All creatures great and small: two new synonymies in the Saint Helenian endemic genus *Tecution* Benoit, 1977 (Araneae: Miturgidae)

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Abstract

The type material of three species of the endemic genus *Tecution* Benoit, 1977 on Saint Helena are re-examined. *Tecution heleni-cola* Benoit, 1977 **syn. nov.** and *Tecution mellissi* (O. Pickard-Cambridge, 1873) **syn. nov.** are synonymized with *Tecution planum* (O. Pickard-Cambridge, 1873), based on identical palpal morphology and the discovery of a gradient of cheliceral size variation in a large amount of non-type material from Saint Helena Island. A brief discussion on the habitat and ecology of *T. planum* is provided.

Keywords: morphology \bullet South Atlantic \bullet taxonomy

Introduction

The genus Tecution Benoit, 1977 was described by Benoit (1977) to house two historical taxa: Cheiracanthium planum O. Pickard-Cambridge, 1873 (type species), Cheiracanthium mellissi O. Pickard-Cambridge, 1873, and a new species Tecution helenicola Benoit, 1977. Of these, two are known only from the male (T. helenicola and T. mellissi); the female of the type species T. planum was unknown for nearly a century until its description by Benoit (1977). Indeed, Tecution helenicola and T. mellissi are known only from 13 specimens and two specimens, respectively (Benoit, 1977). No taxonomic work has been conducted on this genus for over 40 years (World Spider Catalog 2022) although Mendel, Ashmole & Ashmole (2008), in their report on the invertebrates of the Peaks of Saint Helena, noted examination of non-type material that showed, when cheliceral morphology in males was set aside, all other morphological characters were remarkably similar in the specimens they collected. They concluded that they were unsure if their samples represented three species or just one.

In this work, based on examination of all the type material, in addition to non-type specimens from Saint Helena in the collections of the Natural History Museum, London (NHMUK), Royal Museum for Central Africa, Tervuren (RMCA) and the Saint Helena National Trust (SHNT), and recent fieldwork by DS and LF, we re-evaluate the species boundaries of *Tecution* spp. and determine that the differences in cheliceral and palpal morphology between these species represent examples of intraspecific variation and thereby justify the synonymy of *T. helenicola* and *T. mellissi* with *T. planum*.

Material and methods

Specimens were examined using stereomicroscopes. Photographs of habitus and palps of Oxford University Museum of Natural History specimens were made by DS using a Leica M125C auto-montage with images stacked in Helicon Focus. Photographs of the habitus, palps and epigyne of RMCA specimens were taken by AH using a Leica DMC500 digital camera mounted on a Leica MZ16A and stacked using the Leica Application Suite (LAS) v. 4.13. Photographs of the RMCA specimens are accessible through the RMCA Virtual Collection website (https://virtualcol.africamuseum.be). Abbreviations: OUMNH = Oxford University Museum of Natural History; NHMUK = Natural History Museum, London; RMCA = Royal Museum for Central Africa, Tervuren, Belgium; SHNT = Saint Helena National Trust, Jamestown (entomological collection). Morphology: CO = conductor; CS = cymbial spur; DS= dorsal spine; E = embolus; MA = median apophysis; RTA = retrolateral tibial apophysis. Others: coll. = collector; colln = collection; imm. = immature. Any numbers found on labels (i.e. field numbers of the Ashmole collection or, in two cases, general collection numbers in the Murphy collection) are written verbatim for traceability purposes. All measurements are in mm.

Tecution Benoit, 1977

Cheiracanthium: O. Pickard-Cambridge (1873), Melliss (1875) (in part)

Tecution Benoit, 1977: 71.

Type species: Cheiracanthium planum O. Pickard-Cambridge, 1873 by original designation (Benoit, 1977).

Diagnosis: Tecution can be differentiated from *Cheiracanthium*, a genus to which *Tecution* is extremely closely allied to morphologically, by: 1) male palp very long, as long as or longer than carapace, with palpal tibia elongate and two apophyses present (male palp comparatively shorter and with one apophysis present in *Cheiracanthium*); 2) small dorsal spine, clearly emergent from a socket, present on male palp (Figs. 8, 20, 29, 31–32) (v. dorsal apophysis not emergent from socket in *Cheiracanthium*),



Figs. 1–5: *Tecution mellissi* holotype male (OUMNH 298.8). 1 habitus, dorsal view; 2 same, ventral view; 3 close-up of chelicerae, dorsal view; 4 same, lateral view; 5 same, ventral view. Scale bars = 5 mm (1–2), 1 mm (3–5).

