

**TRAMEA, TRAPEZOSTIGMA, AND TIME (ANISOPTERA: LIBELLULIDAE).
A NOMENCLATURAL PROBLEM**

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The history of the names *Trapezostigma* and *Tramea* is reviewed and a strong appeal is made to preserve the name *Tramea* by honoring the work of the first reviser and rejecting a subsequent and unnecessary attempt at synonymy. In the case of *Tramea* vs. *Trapezostigma*, time still favors *Tramea* as shown by 111 years of continuous use in contrast to 37 for *Trapezostigma* by a minority of authors.

INTRODUCTION

The attempt in 1935 to revive the discarded genus name *Trapezostigma* to replace *Tramea* of long standing, has resulted in a duality of names for the taxon that time has not yet resolved, for *Tramea* is still the name preferred by most students of the Odonata. Because of this situation I have delved into the history of the two names in the hope of arriving at a logical and acceptable recommendation for solving the problem.

HISTORICAL REVIEW

HAGEN (1849: 174-175), in the second installment of a review of papers by Burmeister and Rambur, considered it most appropriate to mention that he later would like to take out a small group [then included under *Libellula*] as a separate genus under the name *Trapezostigma*. "Es ist die Gruppe 1 und 2 von Rambur, welche den Sectionen A.I.a. ♂ und ♀ und b. ♂ Burmeister's entspricht; und die Verwandten von *L. carolina* und *variegata* Linn. enthält." Regarding the 25 species included in the combined groups he mentioned that wing structure,

characteristic shape and size of the pterostigma and of anal appendages showed sufficient characters to justify the erection of a distinct genus; that the genus would be divided into two sections, "die durch *L. carolina* und *variegata* typisch angedeutet sind."; that the definition of a number of species was going to be difficult because only males were preserved in collections accessible to him. He also mentioned several species he thought would be distinct, some that he considered to be synonyms, and others about which he could not yet form an opinion or did not know; and estimated that the new to be formed genus would contain at most 20 described species. Hagen proposed no diagnostic generic character or combination of characters by which the species of the combined groups could be distinguished from other members of *Libellula*, nor is there a definition, or description of these groups in the papers reviewed by which a diagnosis can be deduced. No bibliographic reference was given by Hagen other than as indicated in the quotation cited above and "Die Arbeiten von Burmeister und Rambur" as a subheading of the preceding installment (1849: 141).

In 1861, HAGEN described three new genera – *Pantala* (p. 141), *Tramea* (p. 143 and 316), and *Celithemis* (p. 147), all of which contained species either listed or indicated in 1849 as belonging to his "neu zu bildende Gattung", as follows: From Group I – *Pantala* (1 species), *Tramea* (6 species, including its typical species *L. carolina*), and from Group II – *Celithemis* (3 species, 2 of them now synonyms). In 1867, he described *Tholymis* (p. 221) which claimed another species of Rambur's "Premier groupe". He also introduced the name *Rhyothemis* (p. 232) giving *L. Phyllis* as the first species of his first group of this genus, and *L. variegata* Linnaeus (the same species referred to in 1849 as "typisch" of his Group II) as the first species of his second group. The remaining species of Rambur's "Deuxième groupe" were also listed for this genus. *Rhyothemis* was accepted by BRAUER when he added a new species (1867: 815-816) and later described the genus (1868: 714) listing all the species outlined by Hagen. The remaining seven species (two of them synonyms) in the groups of Burmeister and of Rambur, suggested in the original concept for a new genus, were apparently those Hagen referred to as unknown to him. These were later placed in the genus *Tramea* by KIRBY (1890). Thus, instead of one genus, five genera were formed and none of the generic names can be said to have been substituted by Hagen or Brauer for *Trapezostigma*.

In 1889 KIRBY designated type species for these five genera. In each case he selected the first species listed by Hagen under each genus, which for *Tramea* was *L. carolina* Linnaeus. He made no mention of *Trapezostigma* in this revisionary paper based on the *Libellulinae* in the British Museum nor in his Catalogue of the Odonata published the following year (1890).

RIS (1913: 971), in his monumental monograph of the subfamily *Libellulinae*, mentioned the name *Trapezostigma* for the first time since its introduction. For the sake of stability he decided not to revive it because it was a

forgotten name unaccompanied by a generic diagnosis. The name was discussed under the genus *Tramea* apparently because its type species and the typical species for Rambur's group I included by Hagen under *Trapezostigma* were the same. It was not given any valid status, nor listed in the synonymy under *Tramea*.

No further mention was made of the stillborn *Trapezostigma* in the literature until COWLEY opened its grave in 1935. To revive the name, Article 25 of the 1926 Rules was applied, using an incomplete citation (i.e. by author only) to a bibliographic reference as the required "indication". The type species of *Tramea* was selected as the type species of *Trapezostigma* because synonymizing *Tramea* would "cause the least inconvenience" – and yet, *Tramea* included more species and had been mentioned more times in the literature than any one of the other four genera involved. Article 29 governing the division of a genus, and the recommendation in Article 20, III (k) were overlooked. No mention was made of *Tholymis* and *Rhyothemis*. The latter, as noted above, was the last genus to be described and contained the remaining species of those tentatively allotted to *Trapezostigma*, including one of the typical species. As justification for using an incomplete bibliographic reference, Cowley stated that Rambur and Burmeister each had only one paper prior to 1849, but actually each had two. The papers referred to by Hagen can be identified only by author and content.

