

3000 miles from home: a new *Gastrosericus baobabicus* Pulawski, 1995 (Hymenoptera, Larridae) distribution record highlights that the Sahel has a distinct entomofaunal signature

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On October 30, 1953, an unidentified female wasp (Fig. 1) was collected from 'Belet Uen, Somaliland' (= Beledweyne, 4°44'N 45°12'E), situated in the valley of the Shebelle River, Hiraan Province, Somalia. It was deposited in the aculeate Hymenoptera collection of the Albany Museum, Grahamstown by D. Greathead prior to 1968. Apart from the words 'Somaliland' and 'Desert Locust Survey' the label is handwritten and the collector's name is not recorded. Greathead's sister, S. Gess (Albany Museum), deciphered the label and stated that he had worked for the Desert Locust Survey, investigating the natural enemies of locusts and had been in Somalia (then Somaliland) at that time (Murphy & Cock 2007). The specimen was sent in 2004 by F. Gess to W. Pulawski, who determined it as *Gastrosericus baobabicus* Pulawski, 1995. *Gastrosericus* species prey on spiders and a variety of small insects (Pulawski 1995), including Orthoptera (Krombein & Pulawski 1986), so it is likely that Greathead collected the specimen in connection with his interest in the insect enemies of Acridoidea (Orthoptera) (Greathead 1962).

The specimen is worth reporting for the following reason: the type series of *G. baobabicus* was collected in Senegal (1991: holotype female), Burkina Faso (1988: paratypes) and Mali (1991) (Pulawski 1995), suggesting that the distribution of this species is limited to West Africa (Fig. 2). If the locality data of the Somali specimen are reliable (and there is little reason to doubt that), it extends this species' known distribution at least 4800 km eastwards to the eastern tip of Africa, indicating a trans-African distribution.

This raises the question of where the rest of the species' distribution lies. The epithet '*baobabicus*' was intended to indicate an indirect association of *G. baobabicus* with savanna characterized by baobab trees, *Adansonia digitata* L. (Bombaceae) (Pulawski 1995). Baobab trees have a longitudinal distribution in the Sahelian biogeographical region (Fig. 2), but

the extent of this region is contentious (Wickens 1982). Wallace (1876) originally placed the Sahel into one continuous region, the Ethiopian subregion, which stretched from Senegal to Somalia in a wide trans-African belt and down the eastern half of the continent to Zimbabwe and swept back across the continent once more to encompass Zambia and Namibia, excluding all but the southern tip of Mozambique and most of South Africa. Chapin (1932), however, placed the Sahel/sub-Saharan regions over two distinct faunistic areas, while Koch (1944) once again placed the Sahel/sub-Saharan region into the single continuous Savanna of his Ethiopian region, which encompasses mostly the same area as Wallace's original concept of the Ethiopian region. Studying the distribution and migration of butterflies across Africa and the

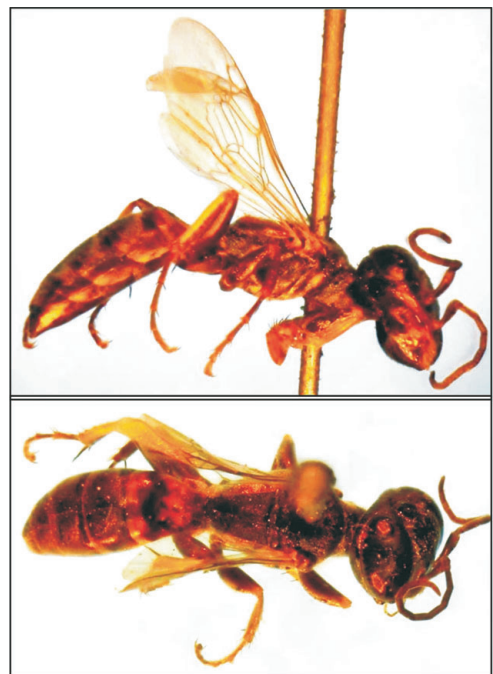


Fig. 1. Female specimen of *Gastrosericus baobabicus* Pulawski, 1995 collected from Beledweyne, Somalia. The specimen is 6 mm long.