3) chelicerae large with presence of basal-ventral triangular projection and numerous cheliceral teeth in both sexes (Figs. 1-5, 11-15, 21-26, 33-39) (absence of basal-ventral triangular projection and fewer cheliceral teeth in Cheira*canthium*), and 4) epigyne lanceolate with atrium situated in anterior half and tongue-like posterior protuberance (Figs. 40-43) (atrium not situated in anterior half and without tongue-like posterior protuberance in Cheiracanthium). *Tecution* can readily be distinguished from the two other genera known from Africa, Cheiramiona Dippenaar-Schoeman, 1999 and Lessertina Lawrence, 1942, by the elongate, curved, embolus, hook-shaped RTA and epigyne with anteriorly-situated atrium and presence of tongue-like posterior protuberance (embolus short, RTA non-hooked and epigyne without anteriorly-situated atrium and without tongue-like posterior protuberance in Cheiramiona and Lessertina, see Lotz & Dippenaar-Schoeman 1999 and Haddad 2014, respectively) and also from Lessertina by the non-subrectangular carapace and non-domed cephalic region (carapace subrectangular and cephalic region domed in Lessertina, see Haddad 2014).

Remarks: We noted inconsistency in spellings for one of the species synonymized below, namely *Tecution mellissi*. The spelling *mellissii* was used for the specific epithet both in the original description by O. Pickard-Cambridge (1873) and later by Melliss (1875) [both as *Cheiracanthium mellissii*], whereas Bonnet (1956) and Benoit (1977) used the spelling *mellissi* [in *Chiracanthium* [*sic*] and *Tecution*, respectively]. We follow the reasoning and precedent of the World Spider Catalog (2023) in considering Bonnet's emendations of patronymic species epithets ending in 'ii' for individuals without the letter 'i' at the end of their names to a single 'i' (e.g. *mellissii* to *mellissi*) to be valid and thus adopt *mellissi.* The generic name *Chiracanthium* used by Bonnet (1956) is an unjustified emendation of *Cheiracanthium* (World Spider Catalog 2023).

Benoit (1977) designated *C. planum* as the type species of *Tecution*, ignoring the page priority of *C. mellissi*. This type designation is entirely valid and cannot be changed, but the holotype of *T. mellissi* is much more typical (particularly in the cheliceral size) of the species generally when intraspecific variation is accounted for. Thus, we present the plates of that holotype first as they better characterize the typical habitus of the species.

Species included: T. planum

Tecution planum (O. Pickard-Cambridge, 1873) (Figs. 1–50)

Cheiracanthium mellissii O. Pickard-Cambridge, 1873: 214, pl. 24, fig. 4 (\Im) syn. nov.

- Cheiracanthium planum O. Pickard-Cambridge, 1873: 215, pl. 24, fig. 5 (්).
- Cheiracanthium mellissii: Melliss (1875): 209.
- Cheiracanthium planum: Melliss (1875): 209–210.
- *Chiracanthium mellissi*: Bonnet (1956): 1061 (genus name is an unjustified emendation of *Cheiracanthium*).
- Chiracanthium planum: Bonnet (1956): 1065 (genus name is an unjustified emendation of Cheiracanthium).
- *Tecution planum*: Benoit (1977): 72, figs. 28a–d, 29a–d ($^{\diamond}, ^{\bigcirc}_{+}$).
- *Tecution mellissi*: Benoit (1977): 75, figs. 30a–e (♂).
- *Tecution helenicola* Benoit, 1977: 77, figs. 31a–d (♂) syn. nov.

Type material: Holotype ♂ *Cheiracanthium planum* (OUMNH 298.9), St Helena, coll. J. C. Melliss, O. Pickard-Cambridge colln, examined; holotype ♂ *Cheiracanthium mellissi* (OUMNH 298.8), St Helena, coll. J. C. Melliss, O.



