

ARTÍCULO:

A review of *Thaumatoleptes* Roewer (Arachnida, Opiliones, Gonyleptidae)

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**A REVIEW OF *THAUMATOLEPTES* ROEWER
(ARACHNIDA, OPILIONES, GONYLEPTIDAE)**

Amanda C. Mendes & Adriano B. Kury

Abstract

The monotypic genus *Thaumatoleptes* Roewer, 1930 is studied. The type species, *Thaumatoleptes rugosus* Roewer, 1930, is redescribed and newly recorded from Fernando de Noronha Island. The male genitalia are for the first time described and illustrated.

Key words: Laniatores, Gonyleptidae, Heteropachylinae, Systematics, Taxonomy, Northeastern Brazil.

Revisión de *Thaumatoleptes* Roewer (Arachnida, Opiliones, Gonyleptidae)**Resumen**

Se estudia el género monotípico *Thaumatoleptes* Roewer, 1930. Se describe la especie tipo del género: *Thaumatoleptes rugosus* Roewer, 1930, y se amplía su distribución a la isla de Fernando de Noronha. Los genitales masculinos son descritos e ilustrados por primera vez.

Palabras clave: Laniatores, Gonyleptidae, Heteropachylinae, Sistemática, Taxonomía, Noreste de Brasil.

Introduction

The subfamily Heteropachylinae was only recently described (Kury, 1994). It is a small group of average-sized Gonyleptidae mainly from Northeastern Brazil. The majority of the genera are monotypic and male genitalia are unknown for most species — the single illustration available is of *Aesotrinoma crassicalcanei* H. Soares, 1977 (H. Soares, 1977), but it has not been described. So, genital morphology of the species has never been compared.

For the taxonomy of the Heteropachylinae, the hotspots, which are important to compare, are: 1) Structure of free tergites I-III, 2) armature of femur IV of male. Male genitalia are of limited utility and at the present state of study they seem to be very uniform within the subfamily. A series of redescrptions of species is planned, emphasizing all those features and others neglected in the original descriptions.

The genus *Thaumatoleptes* Roewer, 1930, has been originally described in Gonyleptinae and the single species, *Thaumatoleptes rugosus* Roewer, 1930, is known from three specimens from Ceará State, northeastern Brazil. The single illustration provided in the original description is the habitus of the male in dorsal view.

Acronyms of repositories are Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ), Senckenberg Museum, Frankfurt am Main (SMF). All measurements are in millimeters.

Systematic results***Thaumatoleptes* Roewer, 1930**

Thaumatoleptes Roewer, 1930: 405; Mello-Leitão, 1932: 247; 1935: 103; Soares & Soares, 1949: 214; Kury, 1994: 350.

TYPE SPECIES: *Thaumatoleptes rugosus* Roewer, 1930, by monotypy.

DIAGNOSIS: Heteropachylinae with areas covered by densely distributed granules; area III bearing a pair of paramedian rounded tubercles; free tergites without median spine, with lateral corners projected; dorsal anal opercle granular, armed with median spine, abruptly narrowing distally. Femur IV without dorso-basal process, with a dorsal row of tubercles, largest at the middle, two prolateral apical blunt apophyses and one retrolateral apical blunt spiniform apophysis. Ventral plate with lateral margins basally excavated, so that it could be divided into dorsal and ventral layers, the former bearing a group of four distal setae, and the latter, two small distal setae and one basal large seta.

***Thaumatoleptes rugosus* Roewer, 1930**

Thaumatoleptes rugosus Roewer, 1930: 405, fig 26; Mello-Leitão, 1932: 248; Soares & Soares, 1949: 214 (types SMF RII 1323/11, 2 male 1 female syntypes, not examined).

TYPE LOCALITY: BRAZIL. Ceará. Fortaleza.

RECORDS: BRAZIL. Pernambuco. Fernando de Noronha Island. New Record

DIAGNOSIS: The same as for the genus.

MATERIAL EXAMINED: 5 males, 6 females (MNRJ 5707), Fernando de Noronha Island, vii.1973, O. Roppa col.

DESCRIPTION (male MNRJ 5707)

Measurements – Body and appendage measurements are in Tables I-II.

