

Revisiting homonyms in the genus *Tachina* Meigen (Diptera: Tachinidae)

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Abstract

The rules of nomenclature regarding junior homonyms among species-group names are briefly reviewed. The status of seven species-group names in the genus *Tachina* Meigen, 1803 (Fig. 1) that were interpreted as junior homonyms and declared invalid by P.H. Arnaud Jr. in 1992 and 1994 are re-evaluated. The status of one junior primary homonym remains unchanged. Of the six other names treated as junior secondary homonyms by Arnaud, five are reinstated as valid names in the genus *Tachina*. The replacement names they had been given previously are thus invalid and fall into synonymy with the original names. The following nomenclatural changes are necessary according to the ICZN Code: *Fabriciella hispida* Tothill, 1924, **status revived** (as *Tachina* (*Nowickia*) *hispida* (Tothill)), with junior synonym *Fabriciella ampliforceps* Rowe, 1931; *Fabriciella intermedia* Reinhard, 1942, **status revived** (as *Tachina* (*Nowickia*) *intermedia* (Reinhard)), with junior synonym *Tachina californimyia* Arnaud, 1992, **new synonymy**; *Fabriciella latifrons* Tothill, 1924, **status revived** (as *Tachina* (*Rhachogaster*) *latifrons* (Tothill)), with junior synonym *Tachina oligoria* Arnaud, 1992, **new synonymy**; *Jurinia nitida* van der Wulp, 1882, **status revived** (as *Tachina* (*Rhachogaster*) *nitida* (van der Wulp)), with junior synonym *Upodemocera robinsoni* Townsend, 1915; *Fabriciella spinosa* Tothill, 1924, **status revived** (as *Tachina* (*Nowickia*) *spinosa* (Tothill)), with junior synonym *Tachina nearctica* Arnaud, 1992, **new synonymy**. Additionally, *Tachina hispida* Robineau-Desvoidy, 1830 is moved from its placement as a *nomen dubium* in Tachinidae to a *nomen dubium* in *Exorista* Meigen, 1830.

Introduction

The *Manual of Nearctic Diptera* (McAlpine *et al.* 1981, 1987, 1989, hereafter the *Manual*) (Fig. 2) was the beginning of a new era in Nearctic dipterology. Dipterists were finally able to replace their worn copies of the classic *Families and Genera of North American Diptera* (Curran 1934) and at the same time pair this new manual with another recent extraordinary resource, *A Catalog of the Diptera of America North of Mexico* (Stone *et al.* 1965). Indeed, the need for a replacement of Curran's work was all the more pressing in light of the new catalogue.



Figure 1. A male of the genus *Tachina* Meigen, *Tachina* (*Nowickia*) *latifacies* (Tothill) from North America. Images from TachImage Gallery (O'Hara & Henderson, 2018; photos by S.J. Henderson.)

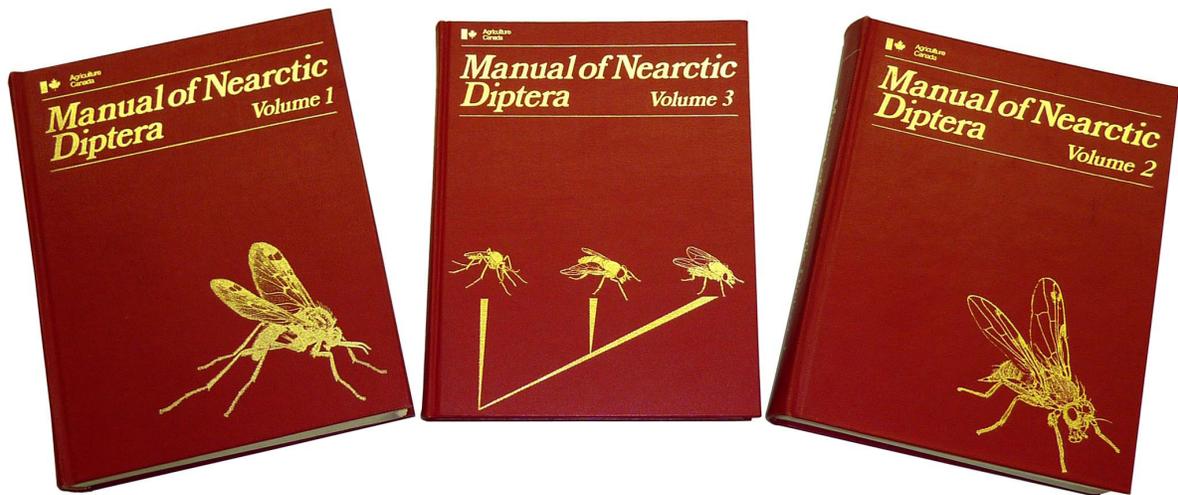


Figure 2. The three volumes of the *Manual of Nearctic Diptera* (McAlpine *et al.* 1981, 1987, 1989). (Photo by J.E. O'Hara.)

