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Demystifying three species of Ctenidae (Arachnida: Araneae) described by Embrik Strand. Part I, Ecuador

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Ecuador is considered one of the most biodiverse countries in the world (Mittermeier *et al.* 1997), yet its spider fauna is unknown and understudied. Only 709 species distributed in 43 families are known to occur in Ecuador (Platnick 2013), whereas in Canada, a country much less biodiverse, the spider fauna is composed of 1405 spider species distributed in 43 families (Paquin *et al.* 2010). It seems reasonable to assume that a large part of the Ecuadorian spider fauna is still undiscovered. Furthermore, some groups are badly in need of revision, many species are known only from the type specimens, old descriptions and in some cases no illustrations were provided by the author making it difficult to recognise these species. In 1909, Embrik Strand described 17 new species of *Ctenus* Walckenaer, 1805 from South America (Strand 1909); seven of these species (three from Ecuador and four from Brazil) have never been illustrated or included in any recent taxonomic work. Even though Strand's descriptions are quite elaborate, he did not provide any illustrations, thus making the identification of his species difficult. This paper is the first of two papers on Embrik Strand's mysterious *Ctenus* species. The first part includes redescriptions and illustrations for the first time of the three Ecuadorian species: *Ctenus datus* Strand, 1909, *C. inazensis* Strand, 1909 and *C. satanas* Strand, 1909. This is the first step toward a comprehensive study of the family Ctenidae in Ecuador. The second part will include the redescriptions and illustrations for the first time of the four Brazilian species.

Furthermore, the Ecuadorian type localities provided by Strand are quite obscure, no province or region is given and in one case even the country is uncertain. In order to help with distribution and re-collecting or collecting the missing sexes of these species, some new information on these mysterious localities are provided here.

When looking for type locality names with various search engines (Google Earth, GeoNames (GNS)), none of the Strand type locality names were encountered. However, when searching for the collector/naturalist names and the period of the collection for the specimens in various websites and old literature, I was able to find out where the type specimens came from. The collection information for *Ctenus datus* provided by Strand (1909: 316) is (translated from German) "2♀ from Cachabé Ecuador? acquired from Herrn Rosenberg in London, date 28/9 1898". In the digital library archives of the Museum of Natural History in London, I found out that the collector of the holotype of *Ctenus datus*, Mr. William Frederick Henry Rosenberg was an Entomologist, Ornithologist and Natural History dealer that lived from 1868 to 1957. In 1896, he went to Ecuador and from 1898 to 1899 he employed collectors in South America. I was also able to find a paper by Boulenger (1898) that mentioned a Mr. W.F.H. Rosenberg who collected Reptiles and Batrachians in Western Ecuador. Boulenger (1898) describes the localities where Rosenberg collected, including Cachabé, which is described as "a small village on the river of that name, on the NW coast, in the Prov. Esmeraldas". There is no contemporary village named Cachabé in Ecuador but there is a Cachabi River in Ecuador, in the Northwest part of Esmeraldas Province (1.055°N, 78.81°W) that leads to a village named San Javier de Cachabi (1.066°N, 78.78°W). Based on that information, I believe that San Javier de Cachabi is the type locality of *C. datus.*

Ctenus inazensis and *C. satanas* were collected at the same locality. Strand (1909: 307) stated that the two female specimens of *C. inazensis* (translated from German) "probably match 1♂ from Santa Inaz, Ecuador, March 1899 (R. Haensch)". Strand (1909: 320) also stated that a female *C. satanas* from "Santa Inaz, Ecuador, March 1899 (R. Haensch)". There is no contemporary locality named Santa Inaz in Ecuador, but when searching for information on the collector, I discovered that R. Haensch was an insect vender who lived in Berlin and collected specimens from Brazil and Ecuador, he specialised in Lepidoptera, particularly the subfamily *Ithomiinae*, describing many species from Colombia and Ecuador (Salazar 2006). Haensch (1903) mentioned collecting butterflies in Santa Inéz, Ecuador. Furthermore, Racheli and Racheli (2003) mentioned that R. Haensch collected together with Edmund Schmidt in Ecuador from 1899–1900 and described his voyage: " He spent five months at Palmar and Balzapamba, then he crossed the Andes, and made his headquarters at Santa Inéz. The site is described as being on the left site of the Andes, down the Pastaza Valley at an

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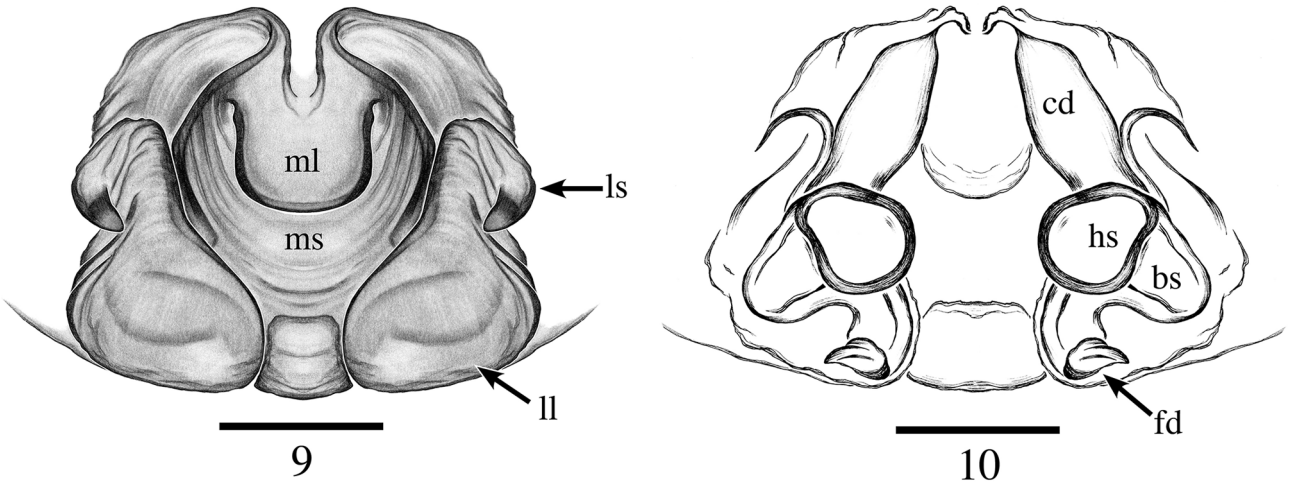
Other material examined. None.

Distribution. Ecuador, Tungurahua province.



FIGURES 9–10. *Ctenus satanas* Strand, 1909. Female 9–10. **9.** Holotype, epigynum ventral view. **10.** Holotype, internal genitalia dorsal view. Abbreviations: bs, base of spermathecae; cd, copulatory ducts; fd, fertilization ducts; hs, head of spermathecae; ls, lateral spurs; ll, lateral lobes; ml, median lobe; ms, median sector. Scale bars: 0.5mm.

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