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Thalhammer's thaumaleids and the Thaumaleidae of Hungary (Diptera)*

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Thalhammer's thaumaleids and the Thaumaleidae of Hungary (Diptera) — Thaumaleids in János Thalhammer's collection are discussed, incl. the type of *T. thalhammeri* Zilahi-Sebess, 1956. *T. aperta* Martinovský et Rozkošný, 1976 and *T. remota* Martinovský et Rozkošný, 1976 are reported as new for the Hungarian fauna. A list of the other thaumaleid species which are expected to occur in Hungary is also given. With 5 figures.

Key words: Thaumaleidae, taxonomy, faunistic list, new records, Hungary.

INTRODUCTION

Thaumaleidae is one of the families of the worst known nematoceran dipterous flies in Hungary. The old collection of the Budapest Museum, which was annihilated in November 1956, contained a very low number of thaumaleids from the historical Hungary – if any. János Thalhammer had some thaumaleids in his collection but the identity and history of those specimens raised a number of questions. The new collection of the Department of Zoology, Hungarian Natural History Museum, Budapest (below: HNHM) had for decades three specimens from the Carpathian Basin, and only one from Hungary of today. In the frame of the project "Large blank spots in the Diptera fauna of Hungary" species representing dipterous families formerly not recorded from Hungary are to be collected and published. As a matter of course, species representing genera not recorded yet and species new for the Hungarian fauna are also targets of our activity. Four years of the project (OTKA T 30242, 1999/2002) comprise a reasonable period of time, for which a fair support is provided for true faunistical studies. The results will hopefully be also included in the "Checklist of the Diptera of Hungary". In 1999, the first year of the project, the senior author collected also a number of thaumaleids in Hungary, which may serve as a basis for answering questions about Thalhammer's thaumaleids and also for a review of those species which may occur in our country.

János Thalhammer (1847–1934), a Jesuit priest and grammar school teacher was the first significant collector of Diptera in Hungary. He collected flies in Spain and in

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Austria but mainly in South Hungary. He built up a collection in Pécs, when he served there, and later another one in Kalocsa. Unfortunately, he did not label a part of the specimens properly. Later he knew definitely which of the specimens were from the Pécs collection and which one from the Kalocsa collection. Consequently, his note "Pécs" does not always mean the city Pécs or the vicinity of Pécs (which would be a matter of course) but his *Pécs collection*. The same applies also for "Kalocsa". This fact was repeatedly mentioned to us by the late Ferenc Mihályi and Árpád Soós, when we talked about the history of dipterology of our country. Otherwise Thalhammer left a smaller part of his Diptera collection in Pécs. The *Anthrenus* larvae destroyed it, since nobody cared it in a secondary school collection (Dr. M. Wéber, pers. comm.).

In the eastern edge of the historical part of Pécs there is a lime stone mine closed long ago (mining started in the Roman ages) with some very productive karst-spring streams. The area's name is Tettye. Tettye plateau and a ca. 1 km long valley had a special warm and humid climate due to the spring and human impact. The basis for manufacture industry was provided by about 40 small water mills, i.e. the Tettye brook had an important role. In addition to a number of the smaller type plant, series of mills powered by water fall in the karst spring stream of Tettye were set up in 14th century. The water energy used not only the millers, but the other manufacture as well black smiths, as Bosnian tanners and other professions. So Thalhammer could collect in this special humid habitat. The brook was canalised and covered at the end of the 19th century. The historical picturesque structure of this Tettye district has remained until now. However, the manufactures have already been closed, the source of the special humid microclimate did not exists any longer.

When transporting Thalhammer's collection from Kalocsa to the Természettudományi Múzeum Budapest in (?) 1955, Árpád Soós received also his had-written collection register (catalogue), which is now preserved in the library of the Diptera collection of the Hungarian Natural History Museum. Thalhammer made this list not much before his death; that time he had suffered from Parkinson's disease and so his writing was trembling though readable in almost every word. The page where the "Orphnephilidae" of his collection was listed, is given as Fig. 1. Only in the minority of the species he also gave the number of specimens (or those are the numbers of species in a group, we do not know), written with pencil on the right. Fortunately this is the case with the two thaumaleid species: so he had specimens of *obscura* from "Styria" and two specimens of *testacea* from "Pécs" in his original collection (as a matter of course with old records of Thaumaleidae, we do not know the true identity of those specimens).