Dorsum (Figs. 1, 2, 4, 6) – Scutum outline pyriform, widest at area II. Anterior margin of carapace with three to five lateral apophyses on each side. Frontal hump covered with granules. Eye mound narrow oval, located far from frontal margin of carapace, with two parame-dian small pointed tubercles and some smaller granules near the eyes. Carapace with sparse granulation behind the eye mound. Mesotergum divided into three areas. Area I divided by a median longitudinal groove. Areas I-III irregularly covered with granules, area III with two parame-dian tubercles. Posterior margin with transverse row of granules. “Free” tergites I-II fused with scute, each with a transverse row of granules and lateral teeth on the corners, much more developed on tergite II. Free tergite III separated from the scute, smooth, and also with projected lateral corners. Lateral margins with two rows of tubercles each, the external one with their last two to four tubercles much bigger than the others. Two pairs of ozopores present, the anterior larger than the posterior, only the former fully visible in dorsal view. Dorsal anal opercle granular, armed with a median spine, abruptly narrowing distally.

Venter (Fig. 3) – Coxae I-IV and stigmatic area with sparse setiferous tubercles. Stigmata visible. Stigmatic area somewhat fused with coxa IV. Free sternites with a transverse row of setiferous tubercles each. Ventral anal opercle with a row of subequal granules.

Chelicera – Cheliceral bulla present. Basichelicerite smooth, with a ventral granule. Cheliceral hand smooth, with bristles principally at its distal portion.

Pedipalps (Fig. 1) – Trochanter with dorsal hump and armed with two ventral setiferous granules. Femur with three ventral setiferous granules and with a meso-apical small spine. Patella unarmed. Tibia with four mesal (IiIi) and three ectal (I+Ii) spines. Tarsus with four mesal (IiIi) and four ectal (IiIi) setiferous tubercles.

Legs (Figs. 5, 7-9) – Coxae I-II with a pair of dorsal apophyses each, those of coxa II bifurcate. Coxa IV surpassing scutum in dorsal view, covered with granules and small setiferous tubercles, armed with an apical

blunt apophysis. Trochanter IV smooth, armed with retrolateral distal spiniform apophysis and a dorsoapical blunt apophysis. Femur IV short, slightly sinuous, without dorso-basal process, bearing rows of granules, the dorsal row with the middle granules larger than the others, and retrolateral spiniform apophysis and two blunt prolateral subapical ones. Patella IV covered with granules. Tarsal counts: 6(3)/10(3)/6/6. Leg measurements in Table I.

Genitalia (Figs 10-11) – Ventral plate subrectangular, narrower in basal portion, with border slightly concave; excavated, appearing to be divided into ventral and dorsal layers: dorsal layer with group of four distal setae and ventral layer with group of two smaller blunt setae and one larger basal seta. Glans columnar, with thumb-like dorsal process and lacking ventral process. Stylus bearing two sizes of pointed spines (spiny mat).

Color (in alcohol) – Background of body light mahogany brown, with granules darker brown. Chelicerae vary from yellow to brown, the other appendages, except for leg IV, light yellowish brown. Leg IV ranges from light yellowish brown to light brown. Stigmatic area and free sternites light mahogany brown.

Female – Apical apophysis of coxa IV reduced and spiniform. Trochanter IV armed only with inner distal spiniform apophysis. Dorsal anal opercle granulated, without median apophysis. Free tergites not fused with scute, free tergites II-III with conic tubercles larger than in male. Tarsal counts as in male.

