SEVEN NEW *MYRMICA* SPECIES  
(HYMENOPTERA: FORMICIDAE) FROM CHINA

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Abstract.—Seven new *Myrmica* species (*M. curiosa, M. mixta, M. pararitae, M. poldii, M. sinocheneki, M. weii* and *M. polygluta*) are described from Shaanxi, Sichuan, Hunan and Yunnan provinces of China. Their taxonomic positions are discussed. *M. sinocheneki* is placed in the schencki-group, *M. pararitae* and *M. poldii* — in the ritae-group and *M. mixta* — in the inezae-group, while the position of the other three species is still uncertain. *M. sinica* Wu et Wang, 1995 is formally synonymised with *M. excelsa* Kupynskaya, 1990.

Key words.—Ants, *Myrmica*, Formicidae, new species, China, taxonomy.

INTRODUCTION

The ant genus *Myrmica* Latreille comprises more than 150 described species, but we estimate that their total number might exceed 200. The vast majority live in the Holarctic Region but about 10% of species have been found on high mountains in the sub-tropical and tropical zones of Southeast Asia (Radchenko 1994a, Radchenko and Elmes 1998, 1999, 2001a, b, Elmes and Radchenko 1998, Radchenko et al. 2001, Radchenko, Elmes and Viet 2006). Most of these forms belong to the ritae-group (revised by Radchenko and Elmes 1998). Twenty years ago, the diversity of Asian *Myrmica* seemed generally low in comparison with that of Europe, but recent investigations have added more than 40 new species from Siberia, Mongolia, Russian Far East, Korea, Vietnam, India, Nepal, Afghanistan, Central Asia, and Turkey (loc. cit. plus Kupynskaya 1986a, b, 1990, Radchenko 1994b, Radchenko and Elmes 2003, 2004, Elmes et al. 2001, 2002, Radchenko, Elmes and Alicata 2006).

The *Myrmica* fauna of China is still largely unknown, particularly in the central and southern parts of the country. Most species are currently recorded from the north-east regions, where the fauna appeared to be typical East-Palaearctic. Recent studies added 5 new *Myrmica* species to the Chinese fauna (Wu and Wang 1995, Radchenko et al. 2001, Wei et al. 2001). These preliminary results taken in conjunction with the previously unexpected diversity of *Myrmica* in the mountains of Southeast Asia, suggested that many undescribed species could inhabit southwest and central China. Thus, we are not surprised to discover seven more unknown *Myrmica* species among
the material collected from the Chinese mountains.

**MATERIAL AND METHODS**

This paper is based on examination of the material collected by Chinese, Russian, Czech, Italian, and American entomologists in Shanxi, Shihshun and Hunan Provinces of China. The type material is deposited in the following Museums and collections: ZISP – Zoological Institute of the Russian Academy of Sciences, St.-Petersburg, Russia; GNU – Guangxi Normal University, Guilin, China; IZK – Institute of Zoology of the Ukrainian National Academy of Sciences, Kiev, Ukraine; MCZ – Museum of Comparative Zoology at Harvard University, USA; ELMES – collection of Graham W. Elmès, Centre for Ecology and Hydrology, UK; MSNM – Museo Civico di Storia Naturale, Milano, Italy.

Original drawings were made by A. Radchenko using different stereomicroscopes (Olympus, Leica, MBS), and drawings of M. polygyra were made on the basis of SEM photographs taken from uncoated specimens by means of a Jeol JSM 5610-LV. Measurements of specimens (accurate to 0.01 mm) were taken for each caste and these were used to calculate various indices:

*Morphometrics:*
- HL – maximum length of head in dorsal view, measured in a straight line from the most anterior point of clypeus (including any carina or rugae, when they protrude beyond the anterior margin) to the mid-point of occipital margin.
- HW – maximum width of head in dorsal view behind (above) the eyes.
- FW – minimum width of frons from the frontocarinate.
- FLW – maximum distance between the outer borders of the frontal lobes.
- SL – maximum straight-line length of scape from its apex to the articulation with condylar bulb.
- AL – diagonal length of the allotrunk (seen in profile) from anterior end of the neck shield to the posterior margin of propodeal lobes (workers) and from the most anterodorsal point of allotrunk to posterior margin of propodeal lobes (queens and males).
- HTL – maximum length of hind tibia, measured from the junction with femur to the junction with the first tarsal joint.

