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Notes on Cleopatra's Flea

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(With 3 figures)

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Dr. M. BEIER kindly sent me for determination the fleas which he collected from gerbils at Faras (or Farras), 30 KM N. of Wadi Halfa, Egypt, on 4. 2. 1962. All specimens (five males ten females from *Gerbillus gerbillus gerbillus* and three pairs from *Gerbillus pyramidum pyramidum*) belong to *Synosternus cleopatrae* (ROTHSCHILD, 1903), a parasite of gerbils. A comparison with other material of this species in the Rothschild and British Museum (Natural History) collections of fleas at Tring showed that the specimens from the northern strip of Africa differ in the structure of the tubus interior of the aedeagus and they are described below as a subspecies to which, I am pleased to state, a Rothschildian name can be applied which had been placed as a synonym of *S. cleopatrae* nearly 40 years ago.

Although *Synosternus cleopatrae* is in certain respects a rather aberrant member of the genus, it would serve no useful purpose to place this species in a separate subgenus. However, one might divide the genus *Synosternus* JORDAN, 1926, into the following two species groups:

pallidus-group

Without setae above level of metepimeral spiracular fossa. Fourth hind tarsal segment at most a little longer than broad. Male: apex of distal arm of sternum IX turned upwards and distinctly sclerotized: no longish slender setae subapically on inner side. Aedeagal tubus interior apically turned dorsad; below the tubus a longitudinal brush-like structure or (in *longispinus*) a spiculose membrane.

Here belong:

burtoni MARCUS & DE MEILLON, 1960, Novos Taxa ent. 22: 3, pl. 1 figs. 1, 3, 4.
caffer JORDAN & ROTHSCHILD, 1923, Ectoparasites 1: 293, figs. 282—284.

longispinus WAGNER, 1893, Horae Soc. ent. ross. 27: 355, pl. 6 fig. 1.

pallidus TASCHENBERG, 1880, Die Flöhe: 62, 65, pl. 1 fig. 9.

somalicus JORDAN & ROTHSCILD, 1908, Parasitology 1: 37, pl. 3 fig. 8.

cleopatrae-group

Two or three setae above level of metepimeral spiracular fossa. Fourth hind tarsal segment twice as long as broad. Male: apex of distal arm of sternum IX straight or at most feebly turned upwards, hyaline; two slender setae subapically on inner side. Aedeagal tubus interior dorso-apically with a protuberance anterior to the short apical part which is strongly bent upwards; terminal part of tubus ventrally serrate; no brush-like structure associated with the tubus, but instead a fairly small spiculose membrane is present alongside the terminal part of the tubus interior.

Here belong:

cleopatrae cleopatrae ROTHSCILD, 1903.

cleopatrae pyramidis ROTHSCILD, 1904.

Synosternus cleopatrae cleopatrae (ROTHSCILD, 1903)

Pulex cleopatrae ROTHSCILD, 1903, Ent. mon. Mag. 39: 84, pl. 1, figs. 4, 8, pl. 2, figs. 13, 17.

Dorsal subapical protuberance of aedeagal tubus interior (Fig. 1a—f, the stippled part) usually solid, not forming a distinct loop, and usually

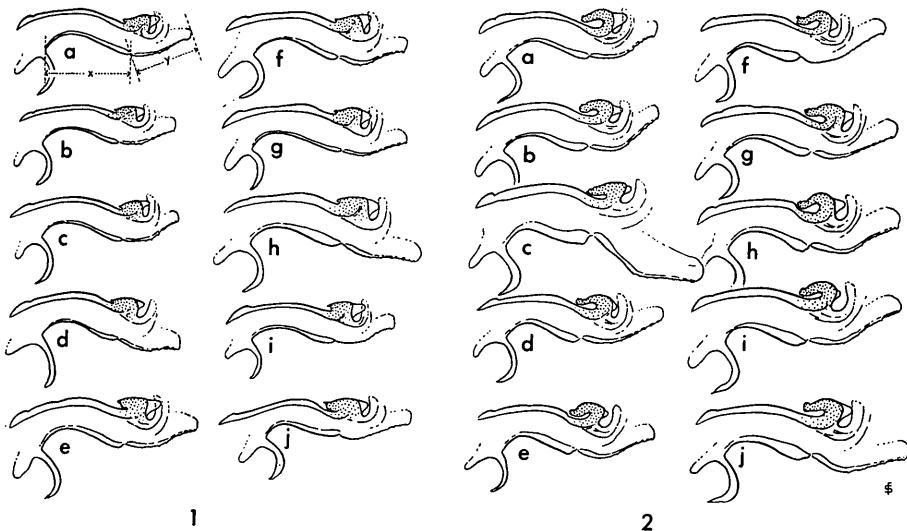


Fig. 1. Aedeagal tubus interior of *Synosternus cleopatrae cleopatrae* (R.) (a = Shendi (holotype), b—d = Shendi (paratypes), e = Badanah, f—h = Faras, i = Khartoum, j = Baghdad). Fig. 2. Aedeagal tubus interior of *Synosternus cleopatrae pyramidis* (R.) (a—b = Bir Victoria (topotypes), c = Zaghib, d—f = Beni-Abbès, g = Aïn Sefra, h—i = Djama, j = Touggourt).

slightly convex dorsally and posteriorly; ventral junction of terminal part on the whole not deeply incised. Ratio length of ventral part of tubus interior (Fig. 1a: x) : length of terminal part (Fig. 1a: y) = 1 : 0,8.