He listed two species of "*Orphnephila* HAL." in the Diptera part of the Fauna Regni Hungariae (under "Fam. BLEPHAROCERIDAE"): "*testacea* Ruthe" and "*nigra* Lw". None of the specimens are from the present Hungary (Tátra, Mehádia, Bucsecs), and, what is even more interesting for our present theme, the specimens were not from his collection (cf. Fig. 1). It is almost sure that he simply had no specimen of *Thaumalea* by 1899 in his collection. Later he collected some in Austria and also somewhere in the Mecsek Mts near Pécs (see below).

Zilahi-Sebess (1960) published a booklet on six nematoceran families in the "Magyarország Állatvilága", Fauna Hungariae series, incl. "Thaumaleidae – Hajlószárnyú muslicák". In that booklet he keyed four *Thaumalea* species ("divaricata Edw.", "Thalhammeri Z.-Seb.", "testacea Ruthe", "austriaca Edw."), **all from Pécs**, and other three species which he reported from the other parts of the Carpathian Basin ("obscura Zett.", "nigra Loew", "rumanica Edw."). Earlier he described (1956) a new species of *Thaumalea* from Thalhammer's collection as from "Pécs,...". *It is more than obvious that*

two specimens cannot belong to four species; however, even if that figure means the number of species, we cannot exclude that specimens of those four species including the type of T. thalhammeri are from Styria but from the Pécs collection.

For curators, like us, it is a first question, where are Thalhammer's specimens of *Thaumalea* (and very numerous other flies from his collection). It was most unfortunate that the late Árpád Soós transported the collection not long before the 1956 fire to the HNHM Diptera collection. And since there was not enough space in the existing collection, Thalhammer's *original* boxes were put on the top of the collection cases, where the contents of the boxes belong taxonomically. As a very sad consequence, they burnt together with the main collection. Althought it does not belong to the theme of this paper, we must make another note here. The material, which was not annihilated, was also damaged. Rain, which was pouring through the demolished roof, found its way to the boxes on the top of the cases of the "Acalyptrates" causing not only rust on the needles but smudging the hand-writing on the labels written with *aniline*-ink by one of the museum's assistants, very much against Ferenc Mihályi's advice. Any material of nematocerous flies, which survived the fire, must have been on loan, in our case to Géza Zilahi-Sebess of the Debrecen University. His collection there was for long periods without proper curating, and so *Anthrenus* larvae destroyed a good part of it, including Diptera specimens of the Szabó's collection (types of *Dixa atra*, etc.). All in all no specimen of *Thaumalea* from the Thalhammer's collection exists today. The only type of *T. thalhammeri* is also lost, so a neotype designation seems obligatory.

All the specimens we report below from Hungary are preserved in the Diptera collection of the HNHM. The specimens were mostly collected by László Papp, so this name is not given below, but in cases he collected them together with Zsuzsanna Bajza or Albert Szappanos. The year 1999 is also omitted. The months are given as on the collection labels, i.e., May: május, 05., June: június, 06., July: július, 07., etc.; since labels are written in Hungarian, months come first. The following Hungarian words are on numerous labels: "patak fölött": over the brook, "patak fölött és mellett": over and along/beside the brook.

Some abbreviations used also on collection labels: NP: Nemzeti Park [National Park], TK: Tájvédelmi Körzet [Landscape Protected Area], TT: Természetvédelmi Terület [Nature Reserve], hg., hegys.: hegység [mountains], v.: völgy [valley].

Thaumalea aperta Martinovský et Rozkošný, 1976 – Zempléni TK: 5 males: Nagyhuta [correctly: Regéc], Vajda-v., patak fölött, június 10.; 3 males: ibid., június 9., Papp L., Szappanos A.; 1 male: ibid., június 8., Papp L., Szappanos A.; 4 males, 1 female: Füzér: Alsó-patak, fölött és mellett, június 29., Papp L., Bajza Zs.; 1 male, 1 female: Nagyhuta, Vajda-v., Kemence-patak fölött, június 28., 30., Papp L., Bajza Zs.; 3 females: Regéc, Vajda-völgy, Becsület-forrás, 1997. VI. 6. It was described from the Tatra Mts (Slovakia) and from the Beskid Mts (Moravia, Czech Republic) an it is new for the Hungarian fauna. Its finding in the Zempléni Mts may be regarded as a good indication for the occurrence of many other Carpathian species in our country.

