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ADDITIONS TO THE NEOTROPICAL ANT GENUS  
"ROGERIA" EMERY, WITH A KEY TO THE  
HITHERTO RECORDED SOUTH AMERICAN  
SPECIES (Hym., Formicidae)<sup>1</sup>

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(With 6 text-figures)

Already in a previous study (KEMPF, 1962: 19-23) this writer has had an opportunity to deal in a preliminary fashion with difficult and little-known ant genus *Rogeria*, redescribing the type of *R. germani* Emery and proposing a new species, *sicaria* Kempf, aside from giving a list of the presently known species in the genus. In this list, by oversight, the name of *inermis* Mann (1922) was unfortunately omitted.

The present contribution contains the redescription of *R. minensis* Santschi (originally proposed as a race of *germani*), based on types, and the first description of two closely related forms recently discovered by F. Plaumann in southern Brazil. A provisional key to the species hitherto recorded in continental South America is given at the end. In this key, *R. blanda* (Fr. Smith), a *species inquirenda* from the upper Amazon river, and *R. minima* Kusnezov, based solely on females, are left out. I have seen types or authentic material of all the forms contained in the key except for *foreli gaigei* Forel, which according to the description is quite close to *bruchi* Santschi and bears further investigation.

I wish to thank the "Conselho Nacional de Pesquisas" of Brazil for the continued help in the form of a fellowship, to Dr. Fred Keiser of the "Naturhistorisches Museum Basel", Switzerland, for the loan of the types of *minensis* from the Santschi collection (NHMB) and to Mr. Fritz Plaumann, the collector of the two new species diagnosed further below and deposited in my collection (WWK).

*Rogeria minensis* Santschi, n. stat.

(Figs. 1-2)

*Rogeria germani minensis* Santschi, 1923: 1262-1263 (Worker; Brazil, Minas Gerais: Passa-Quatro).

<sup>1</sup> Received for publication February 1, 1963.

*Types* — I have examined 2 workers (lectotype and paratype), one of them considerably damaged, received from the Santschi collection (NHMB).

*Worker (lectotype)* — Total length 3,5 mm; head length 0,83 mm; head width 0,73 mm; eye length 0,08 mm; maximum width between outer edges of frontal carinae 0,24; scape length 0,56 mm; thorax length 0,91 mm; pronotum width 0,51 mm; petiole length 0,40 mm; petiole width 0,19 mm; postpetiole length 0,21 mm; postpetiole width 0,21 mm. Yellowish-brown; gaster light brown.

Head in full-face view, thorax and pedicel in side-view as shown in Figs. 1 and 2. Very close to *germaini*, from which it differs as follows:

1. Head subrectangular, sides very little convex, occipital border shallowly excavate. Eyes situated in front of half of the distance between anterior border of median clypeal lobe and occipital border. Funicular segments IX and X distinctly longer than broad.

2. Thorax: promesonotum rather densely reticulate-rugose throughout, lacking longitudinal rugae on disc. Mesoepinotal junction marked in profile by a prominent transverse carinule, which is the first of the six carinules that traverse the basal face of the epinotum. The latter longer than broad. Superior corner of metasternal lobe rounded.

3. Petiolar node compressed, longer than broad, abruptly raised vertically in front, dorsally gently convex, posterior face obliquely slanting downwards. Postpetiole as long as broad, trapezoidal in dorsal view, not conspicuously constricted at posterior border.

4. Larger size (cf. measurements).

*Paratype worker* — Head length 0,83 mm; head width 0,70 mm; maximum width between outer edges of frontal carinae 0,23 mm; thorax length 0,88 mm. Otherwise completely identical with lectotype.

*Discussion* — When describing this form SANTSCHI placed it as a subspecies under *germaini* Emery. As stated expressly in the original diagnosis, he had no direct knowledge of the latter. While the similarity is certainly a very close one, I still am of the opinion that the afore mentioned characters are sufficient for specific independence. Incidentally, I have seen the types of both forms, and redescribed that of *germaini* in a previous paper (KEMPF, 1962: 20-22).

