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Revalidation of *Dolichothele* Mello-Leitão and notes on *Hapalotremus* Simon (Araneae, Mygalomorphae, Theraphosidae)

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Hapalotremus exilis (Mello-Leitão, 1923) and *Hapalotremus muticus* (Mello-Leitão, 1923), previously considered as *nomina dubia* are here revalidated through the examination of the holotypes. *Dolichothele* Mello-Leitão, 1923 is revalidated and their type species, *Dolichothele exilis* Mello-Leitão, 1923 is restored. *Goniodontium* Mello-Leitão, 1923 and *Oligoxystre* Vellard, 1924 are considered junior synonyms of *Dolichothele*. *Hapalotremus muticus* and *Oligoxystre caatinga* Guadanucci, 2007 are considered junior synonyms of *D. exilis*. All species of *Oligoxystre* are transferred to *Dolichothele*. *Cyclothoracoides* Strand, 1929, currently a junior synonym of *Hapalotremus* Simon, 1903, is here considered a junior synonym of *Homoeomma* Ausserer, 1871.

Hapalotremus exilis (Mello-Leitão, 1923) e *Hapalotremus muticus* (Mello-Leitão, 1923), previamente consideradas como *nomina dubia*, são aqui revalidadas após o exame dos holótipos. *Dolichothele* Mello-Leitão, 1923 é revalidado e sua espécie-tipo, *Dolichothele exilis* Mello-Leitão, 1923, é restaurada. *Goniodontium* Mello-Leitão, 1923 e *Oligoxystre* Vellard, 1924 são considerados sinônimos júnior de *Dolichothele*. *Hapalotremus muticus* (Mello-Leitão, 1923) e *Oligoxystre caatinga* Guadanucci, 2007 são consideradas sinônimos júnior de *D. exilis*. Todas as espécies de *Oligoxystre* são transferidas para *Dolichothele*. *Cyclothoracoides* Strand, 1929, atualmente um sinônimo júnior de *Hapalotremus* Simon, 1903, é aqui considerado um sinônimo júnior de *Homoeomma* Ausserer, 1871.

Keywords: *Goniodontium*; *Homoeomma*; *Oligoxystre*; spider

Introduction

The Theraphosinae genus *Hapalotremus* was established by Simon (1903) to include the only known species at the time, *Hapalotremus albipes* Simon, 1903, based on a male specimen described from Bolivia. The genus was revised by Gerschman-de-Pikelin & Schiapelli (1973), who studied the holotype of *H. albipes* and presented figures of the male palpal bulb and leg I tibial apophysis, important characters in taxonomy and not previously illustrated. In the last three decades, five species were transferred to *Hapalotremus* (Raven 1985; Pérez-Miles & Loch 2003), of which four were described by Mello-Leitão (1923, 1929) and one by Chamberlin (1916). More recently, Cavallo & Ferretti (2015) described one new species from Argentina.

Mello-Leitão (1923) established three Brazilian genera: *Dolichothele*, type species *Dolichothele exilis* Mello-Leitão, 1923, based on a female from Paraíba; *Goniodontium*, type species *Goniodontium muticum* Mello-Leitão, 1923, based on a female from Bahia; and *Cyclothorax*, type species *Cyclothorax cyclothorax* Mello-Leitão, 1923, based on a male from Rio de Janeiro. Later, Strand (1929) renamed

Cyclothorax for *Cyclothoracoides*, because it was pre-occupied. Raven (1985) considered the three genera as junior synonyms of *Hapalotremus* after the examination of the holotypes of *D. exilis* and *G. muticum*, but not the holotype of *Hapalotremus albipes* Simon, 1903, which presents a male palpal bulb with extended subtegulum and conspicuous subapical keel on the embolus, characteristics of Theraphosinae (Pérez-Miles et al. 1996) and a spermathecae with fused receptacula (Schmidt 1993, figure 2). Bücherl et al. (1971) examined the holotype of *D. exilis*, transferred the genus from Barychelidae to Theraphosidae (Ischnocolinae). He also represented the spermathecae with two separated receptacula, which are longer than wide and covered by a membrane (Bücherl et al. 1971, figure 52). Schmidt (2002) declared that *Dolichothele* is not a synonym of *Hapalotremus*, and considered the genus an Ischnocolinae *incertae sedis*, since the description of the genus was based on a female, but the transfer was not accepted by Platnick (2002). Recently, Cavallo & Ferretti (2015) considered *Hapalotremus exilis* (Mello-Leitão, 1923) and *Hapalotremus muticus* (Mello-Leitão, 1923) *nomina dubia* since the type material was not located and

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proposed the synonymies: *Hapalotremus cyclothorax* (Mello-Leitão, 1923) with *Homoeomma montanum* (Mello-Leitão, 1923) and *Hapalotremus scintillans* (Mello-Leitão, 1929) with *Pachistopelma rufonigrum* Pocock, 1901.

