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A catalogue of the family Agaonidae (Hymenoptera, Chalcidoidea) of Eritrea

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A b s t r a c t : In Eritrea the family Agaonidae is represented by four genera and eight species. The subfamily Agaoninae is known by four species in the genera *Elisabethiella* GRANDI, 1928 (three species) and *Platyscapa* MOTSCHOUFSKY, 1864 (one species). The subfamily Kradibiinae is represented by four species in the genera *Ceratosolen* MAYR, 1885 (three species) and *Kradibia* SAUNDERS, 1883 (one species).

Key words : Agaonidae, Agaoninae, *Elisabethiella*, *Platyscapa*, Kradibiinae, *Ceratosolen*, *Kradibia*, catalogue, Eritrea

Introduction

Although 13 *Ficus* species have been recorded from Eritrea (AWERKE 1979, BERG & WIEBES 1992), the fig wasps fauna is poorly known. Hitherto, only eight species of the family Agaonidae have been recorded mainly based on historical material. The subfamily Agaoninae is represented by the genera *Elisabethiella* GRANDI, 1928 and *Platyscapa* MOTSCHOUFSKY, 1864 and the subfamily Kradibiinae by the genera *Ceratosolen* MAYR, 1885 and *Kradibia* SAUNDERS, 1883.

Annotated catalogue

AWEKE (1979: 71, 101) recorded *Ceratosolen* cf. *occultiventris* (MAYR, 1885) from Senkata (Eritrea). This is probably a printing error, because the locality is situated in Ethiopia (Province Tigray).

Subfamily A g a o n i n a e

Elisabethiella allotriozoonoides (GRANDI, 1916)

Blastophaga allotriozoonoides n.sp.: GRANDI 1916: 126 (key ♀), 128 (key ♂, Eritrea without exact locality), 129 (footnote 2: taxonomy), 136 (footnote: taxonomy).

Blastophaga allotriozoonoides GRANDI, 1916: GRANDI 1917: 4 (taxonomy, description ♀ ♂, Ghinda), 6 (figs 1.1-10), 11 (figs 2.1-10).

Blastophaga allotriozoonoides GRANDI, 1916: GRANDI 1920: 126 (footnote 1: taxonomy), 129 (footnote 1: taxonomy), 131 (footnote 1: taxonomy), 133 (footnote 1: taxonomy), 135 (footnote 1: taxonomy).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1928a: 68 (taxonomy), 69 (taxonomy, catalogue Afrotropical region).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1928b: 217 (world catalogue).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1935: 221 (world catalogue).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1941: 8 (world catalogue).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1952: 76 (world catalogue).

Blastophaga (Elisabethiella) allotriozoonoides GRANDI, 1916: GRANDI 1955: 114 (world catalogue).

Elisabethiella allotriozoonoides (GRANDI, 1916): GRANDI 1963: 354 (taxonomy, world catalogue).

Elisabethiella allotriozoonoides (GRANDI, 1916): WIEBES 1966: 9 (world host-fig wasps catalogue).

Elisabethiella allotriozoonoides (GRANDI, 1916): WIEBES 1974: 31 (key).

Elisabethiella allotriozoonoides (GRANDI, 1916): BOUČEK, WATSHAM & WIEBES 1981: 167 (key).

Elisabethiella allotriozoonoides (GRANDI, 1916): WIEBES 1989a: 122 (key), 135 (taxonomy, Eritrea (GRANDI 1917)).

Elisabethiella allotriozoonoides (GRANDI, 1916): WIEBES & COMPTON 1990: 220 (pollinator-host catalogue Afrotropical region).

Elisabethiella allotriozoonoides (GRANDI, 1916): BERG & WIEBES 1992: 181 (biology), 234 (key ♀, tab. 9: taxonomy ♂), 242 (taxonomy, description ♀ ♂, biology, Ethiopia = Eritrea).

Host fig: *Ficus natalensis* HOCHSTETTER, 1847 – not recorded from Eritrea.

Distribution: Ghinda.

Elisabethiella allotriozoonoides is also known from Uganda.

***Elisabethiella glumosae* WIEBES, 1989**

Elisabethiella glumosae spec.nov: WIEBES 1989a: 119 (tab. 1: biology), 120 (tab. 2: biology), 122 (key), 131 (description ♀ ♂, biology, Ethiopia without exact locality (leg. Beccari) = Keren), 132 (figs 28-32).

