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A hitherto unknown species of *Triarge* from South Africa with a modified key to the genus

(Hymenoptera: Symphyta, Argidae, Arginae)

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Abstract

Within the framework of the BIOTA- Southern Africa Project, the hitherto unknown sawfly species, *Triarge driehoekensis* **sp. n.**, was discovered and is described here from a female from the Cederberg Mountains, Western Cape Province, South Africa. It is compared to the similar species *Triarge namaquaensis* KOCH, 2006. Morphological characteristics of these species are illustrated. An abbreviated and modified identification key to the females of the nine known *Triarge* species, that are endemic for the winter rainfall area, is given.

Introduction

The genus *Triarge* FORSIUS, 1931 with eight known species was revised by KOCH (2006). Only the type species *Triarge plumbea* FORSIUS, 1931 was known originally and seven species were described as new. The total reported material was very small with only about 30 specimens existing in various collections.

In September 2008 within the framework of the BIOTA-Southern-Africa Project (Biodiversity Monitoring Transect Analysis in Africa) a number of localities in the Western Cape Province were investigated. Only in the Cederberg Mountains was it possible to collect two specimens of *Triarge*. One specimen is the second record of *Triarge nigra* KOCH. The other specimen belongs to a new species, that is described below.

Study site and methods

The type locality, Driehoek, is situated about 70 km SE of Clanwilliam, at about 910 m above sea level in the central Cederberg Mountains, Western Cape Province. The Cederberg Mountains belong to the winter rainfall area of southern Africa. The study area of Driehoek is characterized by Mountain Fynbos and a large swamp landscape with numerous rivulets, that is called "Die Vlei" (Fig. 4).

The new species, discovered during the BIOTA-Southern Africa Project, was collected in one of 10 Malaise traps used in the study areas. The survey time was 7th to 17th September 2008.

Triarge driehoekensis sp. n.

Type material. Holotype, ♀: "RSA, Western Cape, Cederberge, Driehoek, 32°26'S/19°11'E, 7.-17.IX.2008, leg.: F. Koch"; "Holotypus, *Triarge driehoekensis* sp. n. ♀, det.: F. Koch, 2009" (red) (Plant Protection Research Institute, Pretoria).

Female. – Head and antenna black; apical half of mandible light brown gradually becoming dark reddish apically. Thorax black. Legs black; apices of femora very narrowly light brown, anterior surface of fore and hind tibia light brown, basal third of hind tibia light brown, anterior surface downward to the preapical spine dirty whitish. Wings hyaline; apical half very slightly infuscated, fore wing with very small, slightly infuscate substigmal spot, costa, stigma, subcosta, and veins black. Abdomen black. Head scarcely narrowed behind eyes. Antenna 1.5x as long as maximum head width; flagellomere$_1$ slightly enlarged towards apex, ventral surface with moderately compressed longitudinal carina. Postocellar line (POL) : ocular ocellar line

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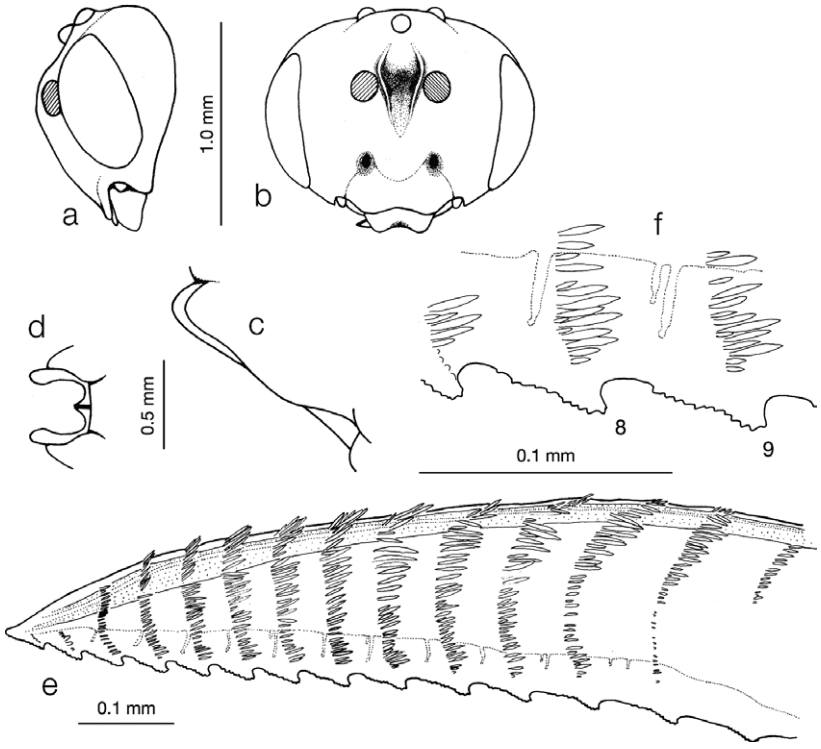

Figure 1a-f: *Triarge driehoekensis* **sp. n.**: **(a)** head of female (lateral aspect); **(b)** head (frontal aspect); **(c)** sawsheath (lateral aspect); **(d)** sawsheath (dorsal aspect); **(e)** lancet; **(f)** serrulae 8-9.

