

A regenerated chelicera in an African tarantula, *Anoploscelus lesserti* Laurent, 1946 (Araneae: Theraphosidae)

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SHORT COMMUNICATION

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ABSTRACT

An adult male of *Anoploscelus lesserti* Laurent, 1946 from Burundi, deposited in the Royal Museum for Central Africa (RMCA) with a regenerated right chelicera is illustrated and discussed. Simultaneously, this constitutes the first record of the genus *Anoploscelus* Pocock, 1897 for Burundi.

KEYWORDS

Africa, distribution, regeneration, spider, tarantula, teratology

In early 2023, whilst working in the collections at the Royal Museum for Central Africa (RMCA), we discovered a male of *Anoploscelus lesserti* Laurent, 1946 from Burundi with cheliceral regeneration. Simultaneously, this constitutes the first record of the genus *Anoploscelus* Pocock, 1897 in Burundi. The specimen is readily assigned to *Anoploscelus* owing to the incrasate femur III, transverse fovea, and palpal bulb morphology (Fig. 1). The specimen

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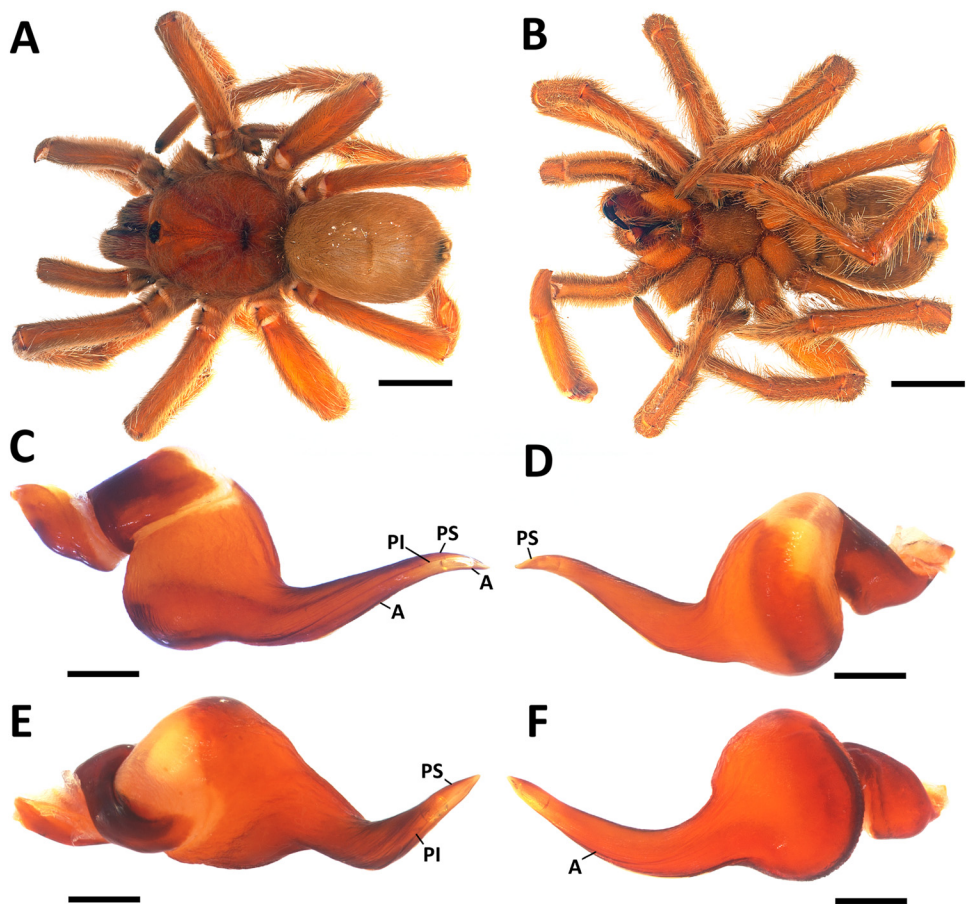


Fig. 1. *Anoploscelus lesserti* Laurent, 1946 adult male (BE_RMCA_ARA.Ara.247722) from Burundi, East Africa. A. Habitus, dorsal view. B. Ibid, ventral view. C. Palpal bulb (left-hand side), prolateral view. D. Ibid., retrolateral view. E. Ibid, dorsal view. F. Ibid, ventral view. Abbreviations: A = apical keel, PI = prolateral inferior keel, PS = prolateral superior keel. Scale bars: 5 mm (A–B), 1 mm (C–F)

(BE_RMCA_ARA.Ara.247722) has the following data: Mt. Ruvubu, Muremera, Cibitoke Province, Burundi (3°6'40"S, 30°22'23"E), 20/08/2016. A revision of the genus should be forthcoming (R. Gallon pers. comm.), and for this reason we do not provide full detailed measurements (e.g. the description format used by the senior author in her taxonomic contributions on theraphosids) of the specimen. However, to quantify the identification of the male and separate it from the type species, we provide here a diagnosis, and describe the palpal bulb (keels follow the terminology of Bertani, 2000) in this genus.