The manner in which the *Manual* was planned and prepared was discussed in the introduction to the first volume and was reviewed in the later *Festschrift* honouring the coordinators of the project (Cumming *et al.* 2011, Sinclair *et al.* 2011).

Of particular significance to the subject of this article was the decision that no new taxa would be proposed in the *Manual*. Overt changes to the current classification were also frowned upon. This posed a problem for D. Monty Wood (Fig. 3), the author of the Tachinidae chapter (Wood 1987), because he was in the midst of a reclassification of Nearctic tachinids at the same time as he was preparing his chapter for the *Manual*. He wrote his key to conform to his new ideas about generic concepts and circumvented the *Manual* guidelines against new taxonomic acts by using footnotes to add species from other genera to the genera being keyed. These were *de facto* new combinations but their innocent wording escaped the ire of the other *Manual* coordinators.

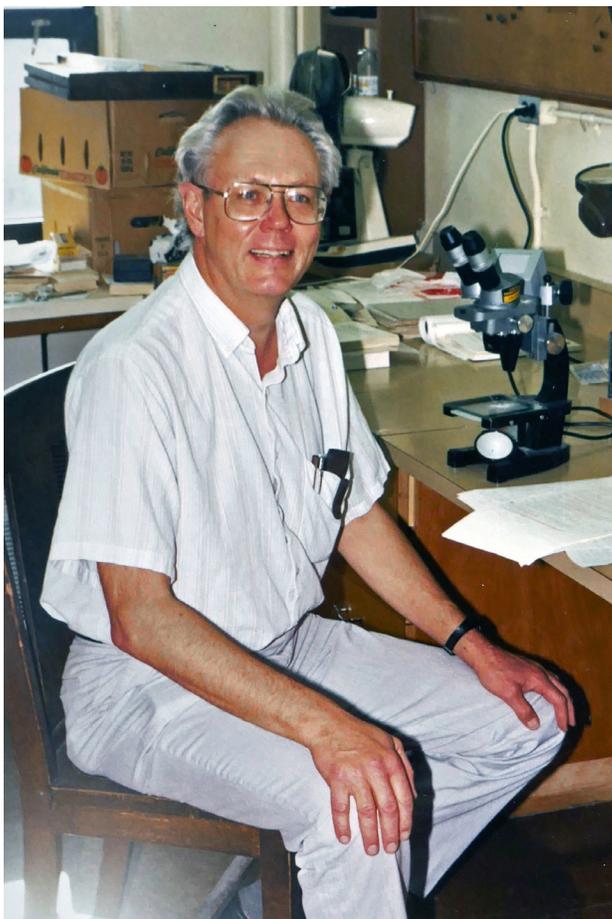


Figure 3. Monty Wood in his office at the Canadian National Collection of Insects in Ottawa, ca. 1989. (Photo by J.E. O'Hara.)

The new combinations of Wood (1987) and the key itself essentially ushered in a new generic classification for North American Tachinidae. However, there were literally hundreds of new combinations and as a result some species names that were fine in their previous combinations were now homonyms. These were not identified in the *Manual* chapter and their presence was left for others to discover and sort out. The first author to take this on was Paul Arnaud of the California Academy of Sciences in San Francisco, a respected dipterist and co-author of the Tachinidae chapter in the earlier *Catalog of the Diptera of America North of Mexico* (Sabrosky & Arnaud 1965). Arnaud found what he believed to be junior homonyms in the genus *Tachina* Meigen, 1803 (Fig. 1) resulting from Wood's synonymy of *Nowickia* Wachtl, 1894 and *Metopotachina* Townsend, 1915 with *Tachina*. Six names were treated as homonyms in one paper (Arnaud 1992) and one overlooked homonym was the subject of a second paper (Arnaud 1994).

Before I discuss the papers of Arnaud (1992, 1994) and the homonyms proposed therein, I will briefly digress for a review of the meaning of “homonym” in the sense of the *International Code of Zoological Nomenclature* (ICZN 1999, hereafter the *Code*).