**Indices:**
- CI = HL / HW
- FL = FW / HW
- FLI = FLW / FW
- SI = SL / HL
- SQ = SL / HW
- PL = PL / PH
- PLQ = PL / HW
- PPI = PW / HW
- PPLI = PPL / PPH
- PPLQ = PPL / PW
- PPLR = PPL / PH
- ESPLI = ESPL / HW
- ESPLQ = ESPL / HL
- AL = AL / AH
- SCL = SCL / SCW.

**Description of the New Species**

*Mymica curiosa* Radchenko, Zhou et Elmès, sp. nov.

**Material examined.** Holotype worker, China, Shihshun Prov., Huahua Nat. Park, 25°37’N, 102°05’E, 1700 m, 14.x.[19]05, leg. C. Carpenter and N. J. Nordenstam (MCZ); paratypes: 1 worker with the same label as the holotype, 1 worker and 1 queen, China, Hunan Prov., Ba Da Gong Mountain, No. 9, 15.x.2003, leg. J. Huang; China, Yunnan, Hohuass Mts., 2800–3150 m, 5–13.vi.2002, 27°20’N, 100°07’E, leg. S. Brevovar & R. Fouque (IZK, GNU, MSNM).

**Description.** Workers (Figs 1–5).

Head distantly longer than broad, with very weakly convex sides and occipital margin, and widely rounded occipital corners; anterior clypeal margin convex, neither prominent nor notched medially. Upper lateroventral corners of head narrowly rounded, not pointed.
(seen in profile), Mandibles with 11–13 small, uniform teeth (only apical and pre-apical ones are larger). Frontal carinae curved outwards to merge with coarse rugae, which surround antennal sockets; frons wide, frontal lobes not extended. Scutum long, slender, distinctly longer than head width, gradually and very finely curved at the base, without any trace of lobe or carina.

Alltrunk long and low, promesonotal suture convex, with distinct promesonotal suture. Metanotot groove distinct, but shallow and wide. Propodeal lobes rounded apically. Propodeal spine of moderate length (somewhat longer in Sichuan specimens than in Huanan ones), straight and acute, inclined at about 45° (seen in profile). Petiole with distinct, quite long peduncle. Its anterior surface strongly concave, petiolar node with widely rounded dorsum. Postpetiole subglobular, its anterior and dorsal surfaces forming a regular arch. Spurs of middle and hind tibiae usually developed and peculiar, but sometimes partly reduced, rather short and simple.

From many fine, distinctly divergent longitudinal rugae, rest of head dorsum with moderately fine reticulation; elytra densely longitudinally rugulose, frontal triangle smooth. Mandibles densely longitudinally striate.

Alltrunk dorsum and sides of pronotum reticulate, mesopleura and sides of propodeum with sinuous longitudinal rugosity. Petiolar node reticulate, postpetiole with longitudinally-concentric rugosity.

Whole surface between rugae smooth and shiny (except for punctate postero-lateral parts of pronotum). Gaster smooth and shiny. Head margins, alltrunk dorsum and waist with numerous, fairly long suberect hairs. Scutum and elytrae with relatively long subdecumbent hairs. Sides of alltrunk and waist yellowish red, dorsum of head, alltrunk, petiolar, postpetiole and gaster brownish red; appendages testaceous red.

Measurements (mm) and indices of queens (n=2): HL 1.48–1.49, HW 1.10–1.28, PW 0.54, PL 0.56–0.58, SL 1.32–1.35, AL 2.58–2.62, AH 1.46–1.56, SCW 1.13–1.34, SCL 1.18–1.34, HTL 1.24–1.32, HWT 0.76–0.78, PW 0.39, PH 0.51, PPI 0.52–0.56, PW 0.50–0.61, ESL 0.40–0.49, ESD 0.50–0.52, CI 1.16–1.29, FI 0.44–0.46, FLi 1.06–1.09, S Li 0.58–0.61, E S Li 0.49–0.52, ESD 0.31–0.41, ESDI 1.20–1.35, AL 1.38–1.77, SCI 1.52–1.56.

Males and ecology unknown.