Figs. 6–10: *Tecution mellissi* holotype male (OUMNH 298.8), right palp (mirrored). 6 prolateral view; 7 retrolateral view; 8 close-up of cymbium and bulbus, prolateral view; 9 same, ventral view; 10 same, retrolateral view. Black arrow = dorsal spine, CO = conductor, CS = cymbial spur, DS= dorsal spine, E = embolus, MA = median apophysis, RTA = retrolateral tibial apophysis. Scale bars = 1 mm (6–7), 0.5 mm (8–10).

Pickard-Cambridge colln, examined; holotype ♂ *Tecution helenicola* (BE_RMCA_ARA.Ara.133289), St Helena, High Central Ridge, Cabbage Tree Road, 15°58'21.26"S 5°41'57.045"W, 760 m, March 1967, coll. J. Decelle and N. & J. Leleup, examined.

Diagnosis: See generic diagnosis.

Descriptive measurements: Detailed textual descriptions of *T. planum*, under three separate nomina, can be found in Benoit (1977) and are mostly congruent with our own examinations and findings. However, Benoit (1977) and, indeed, Pickard-Cambridge (1873) both missed the presence of a dorsal spine on the male palp (Figs. 8, 20, 29, 31–32). This is reported for *Tecution* for the first time herein and differs from the apophysis (i.e. a structure without a socket) found in some *Cheiracanthium* species. We also provide some updated measurements of the carapace, chelicerae, and palps of the holotypes in case this is of use to future workers for morphometric investigations of cheiracanthiids more broadly.

Holotype of *T. planum* (OUMNH 298.9): Carapace 3.7 long, 2.5 wide. Chelicera (left/right, excluding fang) 1.1/1.2 long, 0.8/0.8 wide. Palp femur 2.1 long, patella 0.6 long, tibia 1.4 long, cymbium 0.9 long.

Holotype of *T. mellissi* (OUMNH 298.8): Carapace 5.6 long, 4.3 wide. Chelicera (left/right, excluding fang) 6.1/5.7 long, 1.6/1.4 wide. Palp femur 4.3 long, patella 1.3 long, tibia 3.2 long, cymbium 1.4 long.

Holotype of *T. helenicola* (BE_RMCA_ARA. Ara.133289): Carapace 6.2 long, 4.0 wide. Chelicera (left/right, excluding fang) 3.8/3.3 long, 1.2/1.5 wide. Palp femur 4.8 long, patella 1.7 long, tibia 3.2 long, cymbium 2.2 long.

Other material examined: 1 (NHMUK AQ ZOO 2022-84), Peak's wash house, off Tree Fern, [coll. and colln P. Ashmole and M. Ashmole], 2562/V; 1 imm 3, 1 (NHMUK AQ ZOO 2022-84), Cabbage Tree Road (Diana's 01 and 03), 30 December 2005, [coll. and colln P. Ashmole and M. Ashmole], 2748/V; 1 imm. (NHMUK AQ ZOO 2022-84), Deep Valley Head, 12 January 2006, [coll. and colln P. Ashmole and M. Ashmole], 2048/V; 1 imm $\[mathscrew]$ (NHMUK AQ ZOO 2022-84), Diana's 01, 29 December



Figs. 11–15: *Tecution planum* holotype male (OUMNH 298.9). 11 habitus, dorsal view; 12 same, ventral view; 13 close-up of chelicerae, dorsal view; 14 same, lateral view; 15 same, ventral view. Scale bars = 2 mm (11–12), 1 mm (13–15).



Figs. 16–20: *Tecution planum* holotype male (OUMNH 298.9), right palp (mirrored). 16 prolateral view; 17 retrolateral view; 18 closeup of cymbium and bulbus, prolateral view; 19 same, ventral view; 20 same, retrolateral view. Black arrow = dorsal spine, CO = conductor, CS = cymbial spur, DS= dorsal spine, E = embolus, MA = median apophysis, RTA = retrolateral tibial apophysis. Scale bars = 1 mm (16–17), 0.5 mm (18–20).