Studying the descriptions and type material of Mello-Leitão (1923, 1929) for *Dolichothele* and *Goniodontium*, and the description of Vellard (1924) for *Oligoxystre* Vellard, 1924, we noticed a similarity among these three genera. With the aim to elucidate their true identity we compared the diagnoses of the genera and species mentioned above with specimens from the spider collection at Instituto Butantan.

Material and methods

Specimens from the following institutions were examined (abbreviation and curators in parenthesis): Instituto Butantan, São Paulo, Brazil (IBSP, A.D. Brescovit); Museu Nacional do Rio de Janeiro, Rio de Janeiro, Brazil (MNRJ, A.B. Kury); Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil (MZSP, R. Pinto da Rocha).

All measurements are in millimeters (mm) and were taken with a stereomicroscope with a millimetric ocular lens. Total body length includes the chelicerae but not the pedicel and spinnerets. Spermatheca was dissected and immersed in enzyme (Ultrazyme[®]) for 72 h for soft tissue digestion to allow observation of internal structures. Pictures were taken with a Leica DFC500 digital camera (Wetzlar, Germany) mounted on a Leica MZ16A stereomicroscope (Singapore), the extended focal range images were composed with Leica Application Suite version 2.5.0.

Results

Taxonomy

Theraphosidae Thorell, 1869

Ischnocolinae Pocock, 1897

Genus *Dolichothele* Mello-Leitão, 1923

Dolichothele Mello-Leitão, 1923: 119 (type species by original designation, *Dolichothele exilis* Mello-Leitão, 1923); Bücherl et al. 1971: 127, figure 52; Raven 1985: 152 (syn. with *Hapalotremus* Simon, 1903); Schmidt 2002: 16, figure 1 (revalidated, but not accepted by Platnick, 2002); Schmidt 2003: 196, figure 559.

Goniodontium Mello-Leitão, 1923: 126 (type species by original designation, *Goniodontium muticum* Mello-Leitão, 1923); Raven 1985: 153 (syn. with *Hapalotremus* Simon, 1903). Syn. nov.

Oligoxystre Vellard, 1924: 154 (type species by original designation, *Oligoxystre auratum* Vellard, 1924); Guadanucci 2007: 2; Guadanucci 2011: 321; World Spider Catalog 2015. Syn. nov.

Pseudoligoxystre Vol, 2001: 4 (type species by original designation, *Pseudoligoxystre bolivianum* Vol, 2001); Guadanucci 2007: 2 (syn. with *Oligoxystre* Vellard, 1924).

Note

Dolichothele and *Goniodontium* were described in the same publication but the first is chosen as a senior synonym due to page priority and because the holotype of *D. exilis* is in better condition (Figures 1–3) and presents a spermatheca (Figures 4, 5), lost in *Goniodontium muticum*.

Diagnosis

Dolichothele differs from the Neotropical genera *Acanthopelma* F. O. P.-Cambridge, 1897, *Guyruita* Guadanucci et al., 2007, *Hemiercus* Simon, 1903, *Holothele* Karsch, 1879, *Schismatothele* Karsch, 1879 and *Sickius* Soares & Camargo, 1948 and resembles *Catumiri* Guadanucci, 2004 by the labium being much wider than long (Figures 3, 6), and by bearing fewer than 10 cuspules (Guadanucci et al. 2007; Guadanucci 2011). It differs from *Catumiri* by the undivided scopula on all tarsi, IV with a sparse band of setae (that does not divide the scopula, see Guadanucci 2011, figure 1), metatarsus I with scopula ventrally for all its length (Figures 7, 8), female receptacula with numerous termini (Figure 5), the well-developed retrolateral branch of the tibial spur, and by the tarsal claws of males lacking teeth (Guadanucci 2011).

Note

In young female specimens of *Dolichothele*, the tarsal scopulae III present a longitudinal band of setae that does not divide the scopula as on tarsi IV.