Comparative diagnosis. M. curiosa has many features that are intermediate between those of different species-groups, and we cannot assign it to any of them. Its relatively large size, slender and long alltrunk and scape recall species of the cincta-group, but it clearly differs from them by several important features: the absence of a medial notch on the anterior elytral margin, a much shorter petiolar node, not-pointed upper latero-ventral corners of the head, and rounded propodeal lobes. On the other hand, M. curiosa resembles species form the inaequ-group by the shape of its petiole, but differs by its much shorter propodeal spines. Also, in many respects it has some features found in several species of the rubra-group (e.g. shape of frontal lobes and elytra, etc.). Moreover, the long multidentate, masticyriform margin of mandibles, with more than ten teeth, is one of the diagnostic features of Myrmica's "sister" genus—Manica Janie. This feature distinguishes M. curiosa from other known Myrmica species except for the Himalayan M. heide Weber, from which it differs by having frontal carinae that curve outwards to merge with coarse rugae that surround antennal sockets (see Radchenko and Elmes, 2001b). When males of M. curiosa are discovered their taxonomic position could become clearer.

Etymology. From the Latin "curiosa"—curious, inquisitive, taken to describe the unusual combination of the features of this species.

Myrmica mitza Radchenko et Elmes, sp. nov.


Description. Queen (Figs 11–15).

Head distinctly longer than broad, with very weakly convex sides and occipital margin, and widely rounded occipital corners, anterior clypeal margin convex.

Figure 6-10. Details of structure of Myrmica curiosa: (paratype, queen). (6) Head, dorsal view; (7) scape, lateral view; (8) alltrunk and waist in profile; (9) alltrunk and waist from above; (10) tibia and base of first tarsal joint of hind leg. Scale bar: 1 mm.
neither prominent nor notched medially. Upper latero- ventral corners of head not strongly pointed, forming only rounded blunt angle (seen in profile). Mandibles with 7 teeth. Frontal carinae curved outwards to merge with coarse rugae, which surround antennal sockets; frons very wide, but frontal lobes distinctly extended. Scopa of moderate length, somewhat shorter than head length, gradually and feebly curved at the base, without any trace of lobe or carina. 

Alttrunk relatively short and high. Propodeal lobes rounded. Propodeal spines very long, slender and acute, slightly widened at the base, directed backwards and distinctly curved down along their length. Pile with very long peduncle (about as long as half the total petiolar length) and broadly-rounded node. Postpetiole somewhat higher than long, fig-shaped in dorsal view. Spars of middle and hind tibiae well developed and pectinate.

Scalp sculpture coarse. Frons with coarse longitudinal sinus rugae, occipit and temples coarsely reticulate; clypeus longitudinally rugose; frontal triangle smooth; mandibles finely rugose. Scutum with quite coarse sinuous longitudinal rugae, pronotum and scutellum coarsely reticulate. Propodeum and propodeal node with fairly sinuous longitudinally rugose. Petiolar node and postpetiole rugose.

Whole surface of body of rugae at most with very fine superficial microreticulation, appears shiny. Gaster smooth and shiny. 

Ovipidal and lateral margins of head of fairly spacious subrectangular hairs. Alttrunk and waist with more abundant, long erect hairs. Scopa and tibiae with subdenticulate pilosity. Body colour reddish brown, appendages somewhat lighter.

Measurements (in mm) and indices of the holotype queen: HL 1.22, HW 1.02, FLW 0.60, SL 1.12, AL 2.04, AIL 0.72, SCW 0.56, SCL 0.78, HTL 1.08, PL 0.70, PW 0.62, PH 0.41, PPL 0.50, PWV 0.50, PPH 0.51, ESU 0.55, ESU 0.32, CI 1.20, F1 0.48, FLI 1.20, SI 0.92, SL 1.30, PL 0.17, PL 0.89, PL 0.32, PPL 0.98, PPH 1.02, PPL 1.55, PPL 0.49, ESU 0.55, ESU 1.10. AI 1.57, SCI 1.60.

Workers, males and ecology unknown.

Comparative diagnoses: M. nizita possesses a very unusual combination of morphological features that seem to be intermediate between the riteae and inaece species-groups. Quite coarse body sculpture, very long propodeal spines and fig-shaped postpetiole might encourage one to place this species in the inaece-group. Yet it differs from the latter by its relatively short scape, not-pointed-apically propodeal lobes, not-well-marked upper lateroventral corners of head, and short and rounded petiolar node. M. nizita is most similar to the Himalayan species M. rigidae Radoschnki et Elmes, 1998, differing from it mainly by its wider frons, shorter scape, and differently shaped propodeal spines and petiole. M. rigidae was originally placed in the riteae-group, but we later transferred it to the inaece-group (Radoschnki, Elmes, 2001b). We provisionally place M. nizita in the inaece-group, although a final decision will depend upon the discovery of its workers and males.