The *Code* requires that each species in a genus have a different name. This gets a little complicated because there are four types of species-group names:

Available name – a name that satisfies the provisions of Articles 10 to 20 in the *Code*. Generally speaking, a new species must be properly published, named, described, and represented by a name-bearing type (e.g., a holotype).

Unavailable name – a name that does not satisfy all the provisions of Articles 10 to 20 in the *Code*. This can be a manuscript name cited in a paper without a description or a name that appeared in an unpublished work (e.g., a hand-out at a congress).

Valid name – in short, an available name that is properly used for a species. *Musca domestica* Linnaeus is the valid species name for the house fly.

Invalid name – in short, an available name that is lower in priority for a species than another name (i.e., the valid name). In most species lists, these are the names listed in synonymy below a valid name.

Next we come to homonyms, which are central to the subject of this article. Here I quote the meaning of a homonym, as it pertains to species names, directly from the Glossary of the *Code* (1999: 105–106):

“In the species group: each of two or more available specific or subspecific names having the same spelling, or spellings deemed under Article 58 to be the same, and established for different nominal taxa, and either originally (primary homonymy) or subsequently (secondary homonymy) combined with the same generic name [Art. 53.3].”

Primary homonym discovered by Arnaud (1992)

Primary homonyms are generally straightforward. An author describes a species in a binomen that is exactly the same as one published previously by the same or different author. According to Article 57.2, the senior (older) name takes priority and the junior name is permanently invalid. Primary homonyms are unaffected by such taxonomic acts as moving species from one genus to another.

Paul Arnaud found one pair of primary homonyms when he investigated the status of species names in *Tachina* after the recombinations of Wood (1987). By definition, these primary homonyms existed before Wood’s key but they eluded discovery until Arnaud’s scrutiny of *Tachina* names.

***Tachina florum* Walker, 1849: 722.**

This was treated as valid by both Sabrosky & Arnaud (1965: 994) and Wood (1987: 1244). The former recognized the species as *Nowickia (Fabriciella) florum* (Walker) and the latter as *Tachina (Nowickia) florum* Walker. Arnaud (1992: 166–167) discovered that the Walker name is a junior primary homonym of *Tachina florum* Robineau-Desvoidy, 1830, a name currently in synonymy with the Palearctic species *Exorista (Adenia) rustica* (Fallén) (Herting & Dely-Draskovits 1993: 127). The name *Tachina florum* Walker is thus permanently invalid. It was replaced by the next oldest synonym and the valid name for the species became *Tachina (Nowickia) dakotensis* (Townsend, 1892) (Arnaud 1992). Later, *Tachina florum* Walker, 1849, was placed in synonymy with *Tachina (Rhachogaster) algens* Wiedemann, 1830 by O’Hara & Wood (2004: 331) but this did not affect the status of *Tachina (Nowickia) dakotensis*.

Secondary homonyms sensu Arnaud (1992, 1994)

The six species-group names treated as secondary junior synonyms by Arnaud (1992, 1994) are listed in alphabetical order by species name below and the status of each is reviewed and re-evaluated.

1. *hispida* Tothill, 1924: 265, *Fabriciella*.

COMBINATION OF SABROSKY & ARNAUD (1965: 995): *Nowickia* (*Nowickia*) *hispida* (Tothill, 1924).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina hispida* (Tothill, 1924).

HOMONYMY *SENSU* ARNAUD (1992: 166): *Tachina hispida* Tothill, 1924 *sensu* Wood (1987) was recognized as a junior secondary homonym of *Tachina hispida* Robineau-Desvoidy (1830: 189). Sabrosky & Arnaud (1965: 995) had listed one junior synonym of *hispida* Tothill, *Fabriciella ampliforceps* Rowe, 1931. Arnaud (1992: 166) replaced the invalid name *hispida* Tothill with the name of the junior synonym, with the valid name becoming *Tachina ampliforceps* (Rowe, 1931).

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina ampliforceps* (Rowe, 1931).

COMBINATION OF O'HARA & WOOD (2004: 326): *Tachina* (*Nowickia*) *ampliforceps* (Rowe, 1931).

PRESENT INTERPRETATION: *Tachina hispida* Robineau-Desvoidy, 1830 was treated by Bezzi & Stein (1907: 337) as a junior synonym of *Tachina* (*Tachina*) *larvarum* (Linnaeus, 1758). For nomenclatural reasons, *Tachina* Meigen, 1803 at the time of Bezzi & Stein (1907) was the name in use for present-day *Exorista* Meigen, 1803 (see explanation in Sabrosky 1999: 138); *Tachina* and *Exorista* are taxonomically distant genera and belong to different subfamilies.