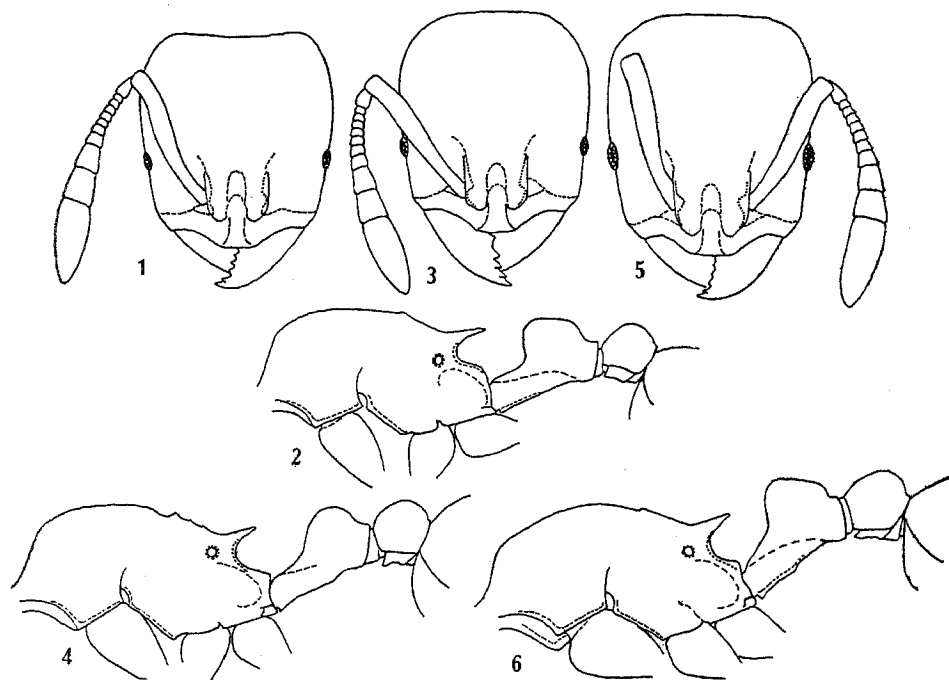
SANTSCHI's description, otherwise quite detailed and helpful contains two mistakes: first, the carinules that border the median vaulted portions of the clypeus are not as close together as suggested by this author, but as shown in Fig. 1; second, the lateral portions of the clypeus, lying in front of the cheeks, are not smooth but costulate.

So far the types are the only specimens known of *minensis*.

*Rogeria pellecta* sp. n.

(Figs. 3-4)

*Worker (holotype)* — Total length 3,6 mm; head length 0,85 mm; head width 0,75 mm; maximum width between outer edges of frontal carinae 0,27 mm; scape length 0,56 mm; eye length 0,08 mm; thorax length 0,96 mm; thorax width across pronotum 0,51 mm; petiole length 0,43 mm; width of petiolar node 0,21 mm; postpetiole length 0,23 mm; postpetiole width 0,27 mm. Ferruginous; gaster dark brown.



*Rogeria minensis* Santschi, lectotype worker — Fig. 1: Head; fig. 2: thorax and pedicel. *Rogeria pellecta* sp. n., holotype worker — Fig. 3: Head; fig. 4: thorax and pedicel. *Rogeria lacertosa* sp. n., holotype worker — Fig. 5: Head; fig. 6: thorax and pedicel. Kempf del.

Head as shown in Fig. 3; note the scarcely convex sides, the broadly rounded occipital corners, the straight to slightly convex occipital border. Mandibles smooth and shining; chewing border with 6 acute teeth, gradually diminishing in size toward apex (actually in the holotype the subbasal tooth is worn off and the basal tooth is subrectangular). Median lobe of clypeus elevated, smooth and shining, anteriorly subtruncate and subperpendicular, lateral borders carinulate; posterior portion, including impressed frontal area, deeply wedged in between frontal carinae. Lateral portions of clypeus (above mandibular insertion) with longitudinal costae which continue on cheeks. Frontal carinae broadly expanded, completely roofing antennal socket. An

tennal scape finely reticulate-rugose and subopaque, failing to reach the occiput by a distance conspicuously exceeding its maximum width when laid back over the head. 11-segmented funiculus with 3-segmented apical club, segments IX and X rather longer than broad. Eyes with approximately 16 pigmented facets. Head capsule almost devoid of microsculpture, the interrugal spaces are practically smooth and shining, the reticulate-punctate sculpture being at best vestigial. Front with strong, longitudinal, widely spaced, not quite straight costae that ramify and diverge posteriorly, cross-connections more frequent on top of vertex and posteriorly on sides of head. Top of vertex, just above the occiput, reticulate-rugose, with predominantly transverse rugae that form concentric arches. Median strip of gular face smooth and shining.