Discussion

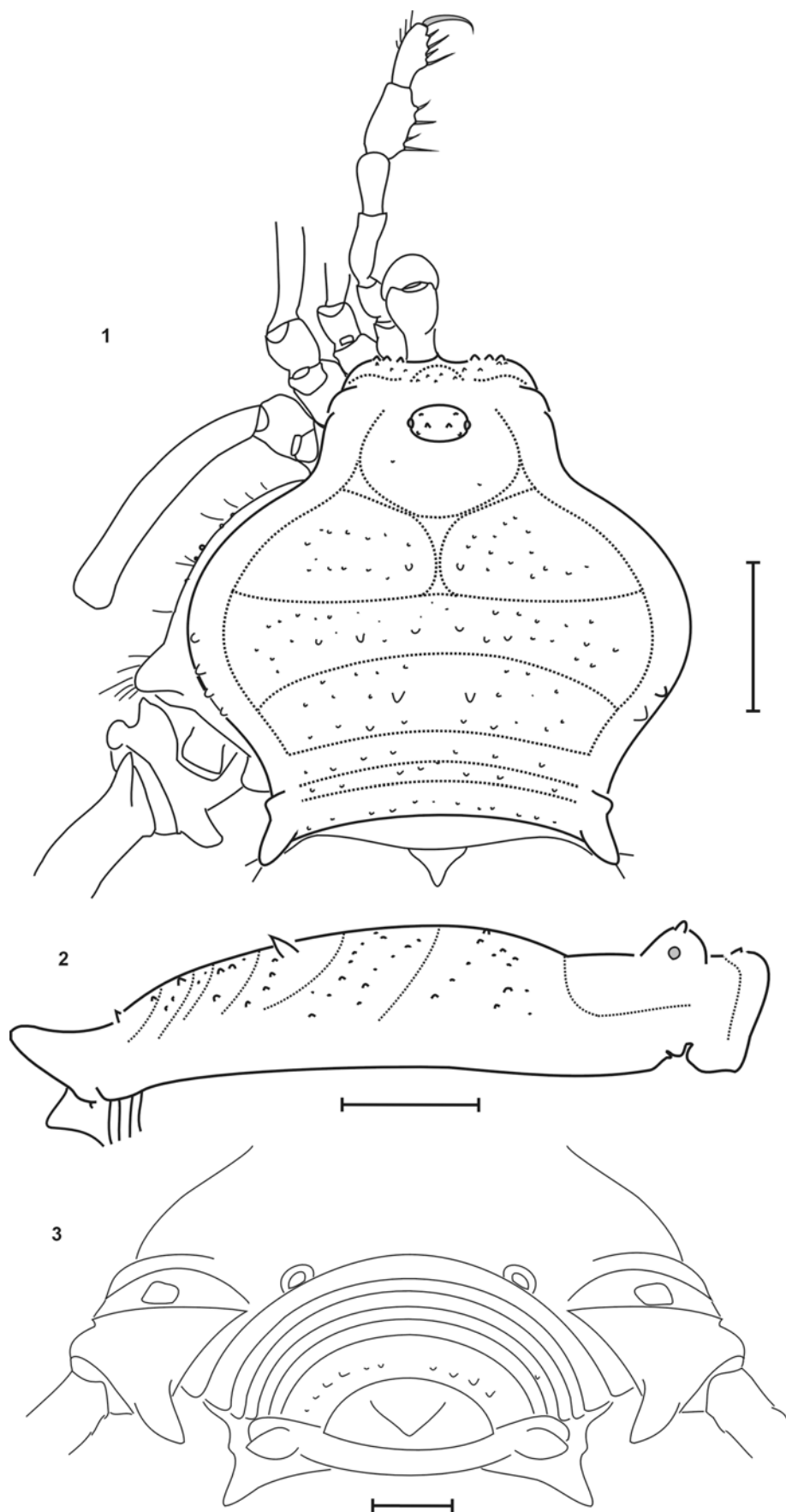
Affinities of *Thaumatoleptes*

The genera of Heteropachylinae have never been together in the same group, so comparative diagnoses for them are lacking. The 11 species hitherto described are grouped in eight genera.