Description

See Guadanucci (2007: 2), description as for *Oligoxystre*.

Revalidation and synonymies

Three different genera, *Dolichothele* and *Goniodontium* described by Mello-Leitão (1923), and *Oligoxystre* described by Vellard (1924) present very similar diagnoses. The first two genera were



Figures 1–8. *Dolichothele exilis*. 1–5, female holotype (MNRJ 13898); 1, carapace, dorsal view; 2, abdomen, ventral view; 3, maxillae, labium and cuspules, ventral view; 4, 5, spermathecae, dorsal view; 4, covered by a membrane, as examined by Bücherl et al. (1971); 5, without membrane; 6–8, female holotype of *Goniodontium muticum* (MZSP 159); 6, maxillae, labium and cuspules, ventral view; 7, 8, left leg I; 7, ventral view; 8, retrolateral view. Scale bars = 1 mm.

based only on females. The diagnosis of *Oligoxystre* was given by Guadanucci (2007, 2011) based on the description of *O. auratum* Vellard, 1924, since the holotype was not located and the attempt to collect specimens in the type locality failed. For only two of these genera, the type material is still available nowadays. For *G. muticum*, the female spermatheca is lost. The holotype of *D. exilis* was recently

located, confirming the characters described by Mello-Leitão (1923) and Bücherl et al. (1971). Additionally, after comparison with the diagnosis and descriptions of Guadanucci (2007, 2011) and examination of specimens from IBSP and holotypes of *D. exilis* and *G. muticum*, we concluded that the three genera share the same characteristics, namely: labium much wider than long with six and three

cuspules (Figures 3, 6), maxillae with *ca.* 20 cuspules on internal basal angle (Figures 3, 6), sternum oval with posterior sigilla marginal (Figures 3, 6), metatarsal scopulae I–II entire for their whole length (Figures 7, 8), III–IV entire on the anterior $\frac{3}{4}$ of their length, undivided scopula on all tarsi, IV with a longitudinal band of setae (that does not divide the scopula, see Guadanucci 2011, figure 1), superior tarsal claw lacking teeth, spermathecae paired, longer than wide (Figures 5, 6) with 5–7 termini on apex (Figure 5). Based on these characters, the genus *Dolichothele* is here revalidated and considered a senior synonym of *Goniodontium* and *Oligoxystre*.

Remarks

Dolichothele differs from *Hapalotremus* by the male palpal bulb lacking an extended subtegulum, without subapical keel on the embolus, by spermathecae formed by two separated long receptacula (Figures 4, 5) and by the absence of urticating setae in both sexes.

Transferred species

Here all species included in *Oligoxystre* are transferred to *Dolichothele*, see below.

Included species

Eight species: *Dolichothele exilis* Mello-Leitão, 1923 comb. rest., *D. auratum* (Vellard, 1924) comb. nov., *D. bolivianum* (Vol, 2001) comb. nov., *D. dominiguense* (Guadanucci, 2007) comb. nov., *D. tucuruense* (Guadanucci, 2007) comb. nov., *D. rufoniger* (Guadanucci, 2007) comb. nov., *D. diamantinensis* (Bertani et al., 2009) comb. nov. and *D. mineirum* (Guadanucci, 2011) comb. nov.

Dolichothele exilis Mello-Leitão, 1923 comb. rest. (Figures 1–10)

Dolichothele exilis Mello-Leitão, 1923: 120 (female holotype from Campina Grande (Caatinga), Paraíba, Brazil, T. Leitão coll., MNRJ 13898, examined); Bücherl et al. 1971: 127, figure 52; Schmidt 2002: 16, figure 1 (comb. rest., but not accepted by Platnick 2002); Schmidt 2003: 196, figure 559.

Hapalotremus exilis: Raven 1985: 152; Cavallo & Ferretti 2015: 882 (considered *species inquirenda*).

Goniodontium muticum Mello-Leitão, 1923: 127 (female holotype (Figures 6, 8) from Vila Nova (Caatinga),

Senhor do Bonfim, Bahia, Brazil, 1908, E. Garbe coll., MZSP 159, examined). Syn. nov.

Hapalotremus muticus: Raven 1985: 153; Cavallo & Ferretti 2015: 883 (considered *species inquirenda*).