Elisabethiella glumosae WIEBES, 1989: WIEBES & COMPTON 1990: 204 (tab. 1: host-pollinator catalogue Afrotropical region), 220 (pollinator-host catalogue Afrotropical region).

Elisabethiella glumosae WIEBES, 1989: BERG & WIEBES 1992: 39 (tab. 6: biology), 108 (biology), 234 (key ♀, tab. 9: taxonomy ♂), 240 (taxonomy, description ♀ ♂, biology, Ethiopia = Eritrea).

**Elisabethiella* sp.: AWEKE 1979: 28 (Keren – locality of host fig), 99 (biology, Ethiopia = Eritrea).

Host fig: *Ficus glumosa* DELILE, 1826.

Distribution: Keren.

Elisabethiella glumosae is also recorded from Cameroon, Republic of Guinea, South Africa, Tanzania, and Zambia. When I read the record from Ethiopia (leg. Beccari) by WIEBES (1989), I immediately thought, that the locality is situated in Eritrea. The record in AWEKE (1979: 28, 99) confirmed my presumption. The Italian botanist Odoardo Beccari (16.11.1843 – 25.10.1920) visited Eritrea in 1870 and collected mainly in Bogos, the area around Keren (ISSEL 1876).

***Elisabethiella socotrensii* (MAYR, 1885)**

Elisabethiella socotrensii (MAYR, 1885): AWEKE 1979: 92 (Saganeiti (Valle di Degerra) – locality of the host fig), 102 (biology, Eritrea part of Ethiopia).

Elisabethiella socotrensii (MAYR, 1885): WIEBES 1989a: 119 (tab. 1: biology), 120 (tab. 2: biology), 122 (key), 132 (fig. 27), 134 (taxonomy, biology, Saganeiti (Valle di Degerra)).

Elisabethiella socotrensii (MAYR, 1885): WIEBES & COMPTON 1990: 204 (tab. 1: host-pollinator catalogue Afrotropical region), 220 (pollinator-host catalogue Afrotropical region).

Elisabethiella socotrensii (MAYR, 1885): BERG & WIEBES 1992: 38 (tab. 5: biology), 39 (tab. 6: biology), 108 (biology), 122 (biology), 199 (fig. 41b), 200 (footnote: taxonomy), 234 (key ♀, tab. 9: taxonomy ♂), 242 (taxonomy, description ♀ ♂, biology, Eritrea part of Ethiopia).

Host fig: *Ficus vasta* FORSSKÅL, 1775.

D i s t r i b u t i o n : Saganeiti.

Elisabethiella socotrensis is known from the Afrotropical (Eritrea, Ethiopia, Kenya, South Africa, Tanzania, Uganda, Zambia, Zimbabwe, Socotra) and Palaearctic (Saudi Arabia) regions.

***Platyscapa soraria* WIEBES, 1977**

Platyscapa soraria spec.nov.: WIEBES 1980: 205 (figs 35-39), 206 (description ♀ ♂, biology, 18 km SW Asmara (road to Adua), footnote: taxonomy of host fig).

Platyscapa soraria WIEBES, 1980: WIEBES 1986: 350 (tab. 5: world parasitoid-host catalogue: Ethiopia = Eritrea), 351 (biology, Ivory Coast, South Africa).

Platyscapa soraria WIEBES, 1980: WIEBES & COMPTON 1990: 204 (tab.1: host-pollinator catalogue Afrotropical region), 219 (pollinator-host catalogue Afrotropical region, footnote 6: biology).

Platyscapa soraria WIEBES, 1980: BERG & WIEBES 1992: 24 (biology), 90 (biology), 196 (taxonomy), 222 (key, fig. 58d), 223 (key), 226 (taxonomy, description ♀ ♂, biology, Ethiopia = Eritrea).

**Platyscapa* sp.: AWEKE 1979: 41 (18 km SW Asmara (road to Adua)) – locality of the host fig), 100 (biology, Ethiopia = Eritrea).

H o s t f i g : *Ficus ingens* MIQUEL, 1867.

D i s t r i b u t i o n : 18 km S Asmara.

Platyscapa soraria is also recorded from Ivory Coast, Malawi, South Africa, Tanzania, Zambia and Zimbabwe.

