha* gen. nov., *Notoderus* CORTÉS, *Ollacheryphe* TOWNSEND, *Opsophasiopteryx* TOWNSEND, *Ostracophyto* TOWNSEND, *Petagnia* RONDANI, *Punamyia* TOWNSEND, *Pyrrhoerastia* TOWNSEND, *Spilochaetosoma* SMITH, *Tarpessita* REINHARD, *Telodytes* ALDRICH, *Trichophoropsis* TOWNSEND und *Xanthopelta* ALDRICH.

Insgesamt 43 Arten in 16 Gattungen der Tribus sind in Amerika nördlich Mexikos verbreitet und werden in der vorliegenden revidiert. Für eine neue Art, nämlich *Nigrilypha gnoma* gen. nov., spec. nov., aus dem Südwesten Amerikas wird eine neue Gattung eingerichtet. *Chromatocera* TOWNSEND, *Exoristoides* COQUILLET, *Homalactia* TOWNSEND und *Micronychia* BRAUER & BERGENSTAMM waren bislang als Synonyme von *Lypha* ROBINEAU-DESVOIDY geführt worden. Ihr ursprünglicher Status als eigenständige Gattungen wird wiederhergestellt (stat. reviv.). Folgende neue Synonyme oder wiederhergestellte Synonyme für die neuweltlichen Polideini werden vorgeschlagen: *Exoristopsis* TOWNSEND syn. nov., *Neoerigone* TOWNSEND syn. nov., *Mericina* CURRAN syn. nov. und *Helioplagia* TOWNSEND syn. nov. als Synonyme von *Chrysotachina* BRAUER & BERGENSTAMM; *Heliolydella* TOWNSEND syn. nov., *Heliolydellops* TOWNSEND syn. nov. und *Myersimyia* TOWNSEND syn. nov. werden mit *Exoristoides* COQUILLET synonymisiert; den Status als wiedereingesetzte Synonyma (syn. reviv.) der Gattung *Hystricia* MACQUART erhalten die Genera *Hystriciopsis* TOWNSEND, *Hystriciella* ENGEL und *Engelomyia* TOWNSEND; *Paradmontia* COQUILLET syn. nov. und *Jalapamyia* REINHARD syn. nov. sind neue Synonyma von *Mauromyia* COQUILLET und schließlich wird *Plagiosippus* REINHARD syn. nov. mit *Micronychia* BRAUER & BERGENSTAMM synonymisiert. Die folgenden Arten aus Amerika nördlich von Mexiko werden als neu für die Wissenschaft beschrieben: *Chrysotachina auriceps* spec. nov., *Chrysotachina infrequens* spec. nov., *Chrysotachina longipennis* spec. nov., *Dichocera latifrons* spec. nov., *Exoristoides blattarius* spec. nov., *Exoristoides sabroskyi* spec. nov., *Lypha cristiverpa* spec. nov., *Mauromyia macrobrevis* spec. nov., *Micronychia woodi* spec. nov., *Nigrilypha gnoma* spec. nov. und *Ostracophyto flavicaudalis* spec. nov.

Folgende Synonyme auf dem Artniveau für Spezies aus Amerika nördlich von Mexiko werden vorgeschlagen: *Dichocera robusta* BROOKS syn. nov. von *Dichocera lyrata* WILLISTON; *Neodichocera tridens* WALTON syn. reviv. von *Dichocera orientalis* COQUILLET; *Homalactia brimleyi* CURRAN syn. nov. und *Homalactia facula* REINHARD syn. nov. von *Homalactia harringtoni* (COQUILLET); *Tryphera polidoides* TOWNSEND syn. nov. und *Polidea americana* TOWNSEND 1892 syn. nov. von *Lydina americana* (TOWNSEND, 1892). Letztgenanntes Taxon wird als derzeit nicht auflösbarer Artenkomplex aufgefasst. Des weiteren wird *Lypha intermedia* BROOKS syn. nov. wird mit *Lypha setifacies* (WEST) synonymisiert. Folgende neue oder wiedereingerichtete Kombinationen von neuweltlichen Polideini werden vorgeschlagen: *Chlorohystricia cussiliris* (REINHARD) comb. nov.; *Chromatocera fumator* REINHARD comb. reviv., *C. harrisi* (REINHARD) comb. nov., *C. setigena* (COQUILLET) comb. reviv.; *Chrysotachina amazonica* (TOWNSEND) comb. nov., *C. cinerea* (TOWNSEND) comb. nov., *C. ruficauda* (CURRAN) comb. nov., *C. setifera* (TOWNSEND) comb. nov., *C. slossonae* (COQUILLET) comb. nov., *C. urichi* (ALDRICH) comb. nov., *C. verticalis* (REINHARD) comb. nov.; *Exoristoides homoeonychioides* (TOWNSEND) comb. nov., *E. johnsoni* COQUILLET comb. reviv.; *Hystricia alpina* (TOWNSEND) comb. reviv., *H. copulata* (WIEDEMANN) comb. reviv., *H. cues-*

