

## A NEW THAUMALEID (DIPTERA) FROM MADEIRA <sup>1</sup>

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Figs. a-i.

The Thaumaleidae are flies of a very small family of Nematocera.

Imagos are easy to recognize, for they have short antennae and their wings have a line of weakness, that allows them to be folded near their base. These flies are unable to fly for a long distance, and they stay near the brooks and springs where the larvae live. During the daytime, especially in summer, they stay in shady places, on the undersides of leaves or under overhanging rocks.

Larvae of Thaumaleidae are very peculiar. At first sight, they do not seem very different from larvae of Chironomidae, but they are orthognathous and amphipneustic and they have a very special way of swiftly gliding on water. Their ecological area is restricted to the petrimadic (=hygropetric) habitat; i. e. they live on rocks covered by a very thin layer of running water. This layer must never become too warm; otherwise they die. Thus their habitat is restricted to dripping rocks and to the margins of springs and brooks that are sufficiently shaded.

Thaumaleids are more common in mountainous regions than on plains, and are found in the Alps up to 2500 m, and in North Africa up to 3300 m.

The flies of the family Thaumaleidae are found on all continents, but,

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1) Report No. 28 from the Lund University Expedition in 1957 to the Azores and Madeira.

2) Zoological Institute of the University of Grenoble, France.

up to the present, only 67 species have been recorded. Their distribution is as follows:

	Athrothaumalea Stuckenberg	Austrothaumalea Tonnoir	Trlethothaumalea Edwards	Thaumalea Ruthé	Androprosopa Mik
Oceania. . . . .	2				
North America . . . . .			1	5	
South America . . . . .	5				
Asia . . . . .				11	
North Africa . . . . .				2	
South Africa . . . . .	2				
Europe . . . . .				38	1

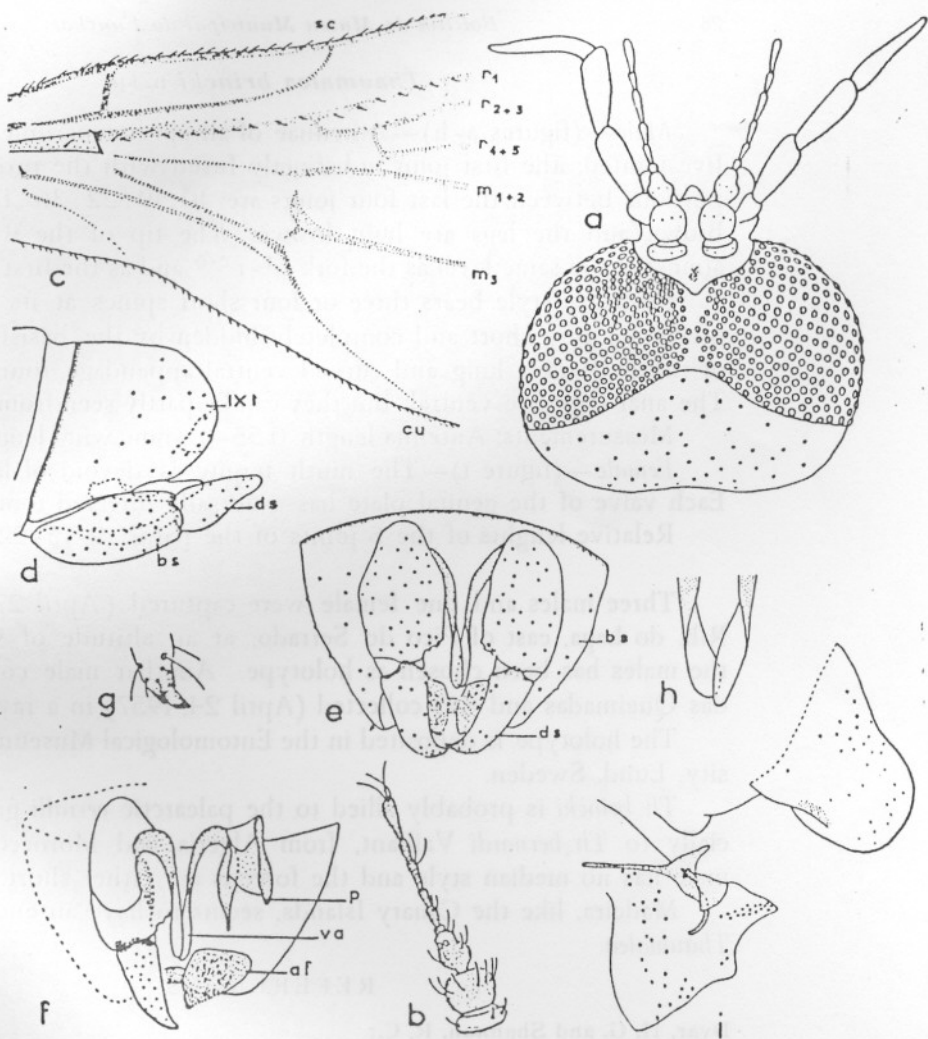
As can be seen, there are species of *Thaumalea* both in North Africa and in North America. It would be interesting to find out if any of them occur in the islands of the Atlantic Ocean between Africa and America.