Distribution (Fig. 3): Sudan: Shendi (type locality), Khartoum, Shereik, Kerma; Egypt: Faras; Saudi Arabia; Badanah; Iraq: Baghdad; Niger: Baguezane Mts; Algeria: Fort Miribel, Oued el Abiod; Spanish Sahara: Rio de Oro (partim).

Synosternus cleopatrae pyramidis (ROTHSCHILD, 1904)

Pulex pyramidis ROTHSCILD, 1904, Entomologist 37: 3.

Pulex pyramidis ROTHSCILD, JORDAN, 1928, Verh. III. int. Ent. Kongr., Zürich 2: 608 (placed as a synonym of *Synosternus cleopatrae* ROTHSCILD, 1903).

Dorsal subapical protuberance of aedeagal tubus interior (Fig. 2a—f, the stippled part) forming a loop which ends in a small knob; ventral junction of terminal part usually fairly deeply incised. Ratio length of ventral part of tubus interior (as measured in Fig. 1a: x) : length of terminal part (as measured in Fig. 1a: y) = 1 : 1,1 (specimens from Zaghib excluded). All specimens of

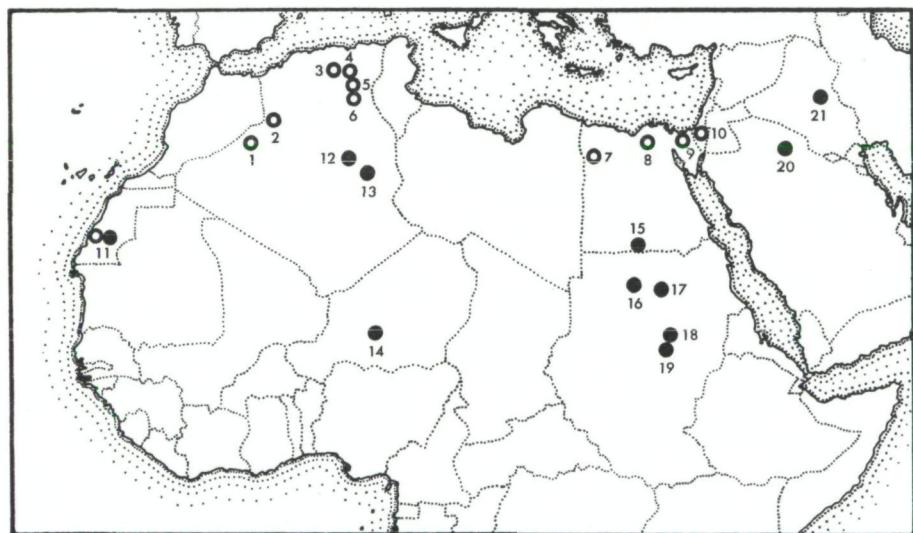


Fig. 3. Map showing the distribution of the two subspecies of *Synosternus cleopatrae*: ● = *S. c. cleopatrae*, ○ = *S. c. pyramidis*. List of localities: 1. Beni-Abbès, Algeria; 2. Aïn Sefra, Algeria; 3. Guelt-es-Stel, Algeria; 4. Biskra, Algeria; 5. Djama, Algeria; 6. Touggourt, Algeria; 7. Siwa Oasis, Egypt; 8. Wâdi el Natrûm, Egypt (Bir Victoria (type locality of *S. c. pyramidis*), Zaghib and Mount Muluk); 9. 50 KM W. of El 'Arish, Sinai, Egypt; 10. Treibe, Israel; 11. Rio de Oro, Spanish Sahara; 12. Fort Miribel, Algeria; 13. Oued [= Wadi] el Abiod, Algeria; 14. Baguezane Mts., Niger; 15. Faras, Egypt; 16. Kerma, Sudan; 17. Shereik, Sudan; 18. Shendi, Sudan (type locality of *S. c. cleopatrae*); 19. Khartoum, Sudan; 20. Badanah, Saudi Arabia; 21. Baghdad, Iraq.

a sample (15 ♂) of the population from Zagħig, collected in March 1903, have a relatively very large terminal part of the tubus interior (Fig. 2c); this was probably just an aberrant population at that time.

Distribution (Fig. 3): Egypt: Bir Victoria (type locality; \pm 9 KM E. of the Wâdi el Natrûn), Mt. Muluk (a hill, alt. 80 ft, in the middle of the Wâdi el Natrûn), Zagħig (or Kasr Sagħig), 5 KM NW of Mt. Muluk; Siwa Oasis; 50 KM W. of El 'Arish; Israel: Treibe; Algeria: Beni-Abbès, Aïn Sefra, Guelt-es-Stel, Biskra, Djama, Touggourt; Spanish Sahara: Rio de Oro (partim).

I am indebted to Mrs A. M. WRIGHT for drawing the map (Fig. 3).

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