Subfamily K r a d i b i i n a e

***Ceratosolen arabicus* MAYR, 1906**

Ceratosolen arabicus MAYR, 1906: GRANDI 1917: 15 (taxonomy, description ♀ ♂, biology, Ghinda (♂ partim), Keren), 16 (figs 3.1-10), 17 (footnote 1: taxonomy), 18 (figs 4.1-3), 20 (figs 5.1, 2), 22 (figs 5.1-11), 24 (figs 7.1-3).

Ceratosolen arabicus MAYR, 1906: GRANDI 1928b: 170 (taxonomy, biology, Eritrea (Grandi 1917)), 221 (world catalogue).

Ceratosolen arabicus MAYR, 1906: GRANDI 1935: 325 (world catalogue).

Ceratosolen arabicus MAYR, 1906: GRANDI 1941: 14 (world catalogue).

Ceratosolen arabicus MAYR, 1906: GRANDI 1952: 81 (world catalogue).

Ceratosolen arabicus MAYR, 1906: GRANDI 1955: 120 (world catalogue).

Ceratosolen arabicus MAYR, 1906: GRANDI 1963: 340 (world catalogue).

Ceratosolen arabicus MAYR, 1906: WIEBES 1964: 187 (taxonomy, Ghinda partim), 188 (taxonomy, Ghinda).

Ceratosolen arabicus MAYR, 1906: WIEBES 1966: 32 (world host-fig wasps catalogue).

Ceratosolen arabicus MAYR, 1906: WIEBES 1968: 307 (taxonomy, Ghinda), 309 (fig. 1: map).

Ceratosolen arabicus MAYR, 1906: GALIL, STEIN & HOROVITZ 1977: 202 (biology, Eritrea: Ghinda, Keren (WIEBES 1968)).

Ceratosolen arabicus MAYR, 1906: WIEBES 1989b: 252 (tab. 1: host-pollinator catalogue Afrotropical region), 254 (key ♀), 255 (taxonomy, Eritrea (MAYR 1906 – error, GRANDI 1917, WIEBES 1964, 1968), 256 (fig. 1: map).

Ceratosolen arabicus MAYR, 1906: WIEBES & COMPTON 1990: 204 (tab. 1: host-pollinator catalogue Afrotropical region), 220 (pollinator-host catalogue Afrotropical region).

Ceratosolen arabicus MAYR, 1906: BERG & WIEBES 1992: 25 (biology), 26 (tab. 2: biology), 27 (fig. 11), 27-28 (biology), 37 (biology), 38 (tab. 5: biology), 76 (biology), 77 (biology), 210 (key ♀), 211 (taxonomy, description ♀ ♂, tab. 8: taxonomy ♂, biology, Eritrea part of Ethiopia).

H o s t f i g : *Ficus sycomorus* LINNAEUS, 1753.

D i s t r i b u t i o n : Ghinda, Keren.

Ceratosolen arabicus, which is widely distributed in the Afrotropical region, is also known from Ethiopia and the Arabian Peninsula (Yemen).

***Ceratosolen galili* WIEBES, 1964**

Ceratosolen galili spec.nov.: WIEBES 1964: 188 (description ♀ ♂, biology, Ghinda), 189 (figs 1-15). *Ceratosolen galili* WIEBES, 1964: WIEBES 1968: 307 (taxonomy, biology, Ghinda), 309 (fig. 1: map). *Ceratosolen galili* WIEBES, 1964: WIEBES 1989b: 252 (tab. 1: world pollinator-host catalogue), 253 (tab. 2: world host-pollinator catalogue), 255 (key ♀), 261 (taxonomy, fig. 14, Eritrea (WIEBES 1964, 1968)).

Ceratosolen galili WIEBES, 1964: WIEBES & COMPTON 1990: 204 (tab. 1: host-pollinator catalogue Afrotropical region), 219 (pollinator-host catalogue Agaonidae Afrotropical region, footnote 4: biology).

Ceratosolen galili WIEBES, 1964: BERG & WIEBES 1992: 37 (biology), 38 (tab. 5: biology), 76 (biology), 77 (biology), 209 (key ♀), 210 (fig. 54f), 211 (tab. 8: taxonomy ♂), 215 (taxonomy, description ♀ ♂, biology, Eritrea part of Ethiopia).