Thaumalea bezzii Edwards, 1929 – 1 male, 1 female (minutens on the same collection pin): "Mehadia, 13.6.12.", "testacea dt. Old.", coll. Oldenberg. 1 male: Kőszeg Ny., Szil[ády] 938.V. 1 male: B[ükk] NP: Miskolc, Garadna-p. völgye, 1991. V. 26., Papp L. These four specimens were identified by Dr. Rüdiger Wagner and also labelled with "det. R.W. 1985". In all probability the specimens from Mehadia and Kőszeg survived the 1956 fire in the Debrecen University. This species with its Bükk male was published by Papp (1996) as new for the Hungarian fauna.

Newly collected material: K-Mecsek TK: 2 males: Óbánya, Óbányai-völgy, patak fölött, május 26. Börzsöny TK: 5 males, 2 females: Szokolya, Szén-patak fölött, július 4. Zempléni TK: 1 male: Füzér: Alsó-patak fölött és mellett, június 29., Papp L., Bajza Zs.

Since *T. bezzii* Edwards was misidentified as *T. testacea* Ruthé in numerous cases in the past, we think it probable that Thalhammer's two specimens of "*testacea*" were actually *bezzii* specimens. At least we proved that thaumaleids live also in the Mecsek Mts (South Hungary), which thought to be a "warmer" low mountain by some people also in Hungary. After all, since – as far as we are informed – there is not any voucher specimen

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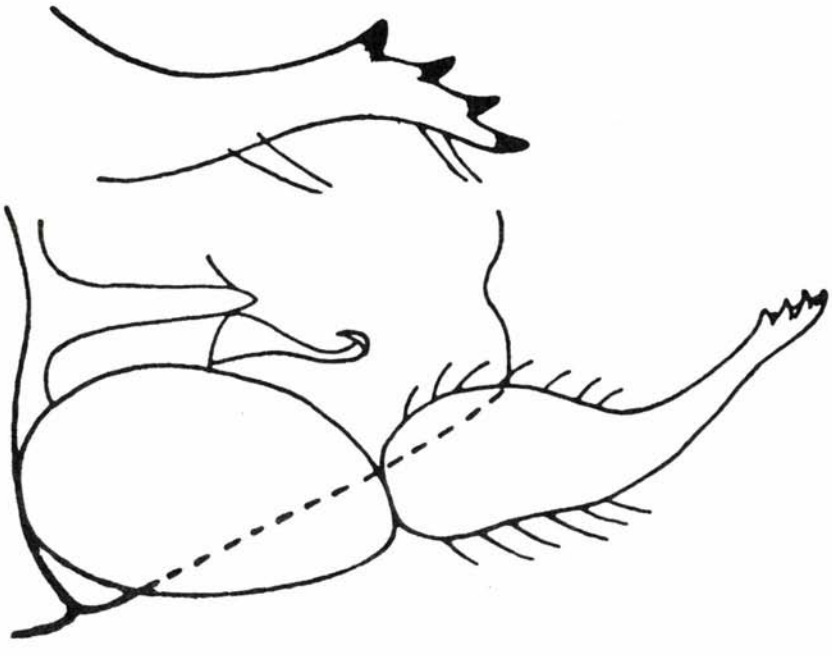

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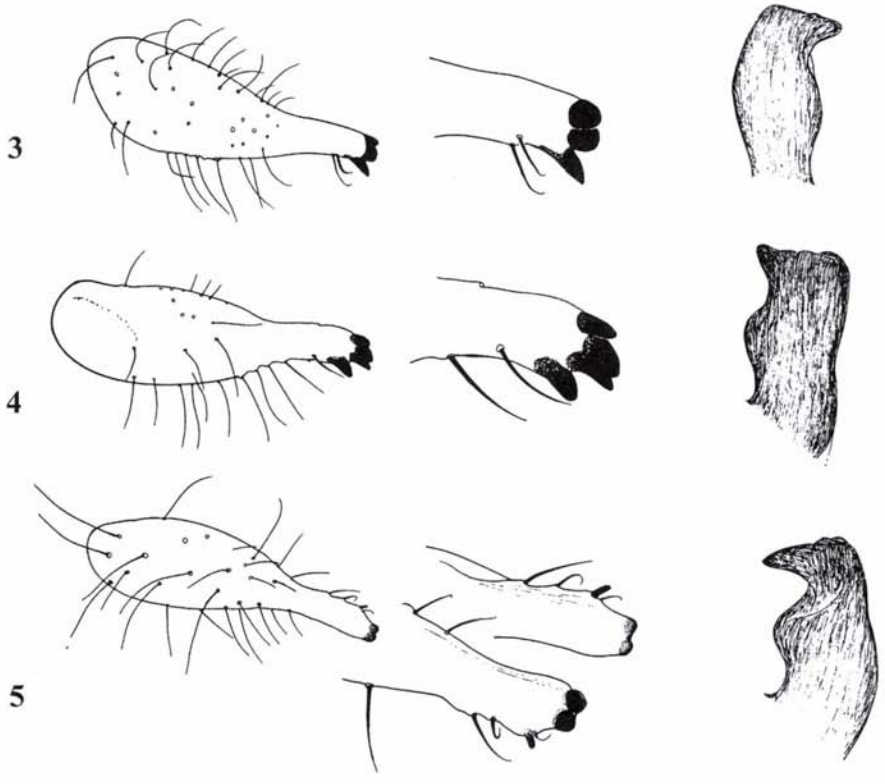
Figs 1–2. — 1: A part of the page of "*Orphnephila*" in Thalhammer's hand-written collection catalogue (register); — 2: Zilahi-Sebess's figures for his *Thaumalea thalhammeri*