Leptopelma nigrioculatum Bücherl et al., 1971: 128, figure 53 (male holotype from Campina Grande (Caatinga), Paraíba, Brazil, T. Leitão coll., MNRJ 1407, examined); Platnick 2000 (considered that Bücherl et al. 1971: 128, figure 53, had left the species as *nomen nudum*). Syn. nov.

Ischnocolus nigrioculatus: Raven 1985: 155 (transferred from the synonymy of *Leptopelma* Ausserer, 1871 with *Ischnocolus* Ausserer, 1871).

Nemesia nigrioculata: Raven 1990: 21 (transferred from the synonymy of *Leptopelma* Ausserer, 1871 with *Nemesia* Audouin, 1826).

Oligoxystre caatinga Guadanucci, 2007: 12, figures 21–24, 38 (male holotype and female paratype from Central, Bahia, Brazil, 12–27 July 2000, A. D. Brescovit & E. Folly-Ramos coll., IBSP 109487 and 109482, examined); World Spider Catalog 2015. Syn. nov.

Revalidation and synonymies

Recently, Cavallo & Ferretti (2015) considered *H. exilis* and *H. muticus* as *species inquirenda* since the type material was not located. For the same reason as the restoration of *Dolichothele*, *H. exilis* is here revalidated and transferred back to *Dolichothele*, restoring the original combination but also considering it a senior synonym of *H. muticus* and *O. caatinga* by the ventral side being very dark (Figures 2, 3, 6, 10), carapace (Figure 1, 9) and legs having the white setae, spermatheca with numerous termini only on the apex (Figure 5).

Bücherl et al. (1971: 128) found in MNRJ a never described male specimen labeled by Mello-Leitão with the name *Leptopelma nigrioculatum* Bücherl et al., 1971. They also noticed that the specimen was not a Barychelidae but a Theraphosidae (Ischnocolinae). Later, Platnick (2000) considered that Bücherl et al. (1971: 128, figure 53) had left the species as *nomen nudum*. On the other hand, we considered that Bücherl et al. (1971: 128, figure 53) have described the species, since the description of male tibial I spurs and the drawing of palpal tibia and bulb were presented. Thus, the name, albeit based on a short description, was published by the authors. The holotype was herein examined and confirmed. Therefore, given the minimum ICNZ criteria provided to consider the species name as available, it can be considered a valid species. This view was also adopted by the MNRJ curator, when he agreed that the *L. nigrioculatum* was described by authors (A. B. Kury pers. comm.).



Figures 9, 10. *Dolichothele exilis*, live female from Parque Nacional da Chapada Diamantina, Lençóis, Bahia, Brazil. 9, dorsal view; 10, ventral view. Photos: Rafael P. Indicatti. Scale bars = 5 mm.

Besides this, *Leptopelma* Ausserer, 1871 was considered a junior synonym of *Ischnocolus* Ausserer, 1871 by Raven (1985: 43, 155) and later of *Nemesia*

Audouin, 1826 by Raven (1990: 21), where it is today. In this case, the two names originating from the synonyms should be added in synonymic index in

the World Spider Catalog (2015), *Ischnocolus nigrioculatus* (Bücherl et al., 1971) and *Nemesia nigrioculata* (Bücherl et al., 1971), respectively.

Therefore, this species is transferred from the *Nemesia* (Nemesiidae) to *Dolichothele* (Theraphosidae) and considered a junior synonym of *D. exilis* by the ventral side very dark, carapace and legs having the white setae, male tibial I spur and palpal bulb similar to that of *O. caatinga*. Also, interestingly, the figure was presented to the side of that of the holotype of *H. exilis*, its conspecific female, but this fact was not noticed by the authors at the time.

Diagnosis

Dolichothele exilis differs from other species of *Dolichothele* by the ventral side being very dark (Figures 2, 3, 6, 10), and by the carapace (Figures 1, 9) and legs having the white setae which are more evident in males (Guadanucci 2007). *Dolichothele exilis* resembles *D. rufoniger* and *D. mineirum* by the male palpal bulb having a slender and elongated embolus without keels and long female receptacula. Males can be distinguished from those of *D. rufoniger* by the well-developed retrolateral branch of tibial apophysis and from *D. mineirum* by the tibial apophysis being near the metatarsus (Guadanucci 2007, figure 21). Females differ from those of *D. rufoniger* by the spermatheca lacking a small retrolateral basal lobe (Figure 5) and from *D. mineirum* by the numerous termini only on the apex (Figure 5).