tae (ENGEL) comb. revived, *H. fumipennis* (ENGEL) comb. revived, *H. obscura* (TOWNSEND) comb. revived, *H. ornatipennis* (ENGEL) comb. revived, *H. tarsata* SCHINER comb. revived; *Mauromyia brevis* (COQUILLET) comb. nov., *M. callitris* (REINHARD) comb. nov., *M. picticornis* (REINHARD) comb. nov.; *Micronychia invalor* (REINHARD) comb. nov. und *M. maculipennis* (ALDRICH) comb. nov. *Hystricia rufohirta* CURRAN (1942) wird als jüngeres sekundäres Homonym von *Hystricia rufohirta* (ENGEL 1920) erkannt. Erstgenannter Spezies wird der Name *Hystricia currani* nom. nov. gegeben. Für *Eulasiona setigena* COQUILLET, einer validen Spezies aus der Gattung *Chromatocera* TOWNSEND wird ein Lektotypus festgelegt. *Lypha setifacies* auctorum (not WEST) ist mit *Lypha fumipennis* BROOKS identisch.

Bestimmungsschlüssel der 16 in Amerika nördlich von Mexiko vorkommen Gattungen der Polideini, sowie der Arten nicht monotypischer Gattungen komplettieren die Ausführungen zu den behandelten Taxa. Jede Gattung wird detailliert charakterisiert und jede der 43 Arten umfassend beschrieben und ihre Verbreitung auf Karten dokumentiert. Zahlreiche Strichzeichnungen sowie Farbfotos vom Habitus von 16 Arten ergänzen den Text. Ein eigenes Kapitel dient der Zusammenfassung von Informationen zu den Wirten der Arten. Sie gehen auf bereits publizierte Meldungen und neue Angaben zur Zucht auf den Beschriftungen des Sammlungsmaterials zurück. Die Monophylie der Tribus wird diskutiert und die Verwandtschaftsbeziehungen unter den Gattungen und Arten der Polideini Amerikas nördlich von Mexiko werden analysiert.

Introduction

There is probably not a more varied monophyletic lineage among the Tachinidae than the Polideini, as the tribe is newly defined herein. Traditionally known as the Lyphini, over which the name Polideini has priority (SABROSKY 1999), the tribe until recently was restricted to *Lypha* and *Lypha*-like taxa (SABROSKY & ARNAUD 1965, GUIMARÃES 1971) or was incorporated into the Linnaemyini (HERTING 1984, as Linnaemyiini). A broader concept of the tribe, under the more proper but slightly misspelled name Polidiini, was adopted by WOOD (1987: 1220) in a footnote to his key to tachinid genera of America north of Mexico.

WOOD's (1987) provisional placement of the species of *Chromatocera*, *Exoristoides*, *Helio-plagia*, *Homalactia*, and *Plagiosippus* in *Lypha*, with the caveat that "their ultimate generic placement requires study of the tribe Polidiini (= Lyphini) on a world basis" (p. 1220), provided the impetus for this study of the systematics of the tribe. Originally I planned a world revision of the Polideini and worked towards that goal for some time, but the plethora of undescribed species and difficult-to-define genera of the Neotropics eventually led to the restriction of this project to the genera and species of the Polideini of America north of Mexico. My earlier observations on the taxa of world Polideini, along with their comparison to a large outgroup of Tachinidae belonging to the Exoristinae, Dexiinae and Tachininae (Table 1) have provided good evidence for the monophyly and composition of the tribe beyond what might be expected of an otherwise regional revision.

The Polideini as defined herein (Table 2) are a mostly New World taxon of the Tachininae with 16 genera and 43 species recognized in America north of Mexico, including one new genus and 11 new species. This compares with only six genera (with few species) known from the Old World, all in the Palearctic region, and 23 genera in the Neotropical region (Table 2). Many described Neotropical genera are monotypic and future revisions will likely reduce their number through synonymy as relationships between described taxa become more apparent, though the vast number of undescribed species in the region will likely require the description of additional new genera.

The Polideini are remarkable in two respects in comparison with other Tachinidae. First, they display incredible external diversity which belies their common ancestry (Figs 1-16). As shown in Table 2, the taxa gathered into the Polideini were culled from nine tribes, including one in the Phasiinae (Cylindromyiini). This is not just a testament to polideine diversity but an indi-