Etymology: From the Latin "mixtus" — mixed, that refers to the unusual combination of features of this species.

Myrmica parareatae Radoschnki et Elmes, sp. nov.

Material examined. Holotype worker, China, Sichuan Prov., Macaoan, 40 km N Wubang, 1900 m, 23-26-2002, leg. 8. Marxin & I. Sokhni (ZISP); para-types: >100 workers, 17 queens with the same label as the holotype (ZISP, EKZ, ELMES, GNU).

Description. Workers (Figs 16-20).

Head longer than wide, broadly sub-oval, with distinctly convex sides, feebly convex occipital margin, and quite broadly rounded occipital corners. Upper latero-ventral corners of head not strongly pointed. Anterior eye-palpal margin very feebly convex and notched medially. Mandibles with 8-10 teeth. Frontal carinae feebly curved, from wide, frontal lobes somewhat raised vertically. Antennal sockets not surrounded by rugae, or at most with a single fine one. Scopa relatively short (compared to most species of the riteae-group), gradually but quite strongly curved at the base, without any trace of lobe or carina.

Alttrunk long and low, with very feebly convex prosomonal dorsum, promesonotal suture dorsally indistinct. Metanotal groove distinct, varying from shallow to moderately deep. Propodeal lobes projecting apically to form sharp teeth. Propodeal spines very long, broad at the base, sharp, straight, inclined at about 45° in profile and divergent (seen from above). Petiole long, but relatively high (in comparison to other species of the riteae-group); its anterior surface concave, node dorsum distinctly convex; postpetiole fig-shaped in dorsal view, higher than long. Spars on middle and hind tibiae well developed and pectinate.

Whole head dorsum with moderately coarse, slightly sinus longitudinal rugae and completely without reticulation. Frons between frontal carinae level with the eyes with more than 8 rugae. Clypeus finely longitudinally rugose, mandibles longitudinally rugose. Surface of head dorsum between rugae very finely superficially micropunctate (seen at magnification 100×), but appears shiny.

Propodeum, mesonotal and propodeal dorsum with course reticulation, mesepimeurca and sides of propodeum with coarse sinus longitudinal rugae, surface between rugae smooth and shiny, without micropunctuation. Petiolar node with longitudinal rugae and reticulate (especially dorsally), postpetiole with longitudinally-convexly rugose, surface of waist appears shiny but may be very finely superficially micropunctate. Gaster smooth and shiny.

Head margins, alttrunk dorsum and waist with long standing hairs. Scopa and tibiae with subdenticulate pilosity. Head, antennae and gaster brownish-red, alttrunk and waist dark brown to blackish-brown, legs yellowish-red.

Measurements (mm) and indices of workers (n = 20) in order minimum – maximum, ranges with means and SD in parentheses, data of the holotype in square brackets: HL 1.32-1.50 (1.39 ± 0.06) [1.48], HW 1.12-1.32 (1.21 ± 0.05) [1.28], FL 0.44-0.54 (0.47 ± 0.03) [0.46], PW 0.66-0.85 (0.75 ± 0.05) [0.72], SI 1.42-1.60 (1.54 ± 0.03) [1.58], AL 2.06-2.30 (2.18 ± 0.07) [2.20], HTL 1.22-1.40 (1.31 ± 0.04) [1.36], PWV 0.84-0.96 (0.93 ± 0.03) [0.94], PL 0.90-0.97 (0.96 ± 0.04) [0.96], PWV 0.29-0.35 (0.31 ± 0.01) [0.31], F1 0.37-0.44 (0.40 ± 0.02) [0.42], PPL 0.38-0.45 (0.39 ± 0.05) [0.43], PWV 0.45-0.56 (0.501
which are relatively shorter and more robust) and waist. Alltrunk long and low, pronotum with coarse
reticularation, the rest of alltrunk with coarse longitudinal
rigidity.