Tachina hispida Robineau-Desvoidy was not listed in Herting (1984) and was relegated to “Doubtful taxa in Tachinidae” by Herting & Dely-Draskovits (1993: 447). This name is not so “doubtful” as it may seem. Its resemblance to *Tachina littoralis* Robineau-Desvoidy, 1830 was noted by the author himself (“Cette espèce est tout-à-fait semblable au *T. littoralis*”) and *T. littoralis* is currently treated as a junior synonym of *Exorista* (*Exorista*) *larvarum* (Linnaeus) (Herting & Dely-Draskovits 1993: 122). Bezzi & Stein (1907: 337) had also placed *littoralis* in synonymy with *larvarum* but called the genus *Tachina* (see above).

Tachina hispida Robineau-Desvoidy could be (mis)construed as a valid name of uncertain generic placement in the Tachinidae because of its listing in “Doubtful taxa in Tachinidae” (Herting & Dely-Draskovits 1993) and could technically be treated as a senior secondary homonym of *Tachina hispida* Tothill, 1924. However, this taxon clearly belongs to *Exorista* and is most likely a synonym of *Exorista larvarum* (Linnaeus) or a related species. It is not a true *Tachina* in the present sense of the genus and is not a senior homonym of *hispida* Tothill, 1924. **To avoid any ambiguity in this matter, I hereby transfer *Tachina hispida* Robineau-Desvoidy, 1830 to doubtful species status (i.e., as a *nomen dubium*) in *Exorista* Meigen, 1830.**

CURRENT STATUS: *Tachina* (*Nowickia*) *hispida* (Tothill, 1924). **Status revived.**

SYNONYMY: *Fabriciella ampliforceps* Rowe, 1931: 673–674.

DISTRIBUTION: Alaska and Northwest Territories [& Nunavut], British Columbia south to California and New Mexico, east to New York and Newfoundland (O'Hara & Wood 2004: 326).

2. *intermedia* Reinhard, 1942: 27–28, *Fabriciella*.

NEW COMBINATION OF SABROSKY & ARNAUD (1965: 993): *Metopotachina intermedia* (Reinhard, 1942).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina intermedia* (Reinhard, 1942).

HOMONYMY *SENSU* ARNAUD (1992: 167): *Tachina intermedia* (Reinhard, 1942) *sensu* Wood (1987) was recognized as a junior secondary homonym of *Tachina intermedia* Zetterstedt (1844: 1114). In the absence of a junior synonym to replace the name *intermedia* Reinhard, the new name *Tachina californimyia* Arnaud, 1992 was proposed.

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina californimyia* Arnaud, 1992.

COMBINATION OF O'HARA & WOOD (2004: 326): *Tachina* (*Nowickia*) *californimyia* Arnaud, 1992.

PRESENT INTERPRETATION: *Tachina intermedia* Zetterstedt, 1844 was treated by Bezzi & Stein (1907: 212) as a valid species name in *Ernestia* Robineau-Desvoidy, 1830 and its current combination is *Panzeria intermedia* (Zetterstedt) (Cerretti 2010: 329). It is not a senior homonym of *intermedia* Reinhard, 1942 because the two names are not (and have never been) treated together in the genus *Tachina* Meigen, 1803.

CURRENT STATUS: *Tachina (Nowickia) intermedia* (Reinhard, 1942). **Status revived.**

SYNONYMY: *Tachina californimyia* Arnaud, 1992: 167 (unnecessary *nomen novum* for *Fabriciella intermedia* Reinhard, 1942). **New synonymy.**

DISTRIBUTION: Nearctic: USA (California) (O'Hara & Wood 2004: 326).

3. *latifrons* Tothill, 1924: 260, 269, *Fabriciella*.

NEW COMBINATION OF SABROSKY & ARNAUD (1965: 995): *Nowickia (Rhachogaster) latifrons* (Tothill, 1924).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina latifrons* (Tothill, 1924).

HOMONYMY *SENSU* ARNAUD (1992: 167): *Tachina latifrons* (Tothill, 1924) *sensu* Wood (1987) was recognized as a junior secondary homonym of *Tachina latifrons* Meigen (1824: 365). In the absence of a junior synonym to replace the name *latifrons* Tothill, the new name *Tachina oligoria* Arnaud, 1992 was proposed.

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina oligoria* Arnaud, 1992.