(OOL) = 1.0 : 0.7. Malar space (MS) : interantennal area (IA) = 1.0 : 2.2. Eyes slightly converging downward, lower interocular distance 1.3x eye length; anterior margin of clypeus shallowly emarginated medially, supraclypeal area very flatly rounded to point of interantennal carinae (Fig. 1a), interantennal carinae sharply ridged between antennae, becoming flattened and slightly converging downward, ending about ¼ distance to clypeus (Fig. 1b). Vertex, frons, gena, clypeus, and supraclypeal area with scattered micropunctures, shiny; malar space with contiguous irregular, small punctures, dull; pubescence white, about as long as diameter of lateral ocellus. Thorax scarcely micropunctate, shining and pubescent similar to head. Abdomen shining, terga irregularly microsculptured.

Sawsheath in lateral view obtusely pointed at apex (Fig. 1c), in dorsal view narrowly forcipated, as in Fig. 1d. Lancet as in Fig. 1e, with about 14 serrulae; serrulae at centre moderately flattened, pointed on anterior edge, sometimes with one very small additionally subbasal tooth, and a few hook-like with about 11 irregular posterior subbasal teeth (Fig. 1f).

Length: 6.7 mm.

Male. – Unknown.

Host plant: Unknown.

Distribution: South Africa (Western Cape Province).

Remarks:

In its morphological structures and sculpture *T. driehoekensis* could be confused with *T. namaquaensis*, but in lateral view the sawsheath of *T. namaquaensis* is narrowly rounded at the apex (Fig. 2a), and in dorsal view the sawsheath is more broadly forcipated (Fig. 2b). Furthermore, the serrulae of *T. namaquaensis* are flat and hook-like (Fig. 2c, d).

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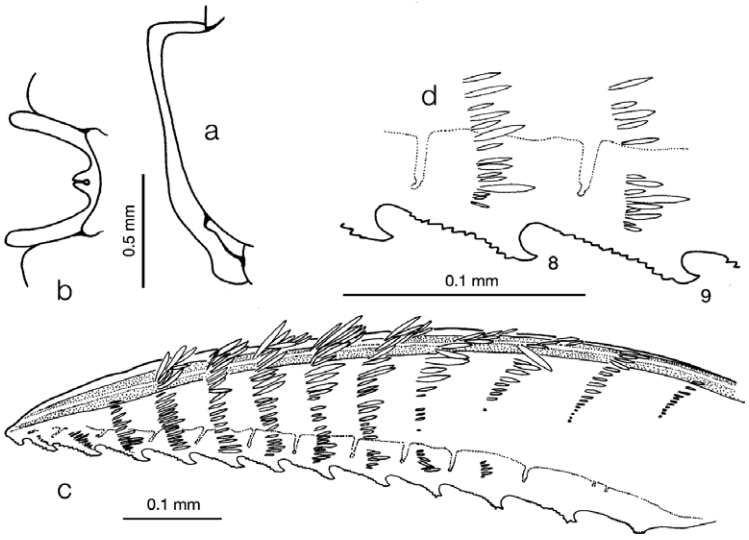

Figure 2a-d: *Triarge namaquaensis* KOCH: **(a)** sawsheath (lateral aspect); **(b)** sawsheath (dorsal aspect); **(c)** lancet; **(d)** serrulae 8-9.

Etymology:

The new species is named after its collection locality, Driehoek, an area in the central Cederberg Mountains, Western Cape Province.

An abbreviated and modified key to the females of *Triarge*, according to KOCH (2006)

0. 1 Abdomen entirely black or black with metallic lustre 2
1* Abdomen black with yellow apex . . . . . *T. flavoapicalis* KOCH

2 Sawsheath in dorsal view very broadly forcipated (KOCH 2006, Fig. 4d, 5d) 3
2* Sawsheath in dorsal view more or less narrowly forcipated (Fig 1d, 2b) 4

3 Tibiae more or less yellowish. Namibia . . . . . *T. karooensis* KOCH
3* Tibae black. South Africa . . . . . *T. mosselbayensis* KOCH

4 Abdomen black without blue metallic lustre 5
4* Abdomen black with blue metallic lustre 7

5 Interantennal carina very short (KOCH 2006, Fig. 9b) . . . . . *T. winterhoekensis* KOCH
5* Interantennal carina longer 6

6 Sawsheath slightly broadly forcipated (Fig. 2b); serrulae sharp hook-like (Fig. 2 c, d) . . . . *T. namaquaensis* KOCH
6* Sawsheath narrowly forcipated (Fig. 1d); serrulae a few hook-like as in Fig. 1e, f . . . . *T. driehoekensis* **sp. n.**

7 Interantennal carina short, extending about ¼ way to clypeus 8
7* Interantennal carina distinctly longer, extending about a half way to clypeus . . . . *T. plumbea* FORSIUS

8 Fore tibia light brown . . . . . *T citrusdalensis* KOCH
8* Fore tibia blackish . . . . . *T. nigra* KOCH

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Figure 3: The landscape of Driehoek; the habitat of *Triarge driehoekensis* **sp. n.**

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Zusammenfassung

Im Rahmen des BIOTA Southern Africa Project, wurde in den Cederberg Mountains, Western Cape Province, South Africa ein Weibchen der bisher unbekannten Pflanzenwespenart, *Triarge driehoekensis* **sp. n**., entdeckt und beschrieben. Dieses Weibchen wird mit der ähnlichen Art, *Triarge namaquaensis* KOCH, 2006 verglichen. Die morphologischen Merkmale dieser Arten sind illustriert. Ein gekürzter und modifizierter Bestimmungsschlüssel zu den Weibchen der 9 bekannten *Triarge* Arten, die endemisch für das Winterregengebiet sind, wird vorgelegt.

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