Additional material examined

***Dolichothele exilis*:** Brazil, *Maranhão*: Caxias, 1 male, 25 May 2004, G.S. Santos coll. (IBSP 120494), (Estação Ecológica de Inhamum), 1 May 2007, F. Limeira de Oliveira & J.F.B. Lima-Lobato coll., 1 female (IBSP 120489). *Piauí*: Curimatá, 18 August 1994, P.S. Kawall coll., 1 female (IBSP 109457), Parnaíba, 1 female, 6 December 1994, R. Bertani coll. (IBSP 109473). *Ceará*: Fortaleza (Itaperi), 13 August 2010, R. Azevedo coll., 1 female (IBSP 164550). *Rio Grande do Norte*: Serra Negra do Norte (Estação Ecológica do Seridó), 26 August 1996, 1 female (IBSP 107984). *Pernambuco*: Floresta (UHE Itaparica), 1 female (IBSP 104931-B). *Alagoas*: Maceió (Ipioca, Serra da Saudinha), November 2005, G.Q.C. Correia coll., 1 male (IBSP 112599). *Bahia*: 1 male, T.K. Brazil coll. (IBSP 109497); Senhor do Bonfim, 1 female (Vila Nova), E. Garbe coll. (MZSP); (Campus VII da UNEB), March–July 2008, J.S. Costa coll., 2 females (IBSP 133786); 1 male (IBSP 165976); Jacobina (Serra

do Ouro), 22 October 1990, G. Skuk coll., 1 female (IBSP 109456); Central, 12–27 July 2000, A.D. Brescovit & E. Folly-Ramos coll., 1 female (IBSP 109469), 1 male (IBSP 109489), 1 female (IBSP 109477), 1 female (IBSP 109479), 1 male (IBSP 109486), 1 male (IBSP 109488), 1 female (IBSP 109471), 1 female (IBSP 109476), 1 female (IBSP 109483), 1 female (IBSP 109481), 1 male, 10 July 2000, A.D. Brescovit et al. coll. (IBSP 108554), 1 female (IBSP 108723); 1 female, February 2000, E. Folly-Ramos coll. (IBSP 112836), 1 male, (IBSP 109485), 1 male, 1 female, 16 July 2002, E. Folly-Ramos coll. (IBSP 112852), 1 male, 1 female, E. Folly-Ramos & S.F. Paula coll. (IBSP 114596); Lençóis (Parque Nacional da Chapada Diamantina, near Gruta do Lapão), 3 females, 24 January 2009, H.Y. Yamaguti, R.P. Indicatti & F.U. Yamamoto coll. (IBSP 165977); Brumado, 1 male, G. Skuk coll. (IBSP 109453). ***Dolichothele bolivianum*:** Brazil, *Rondônia*: Porto Velho (Mutum), 1 male, 18 April 2012, R.P. Indicatti coll. (MZSP). *Mato Grosso*: Chapada dos Guimarães, 1 male, 1 female, February 1991, S.M. Lucas coll. (IBSP 109494, 109040); Poconé, 1 female (IBSP 109502). *Goiás*: Mineiros (Parque Nacional das Emas), 1 male, 5 September 1997, C. Nogueira & P. Valdujo coll. (IBSP 109493). *Mato Grosso do Sul*: Miranda (Agachi), 1 female, 28 November 1952, C.F. Moraes coll. (IBSP 103094). ***Dolichothele mineirum*:** Brazil, *Sergipe*: Santa Luzia do Itanhhy (Mata do Crasto), 1 female, September 1999, A.D. Brescovit et al. coll. (IBSP 108626); 1 male, R. Bertani coll. (IBSP 109142). *Minas Gerais*: Ouro Preto, 1 female, 22 December 1947, A. Bittencourt coll. (IBSP 101098); 1 female (lacking spermatheca), 27 March 1951, A. Bittencourt coll. (IBSP 102526); 1 female, 6 April 1951, A. Ulhôa coll. (IBSP 102554); Itanhomi (Edgar de Melo), 1 female, 2 August 1989, S.A. Silva coll. (IBSP 109450). ***Catumiri petropolium*:** Guadanucci, 2004: Brazil, *Rio de Janeiro*: Teresópolis (Parque Nacional da Serra dos Órgãos, 1100 m asl), 1 male, 18–31 December 2011, R.P. Indicatti & B. Gambaré coll. (IBSP 166765); 2 males, 10–22 November 2010, R.P. Indicatti, F.U. Yamamoto & J.P.P.P. Barbosa coll. (IBSP 166766, 166767, collected with pitfall traps of 15 l); Nova Iguaçu (Reserva Biológica do Tinguá), 1 female juvenile, 2002, E. Folly-Ramos coll. (IBSP 166768, collected with Winkler extractor, see Indicatti et al. 2015); Rio de Janeiro (Parque Nacional da Tijuca, Sumaré), 1 male, January 2000, Equipe MNRJ coll. (MNRJ). ***Catumiri chicao*:** Guadanucci, 2004: Brazil, *Bahia*: Una (Reserva Biológica do Una), 1 male, 13–16 April 1998, R. Bertani coll. (IBSP 109516); 1 male, A.D. Brescovit et al. coll. (IBSP 111686); 1