Diagnosis: Males of *A. lesserti* can be distinguished from those of *A. celeripes* (Pocock, 1897) by the shorter and stouter embolus, with pronounced V-shaped curvature medially when viewed dorsally (embolus elongate and slender in *A. celeripes*, with dorsal view showing embolus with very weak and wide U-shaped curvature, see Smith 1990: 22, fig. 3).



Description of palpal bulb (Fig. 1C–F): base of bulb with ventro-medial concavity (note: not a ventral median depression *sensu* Sherwood et al., 2021a as this latter structure is associated with the ventral emergence of the embolus) and absence of a tegular heel, posterior face rugulose; embolus longer than base of bulb, basal half of embolus prolaterally and dorsally rugulose, prolateral superior, prolateral inferior and apical keels all weakly developed, apical keel elongate, originating ventrally near bottom of embolus and moving ventroprolaterally at apex; prolateral crease wide across entire length.

Description of chelicerae (Fig. 2A–C): The left chelicera, and indeed the rest of the specimen, presents normal morphology. However, the right chelicera is noticeably reduced in size to the left and is also asymmetrical (Fig. 2). The reduced size and the asymmetry suggest that the right chelicera is regenerated. It is also noted that the left fang has punctured the membrane at the base of the right fang, although this is almost certainly resulting from the spider having injured itself during preservation. This should not be confused with the regenerative morphology presented by the right chelicera. The base of the regenerated chelicera is moveable, the puncturing of the fang prevents a full manipulation of the fang, but gentle movements at the apex where it has pierced the membrane suggest it is also, at least partly, flexible. This, in conjunction with the fact that such a mechanical injury occurred, suggests that the regenerated chelicera operated essentially normal in the specimen prior to its death.

Discussion: Regenerated appendages in spiders are typically smaller and occasionally asymmetrical in comparison to normal appendages (e.g. Baerg 1926, Bonnet 1930, Sherwood et al. 2024). Regeneration of body parts can, with sufficient time, result in the regenerated structure to become essentially non-anomalous although this has yet to be recorded outside of reports on legs (e.g. Baerg 1926), and one spermatheca (see Sherwood et al., 2021b). Hitherto, cheliceral regeneration in theraphosids has been reported infrequently in the scientific literature, to our knowledge. Abi-Reznik et al. (2018) reported a juvenile of *Tekoapora wacketi* (Mello-Leitão 1923) [as *Vitalius wacketi*] which was captured for study and suffered injury during capture of prey, autotomising the left chelicera and pedipalp. Both these structures regenerated, the left chelicera starting out as an almost

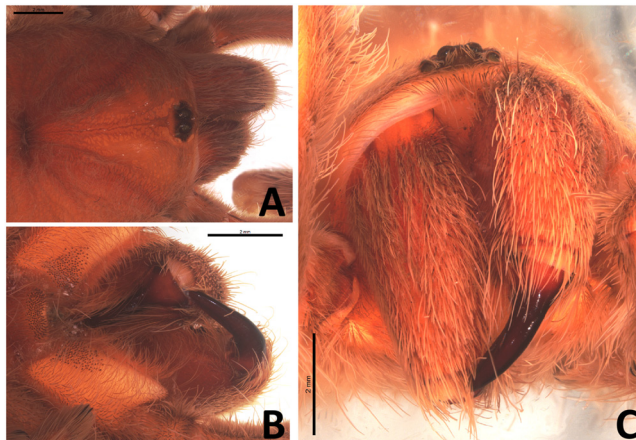


Fig 2. *Anoploscelus lesserti* Laurent, 1946 adult male (BE_RMCA_ARA.Ara.247722) from Burundi, East Africa, detail of cheliceral regeneration. A. Cephalothorax, dorsal view. B. close-up of chelicerae, labium, and maxilla, ventral view. C. Frontal view of chelicerae and ocular tubercle



indistinguishable nub after the first post-autotomy ecdysis, eventually reaching a volume of approximately half the size of the right chelicera by the time of death. This observation allows us to hypothesize that the regeneration of the right chelicera in the male of *A. lesserti* also likely occurred over several ecdyses, and was an injury incurred whilst the spider was juvenile.

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