DISCUSSION

The question of the wisdom of resurrecting and giving priority to a discarded or forgotten name of a species or genus in preference to a well established one has been the subject of discussion for more than a century. As noted by CALVERT (1912: 225), "Both the priority principle and the principle of *nomina conservanda* appeal to the common sense and unanimous consent of naturalists and the former has no more certain footing than the latter." However, if a law of priority should make an exception of such names not used since their introduction especially those only provisionally proposed and never used again even by their own authors, and would be limited to determining which of two names in use should be given preference, there undoubtedly would be much less objection to it and much more stability in nomenclature. "Priority, like any other law that does not admit of progressive, intelligent and practical application, is sadly in need of either amendment, or elimination", according to Webster (CALVERT, 1912: 181). Aldrich (CALVERT, 1912: 182) predicted, "After we get past the period of priority-worship, scientists will look back in astonishment at the actions of the last decade or two." Without waiting for the passage of time, some scientists could foresee the consequences of allowing no exceptions, others now admit that absolute priority for all cases has caused considerable instability where none existed before, and some continue to be blind. Although the latest

Code for zoological nomenclature (1964) has been revised to make exceptions of names not in use for 50 or more years, it does not provide any means of restoring a name needlessly, and questionably or erroneously, synonymized, other than referring it to a commission. If the members of the commission happen to be adamant priorists, or consider an odonate name not important, there is no hope of a just decision from them. Surely, competent revisers of a subfamily or genus, and others experienced in the taxonomy of their fields of specialization, as well as time, should be recognized as the best judges.

Pioneers in the study of the Odonata apparently cooperated and decided among themselves whose name should be accepted for a given genus or species. Allowances were made for manuscripts that were held up for publication because of having to wait one or more years for plates to be made, or for other delays. Also, if an author wished to have a name ignored that he prematurely mentioned, his wishes were respected. This would seem to be the case with the generic name, *Trapezostigma*. After its untimely introduction, Hagen never mentioned the name again nor did any of his peers use it. His attitude toward unused names is clearly stated twice in his paper of 1888 where he said (p. 31), "genera . . . during 43 years, never used, not even mentioned, have certainly no right of priority", and again (p. 34), "I have shown before that three of the genera were relinquished by the author directly, and that the names were never used by himself or anybody else, and that they could not be considered therefore to have the right of priority to supersede other names 37 years later." I believe his omission of any mention of *Trapezostigma*, and of his fellow workers also, was intentional and not a matter of forgetfulness as suggested by COWLEY (1935).

Dr. Hagen was one of the foremost taxonomists of his time, a pioneer and a meticulous worker. It is evident he completely revised his preconceived idea for a new genus and did not consider he had formally or validly proposed a generic name in 1849 any more than we would under similar circumstances today, and by abandoning the name altogether he would avoid any association or confusion with it. If Dr. Hagen were still living and told that *Trapezostigma* had to be recognized as a valid generic name, I am certain his protests would be explosive. What a confused world this would be if all our intentions and hopes were regarded years later as having happened, or if we had to follow through with some unfeasible idea just because a preliminary conception had been mentioned as an aside comment and appeared in print. If Hagen had actually built a fragile structure that had broken down with use, the problem would be quite different.

A survey of the literature since 1935 shows that a majority of authors use the name *Tramea*. Some authors who have not, have mentioned (*in lit.*) that they would prefer to do so.

SUMMARY AND CONCLUSIONS

Hagen's preliminary concept for a new genus, *Trapezostigma*, was purely hypothetical in the sense that the selected groups of Rambur and of Burmeister were to be the working basis for something that had not yet been proven or undertaken.

A reconsideration of the 1926 Rules shows that *Tramea* should not have been declared a synonym by COWLEY (1935), first because *Trapezostigma* had already been rejected by RIS (1913), the first reviser; and second because only part of pertinent and available data was considered in the attempted synonymy. Bibliographic references identifiable only by author and content would hardly seem to qualify as an "indication" under Article 25. Two of the five genera formed from species of the hoped for genus were overlooked. One of them, *Rhyothemis*, was the last to be described and contained all of the remaining species, including one of the typical species. If it had been necessary to revive the name *Trapezostigma*, *Rhyothemis* would certainly have been the one indicated by the Rules.

It is unfortunate that in applying the Rules of 1926, ones were selected and stretched in a misguided attempt to synonymize an established name instead of choosing ones to preserve it. A problem was created where none existed before, thus defeating the purpose for which rules are formulated. It is also unfortunate that it is too late to make use of Article 23b of the 1964 Code by which *Trapezostigma* would unquestionably have been considered a *nomen oblitum*. If we can judge by the past 37 years, *Trapezostigma* may never attain preeminence, at least not for many years. *Tramea* for 74 years was the only name used for the taxon, and, because of its continued use since the attempted synonymy, has had to date a life-span of 111 years. The name has been used a tremendous number of times in the literature and to insist on replacing it will only add to a confusion that can never be obliterated.

Dr. Ris's decision as the first reviser can rightfully be accepted instead of that of Cowley. For the sake of stability, I strongly urge that we end the duality of names by a unanimous return to the time favored *Tramea*.

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