2005, [coll. and colln P. Ashmole and M. Ashmole], Black Cabbage shaking, 2302/V; 1♀ (NHMUK AQ ZOO 2022-84), Deep Valley Head, 12 January 2006, [coll. and colln P. Ashmole and M. Ashmole], 2409/V; 1♀ (NHMUK AQ ZOO 2022-84), Warrens, 12 January 2006, [coll. and colln P. Ashmole and M. Ashmole], 2033/V; 1♂, 2 imm. (NHMUK AQ ZOO 2022-84), Taylor's Gut, 27 Decemberv 2005, from shaking Jellico stems, coll. H. Mendel, P. Ashmole and M. Ashmole, P. Ashmole and M. Ashmole colln, 6275/C; 1 (NHMUK AQ ZOO 2022-84), Mount Actaeon, 08 February 2006, off Black Cabbage [tree], coll. H. Mendel, P. Ashmole and M. Ashmole, P. Ashmole and M. Ashmole colln, 2558/V; 233, 299 (NHMUK AQ ZOO 2022-84), Cabbage Tree Road, 16 December 2005-09 March 2006, coll. and colln P. Ashmole and M. Ashmole, H6.7/1, 4323/C; 1♂, 1 imm ♀, 1 imm. (NHMUK AQ ZOO 2022-84), Diana's Peak, 16 December 2005-09 March 2006, coll. and colln P. Ashmole and M. Ashmole, D4.5/7, 4324/C; 1♂, 1 imm ♀ (NHMUK AQ ZOO 2022-84), Teutonic Hall, 03 February 2006, coll. and colln P. Ashmole and M. Ashmole, 6294/C; 1 imm. (NHMUK AQ ZOO 2022-84), Actaeon Peak [= Mt Actaeon], 08 February 2006, coll. and colln P. Ashmole and M. Ashmole, Actaeon 08, off Black Cabbage [tree], 2559/V; 233, 12, 7 imm. (NHMUK AQ ZOO 2022-84), Actaeon Peak [= Mt Actaeon], 16 December 2005-09 March 2006, coll. and colln P. Ashmole and M. Ashmole, Actaeon Mt, off dead stems of Sium bracteatum, Ex. HM D3, 6310/C; 12, 1 imm. (NHMUK AQ ZOO 2022-84), High Peak, 26 January 2006, coll. and colln P. Ashmole and M. Ashmole, 4159/C; $3 \stackrel{\bigcirc}{\downarrow} \stackrel{\bigcirc}{\downarrow}$ (NHMUK AQ ZOO 2022-84), Cuckhold's Point, 09 February 2006, Cuckhold's at night, 2566/V; 1 imm 3, 1 imm. (MMUE G7572.13481), Peak Dale, 06 May 1995, coll. and colln P. Ashmole and M. Ashmole, gum[wood] trees, 1088/SH, 23869; 3 imm. (OUMNH 2264.38), St Helena, coll. J. C. Melliss, O. Pickard-Cambridge colln; 2 imm. (OUMNH 2264.A), St Helena, coll. J. C. Melliss, O. Pickard Cambridge colln; 2⁽²⁾, 2 imm. (BE_RMCA_ARA.Ara.129327), High Central Ridge, Mt Actaeon, 15°58'18.9"S 5°42'06.9"W, 790-820 m, 11 December 1965, P. L. G. Benoit, P. Basilewsky, N. Leleup; 2 imm. (BE RMCA ARA.Ara.129345), High Central Ridge, Mt Actaeon, 15°58'18.9"S 5°42'06.9"W, 790-820 m, 08 January 1966, P. L. G. Benoit, P. Basilewsky, N. Leleup; 13, 4 imm. (BE RMCA ARA.Ara.129466), High Central Ridge, Mt



Figs. 21–26: *Tecution helenicola* holotype male (BE_RMCA_ARA.Ara.133289). **21** habitus, dorsal view; **22** same, lateral view (left hand side); **23** same, ventral view; **24** chelicera, retrodorsal view; **25** same, prolateral view; **26** same, ventral view. Scale bars = 5 mm (21–23), 1 mm (24–26).