Measurements (mm) and indices of queens (n =
10) in order minimum – maximum, ranges with means
and SD in parentheses:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL</td>
<td>1.48–1.56 (1.514 ± 0.025)</td>
<td>HW 1.28–1.38 (1.324 ± 0.031)</td>
<td>FW 0.53–0.57 (0.545 ± 0.014)</td>
<td>FLW 0.54–0.60 (0.566 ± 0.016)</td>
<td>SL 1.42–1.56 (1.520 ± 0.042)</td>
</tr>
</tbody>
</table>

Figures 16-21. Details of structure of *Myrmeica parvula* (holotype, worker). (16) Head, dorsal view; (17) scape, lateral view; (18) alltrunk and waist in profile; (19) alltrunk and waist from above; (20) tibia and base of first tarsal joint of hind leg. Scale bar: 1 mm.

Figures 21-25. Details of structure of *Myrmeica parvula* (paratype, queen). (21) Head, dorsal view; (22) scape, lateral view; (23) alltrunk and waist in profile; (24) alltrunk and waist from above; (25) tibia and base of first tarsal joint of hind leg. Scale bar: 1 mm.
of head slightly pointed; anterior clypeal margin feebly convex, shallowly but distinctly notched medially. Mandibles with 9 teeth. Frontal carinae feebly curved, from wide, frontal lobes somewhat raised vertically; antennal sockets surrounded by concentric ruge. Scapae longer than head, gradually curved at the base. Alitrunk long and low, with feebly convex pronotal dorsum (seen in profile), pronotal suture indistinct dorsally, metanotal groove distinct but shallow; propodeal lobes projecting apically to form sharp teeth. Propodeal spines very long, broad at the base, sharp, straight, nearly horizontal in profile, and slightly divergent. Petiole long and narrow, its anterior surface concave, node dorsum convex, postpetiole fig-shaped in dorsal view, somewhat longer than high, its anterior surface slightly convex, dorsum narrowly rounded (seen in profile). Spurs of middle and hind tibiae well developed and pubescent.

Anterior (lower) half of frons with fine longitudinal slightly sinusuous ruge, rest of head dorsum finely reticulate. Frons between frontal carinae level with the eyes with 9 rugae. Clypeus with fine longitudinal rugae, mandibles rugulose. Surface of head dorsum between rugae densely punctate, appears dull; frontal triangle, antennal sockets and clypeus weakly superficially sculptured and mostly shiny.

Alitrunk and waist more coarsely sculptured than head. Whole alitrunk coarsely reticulate, waist with several coarse sinusuous ruge and reticulation. Surface of alitrunk very finely superficially sculptured, appears shiny; waist densely punctate below rugae, appears dull. Gaster smooth and shiny.

Head margins with sparse, long standing hairs, alitrunk dorsum and waist more hairy.

Scape with subdecumbent pilosity, tubiae with decumbent ones. Body, brown, antennae and mandibles ferrugineous, legs testaceous.

Measurements (mm) and indices of the holotype worker: HL 1.20, HW 1.08, FW 0.40; FI 0.42, SI 0.32, SL 0.70.

Table 1. Characteristic features of M. parasitica and M. rite.

<table>
<thead>
<tr>
<th>M. parasitica</th>
<th>M. rite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head broadly suboval, with convex sides and broadly rounded occipital corners.</td>
<td>Head subsquare, with almost straight sides and narrowly rounded occipital corners.</td>
</tr>
<tr>
<td>Scape shorter, SI = 1:1, SI2 = 1.30, strongly curved at the base.</td>
<td>Scape longer, SI &gt; 1:1.6, SI2 = 1.32, weakly curved at the base.</td>
</tr>
<tr>
<td>Rugeae on the head dorsum somewhat sinusous, especially laterally.</td>
<td>Rugaeae on the head dorsum straight.</td>
</tr>
<tr>
<td>Long standing hairs occur on occiput, temples and genae weakly micropunctured.</td>
<td>Long standing hairs occur on occiput only stronger.</td>
</tr>
<tr>
<td>Seen at 100έ the surface sculpture of the head with the darker alitrunk.</td>
<td>Seen at 100έ the surface sculpture of the head com pletely invisible.</td>
</tr>
<tr>
<td>Head brownish-red, not-strongly contrasting with the darker alitrunk.</td>
<td>Head yellow, strongly contrasting with the darker alitrunk.</td>
</tr>
</tbody>
</table>

Figure 21-30. Details of structure of Myrmica polidii (holotype, worker). (26) Head, dorsal view; (27) scape, lateral view; (28) alitrunk and waist in profile; (29) alitrunk and waist from above; (30) tibia and base of first tarsal joint of hind leg. Scale bar: 1 mm.
Material examined. Holotype worker, China, Sichuan Prov., Maowian, 40 km N Weihuan, 1500 m, 25.vii.2002, leg. S. Murzin & I. Sokhin (ZISP); paratypes: 2 workers with the same label (ZISP, IZK).