male (holotype), 1 female (paratype), December 1999, K. Kato coll. (IBSP 109514). *Catumiri parvum* (Keyserling, 1878): Uruguay, *Lavalleja*: Águas Blancas, 1 male, 1 female, 22 November 1993, F. Pérez-Miles coll. (IBSP 109491, 109507).

Other genera and synonymized species

Theraphosinae Thorell, 1870

Genus *Homoeomma* Ausserer, 1871

Homoeomma Ausserer, 1871: 211 (type species by original designation, *H. stradlingi* O.P.-Cambridge, 1881); World Spider Catalog 2015.

Calopelma Mello-Leitão, 1923: 146; Gerschman de Pikelin & Schiapelli 1972: 241. (syn.).

Cyclothorax Mello-Leitão, 1923: 341, type species by original designation, *C. cyclothorax* (generic name preoccupied).

Cyclothoracoides Strand, 1929: 17 (replacement generic name). Raven 1985: 151 (syn. with *Hapalotremus* Simon, 1903). **Syn. nov.**

Butantania Mello-Leitão, 1935: 359; Pérez-Miles et al. 1996: 52 (syn.).

Homoeomma montanum (Mello-Leitão, 1923)

Tmesiphantes montanus Mello-Leitão, 1923: 139, figures 48–50 (two males and two females, syntypes from Retiro de Ramos (Campo) (currently Parque Nacional do Itatiaia), Itatiaia, ca. 2200 m elevation, Rio de Janeiro, Brazil, C. Moreira coll., 1903, MNRJ 16, 14109, examined).

Cyclothorax cyclothorax Mello-Leitão, 1923: 341 (male holotype from Retiro do Itatiaia (currently Parque Nacional do Itatiaia), Itatiaia, ca. 2200 m elevation, Rio de Janeiro, Brazil, MNRJ 1410, not located).

Cyclothoracoides cyclothorax: Strand, 1929: 17; Cavallo & Ferretti 2015: 880 (syn.).

Hapalotremus cyclothorax: Raven 1985: 151.

Homoeomma montanum: Gerschman de Pikelin & Schiapelli 1972: 249, figures 11–17 (transf. from *Tmesiphantes*); World Spider Catalog 2015.

Synonymies

The genus *Cyclothorax* Mello-Leitão, 1923 was based on a male from Retiro de Ramos (currently Parque Nacional do Itatiaia), Itatiaia, Rio de Janeiro, Brazil. Strand (1929: 17) proposed the replacement name *Cyclothoracoides*. Mello-Leitão (1923) did not include male palpal bulb illustrations, and the bent metatarsus I is a common

character of several Theraphosinae genera (Fukushima et al. 2005; Yamamoto et al. 2007; Indicatti et al. 2008, figure 2E, J). Raven (1985: 151) considered *Cyclothoracoides* a junior synonym of *Hapalotremus*: "... with which it shares the bent metatarsus I and the conformation of the male palpal bulb and differs in no characters of generic significance." Recently, Cavallo & Ferretti (2015) removed the species from the synonymy of *Hapalotremus*, and considered it a junior synonym of *Homoeomma montanum* (Mello-Leitão 1923). However, no comment was made by Cavallo & Ferretti (2015) concerning the synonymy of *Cyclothoracoides* with *Homoeomma* Ausserer, 1871. Moreover, they erroneously left *Cyclothoracoides* as a synonym of *Hapalotremus* in the synonymic index-catalogue.