Figs. 27–32: *Tecution helenicola* holotype male (BE_RMCA_ARA.Ara.133289), palp. **27** prolateral view, **28** retrolateral view; **29** cymbium and anterior third of tibia, prolateral view; **30** same, ventral view; **31** same, retrolateral view; **32** detail of proximal cymbium and distal tibia, prolateral view. Black arrows = dorsal spine, CO = conductor, CS = cymbial spur, DS= dorsal spine, E = embolus, MA = median apophysis, RTA = retrolateral tibial apophysis. Scale bars = 1 mm (27–28), 0.5 mm (29–31), 0.2 mm (32).

Actaeon, 15°58'18.9"S 5°42'06.9"W, 790-820 m, 05 January 1966, P. L. G. Benoit, P. Basilewsky, N. Leleup; 7 imm. (BE_RMCA_ARA.Ara.129478), High Central Ridge, Mt Actaeon, 15°58'18.9"S 5°42'06.8"W, 790-820 m, 08 December 1965, coll. P. L. G. Benoit, P. Basilewsky and N. Leleup; 1♂ (BE RMCA ARA.Ara.129534), High Central Ridge, 790-820 m, 16 November 1965, P. L. G. Benoit, P. 19 (BE RMCA ARA. Basilewsky, N. Leleup; Ara.133297), Teutonic Hall, 15°57'58"S 5°41'38"W, 460-520 m, May 1967, coll. J. Decelle and N. Leleup; 4 imm. (BE RMCA ARA.Ara.133325), between Luffkins and Peak Gut, 15°59'S 5°44'W, 550 m, 08 May 1967, J. Decelle and N. Leleup; 2 imm. (BE_RMCA_ARA.Ara.133334), High Peak, 15°58'S 5°42'W, March 1967, 730-790 m, J. Decelle and N. Leleup; 1^{\bigcirc} (BE RMCA ARA. Ara.133335), High Peak, 15°58'S, 5°42'W, 730-790 m, March 1967, J. Decelle and N. Leleup; 4 imm. (BE RM-CA ARA.Ara.133376), High Central Ridge, 700-800 m, February 1967, J. Decelle and N. Leleup; 1 d (BE_RMCA_ ARA.Ara.133382), High Central Ridge, Cabbage tree[s], 15°58'15.8"S 5°41'57.7"W, 700-800 m, 06 February 1967, in degraded trunk, J. Decelle and N. Leleup; 18 (BE RM-CA ARA.Ara.133383), High Central Ridge, Cabbage Tree, 15°58'15.8"S 5°41'57.7"W, 700-800 m, 06 February 1967, degraded trunk, J. Decelle and N. Leleup; 1^Q (BE_RMCA_ ARA.Ara.133413), Africa, St Helena, St Hélène Centre, High Peak, 15°58'S 5°42'W, 23 February 1967, on dead Dicksonia trunk, J. Decelle and N. Leleup; 3 imm. (BE RMCA ARA.Ara.133451), St Helena, Diana's Peak, Cuvette, 15°58'S 5°42'W, 09 February 1967, J. Decelle and N. Leleup; 5 imm. (BE RMCA ARA.Ara.135990), St Helena, High Central Ridge, Cabbage Tree Road, 760 m, 15°58'21.26"S 5°41'57.045"W, 2.500 m, March 1967, coll. J. Decelle and J. & N. Leleup; 1^Q, 4 imm. (BE_RMCA_ ARA.Ara.135986), High Peak, 15°58'S, 5°42'W, on dead Dicksonia trunk, 23 February 1967, J. Decelle and N. Leleup; 1^Q (SHNT), FLAX 01, Flax, Diana's Peak, [15°58'18.2"S 5°42'03.9"W, 762 m, det. D. Sherwood 17 November 2022; 1∂, 1 imm.♀, 2 imm. (SHNT), NEWC 07, New Restoration, Diana's Peak, [15°58′13.2″S 5°42'11.5"W, 785 m, det. D. Sherwood 14 November 2022; 1⁽³⁾ (SHNT), Summit View, Alarm Hill, Levelwood, 30 November 2022, coll. N. Stevens; 1 (SHNT), CABB 04, Cabbage Tree woodlands, Diana's Peak, [15°58'30.4"S 5°41′55.2″W, 776 m, det. D. Sherwood 14 November 2022.