Comparative diagnosis. On the basis of the combination of several characters (e.g., shape of the scape, medially notched clypeus) Myrmica sinochenschi clearly belongs to the schencki species-group. M. sinochenschi differs from all known species of the schencki-group (except for M. onojoannii Radchenko et Elmes and M. imuta Radchenko et Elmes) by its distinctly wider forewings (FLI > 1.25), and a differently shaped scape and node, etc. (for details see Radchenko, Elmes and Alicata, 2006).

New Myrmica species from China

Myrmica sinochenschi Radchenko et Elmes, sp. nov.

Material examined. Holotype worker, China, Sichuan Prov., Maowian, 40 km N Weihuan, 1500 m, 25.vii.2002, leg. S. Murzin & I. Sokhin (ZISP); paratypes: 2 workers with the same label (ZISP, IZK).

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transversal rugae. Mesopleura and lower part of sides of propodeum longitudinally rugose; surface between rugae smooth and shiny. Petiolar node and postpetiolar with sinuous longitudinal rugosity, surface between rugae finitely superficially punctate, but appears shiny. Gaster with very fine superficial microreticulation, but shiny.

Head margins with moderately long suberect hairs. Alltrunk with waist with abundant, long standing hairs, of which more than 15 occur on petiole. Scutum and tibiae with quite long subdecumbent hairs.

Body colour reddish-brown, appendages somewhat lighter.

Measurements (mm) and indices of the holotype worker: HL 1.77, EW 1.46, PW 0.92, FLW 0.63, SL 1.33, AL 2.80, HTL 1.65, PNW 1.03, PI 0.81, PW 1.04, PI 0.49, PPL 0.60, PWP 0.57, PPH 0.60, ESL 0.50, ESD 0.60; CI 1.21, FI 0.43, FLL 1.02, SI 0.58, SI 1.07, PI 1.08, PI 0.56, PI 0.37, PPL 1.00, PP 1.05, PP 1.44, PP 0.39, ESL 0.35, ESD 1.15.

Queens, males and ecology unknown.

Comparative diagnosis. At present we cannot place *M. weili* into any of the *Myrmica* species-groups. It is one of the few *Myrmica* known to date, that have at least partly developed transversal rugosity on the alltrunk dorsum; these include *M. inseca* Forel, *M. pecheli Forel*, *M. villosa* Radoszkovitch et Elmes and *M. polygoleta* n. sp. (see below). However, this character alone cannot define any group of related taxa. *M. weili* well differs from *M. pecheli* and *M. villosa* by its much coarser transverse rugosity on the alltrunk dorsum. In this respect, *M. weili* resembles *M. inseca*, but it well differs from the latter by a coarsely reticulate pronotal dorsum, while whole alltrunk dorsum of *M. inseca* is transversely rugose. Furthermore, *M. weili* has a straight and gradually sloping anterior face of petiolar node combined with long, very feebly convex and somewhat declined posteriorly node dorsum; on the contrary, *M. inseca* has the anterior face of petiole distinctly concave, and a short, broadly rounded dorsal face (compare Figs 42, 43 of the present paper with Figs 3 G, H in Radoszkovitch and Elmes, 2001 b).

Etymology. This species is dedicated to the Chinese myrmecologist Cong Wei, who first collected it.

*Myrmica полиглута* Radoszkovitch et Rigato, sp. nov.

Material examined. Holotype worker: China, Yunnan, Habashan Mts., 4000–4700 m, 27°19'W, 100°06'E, 8–9 VI 2002, leg. S. Béèvèt & R. H. Fonqué (MNNM); paratypes: 11 workers with the same labels as the holotype (MSSM, IZK).

Description. Workers (Figs 44–48).

Head subrectangular, longer than broad, with almost straight sides, straight occipital margin, and broadly rounded occipital corners; anterior clypeal margin rounded, slightly prominent and not notched mediately. Upper latero-ventral corners of head rounded, not pointed, at most bluntly angulated (seen in profile). Mandibles with 7–8 teeth. Frontal carinae neither curved outwards, nor merging with rugae, which surround antennal sockets, but confluent with rugae, running to the posterior head margin. Frontal carinae very feebly curved, from wide, frontal lobes not extended. Scape shorter than head width, gradually curved at the base, without any trace of lobe or carina.