Thorax as shown in Fig. 4. Scapular angle indistinct. Promesonotum laterally immarginate, convex in both directions, anterior portion of pronotum coarsely reticulate-rugose, the rest longitudinally costate-rugose with somewhat more frequent cross-connections. Mesoepinotal groove impressed, distinct also in profile. Basal face of epinotum longer than broad, with 5 transverse carinules, the first raised, prominent in profile; a larger, coarsely reticulate-rugose space between 1st and 2nd carinule; remaining carinules closer together, the last connecting the bases of the obliquely raised, a little diverging, epinotal spines, which are not longer than their interbasal distance. Declivous face of epinotum smooth and shining, laterally margined by the low infradental lamellae and the prominent metasternal lobes, whose upper and lower corners are subrectangular. Sides of thorax, including laterotergite of pronotum, with principally horizontal, widely spaced, somewhat irregular rugae. Interrugal spaces nearly devoid of microsculpture, smooth and shining. Legs smooth and shining. Tibiae II and III without apical spurs.

Petiole strongly pedunculate in front of the highly vaulted reticulate-rugose node, which in dorsal view is broadly ovoid, rather broader than long. Peduncle above and below reticulate-punctate, subopaque and somewhat rugulose. Subpetiolar tooth small, followed by a short but not lamellate nor crested longitudinal keel. Postpetiole broader than long; in dorsal view the sides converge strongly toward the petiolar insertion; they are scarcely constricted in front of gastric origin; dorsum coarsely reticulate-rugose, intervals more distinctly reticulate-punctate and subopaque. Gaster smooth and shining.

Head, dorsum of thorax, pedicelar nodes and gaster with dense, fine, erect or slightly inclined or curved hairs. Scape with dense, short, oblique to subappressed hairs. Legs, especially the tibiae, with longer, sparser, oblique hairs. Long hairs of gaster interspersed with shorter oblique or subdecumbent hairs.

*Types* — Brazil, Santa Catarina State, Nova Teutônia, May 1960, 1 worker (holotype), F. Plaumann leg. (WWK). Paratypes: 28 workers and 4 gynecoids, likewise collected by F. Plaumann from berlesate of leaf mould at the

following localities in western Santa Catarina: Nova Teutônia, November 1957 to July 1960, 22 workers, 4 gynecoids; Seara, August 1958, 1 worker; Ibicaré, July 1959, 1 worker (WWK).

*Discussion* — The present species differs from *germaini* Emery as follows: Size larger; color darker; integument shinier (lack of microsculpture on interrugal spaces of head, thorax and petiolar node); sides of head less convex; funicular segments IX and X decidedly elongate; thorax with impressed mesoepinotal groove just in front of the prominent first transverse carinule of basal face; basal face of epinotum much longer than broad, rather narrow, exhibiting a broad, irregularly sculptured space between first and second transverse carinule; epinotal spines obliquely raised; petiolar and postpetiolar nodes dorsally reticulate-rugose; lower face of petiolar peduncle reticulate-punctate, the midventral longitudinal keel shorter, not laminate.

*R. pellecta* is even closer to *minensis* Santschi, but presents the following distinguishing features: Color darker; lack of microsculpture on interrugal spaces; rugae of dorsum of head stronger, being really somewhat irregular costae; head shape (see Figs. 1 and 3); promesonotum either predominantly longitudinally rugose or coarsely reticulate-rugose with wide meshes; mesoepinotal groove distinctly impressed; a broad space between 1st and 2nd transverse carinule of basal face of epinotum; epinotal spines obliquely raised, more widely separated at base; petiolar node not compressed, rather broader than long, not abruptly raised in front of peduncle; lower face of petiolar peduncle reticulate-punctate with less developed and not markedly crested longitudinal keel; postpetiolar node broader than long, dorsally coarsely reticulate-rugose, the interrugal spaces finely reticulate-punctate; pilosity in general sparser, gaster with shorter subdecumbent hairs interspersed with the longer oblique ones.

