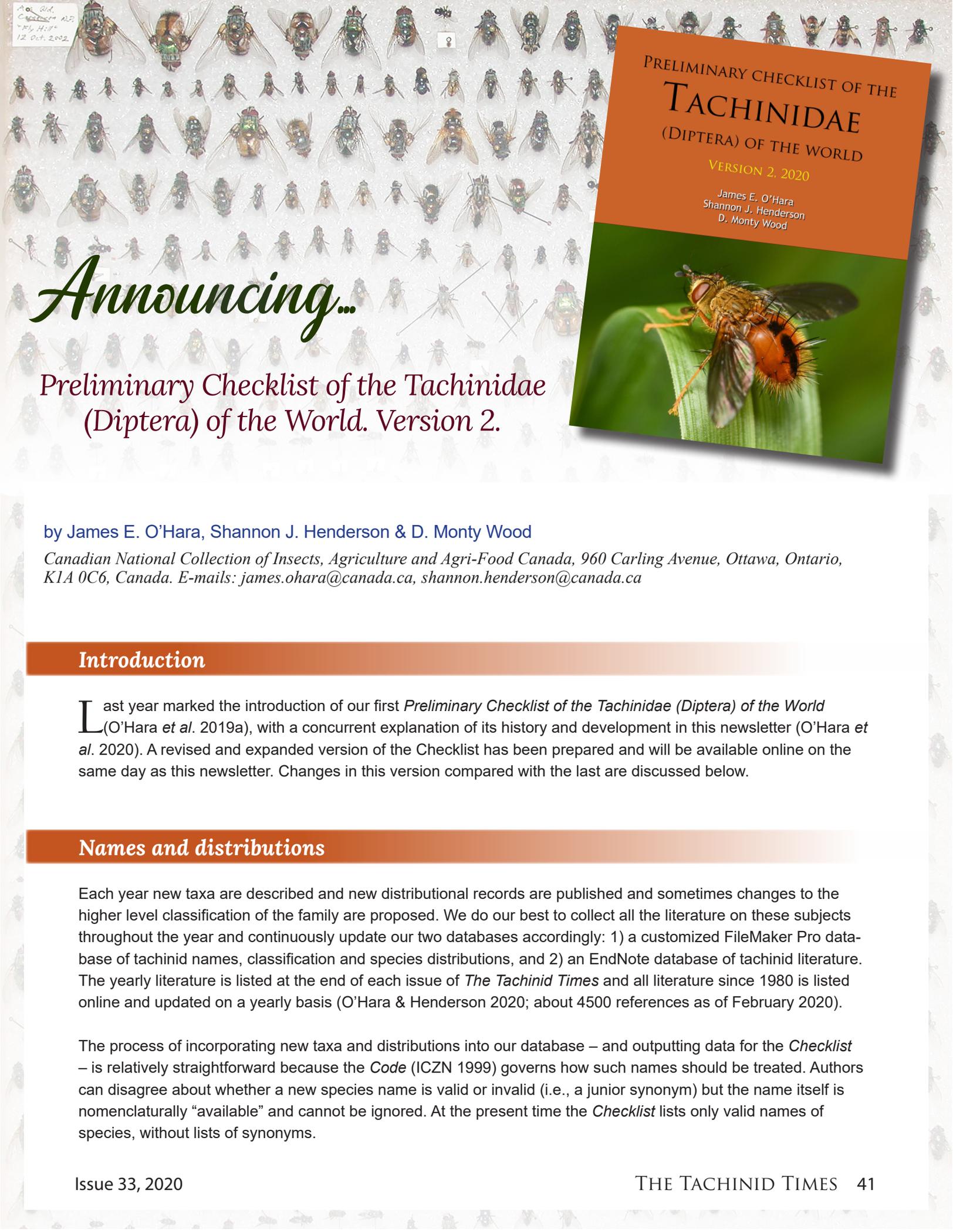


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PRELIMINARY CHECKLIST OF THE
TACHINIDAE
(DIPTERA) OF THE WORLD

VERSION 2, 2020

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Announcing...

Preliminary Checklist of the Tachinidae (Diptera) of the World. Version 2.

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Introduction

Last year marked the introduction of our first *Preliminary Checklist of the Tachinidae (Diptera) of the World* (O'Hara *et al.* 2019a), with a concurrent explanation of its history and development in this newsletter (O'Hara *et al.* 2020). A revised and expanded version of the Checklist has been prepared and will be available online on the same day as this newsletter. Changes in this version compared with the last are discussed below.

Names and distributions

Each year new taxa are described and new distributional records are published and sometimes changes to the higher level classification of the family are proposed. We do our best to collect all the literature on these subjects throughout the year and continuously update our two databases accordingly: 1) a customized FileMaker Pro database of tachinid names, classification and species distributions, and 2) an EndNote database of tachinid literature. The yearly literature is listed at the end of each issue of *The Tachinid Times* and all literature since 1980 is listed online and updated on a yearly basis (O'Hara & Henderson 2020; about 4500 references as of February 2020).

The process of incorporating new taxa and distributions into our database – and outputting data for the *Checklist* – is relatively straightforward because the *Code* (ICZN 1999) governs how such names should be treated. Authors can disagree about whether a new species name is valid or invalid (i.e., a junior synonym) but the name itself is nomenclaturally “available” and cannot be ignored. At the present time the *Checklist* lists only valid names of species, without lists of synonyms.