In four recent expeditions, numerous specimens were collected in the type locality and identified as *H. montanum* (Indicatti 2013, figure 20). Our study of the holotype male of *H. montanum* and other specimens collected agree with the description of *C. cyclothorax*, sharing the same color (in ethanol), eye diameter, labial cuspules, scopulae of all tarsi divided, male palpal bulb with spiralled embolus. In addition, *H. montanum* differs from *Hapalotremus albipes* by the tegular digitiform apophysis (Gerschman-de-Pikelin & Schiapelli 1972, figures 12, 13) and color pattern with cephalothorax and legs black with abdomen dark bearing numerous long reddish setae (see Indicatti 2013, figure 20). In contrast, in *H. albipes* the cephalic region of the cephalothorax is black bordered with yellowish setae and the abdomen shows two anterior yellowish patches, and the dorsal surfaces of the legs have white setae (Schmidt 1993, figure 1).

Therefore, *Cyclothoracoides* is here considered a junior synonym of *Homoeomma* and the synonymy of *Hapalotremus cyclothorax* with *H. montanum* proposed by Cavallo & Ferretti (2015) is confirmed.

Additional material examined

Brazil, *Minas Gerais*: Itamonte (Parque Nacional do Itatiaia, 2440 m asl), 1 female (with eggsac), 26–31 December 2013, R.P. Indicatti & B. Gambaré coll. (IBSP 166759). *Rio de Janeiro*: Resende (Parque Nacional do Itatiaia, 2380–2470 m asl), 20–30 May 2013, R.P. Indicatti, F.U. Yamamoto & J.P.P.P. Barbosa coll., 1 male (IBSP 166238); 1 female, 2 spiderlings (IBSP 166239); 1 male (IBSP 166753); 1 female, 1 juvenile (IBSP 166754); 2 females (IBSP 166755); 1 female (IBSP 166756); 1 male, 2 females, 16–28 July 2013, R.P. Indicatti & B. Gambaré coll.

(IBSP 166757); 1 male, 26–31 December 2013, R.P. Indicatti & B. Gambaré coll. (IBSP 166760); (Morro do Couto, 2630 m asl) 1 female, 1–4 May 2015, R.P. Indicatti & B. Gambaré coll. (IBSP 166758). All females ($n = 9$) and two males were manually collected under the stones and the other two males wandering in the trails and dirt road on the Itatiaia plateau.

Aviculariinae Simon, 1892

Pachistopelma rufonigrum Pocock, 1901

Pachistopelma rufonigrum Pocock, 1901: 548 (female lectotype from Igarassu, Pernambuco, Brazil, G. A. Ramage coll., deposited in The Natural History Museum, London (BMNH 1888.47, not examined); Mello-Leitão 1923: 337; Bertani 2012: 29; World Spider Catalog 2015.

Dolichothele scintillans Mello-Leitão, 1929: 92 (female holotype from Caruaru, Pernambuco, Brazil, B. Pickel coll., MNRJ 215, not located); Cavallo & Ferretti 2015: 882 (syn).

Hapalotremus scintillans: World Spider Catalog 2015.

Synonymy

Mello-Leitão (1929) described *Dolichothele scintillans* based on a female from Caruaru, Pernambuco, Brazil. The holotype has not been located. *Dolichothele scintillans* was transferred to *Hapalotremus* after Raven (1985) considered *Dolichothele* a junior synonym of this genus. Cavallo & Ferretti (2015) removed the species from the synonymy of *Hapalotremus* and considered it a junior synonym of *Pachistopelma rufonigrum* Pocock, 1901.

According to the original description of Mello-Leitão (1929), the eyes of the anterior row are in a strongly procurved line, the carapace is very low, metatarsal and tarsal scopulae on legs I–II are broad, the dorsal abdomen is black with five reddish spots on each side, the specimen was 30 mm in total length and was collected inside a bromeliad.

Bertani (2012) stated that all specimens from the two *Pachistopelma* Pocock, 1901 species were found inside bromeliads, and that the bromeliculous habit is an obligatory element among them. To date, the populations of the two species are isolated by the São Francisco River, but only *P. rufonigrum* occurs above it (Bertani 2012, figure 180), which is the same region as *H. scintillans*.

Therefore, based on the characteristics mentioned above, the synonymy of *Hapalotremus scintillans* with

Pachistopelma rufonigrum proposed by Cavallo & Ferretti (2015) was confirmed.

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