*Variation* — The numerous workers seen are quite homogeneous and present very little variation. Observed range of measurements is as follows: head length 0,80-0,88 mm; head width 0,69-0,77 mm; thorax length 0,88-0,99 mm. The longitudinal rugae on promesonotum sometimes are replaced by coarsely reticulate-rugose sculpture; the first carinule on basal face of epinotum is variably developed, not always as prominent as shown for holotype; the intermediate carinules are often irregular, either oblique instead of strictly transverse and may be substituted by loose meshes of reticulate-rugose sculpture.

Four workers proved to be gynecoids on account of the presence of ocelli (posterior pair usually only vestigial), the larger compound eyes with at least 30 facets, the raised and laterally and posteriorly marginate portion of the mesonotum in the form of an incomplete scutellum and the vestigial wing stubs. Their measurements are the following: head length 0,83-0,91 mm; head width 0,75-0,77 mm; thorax length 0,99-1,04 mm.

*Rogeria lacertosa* sp. n.

(Figs. 5-6)

*Worker (holotype)* — Total length 3,9 mm; head length 0,81 mm; head width 0,77 mm; maximum distance between outer edges of frontal carinae 0,29 mm; eye length 0,10 mm; scape length 0,61 mm; thorax length 1,01 mm; pronotum width 0,56 mm; petiole length 0,51 mm; petiole width 0,24 mm; postpetiole length 0,27 mm; postpetiole width 0,29 mm. Ferruginous; gaster dark brown.

Head as shown in Fig. 5. Mandibles smooth and shining with the usual 6 teeth on chewing border. Median lobe of clypeus truncate in front, laterally carinulate. Frontal area impressed. Frontal carinae broadly expanded, distance between their outer edges exceeding  $1/3$  of maximum head width. Scape finely and rather vestigially punctate, quite shining. Funicular segments IX and X not distinctly longer than broad. Compound eyes with about 20 facets. Front and cheeks with widely spaced, strong, posteriorly slightly diverging, longitudinal rugae; sculpture becoming coarsely reticulate-rugose on vertex, occiput and sides of head; on top of the vertex, the transverse, arched rugae predominate as is usual for the species of the genus. Interrugal spaces finely and rather superficially reticulate-punctate, not quite shining.

Thorax as shown in Fig. 6. Scapular angle indistinct. Promesonotal disc longitudinally vermiculate-rugose, with occasional cross-connections among rugae. Mesoepinotal groove scarcely impressed. Basal face of epinotum somewhat longer than broad, with 7 transverse carinules, the first more prominent, the 2nd to 5th somewhat irregular, not all of them complete. Epinotal spines widely separated from each other at base, scarcely diverging and gently raised towards apex, not longer than their distance at base. Interrugal spaces on thorax sculptured as those on head; rather obsolete microsculpture on sides of thorax, which are predominantly horizontally rugose and quite shining. Metasternal lobes with superior and inferior corners angulate to subdentate. Declivous face of epinotum smooth and shining. So are also the legs.

Petiole peduncle shagreened and opaque above, smooth and shining below with a prominent, thin, sagittal crest; slightly shorter than the elongate, coarsely reticulate-rugose, feebly compressed, anteriorly abruptly raised, node which forms in front a rounded peak. Postpetiole a bit broader than long, finely reticulate-punctate, and more coarsely longitudinally rugose, rugae stronger on sides than on disc. Sides of postpetiole strongly converging towards petiole insertion, in dorsal view very gently constricted also in front of gastric origin. Gaster smooth and shining.

Erect, fine and long hairs abundant and very dense on body, oblique on scapes and legs (very prominent). Gaster lacking decumbent hairs between the erect ones.

*Types* — Brazil, Rio Grande do Sul State: Sinimbu, elevation 200 m, September 1960, F. Plaumann leg. 5 workers (holotype and paratypes); Pardinho, elevation 100 m, September 1960, F. Plaumann leg. 4 workers (paratypes). All types in WWK.