Distribution: Endemic to Saint Helena, known sites include: Cabbage Tree Road, Cuckhold's Point, Diana's Peak, Fairyland, High Peak, Mount Actaeon, Peak Dale, Plantation House (inclusive of The Hermitage) [historical record, no recent records found, see below], Taylor's Gut, and Teutonic Hall (Figs. 51–52).



Figs. 33–39: Variation in chelicerae of *Tecution* specimens. **33** *Tecution mellissi* holotype male (OUMNH 298.8), retrolateral view; **34** *T. planum* non-type male (BE_RMCA_ARA.Ara.133382), retrolateral view; **35** *T. planum* non-type male (BE_RMCA_ARA.Ara.133534), retrolateral view; **36** *T. heleni-cola* holotype male (BE_RMCA_ARA.Ara.133289), retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolateral view; retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolateral view; retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolateral view; retrolateral view; retrolateral view; retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolateral view; retrolateral view; retrolateral view; **37–39** *T. planum* non-type female (BE_RMCA_ARA.Ara.133413), retrolateral view; retrolatera

Rationale for new synonymies: Examination of the male holotypes of *T. mellissi* and *T. planum* (Figs. 1–5, 11–15) in OUMNH showed that these two specimens are indeed markedly different in comparative body size and in the shape and size of the chelicerae. The palpal structures and the RTA show slight differences (e.g. the point of emergence of the embolus and the trajectory of the cymbial spur; variation in the angle of the apex of the RTA) (Figs. 6–10, 16–20). Considered on their own, as they were by O. Pickard-Cambridge (1873) who examined only these two specimens, it is easy to see why historically these specimens were determined as non-conspecifics.

However, through examination of the type material of *T. helenicola* (Figs. 21–32) and non-type material of *T. planum* and *T. helenicola*, we discovered that, within samples, body size and cheliceral morphology (Figs. 33–39) in adult males (and indeed in immatures and between females) varied. This suggests that the extent of this character state found in the holotypes of *T. mellissi* and *T. planum* thus represent two extremes of a morphological gradient and not distinct character states. The holotype of *T. planum*, especially, seems to be a specimen of notably small size and allometry could explain why it has such reduced chelicerae.

Furthermore, samples in NHMUK, which include several samples containing more than one male collected together at the same time, show that the emergence point of the embolus varies between the medial aspect of the palp and the posterior third. Again, this suggests that the differences found between the holotypes of *T. mellissi* and *T. planum* are the result of intraspecific variation. In addition, the cymbial spur varies in size and trajectory across the samples. The tip of RTA also varies in the same way and may be from slightly sinuous to hooked.



Figs. 40–43: *Tecution planum* non-type female, epigyne. 40 ventral view (BE_RMCA_ARA.Ara.133413); 41 cleared, ventral view (BE_RMCA_ARA.Ara.133297); 42 same, dorsal view; 43 same, dorso-anterior view. Scale bars = 0.2 mm.



Figs. 44–46: *Tecution planum* non-types in situ showing colour variation, Diana's Peak, Saint Helena. **44** immature female; **45** adult female with nymphal stage 2 young; **46** adult male.

Only *T. planum* has previously had females assigned to it (Benoit 1977) and our examination of specimens in RMCA (Figs. 40–43) and also in NHMUK showed specimens with congruent morphology to the female figured in that work (Benoit 1977: 73, figs. 29c–d), with no indications of variation in the epigyne to suggest the presence of multiple species in the samples. It appears that the marked size variation is more apparent in males than females (pers. obs.). Benoit (1977) recorded all three species from the Peaks

region of Saint Helena, also considering all three to occur in sympatry at Cabbage Tree Road. No evidence to show microhabitat specialism, differences in months of the reproductive season nor other non-morphological characters (to support the hypothesis that they all occur sympatrically but represent separate entities) has been presented previously, nor observed by two of the authors in situ at various sites in the Peaks, including Cabbage Tree Road, High Peak, and Peak Dale (DS and LF pers. obs.).

