The spider genus *Napometa* was erected by Benoit (1977) to include two species from St. Helena island, in the South Atlantic Ocean: *N. sanctaehelenae* Benoit 1977 and *N. trifididens* (O. Pickard-Cambridge 1873). Benoit designated *N. sanctaehelenae* as the type species of this new genus within the then araneid subfamily Metinae (currently a subfamily within Tetragnathidae; see Hormiga et al. (1995) for a summary of the taxonomic history of the separation of Araneidae and Tetragnathidae). *N. trifididens*, originally described by Pickard-Cambridge as a linyphiid, had been in the theridiid genus *Enoplognatha* Pavesi 1880 (Simon 1894) for three-quarters of a century when Benoit transferred it to *Napometa*. Since then no other species have been described within *Napometa*, and the genus is currently listed as a member of the family Tetragnathidae (Platnick 1993; Dippenaar-Schoeman & Jocqué 1997).

The male palp illustrations that accompanied Benoit’s description of *Napometa* cast some serious doubts about its familial assignment. Benoit’s ventral (figs. 76a, 77c) and mesal (fig. 76b) views of the male palp resemble a typical linyphiid, with the U-shaped intersegmental paracymbium and the suprategular apophysis clearly depicted. Examination of Benoit’s specimens confirms that *N. sanctaehelenae* and *N. trifididens* are in fact linyphiids, not tetragnathids nor araneids.

Benoit’s descriptions of *Napometa* species focused almost exclusively on somatic morphology, with little attention to the details of the genital morphology. The purpose of this paper is to transfer *Napometa* to its correct familial placement (Linyphiidae) and describe and illustrate in more detail the genital morphology of *N. sanctaehelenae* and *N. trifididens*. The somatic morphology is also illustrated to complement Benoit’s detailed description.

**METHODS**

General methods of study are described in Hormiga (1994a). The morphological observations were carried out using a Leica MZAP dissecting microscope and a Leica DMRM compound microscope. For examination of the genitalic structures under transmitted light microscopy the specimens were immersed in methyl salicylate (Holm 1979) and mounted using Coddington’s (1983) temporary slide mounting method. All illustrations were done using a camera lucida and inked on drafting film or coquille board. All measurements are in millimeters. Abbreviations are listed in Table 1.

**TAXONOMY**

Linyphiidae Blackwall 1859

*Napometa* Benoit 1977


**Etymology.**—Benoit did not explain the etymology of *Napometa*. Presumably he derived this name from the tetragnathid genus *Meta* Koch 1836. As for the *Napo*-prefix, Don Cameron (in litt.) suggests that it is derived from Napoleon, the most famous resident of the type locality, St. Helena. Thus, Benoit may have intended to convey with this name “Napoleon’s *Meta*.”

**Diagnosis.**—*Napometa* differs from other
linyphiids by the following combination of characters: cymbium with “free” pointed apex (Fig. 1); U-shaped intersegmental paracymbium with broad proximal arm; embolus short, not thread-like, with blunt apical end; large lamella characteristica with a conspicuous, caudally directed, pointed process (Figs. 3, 15). Terminal apophysis with a single coil and a hollow axis. Lamella large (about ⅔ of the cymbium length) with a long and pointed posterior process.

Female: See under Napometa sanctaehelena (N. trifididens females are unavailable for study; therefore, the description of the females of the genus has to be based on the females of the type species only).

Composition.—Two species, Napometa sanctaehelena Benoit and N. trifididens (O. Pickard-Cambridge).

Distribution.—Endemic to St. Helena island.

Napometa sanctaehelena Benoit 1977
Figs. 1–13

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and "MT 136.386." All types are deposited at the Royal Museum for Central Africa (Tervuren) and have been examined.

**Diagnosis.**—The male of *N. sanctaehelena* can be distinguished from that of *N. trifididens* by the anteromesal process with three cheliceral teeth found in the latter species but not in the former (Figs. 12, 17). The distal arm of the paracymbium of *N. sanctaehelena* (Fig. 1) is narrower than that of *N. trifididens* (Fig. 14). The anteroectal process of the lamella, as seen in a mesal view, is long and pointed in *N. sanctaehelena* (Fig. 2) and is flat in *N. trifididens* (Fig. 15). The number of pedipalpal tibia trichobothria is also different between these two species: two prolateral and three retrolateral in *N. sanctaehelena* versus one prolateral and two retrolateral in *N. trifididens* (Figs. 1, 14).