*Discussion* — On account of the abruptly raised petiolar node which in profile is highest in front of middle, of the shining and mesially crested ventral face of petiolar peduncle, the absence of decumbent hairs on gaster, the larger size, this species is very close to *minensis*, from which it differs as follows: Slightly larger; darker color; shape of head capsule (cf. Figs. 1 and 5); frontal carinae somewhat more expanded laterad; rugae on head and thorax stronger, on the latter predominantly longitudinal; epinotal spines shorter and more widely separated from each other at base; petiolar and postpetiolar nodes finely reticulate-punctate, subopaque and coarsely reticulate-rugose or longitudinally rugose on disc, petiolar node in profile forming between its anterior face and the dorsal face of peduncle an obtuse angle.

*R. lacertosa* is even farther removed from *pellecta* by the stronger inter-rugal microsculpture, the shining and longitudinally crested ventral face of petiole, the abruptly raised petiolar node, the lack of decumbent hairs on gaster, the denser pilosity, and the strikingly oblique, not decumbent, hairs on scapes and legs.

*Variation* — The measurements of the 8 paratypes vary as follows: head length 0,83-0,91 mm; head width 0,72-0,80 mm; thorax length 0,93-1,04 mm. The compound eyes are variable in size and number of facets according to body length: larger specimens have about 20, smaller specimens only 15 facets. Upper angle of metasternal lobe quite variable, more often ed than angulate. Transverse carinules on basal face of epinotum 6-7 i ber when distinguishable; sometimes highly irregular and difficult to out as regards carinules 2-5.

KEY TO THE SPECIES FROM CONTINENTAL SOUTH AMERICA

WORKERS

- 1. Erect or oblique hairs confined to the circumoral area, legs and apex of gaster; head and thorax without conspicuous rugae or costae .... 2
- Erect or oblique hairs on the entire body, occasionally lacking on head; body sculpture always coarser, usually with pronounced costae or rugae ..... 3
- 2. Eyes small with only 6-7 facets; pubescence sparse on body ..... *bruchi* Santschi
- Eyes larger, with more than 10 facets; pubescence rather dense on body *foreli gaigei* Forel
- 3. Dorsum of head lacking erect hairs; erect hairs on gaster scarcer than conspicuous decumbent hairs ..... *curvipubens* Emery
- Dorsum of head with erect hairs; decumbent hairs on gaster either totally absent or decidedly scarcer than erect hairs ..... 4

4. Eyes minute with 1-4 facets; sides of thorax heavily reticulate-punctate with scarcely apparent horizontal rugae ..... *micromma* Kempf
- Eyes with at least 6 facets; sides of thorax predominantly rugose or reticulate-rugose, microsculpture often feeble ..... 5
5. Ventral face of petiolar peduncle reticulate-punctate, subopaque, without a prominent, thin sagittal crest ..... 6
- Ventral face of petiolar peduncle smooth and shining, with a prominent, thin sagittal crest ..... 7
6. Compound eyes small with about 6 facets; epinotal spines much longer than their distance at base ..... *sicaria* Kempf
- Compound eyes larger with more than 15 facets; epinotal spines short, their length not exceeding their distance at base ..... *pellecta* Kempf
7. Petiolar node in profile evenly vaulted with the highest elevation at the middle of its length; sides of head in full-face view gently convex; thorax length not surpassing 0.75 mm ..... *germaini* Emery
- Petiolar node in profile unevenly vaulted with the highest elevation in front of middle of its length; sides of head scarcely convex; thorax length 0.85 mm or more ..... 8
8. Promesonotum longitudinally rugose; dorsum of petiolar node heavily reticulate-rugose ..... *lacertosa* Kempf
- Promesonotum densely reticulate-rugose without longitudinal rugae; dorsum of petiolar node scarcely sculptured, almost smooth and quite shining ..... *minensis* Santschi

Note — In my previous paper (KEMPF, 1962) there occurred a misprint: the first two lines on top of page 21 should be inserted before the last line on bottom of page 19.

#### SUMÁRIO

Redescreve-se no presente trabalho o tipo de *Rogeria germaini minensis* Santschi que, simultaneamente, é elevada a espécie independente, e apresenta-se a descrição de duas espécies novas, *R. pellecta* e *R. lacertosa*, ambas descobertas há pouco no sul do Brasil. No fim, oferece-se uma chave para a identificação das operárias de tôdas as espécies registradas até agora no continente sulamericano.

#### REFERENCES

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