Unlike new names, there are no rules regarding the classification of species into a hierarchy of genera, tribes and subfamilies. These are subjective categories and authors are governed by their own perceptions of how best to classify tachinids. In the past, authors favouring large genera were termed “lumpers” and those preferring small groups were “splitters” but in modern times there is less of a division into these two extremes. Our purpose with the *Checklist* is not to lead the way in revising the classification of world Tachinidae but to reflect its current status, bearing in mind there is no single agreed-upon or “official” classification of the Tachinidae.

The traditional four subfamilies are recognized in the *Checklist* along with a conservative approach towards tribes and problematic taxa. This arrangement of higher categories is expected to change as a clearer understanding of tachinid evolution emerges. Phylogenetic studies like those of Cerretti *et al.* (2014), Blaschke *et al.* (2018) and Stireman *et al.* (2019) are suggesting that the current classification mirrors the phylogenetic history of the family in many respects but their findings also question the current number and composition of subfamilies and tribes. There is a renewed interest in tachinid phylogenetics and more researchers are getting involved in this field of study. In fact, in this issue of *The Tachinid Times* there are reports by three graduate students about their current studies on relationships within the Voriini (Torres 2020), Dexiinae (de Santis 2020) and Tachinini (Gudin 2020).

Generic names

Version 1 of the *Checklist* listed only valid generic names along with author(s) and year of publication. Version 2 provides lists of all generic synonyms and expands on the basic information given previously to consist of the following: genus name in italics and capital letters (in bold if valid), author, year (with suffix to match a publication listed in accompanying references), page(s), note in parentheses if applicable (e.g., junior homonym or proposed as subgenus), type species with author and date, form of type fixation, and country (or region, such as Europe, if country unknown) of the type locality of the type species in square brackets. Each type species is cited in its original binomen (Recommendation 67B of the *Code*, ICZN 1999), and if that name is a synonym then it is followed by the valid name of the species in parentheses.

Article 70.3.2 of the *Code* was invoked in previous catalogues (e.g., O'Hara & Cerretti 2016) to fix the type species of a generic name as the intended species in instances where the type species was misidentified. We have avoided doing this in the *Checklist* but have indicated where such actions are needed using the following format:

PACHYMYIA Macquart, 1844 α : 115 [also 1844 β : 272]. Type species: [to be fixed under Article 70.3.2 of the *Code* (ICZN 1999) as *Pachymyia macquartii* Townsend, 1916, misidentified as *Stomoxys vexans* Wiedemann, 1830 in the fixation by monotypy of Macquart (1844 α)] [Brazil].

Species names

Species information in Version 1 consisted of a valid name, author(s), date, distribution, and original combination (original genus name and original spelling of species name). Version 2 has one addition: a citation for the publication and page number of the original description. Information about synonymy and name-bearing types is not provided because we have not yet entered all of the relevant data into our database.

References

Literature cited in the *Checklist* is now listed in the References. This section also includes most of the literature pertaining to information not yet given in the *Checklist*, such as species synonyms and name-bearing type data. The list of over 3000 references contains a substantial proportion of the systematic literature on Tachinidae.

A problem we faced in synchronizing reference citations between our FileMaker Pro nomenclatural database and EndNote references was to uniquely identify each paper published by an author in a given year. The standard method for doing this is to add a Roman letter suffix to the year of publication. For example, the 18 papers of C.H.T. Townsend we cite for 1915 would normally be given as 1915a to 1915r. However, this is problematic when subsets of references are extracted from our database for various purposes; e.g., the species of a country, the genera of a region, or the taxa belonging to a tribe. This inevitably results in a reference list with gaps in the Roman letter suffixes. It is easy to change a series from “1915b, 1915e, 1915g, 1915i” to “1915a, 1915b, 1915c, 1915d” when a reference list is short but is more challenging when hundreds or thousands of references are involved. For this reason and others Roman letter suffixes were the bane to our databasing and cataloguing efforts.

We solved the problems associated with Roman letter suffixes by replacing them with a different character set, namely the Greek alphabet. This was chosen because the characters are easy to recognize, they are cross-platform compatible (FileMaker Pro, EndNote, MS Word, Adobe Acrobat, etc.), and they are not apt to appear in our products except as a suffix to a date. We treat the order of these as “unordered” when associated with a date; *no offense to the classically trained intended!*

As an example of our system for uniquely identifying publications, the 18 Townsend papers mentioned above are cited in Version 2 of the *Checklist* as follows:

Townsend 1915 α , 1915 β , 1915 γ , 1915 δ , 1915 ϵ , 1915 ζ , 1915 η , 1915 θ , 1915 λ ,
1915 μ , 1915 π , 1915 σ , 1915 ς , 1915 τ , 1915 ϕ , 1915 ψ , 1915 ω , 1915 Ω .

Switching from unordered Greek suffixes to ordered (i.e., chronological) Roman suffixes is easier and less subject to error when producing various outputs from our database compared to switching from unordered Roman suffixes to ordered ones. There is less chance of error using the former method and the presence of Greek suffixes in a manuscript after the conversion is completed is a clear indication that an error has occurred during the process. Errors are far more difficult to spot when converting from unordered to ordered Roman letter suffixes.

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