COMBINATION OF O'HARA & WOOD (2004: 331): *Tachina (Rhachogaster) oligoria* Arnaud, 1992.

PRESENT INTERPRETATION: *Tachina latifrons* Meigen, 1824 was treated by Bezzi & Stein (1907: 392) as a valid species name in *Thryptocera* Macquart, 1834 [with genus name attributed to Brauer & Bergenstamm, 1889, in error] and is currently treated as a junior synonym of *Goniocera versicolor* (Fallén, 1820) (Andersen 1996: 49). It is not a senior homonym of *latifrons* Tothill, 1924 because the two names are not (and have never been) treated together in the genus *Tachina* Meigen, 1803.

CURRENT STATUS: *Tachina (Rhachogaster) latifrons* (Tothill, 1924). **Status revived.**

SYNONYMY: *Tachina oligoria* Arnaud, 1992: 167 (unnecessary *nomen novum* for *Fabriciella latifrons* Tothill, 1924). **New synonymy.**

DISTRIBUTION: Northwest Territories [& Nunavut] and British Columbia, south to Colorado and Kansas, east to Manitoba and Michigan (O'Hara & Wood 2004: 331).

4. *nitida* van der Wulp, 1882: 82, *Jurinia*.

NEW COMBINATION OF SABROSKY & ARNAUD (1965: 996): *Nowickia (Rhachogaster) nitida* (van der Wulp, 1882).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina nitida* (van der Wulp, 1882).

HOMONYMY *SENSU* ARNAUD (1992: 167): *Tachina nitida* (van der Wulp, 1882) *sensu* Wood (1987) was recognized as a junior secondary homonym of *Tachina nitida* Zetterstedt (1838: 646). Sabrosky & Arnaud (1965: 996) had listed one junior synonym of *nitida* van der Wulp, *Upodemocera robinsoni* Townsend, 1915. Arnaud (1992: 167) replaced the invalid name *nitida* van der Wulp with the name of the junior synonym, with the valid name becoming *Tachina robinsoni* (Townsend, 1915).

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina robinsoni* (Townsend, 1915).

COMBINATION OF O'HARA & WOOD (2004: 331): *Tachina (Rhachogaster) robinsoni* (Townsend, 1915).

PRESENT INTERPRETATION: *Tachina nitida* Zetterstedt, 1838 was treated by Bezzi & Stein (1907: 405) as a junior synonym of *Macquartia chalconota* (Meigen, 1824) and by Herting & Dely-Draskovits (1993: 314) as a junior synonym of *Macquartia tenebricosa* (Meigen, 1824). It is not a senior homonym of *nitida* van der Wulp, 1882 because the two names are not (and have never been) treated together in the genus *Tachina* Meigen, 1803.

CURRENT STATUS: *Tachina (Rhachogaster) nitida* (van der Wulp, 1882). **Status revived.**

SYNONYMY: *Upodemocera robinsoni* Townsend, 1915: 229.

DISTRIBUTION: British Columbia to California, east to Ontario and Massachusetts (O'Hara & Wood 2004: 331).

5. *pilosa* Tothill, 1924: 263, *Fabriciella*.

NEW COMBINATION OF SABROSKY & ARNAUD (1965: 995): *Nowickia* (*Nowickia*) *pilosa* (Tothill, 1924).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina pilosa* (Tothill, 1924).

HOMONYMY *SENSU* ARNAUD (1994: 208): *Tachina pilosa* (Tothill, 1924) *sensu* Wood (1987) was recognized as a junior secondary homonym of two names, *Servillia pilosa* Robineau-Desvoidy (1830: 50) and *Tachina pilosa* Walker (1853: 266). In the absence of a junior synonym to replace the name *pilosa* Tothill, the new name *Tachina garretti* Arnaud, 1994 was proposed.

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina garretti* Arnaud, 1994.

COMBINATION OF O'HARA & WOOD (2004: 327): *Tachina* (*Nowickia*) *garretti* Arnaud, 1994.

PRESENT INTERPRETATION: *Servillia pilosa* Robineau-Desvoidy, 1830 was treated by Bezzi & Stein (1907: 191) as a junior synonym of *Servillia ursina* (Meigen, 1824). It has maintained this synonymy to the present day but the valid species name was recognized as *Tachina* (*Servillia*) *ursina* Meigen by Herting & Dely-Draskovits (1993: 269) and is currently recognized as *Tachina* (*Tachina*) *ursina* Meigen (O'Hara *et al.* 2009: 180). Since *pilosa* Robineau-Desvoidy, 1830 and *pilosa* Tothill, 1924 are both currently in *Tachina*, the latter is a junior secondary homonym of the former. Arnaud (1994: 208) was justified in proposing a replacement name for *pilosa* Tothill, 1924.