**Description.**—**Male** (paratype): Abdomen and cephalothorax are illustrated in Figs. 11–13. Measurements and a detailed description of the male and female somatic morphology are provided by Benoit (1977). Total length 5.15. Cephalothorax 2.15 long, 1.60 wide; abdomen 3.10 long, 1.58 wide. Chelicerae with 7–8 prolateral and 5 retrolateral teeth. Palp (Figs. 1–3): Tibia almost as long (ca. 75%) as the cymbium; two prolateral and three retrolateral trichobothria. Cymbium with three mesal and one dorsal macrosetae. Lamella with a pointed ectodistal process, a blunt mesal process, a rounded projection on the mesodorsal margin, and a long and pointed posterior process.

**Female** (paratype): Abdomen and cephalothorax are illustrated in Figs. 9, 10. Total length 6.80. Cephalothorax 2.64 long, 1.78 wide; abdomen 3.88 long, 3.12 wide. Chelicerae with 8–9 prolateral and 8 retrolateral teeth (Benoit’s depiction of the female prolateral teeth, his figure 76d, is not entirely accurate; see Fig. 10). Pedipalp with tarsal claw. Trichobothrium metatarsus I 0.15. Posterior lateral spinnerets with enlargement of the peripheral cylindrical silk gland spigot base.

Epigynum (Figs. 4–8): slightly broader than long, protruding very little from the abdominal wall. Dorsal plate with a small scape (somewhat exaggerated in Benoit’s fig. 76f) with a shallow socket. Benoit’s illustration of the vulva (fig. 76g) is inaccurate (compare to Fig. 7). The copulatory openings are located on both sides of the dorsal plate, near the lateral plate (Figs. 7, 8). There is no clear distinction between the end of the copulatory duct and the beginning of the spermatheca. The copulatory duct spirals around the fertilization duct, the latter changes from a ventral into a dorsal position by turning around the proximal end of the former (i.e., near the copulatory opening).

**Distribution.**—Known only from St. Helena island.

**Material examined.**—Only the type series.

*Napometa trifididens* (O. Pickard-Cambridge 1873) Figs. 14–17


*Linyphia trifidens,* - Melliss 1875: 212 (lapses salami).


*Enoplognatha trifididens,* - Simon 1894: 578.


**Types.**—According to Benoit (1977) the original type series studied by O. Pickard-Cambridge consisted of 3♂ (two of them adults) and 1♀, but only 1♂ remains deposited in The Oxford University Museum; the other ♀ & ♂ are presumably lost. To my knowledge no female specimens of this species are available for study. I have not examined the mentioned type, studied by Benoit, to compare, identify and describe the only other male specimen available in collections. My descriptions are based upon only that other specimen.

**Diagnosis.**—The male of *Napometa trifididens* can be distinguished from that of *N. sanctaehelena* by the anteromesal cheliceral process with three teeth found in the former species but not in the latter (Figs. 12, 17). The distal arm of the paracymbium of *N. trifididens* (Fig. 14) is wider than that of *N. sanctaehelena* (Fig. 1). See diagnosis under *Napometa sanctaehelena* for more details.