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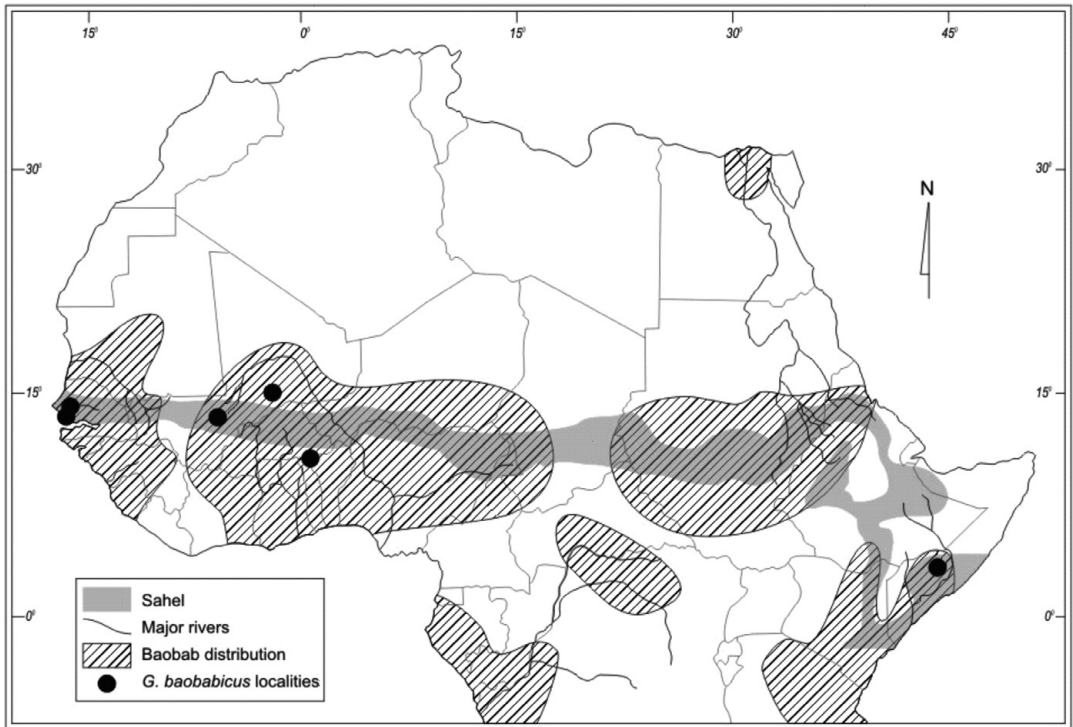


Fig. 2. Distribution of specimens of *Gastrosericus baobabicus* (West African data from Pulawski 1995) in relation to the Sahelian climatic region (Peel *et al.* 2007) and the distribution of baobabs (after Wickens 1982).

Arabian Peninsula, Carcasson (1964) drew up a highly detailed zoogeographical map of Africa which placed the Sahel into the Continuous Northern Division of his Subregion of Open Formations, which closely mirrors only the northern part of Wallace's Ethiopian region (trans-African band from Senegal to Somali). Many modern references define the Sahel as a narrow trans-African feature of northern Africa (Peel *et al.* 2007) (Fig. 2), a bioclimatic entity distinguished by an arid-to-semiarid, tropical climate controlled by the West African monsoon of the Gulf of Guinea and the Saharan trade winds (Hiernaux & Houérou 2006).

Hiernaux & Le Houérou (2006) suggested that, botanically, the Sahel is a transition zone between the Saharan and Sudanian hubs of endemism, with few endemic plant species to provide a distinct biodiversity signature. However, there are many examples of insect species that occupy the entire range of the Sahelian region or appear to have an exclusively or near-exclusively Sahelian distribution. For example, two species of horse-flies (Diptera: Tabanidae), *Tabanus sufis* Jaennicke and *T. pertinens* Austin have shown distributions that span the

entire Sahel, while *T. sufis* seems to enter Somalia at the southern tip of the country and *T. pertinens* bypasses Ethiopia and Somalia altogether and seems to be distributed down the eastern coast of Africa to northernmost South Africa (Oldroyd 1954). Another horse-fly, *Philoliche magretti* Bezzi has a similar distribution to *T. pertinens*: from Kenya, through Somalia, north and westward to Niger (Oldroyd 1957). Some butterflies (Lepidoptera) also appear to have Sahelian distributions, and are termed 'Sahelian butterflies' (Bernardi 1961; Larsen 1984): *Colotis protomedea* Klug, *C. halimede halimede* Klug and *C. cleone pleione* Klug (Pieridae) occur from Lake Chad to Somalia, and then south to northern Tanzania (Larsen 1984). The pollen wasp, *Jugurtia simpsoni* Meade-Waldo (Hymenoptera: Vespidae), has a trans-African distribution from northeastern Kenya (*i.e.* the Somali border), north and west through Burkina Faso to Gambia and Senegal (Gess 2004). We suggest that attention should be given to the idea that the Sahelian biome has a characteristic insect fauna, contrary to its transitional botanical characteristics (Hiernaux & Le Houérou 2006).

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