Alltrunk not robust, promesosoma slightly flattened, dorsally with barely marked promesosomal suture. Metanotal groove distinct, but shallow. Pro- and mesopleural lobes rounded apically. Propodeal spines relatively short, straight, acute, slightly widened at the base, inlined at about 35° nearly horizontal (seen in profile). Petiole quite high, with short peduncle, its anterior face steep, feebly concave, dorsum of node with hardly convex, horizontal or slightly sloping backward plate, with a small posterior step (seen in profile). Postpetiolar subglobular. Spurs of middle and hind tibia well developed and preticate.

Only anterior (lower) half of frons with not coarse longitudinal, slightly sinuous rugae, number of rugae between frontal carinae level with the eyes less than 20, the rest of head dorsum reticulate. Clypeus with longitudinal rugae, frontal triangle smooth. Surface between rugae (except for shiny clypeus and frontal triangle) densely superficially punctate, but appears quite shiny. Mandibles longitudinally rugose.

Pronotal and propodeal dorsum with irregular short sinuous rugae and reticulation. Mesonotum with no more than 10 quite coarse transverse, slightly sinuous rugae. Sides of pronotum with longitudinal sinuous rugae and reticulation, mesopleura and sides of propodeum with longitudinal rugosity. Sides of petiole and postpetiolar with short longitudinal rugae, petiolar node dorsum with two longitudinal sulci on its sides, postpetiolar dorsum with semicircular rugae on its margins; whole petiole and postpetiole not coarsely, but densely punctate. Surface of alltrunk between rugae at most with weak superficial microsculpture, appears shiny. Gaster smooth and shiny.

Lateral margins of head above eyes hairless, only genae and occipital margin with sparse, quite long erect to subdecumbent hairs. Pronsomal dorsum with not abundant long erect hairs; propodeum dorsum without or at most with a few short hairs; petiole with 6–8 long hairs. Scape with subdecumbent pilosity and tibiae with decumbent pilosity only.

Body colour dark brown to blackish-brown.

Measurements (mm) and indices of workers (n = 20) in order minimum – maximum, ranges with means and SD are in parentheses, data of the holotype are in square brackets: HL 1.17–1.31 (1.225 ± 0.091).
Queens and males unknown.

Ecology is unknown except that this species was found in subalpine meadows above 4000 m a.s.l.

Comparative diagnosis. M. polygyphtha shares with other Palaeartic Myrmicae at least a partly developed transverse rugosity on the allrunk dorsum. (Comparative diagnosis" under M. weyi n. sp., above). M. polygyphtha has a coarsely reticulate pronotum combined with a longitudinally rugose propodeal dorsum, which distinguishes it from M. pachei, M. viridans and M. ineetus where the whole allrunk dorsum is either transversely rugose, or the sculpture on propodeal dorsum is reduced (M. villosa). It differs from M. weyi by the sculpture of head and propodeal dorsum, the shape of head, the sparser standing hairs on the body, the shape and sculpture of petiole and mesoscutum, etc. (compare Figs. 44-48 with Figs. 39-43).

Biology. From Greek "kolon" - many, and "myrma" - carwed, for its variable sculpture on the allrunk.

Addendum. M. sinica Wu et Wang, 1966 - a junior synonym of M. cervatus Kulynych, 1900, syn. nov.

We studied a paratype worker of M. sinica deposited in the collection of the Chinese Academy of Forestry. This specimen looked very similar to M. cervatus Kulynych and direct comparison with holotype and paratypes of that species clearly confirmed their conspecificity. So, we formally propose that M. sinica Wu et Wang is a junior synonym of M. cervatus Kulynych. By most features M. cervatus belongs to the lobicornis species-group (see Radchenko 1994a), but it has a very unusual (for the genus Myrmica) shape of the lateral portions of eyeapuss which are raised into a sharp ridge in front of the antennal insertions, so that antenal sockets are quite distinctly separate from the eyeapull surface. This feature is shared with the tribe Tetramorini (Bolton 1976), but it also occurs in only two other Palaeartic Myrmica species: M. admodona Bolton (replacement name for M. carinata Kulynych), which like M. cervatus was reported from the Russian Far East, Korea, north-eastern China and Japan (Radchenko 2006), and M. tamaneae Elmes, Radchenko et Aktaş, known from Turkey only.

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