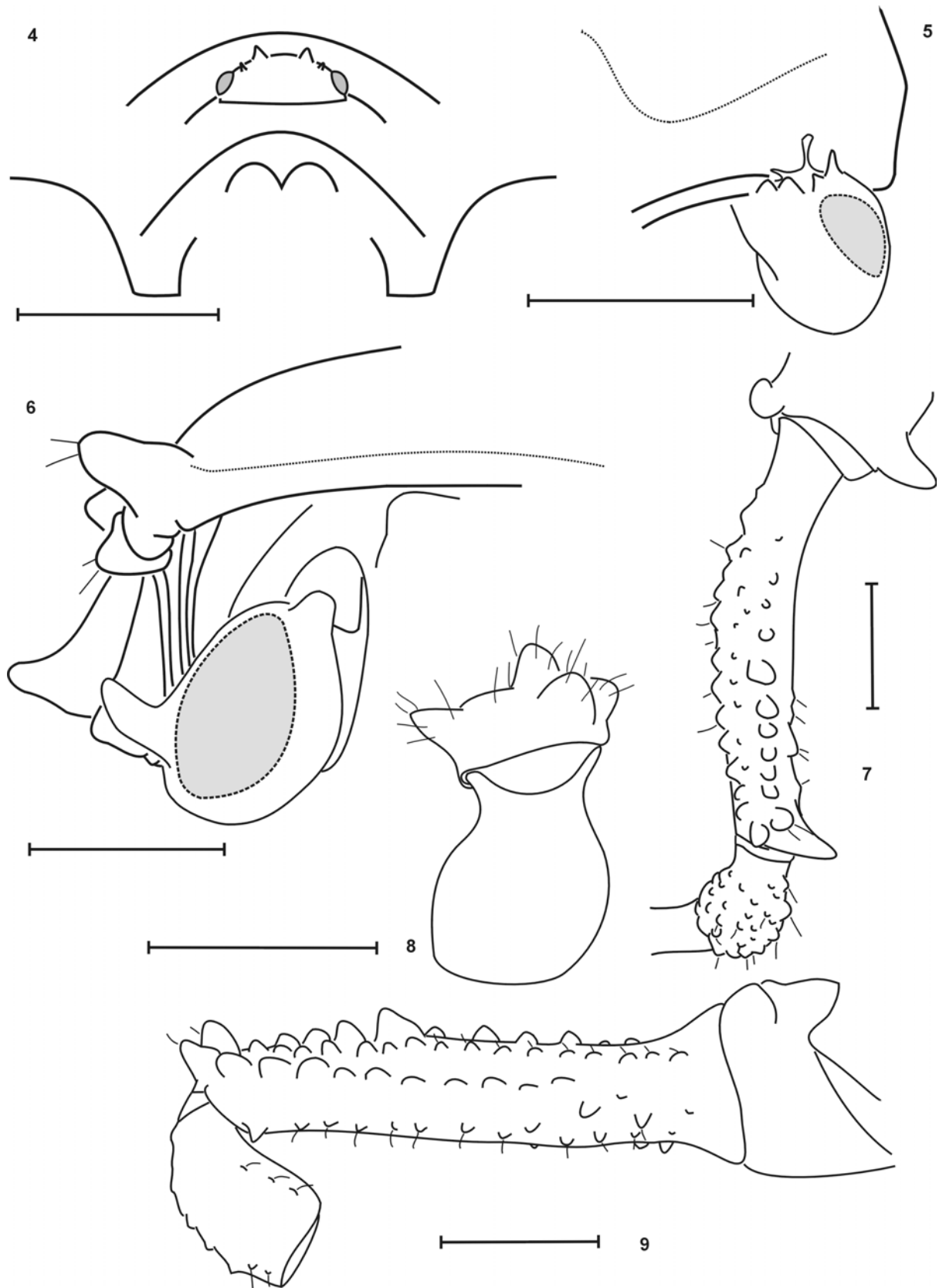
As monotypic genera are undesirable, we tried to identify potential close relatives to *Thaumatoleptes*. There is a morphological gap between *T. rugosus* and the other species, and the shape and armature of femur IV are reminiscent of *Pseudopucroliia* Roewer, 1912, *Melloa* Roewer, 1930 and *Tribunosoma* Roewer, 1943. However, at this stage of knowledge it is not possible to advance relationships.

Recognition of *Thaumatoleptes rugosus*

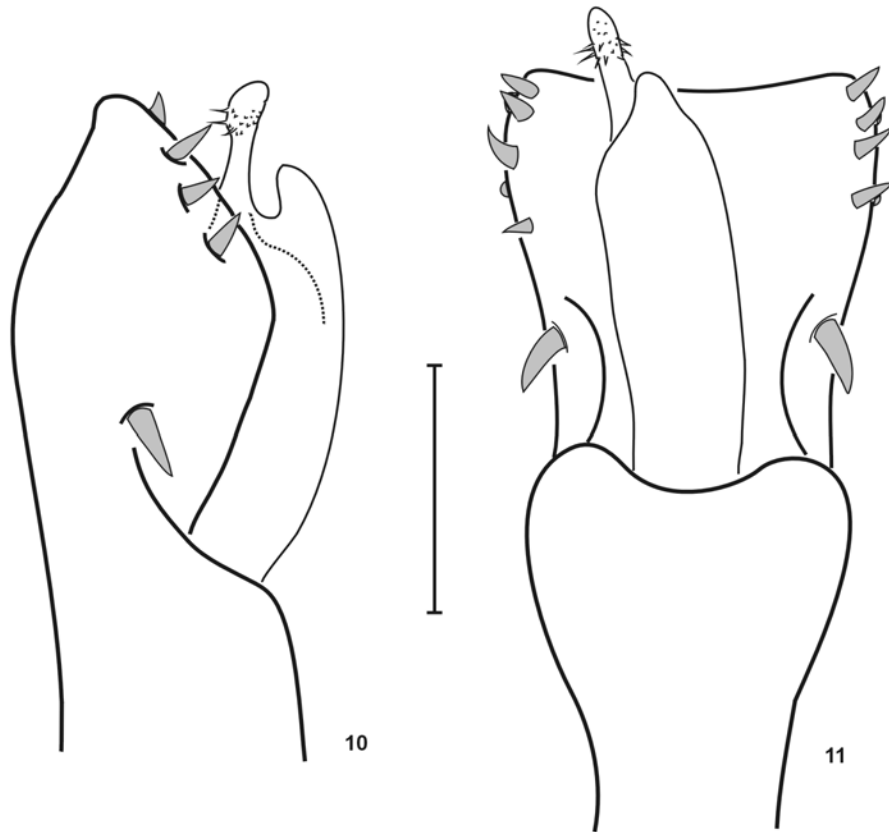
In these times of difficult transit of types to and from Brazil, we found no need to examine Roewer’s syntypes of *T. rugosus* for this work because this species is easily recognizable and the material at hand matches precisely the original description. The aim of this paper was to complement the original description, especially with the description of the male genitalia. The arachnofauna of Fernando de Noronha Island is closely related to the continental fauna on coastal Pernambuco and Ceará States.