Th. Becker described a male specimen of *Thaumalea* captured in the Canary Islands and, as it belonged to a special species, named it *Th. subafricana*. In 1929, F. W. Edwards described the same specimen again and figured its genital parts. He believed it to be distinct from the European species and more nearly related to North American forms.

Indeed *Th. subafricana* has terminal spines on its dististyles like those of the American species, but in many ways *Th. americana* Bezzi and *Th. thornburghi* Vaillant from North America, *Th. subafricana* Becker, from the Canary Islands, and *Th. algira* Vaillant from North Africa seem to be closely related. The ninth abdominal tergite is truncate distally and does not hide the forceps on their ventral side at all. The forceps are short. The parameres are long and curved. There are no ventral appendages. Probably, all four species have their anal flaps inside the genital capsule.

Dr. Per Brinck was kind enough to send me five specimens of *Thaumalea* he captured in Madeira with Dr. Dahl. I am greatly indebted to him for this favour.

Four of the specimens are males, belonging to the same, hitherto undescribed species. They are preserved in alcohol and are in perfect condition. The other fly is a female, but the flagella of its antennae are broken off. As the wings of the female are like those of the four males, it probably belongs to the same species, and is, therefore, included in the description.



Figures a-h: *Thaumalea brincki* n. sp., male. a: head, from above. b: left antenna. c: proximal part of the wing. d: genitalia, side-view. e: genitalia, ventral view. f: on the right side, genitalia, ventral view (the forceps and the ventral part of the ninth tergite having been taken out); on the left side, forceps and ventral appendage, dorsal view. g: distal part of the right dististyle. h: distal part of both ventral appendages, ventral view.

Figure i: *Thaumalei brincki* n. sp., female, genitalia, side view.

af: anal flap. bs: basistyle of the forceps. ds: dististyle of the forceps. p: paramere. va: ventral appendage. IXI: ninth abdominal tergite.

*Thaumalea brincki* n. sp.

*Male*—(figures a-h)—Antennae of all specimens nine-jointed. Palpae five-jointed; the first joint indistinctly fused with the proboscis; the proportions between the last four joints are: 10:19:22:36. The body is dark brown and the legs are light brown. The tip of the wing nerve  $sc$  is almost at the same level as the fork  $r^1-r^{2-5}$  and as the first segment of  $m_3$ .

Each dististyle bears three or four short spines at its tip. The parameres are very short and completely hidden by the basistyles. Each one of these bears a long and curved ventral appendage, rounded at its apex. The anal flaps are ventral, but they can be partly seen from the dorsal side.

Measurements: Antenna length: 0.55-0.6 mm; wing length: 3.2-3.8 mm.

*Female*—(figure i)—The ninth tergite is devoid of lateral processes. Each valve of the genital plate has a dorsally directed tooth.

Relative lengths of the 5 joints of the palpi: 9-15-22.5-29-37.

Three males and one female were captured (April 27, 1957) on the Rib. do Laga, east of Pico do Serrado, at an altitude of 900 m. One of the males has been chosen as holotype. Another male comes from Casa das Queimadas and was collected (April 24, 1957) in a ravine at 880 m.

The holotype is deposited in the Entomological Museum of the University, Lund, Sweden.

*Th. brincki* is probably allied to the palearctic *verralli* group and especially to *Th. bernardi* Vaillant, from Algeria and Morocco, although the male has no median style and the forceps are rather short.

Madeira, like the Canary Islands, seems to have an endemic species of *Thaumalea*.

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