Thus, based on our findings that cheliceral morphology and palpal morphology in *Tecution* males appears to vary only within intraspecific limits, in addition to the absence of significant epigynal variation in sympatric females, and a lack of biogeographical and ecoregional evidence to support the hypothesis of three distinct species occurring in sympatry with no overlap, we propose herein that all three names are synonymous.

Discussion

Very little is currently known of the ecology of *T. planum*. Whilst recalling collecting the holotype of the nowsynonymous *T. mellissi*, designated and described previously by O. Pickard-Cambridge (1973), Melliss (1875: 209) made a hypothesis that this species was nocturnal: "Having occasion to get up one morning rather earlier than usual, I met him just in the earliest dawn, proudly walking across my sitting-room floor at The Hermitage, situated on the high land. He had not long to lament that moment—evil for him, but otherwise for science, for he was soon secured in my specimen-bottle. The circumstances under which I met with



Figs. 47–50: Habitat of *Tecution planum* in cloud forest. **47** entrance to Cabbage Tree Road, type locality of *T. helenicola* and where most Belgian material was collected; **48** view towards High Peak summit on sunny day; **49** summit of Cuckhold's overlooking Diana's Peak and Mt Actaeon; **50** summit of High Peak under heavy cloud cover.



Fig. 51–52: Location of all modern records of *Tecution planum*, inclusive of museum specimens examined and sightings in situ by DS and LF. **51** position of Saint Helena in the South Atlantic Ocean; **52** satellite view of Saint Helena with detail of sampling points on the island.

this spider, doubtless prove its being of nocturnal habits ...". Two samples in NHMUK state the respective specimens were collected at night, whilst others do not carry information about the time of day they were collected. *Tecution planum* mostly occurs on the leaves and stems of Jellico and Black Cabbage plants (see Figs. 44–46) but has also been observed on Whiteweed and Wild Bilberry by LF.

Tecution planum represents an important and vulnerable endemic spider on the island of Saint Helena, with all modern records almost exclusively from the Peaks National Park (Figs. 47–50). The historical locality of The Hermitage may be the result of historical habitat differences or the specimen may have been inadvertently carried down from the Peaks. Whilst *T. planum* is a protected species under the Environmental Protection Ordinance issued in 2016 by the Saint Helena Government, long-term monitoring is required to better understand its ecology and to ensure its long-term conservation.

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References

- MENDEL, H., ASHMOLE, P. & ASHMOLE, M. 2008: Invertebrates of the Central Peaks and Peak Dale, St Helena. Jamestown: Saint Helena National Trust.
- BENOIT, P. L. G. 1977: Fam. Clubionidae. In La faune terrestre de l'île de Sainte-Hélène IV. Annales, Musée Royal de l'Afrique Centrale, Sciences zoologiques (Zool.-Ser. 8°) 220: 64–81.
- BONNET, P. 1956: Bibliographia araneorum. Analyse méthodique de toute la littérature aranéologique jusqu'en 1939. Tome II. Systématique des araignées (Étude par ordre alphabétique) (2me partie: C-F). Toulouse: Douladoure: 919–1926.
- HADDAD, C. R. 2014: A revision of the endemic South African sac spider genus *Lessertina* Lawrence, 1942 (Araneae: Eutichuridae). *Zootaxa* 3873: 82–92.
- LAWRENCE, R. F. 1942: A contribution to the araneid fauna of Natal and Zululand. *Annals of the Natal Museum* **10**: 141–190.
- LOTZ, L. N. & DIPPENAAR-SCHOEMAN, A. S. 1999: Cheiramiona, a new Afrotropical spider genus (Araneae: Miturgidae: Eutichurinae). Navorsinge van die Nasionale Museum Bloemfontein 15: 29–44.
- MELLISS, J. C. 1875: St Helena: a physical, historical, and topographical description of the island, including it geology, fauna, flora and meteorology. London: L. Reeve & Co.
- PICKARD-CAMBRIDGE, O. 1873: On the spiders of St Helena. Proceedings of the Zoological Society of London 41: 210–227, pl. 24.
- WORLD SPIDER CATALOG 2022: World spider catalog, version 23.5. Bern: Natural History Museum, online at http://wsc.nmbe.ch