of *T. testacea* Ruthé, 1831 from Hungary of today in any of the collections, we may have listed it as a species expected to occur in our country only. However, as Dr. Rüdiger Wagner wrote us (pers. comm.), it is better to list *T. cebennica* Vaillant instead, since *T. testacea* Ruthé seems to be a North West European species.

As a consequence of their life-habits, thaumaleids are prisoners of the brook wherein they develop, particularly so for warmer, less high mountains. The processes of speciation in these cases may be quicker than usual. Thus the populations of widely distributed species like *bezzii* are isolated from each other, and no surprise that the fine details of male genitalia are different from locality to locality. To illustrate this, we depicted the gonostyles and parameres of males in three populations (Mehadia, Roumania, Bükk Mts: Miskolc and Mecsek Mts: Óbánya; Figs 3–5).

Thaumalea remota Martinovský et Rozkošný, 1976 — Zempléni TK: 1 male: Nagyhuta [correctly: Regéc], Vajda-v., patak fölött, június 10.; 1 male: ibid., június 8., Papp L., Szappanos A.; 2 males: ibid., Kemence-p. fölött, június 29., Papp L., Bajza Zs.: 1 male: ibid., június 28.; 1 female: Regéc, Ördög-v., patak fölött, június 29., Papp L., Bajza Zs. [Malaise trap]. Börzsöny TK: 9 males 20 females: Szokolya, Szén-patak fölött, július 4. It was described from Moravia and Slovakia and it is new to Hungary. Its females were easily identified since their flagellomeres bear longer hairs than those of the other two species.



Figs 3–5. Gonostyle (dististyle), apex of gonostyle and paramere in the *Thaumalea bezzii* Edwards, 1929 populations. — 3: Mehadia, Roumania, 4: Bükk Mts, Miskolc, 5: Mecsek Mts, Óbánya

Thaumalea thalhammeri Zilahi-Sebess, 1956 (Fig. 2) — The single holotype was described from "Pécs" and since that time its was found in Austria, Styria only (R. Wagner, pers. comm.). This latter record makes it probable that the holotype was one of the specimens of "*obscura*" in Thalhammer's collection.

We think all the following additional species may occur in Hungary (based mainly on Martinovský and Rozkošný's catalogue (1988)): *Androprosopa larvata* (Mik, 1888), *A.* (*Orphnephilina*) *nigra* (Loew, 1871), *Thaumalea austriaca* Edwards, 1929; *Thaumalea caudata* Bezzi, 1913; *Thaumalea cebennica* Vaillant, 1977; *Thaumalea decussiferens* Vaillant, 1969; *Thaumalea edwardsi* Tjeder, 1949; *Thaumalea miki* Edwards, 1929; *Thaumalea rumanica* Edwards, 1929; *Thaumalea tatrica* Vaillant, 1969; *Thaumalea truncata* Edwards, 1929; *Thaumalea vaillanti* Martinovský et Rozkošný, 1976.

So we have to stress that none of the four species reported from Hungary by Zilahi-Sebess (1960), is at present members of the Hungarian fauna. It may also be expected that some other species, which are known now from lower altitudes in the Alps (incl. *T. thalhammeri*) or in the mountains of the Balkan Peninsula, will be found later in Hungary. However, it would not be reasonable to lengthen the above "list of requests". Of course, it must be borne in mind that we are at the very beginning in the survey of the thaumaleid fauna of Hungary. The history of this survey is long in time but poor in facts. We do not think that there would be much more information available than what was written in this paper.

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