Tachina pilosa Walker, 1853 is currently a valid species name in the genus *Archytas* Jaennicke, 1867, as *Archytas pilosus* (Walker). It is not a senior homonym of *pilosa* Tothill, 1924 because the two names are not (and have never been) treated together in the genus *Tachina* Meigen, 1803.

CURRENT STATUS: *Tachina* (*Nowickia*) *garretti* Arnaud, 1994.

SYNONYMY: *Fabriciella pilosa* Tothill, 1924: 263 (invalid, junior secondary homonym of *Servillia pilosa* Robineau-Desvoidy, 1830 [not also a junior secondary homonym of *Tachina pilosa* Walker, 1853 as reported by Arnaud, 1994]).

DISTRIBUTION: Alaska and Yukon, south to Oregon and New Mexico, east to New Brunswick and New Hampshire (O'Hara & Wood 2004: 327).

6. *spinosa* Tothill, 1924: 263, *Fabriciella*.

NEW COMBINATION OF SABROSKY & ARNAUD (1965: 994): *Nowickia* (*Echinomyodes*) *spinosa* (Tothill, 1924).

NEW COMBINATION OF WOOD (1987: 1244): *Tachina spinosa* (Tothill, 1924).

HOMONYMY *SENSU* ARNAUD (1992: 167): *Tachina spinosa* (Tothill, 1924) *sensu* Wood (1987) was recognized as a junior secondary homonym of *Tachina spinosa* Zetterstedt (1838: 648). In the absence of a junior synonym to replace the name *spinosa* Tothill, the new name *Tachina nearctica* Arnaud, 1992 was proposed.

COMBINATION OF O'HARA & WOOD (1998: 766–767): *Tachina nearctica* Arnaud, 1992.

COMBINATION OF O'HARA & WOOD (2004: 329): *Tachina* (*Nowickia*) *nearctica* Arnaud, 1992.

PRESENT INTERPRETATION: *Tachina spinosa* Zetterstedt, 1838 was treated by Bezzi & Stein (1907: 424) as a junior synonym of *Rhynchista prolixa* (Meigen, 1824). This synonymy is still recognized but the valid name is now *Eriothrix prolixa* (Meigen) (Herting & Dely-Draskovits 1993: 372). It is not a senior homonym of *spinosa* Tothill, 1924 because the two names are not (and have never been) treated together in the genus *Tachina* Meigen, 1803.

CURRENT STATUS: *Tachina* (*Nowickia*) *spinosa* (Tothill, 1924). **Status revived.**

SYNONYMY: *Tachina nearctica* Arnaud, 1992: 167 (unnecessary *nomen novum* for *Fabriciella spinosa* Tothill, 1924).

New synonymy.

DISTRIBUTION: British Columbia to Colorado, south to California and Arizona (O'Hara & Wood 2004: 329).

Closing Remarks

How did five of the names above get misinterpreted as junior secondary homonyms, passing through peer review and publication, and go unnoticed until now? One possible contributing factor was the timing of the two Arnaud papers: 1992 and 1994. Scientific publications were available only in hardcopy at the time. It was not as easy then as it is now to trace names through multiple, often old, sources. Reviewers may also have relied too much on the author to check that his nomenclatural actions were correct. It seems likely that the author was confused about junior homonyms and thought a species-group name proposed in the genus *Tachina* and subsequently moved elsewhere would forever be a senior homonym of another species name with the same spelling that was moved into *Tachina* later. This is not the case and two names of the same spelling must be in the same genus at the same time to be homonyms in the sense of the *Code*.

I myself fall into the category of people guilty of following the changes of Arnaud (1992, 1994) and not checking the “back story” more thoroughly. Both O’Hara & Wood (1998) and O’Hara & Wood (2004) had the opportunity to uncover the errors revealed above but instead accepted the names as proposed. Finally, after all these years, the correct valid names for these species can be used again and the proper authors are once more credited with the discovery and description of the species.

Acknowledgements

I am thankful for the review of this article by Neal Evenhuis (Bishop Museum, Honolulu). His suggestions have led to improvements in the technical wording used herein (such as using the term “new synonymy” *sensu* Evenhuis *et al.* (2010) for objective synonyms being treated for the first time as invalid), and in the explanations about name changes.

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