**Description.**—**Male** (High Central Ridge): Cephalothorax is illustrated in Figs. 16, 17. Measurements and a detailed description of the somatic morphology are provided by Benoit (1977). Total length 4.85. Cephalothorax 2.50 long, 1.90 wide; abdomen 2.25 long,
Figures 1–8.—*Napometa sanctaehelenae* Benoit. 1–3, Left male palpus (paratype); 1, Ectal (broken trichobothria are indicated by dotted lines); 2, Mesal; 3, Ventral. 4–8, Epigynum (paratype); 4, Lateral; 5, Caudal; 6, 7, Ventral; 8, Schematic, ventral. (Scale bar = 0.5 mm).
Figures 9–13.—Napomena sanctaehelenae Benoit. 9, Female paratype, dorsal view; 10, Female paratype, anterior view; 11, Male paratype, lateral view; 12, Male paratype, anterior view (left chelicera removed); 13, Male paratype, dorsal view. (Scale bars = 1.0 mm).
Figures 14–17.—*Napometa trifididens* (O. Pickard-Cambridge), male from Ste. Hélène Centre, High Central Ridge. 14, Palp, ectal; 15, Palp, ventral; 16, Cephalothorax, dorsal view (left chelicera removed); 17, Cephalothorax, anterior view. (Scale bars = 1.0 mm).
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1.50 wide. Chelicerae with 5–6 prolateral (3 are grouped on an anteromesal process, Fig. 17) and 5 retrolateral teeth. Palp (Figs. 14, 15): Tibia almost as long (ca. 80%) as the cymbium; one prolateral and two retrolateral trichobothria. Cymbium with one ectal, three mesal and one dorsal macrosetae. Lamella with a flat and relatively wide ectodistal process, a rounded projection on the mesodorsal process, a rounded projection on the mesodorsal margin, and a long and pointed posterior process.

**Distribution.**—Known only from St. Helena island.


**DISCUSSION**

*Napometa sanctaehelenae* and *N. trifididens* lack two of the three known synapomorphies of Tetragnathidae (Hormiga et al. 1995), namely the conductor and the embolus spiraling with each other and the tegular sclerites in apical position. These two species share with tetragnathids and linyphiids the absence of the araneoid median apophysis. On the other hand *Napometa* species have three out of the four synapomorphies of linyphioids (Pimoidae plus Linyphiidae; Hormiga 1993, 1994a, b): absence of paracymbial apophyses, autospay at the patella-tibia junction, and enlargement of the peripheral cylindrical silk gland spigot base on the PLS. In addition *Napometa* has the following linyphiid synapomorphies (Hormiga 1994b, 1995): intersegmental paracymbium, suprategulum, absence of median apophysis and conductor, embolic membrane, radix, and column (the latter two characters require confirmation by dissecting the embolic division when more specimens become available for study). Therefore, *Napometa* species are members of the Linyphiidae, not of the Metinae, as Benoit (1977) had suggested when he described the genus. Ironically, *N. trifididens* had been correctly described as a linyphiid by O. Pickard-Cambridge (1873), although this author thought that *trifididens* could be a close relative of the metines:

“*L. (Linyphia) trifididens* shows a decided approach to Spiders of the genera *Pachygnatha* and *Meta*; and it is not without some hesitation that I have (in absence of any knowledge of its habits) placed it in the genus *Linyphia*” (op. cit., p. 222).

Simon (1894) transferred *trifididens* to the theridiid genus *Enoplognatha* (although he expressed some doubts about its affinities), perhaps because the large chelicerae of *trifididens* had some resemblance to those of *Enoplognatha*.

Benoit mistakenly thought of these two linyphiid species as metines, perhaps based on some notion of overall somatic similarity (although this is not explicitly stated in his text). Benoit’s diagnosis of *Napometa* focuses almost exclusively on somatic characters (with the exception of the cymbium shape) and is written in the context of how to tell the genus apart from *Meta* (Tetragnathidae). Nevertheless, much of the cladistic evidence at the higher level in tetragnathids and linyphiids comes from the male palpal morphology (e.g., Hormiga 1994b; Hormiga et al. 1995). The lack of cladistic hypotheses in linyphiid systematics (see Hormiga 1994b) makes it impossible at the present time to hypothesize, on the basis of shared apomorphies, what the closest relatives of *Napometa* may be. It also prevents any attempts to provide a phylogenetic characterization (i.e., based on synapomorphies) of the genus. Nevertheless, the genital morphology of *Napometa* suggests that its close relatives may be found in the linyphiid clade that includes the genera *Neriene* Blackwall 1833, *Linyphia* Latreille 1804 and *Microlinyphia* Gerhardt 1928 (van Helsdingen 1969, 1970), although *Napometa* does not fit in any of these three genera as they are currently defined. Understanding the origin and phylogenetic position of *Napometa* therefore will not be possible until we have a cladistic hypothesis for the higher level systematics of linyphiids.

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