Figs 1-3. *T. rugosus*: Male from Fernando de Noronha Island (MNRJ 5707). **1:** Habitus, dorsal view; **2:** same, lateral view; **3:** Coxa and trochanter IV, sternites, anal opercle and tergites, ventro-posterior view. Scale bars = 1 mm.



Figs 4-9. *T. rugosus*: Male from Fernando de Noronha Island (MNRJ 5707). **4:** Carapace, frontal view; **5:** Right coxa II and ozopores, lateral view; **6:** Posterior part of body, lateral view; **7:** Left femur and patella IV, dorsal view; **8:** Right femur IV, apical view; **9:** Right femur IV, prolateral view. Scale bars = 1 mm.



Figs 10-11. *T. rugosus*: Male from Fernando de Noronha Island (MNRJ 5707). 10. Distal part of penis, lateral view; 11. Same, dorsal view. Scale bar = 0.1 mm.

Table I

Dorsal scute measurements of 5 males and 6 females (MNRJ 5707). Abbreviations are: Cp Le (Carapace length), Cp Wi (Carapace width), As Le (Abdominal scute length), As Wi (Abdominal scute width).

Females	Cp Le	Cp Wi	As Le	As Wi	Males	Cp Le	Cp Wi	As Le	As Wi
1	1.6	2.1	2.8	4.1	1	1.7	2.3	3.0	5.1
2	1.6	2.1	2.9	4.5	2	1.3	2.0	2.9	4.2
3	1.6	2.2	2.7	4.4	3	1.7	2.1	2.7	4.6
4	1.6	2.2	2.8	4.4	4	1.6	2.1	3.0	4.8
5	1.8	2.2	2.9	4.6	5	1.5	1.9	2.5	3.9
6	1.5	2.0	2.7	4					
Average	1.6	2.1	2.8	4.4	Average	1.5	2.1	2.8	4.5

Table II

Length of femora and tibiae 4 males and 6 females (MNRJ 5707)

Males	Femur I	Femur II	Femur III	Femur IV	Tibia I	Tibia II	Tibia III	Tibia IV
1	1.1	2.7	2.4	2.5	1.0	2.1	1.5	2.2
2	1.7	2.8	2.6	3.0	1.2	2.3	1.6	2.6
3	-	-	-	-	-	-	-	-
4	1.4	2.3	2.1	2.5	1.0	1.5	1.2	2.2
5	1.2	2.3	2.0	2.4	1.0	2.0	1.5	2.1
Average	1.3	2.5	2.3	2.6	1.1	2.0	1.4	2.3

Females	Femur I	Femur II	Femur III	Femur IV	Tibia I	Tibia II	Tibia III	Tibia IV
1	1.5	2.5	2.0	1.9	1.0	2.0	1.5	1.9
2	1.4	2.6	2.4	2.4	1.0	2.1	1.6	2.3
3	1.2	3.0	1.6	3.0	1.0	2.4	2.6	2.4
4	1.3	2.2	1.8	3.0	1.1	1.9	1.6	2.3
5	1.8	2.8	2.4	3.0	1.3	2.0	1.7	2.6
6	1.5	2.9	2.4	2.9	1.0	2.3	1.4	2.3
Average	1.5	2.7	2.1	2.7	1.1	2.1	1.7	2.3

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