Ceratosolen (Ceratosolen) galili WIEBES, 1964: WIEBES 1994: 126 (taxonomy, world catalogue).

**Ceratosolen arabicus* MAYR, 1906: GRANDI 1917: 15 (Ghinda (♂ partim – WIEBES 1964).

H o s t f i g : *Ficus sycomorus* LINNAEUS, 1753.

D i s t r i b u t i o n : Ghinda.

Ceratosolen galili, which is widely distributed in the Afrotropical region, is also recorded from Ethiopia and the Arabian Peninsula (Yemen).

***Ceratosolen julianae* GRANDI, 1916**

Ceratosolen julianae n.sp.: GRANDI 1916: 134 (taxonomy), 135 (taxonomy), 137 (taxonomy), 141 (taxonomy), 142 (taxonomy), 143 (taxonomy), 146 (taxonomy), 147 (taxonomy), 149 (taxonomy), 151 (key ♀), 152 (key ♂), 166 (description ♀ ♂, Asmara), 167 (figs 9.1-4), 168 (figs 10.1-9), 171 (figs 11.1-10).

Ceratosolen julianae GRANDI, 1916: GRANDI 1920: 72-73 (footnote 2: taxonomy).

Ceratosolen julianae GRANDI, 1916: GRANDI 1928b: 223 (world catalogue).

Ceratosolen julianae GRANDI, 1916: GRANDI 1935: 228 (world catalogue).

Ceratosolen julianae GRANDI, 1916: GRANDI 1941: 16 (world catalogue).

Ceratosolen julianae GRANDI, 1916: GRANDI 1952: 84 (world catalogue).

Ceratosolen julianae GRANDI, 1916: GRANDI 1955: 123 (world catalogue).

Ceratosolen julianae GRANDI, 1916: GRANDI 1963: 349 (world catalogue).

Ceratosolen julianae GRANDI, 1916: WIEBES 1989b: 252 (taxonomy (nomen oblitum), tab. 1: pollinator-host catalogue Afrotropical region).

H o s t f i g : unknown.

D i s t r i b u t i o n : Asmara.

Ceratosolen julianae, which is not mentioned in WIEBES & COMPTON (1990: 219), BERG & WIEBES (1992) and WIEBES (1994: 126), is also known from Cameroon.

***Kradibia gestroi afrum* (WIEBES, 1969)**

Kradibia gestroi afrum (WIEBES, 1969): BERG & WIEBES 1992: 26 (tab. 2: biology as *Kradibia gestroi* (GRANDI, 1916), 38 (tab. 5: biology as *Kradibia gestroi* (GRANDI, 1916), 42 (biology as *Kradibia gestroi* (GRANDI, 1916), 65 (biology), 69 (biology), 70 (biology), 205 (key), 206 (taxonomy, description ♀ ♂, fig. 52a (as *Kradibia gestroi* (GRANDI, 1916), biology, Eritrea part of Ethiopia).

**Liporrhopalum* sp.: AWEKE 1979: 15 (33 km S Nefasit – locality of the host fig), 99 (biology, Eritrea part of Ethiopia).

**Kradibia gestroi* (GRANDI, 1916): WIEBES 1978: 167 (tab. 1: host-pollinator catalogue), 170 (key), 176 (taxonomy, biology, Eritrea part of Ethiopia).

H o s t f i g : *Ficus capreifolia* DELILE, 1843.

D i s t r i b u t i o n : 33 km S Nefasit.

Kradibia gestroi afrum is also recorded from Cameroon, Ethiopia, Gabon, Ghana, Ivory Coast, Senegal, Tanzania, Togo, Zambia and Zimbabwe.

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Zusammenfassung

Die Familie Agaonidae ist in Eritrea mit acht Arten aus vier Gattungen vertreten. Von der Unterfamilie Agaoninae sind vier Arten aus den Gattungen *Elisabethiella* GRANDI, 1928 (drei Arten) und *Platyscapa* MOTSCHOUISKY, 1864 (eine Art) nachgewiesen und von der Unterfamilie Kradibiinae vier Arten aus den Gattungen *Ceratosolen* MAYR, 1885 (drei Arten) und *Kradibia* SAUNDERS, 1883 (eine Art).

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