

# NEW AND LITTLE KNOWN SPECIES OF THE GENUS LEPTOTHORAX MAYR (HYMENOPTERA, FORMICIDAE) IN THE EUROPEAN REGIONS OF THE USSR AND THE CAUCASUS

K. V. ARNOL'DI (ARNOLDI)

The genus Leptothorax is at the same time one of the Palearctic ant genera that is richest in species and least investigated. This is evident even if only from the fact that a contemporary reexamination of the species even of the comparatively better investigated fauna in the European regions of the USSR appreciably increases the number of species partly by new description and partly by recognition that some forms previously described as variations have the status of species.

The use of measurements of separate parts of the body, which is now a fairly current practice in myrmecology, provides the basis for dividing the species into groups [attempted by Bernard (1956, 1968) for the genus under investigation] and clarifies many taxonomic characters that are proportions of the body. We have measured 17 characters of worker ants using our own measurement scheme (Arnol'di, 1970, 1971) and have used them to determine the proportions of the parts of the body, or of segments, expressed as indices. Mean values of 11 indices (i) are given in the table on the basis of a study of series of workers for the new species and for those species whose specific status is accepted for the first time in this article. The indices (abbreviations: l - length, w - width, h - height) were: 1) l : w of head (i. c.); 2) w of head : l of scape; 3) distance from scape to occipital margin : l of scape (indicating the relative length of the scape); 4) l of eye : l of cheek; 5) w : l of 2nd funicular segment; 6) l : w of 2nd segment of clavus; 7) l : h of thorax; 8) h of thorax : l of epinotal spine; 9) l : h of petiole; 10) w : l of postpetiole; w of petiole. Some indices provide excellent characters for the discrimination of species, but more often of groups.

The present article will be confined to this table of indices and to the description of the new species and subspecies.

The types of the new forms are in the Zoological Institute, USSR Academy of Sciences in Leningrad.

## Leptothorax caucasicus.

♀. Compact. Head short (i. c. = 1.15), tetragonal, lateral margins weakly convex, occipital margin weakly notched, clypeus protruding only slightly forward, slightly notched on anterior margin, forming a median area bounded by 2-3 rugae on each side; scape thick and short (i. = 1.15), clearly falling short of the occipital margin; funicular segments transverse, segments of clavus elongate; eyes large, larger than cheek. Thorax massive, slightly convex in profile, promesonotal suture visible from above as a forward-convex semicircular line, although this suture is deepened only laterally; epinotal spines short, tooth-like, sloping surface of epinotum scarcely concave,

metasternal lobe not projecting strongly caudad. Petiole low, massive, elongate, cylindrical part short, anterior surface straight in profile or slightly concave, upper angle obtuse, apical surface long, truncate at rear; postpetiole relatively narrow, its width 1-1/3 times its length, only slightly broader than petiole.

Hairs rather long and blunt, their length on the abdomen approximately equal to the distance between them. Sculpture coarse, head with fairly prominent, regular longitudinal rugae, frons and vertex smooth in the middle, thorax with vary coarse longitudinal rugae, vermiform in places, node of petiole rugose, postpetiole finely reticulate above.

Brown, with a chocolate tinge; dorsal surface of head, clavus and 1st abdominal tergite, except for the orange base, dark brown. 3.2-3.6 mm, ♂ and ♀ unknown.

Georgia, Kodzhori, 5 June 1966 (No. 195). Zhizhilashvili). Holotype and 3 paratypes, Tsagveri, 8 June 1963 (also Zhizhilashvili). Armenia: Dzhrvezh (Dlusskiy), 4 ♀♀.

The species belongs to the L. clypeatus group as defined by Bernard (1968), as is indicated by the promesonotal suture, to which reference has been made, which is usually absent in other European species, and by the notch on the clypeus. The species is very similar to L. clypeatus in its compactness, coarse sculpture, etc., but is well distinguished by the structure of the petiole: by the low node, flattened above, and the gentle, longer postpetiole. The species is probably endemic to the Caucasus.

## Leptothorax anodonta.

♀. Body elongated, legs slender. Head long (i. c. = 1.33), parallel-sided, with narrowly rounded posterior angles and straight occipital margin; clypeus blunt on anterior margin, sometimes with a very small notch, flattened and smoothed in the middle, lateral rugae poorly apparent; eyes oval, same size as cheek; scape slender, falling only slightly short of the occipital margin of the head (i. = 1.08), funicular segments slightly transverse, 2nd segment of clavus longitudinal (i. = 1.23). Thorax long and flat (l : h = 3.1), epinotal teeth appearing as right angles, sometimes even obtuse angles, less frequently as very small denticles; sloping surface of epinotum short, not sheer. Petiole fairly massive, with weakly developed cylindrical part, anterior surface slightly concave in profile, subapically steep, angle more or less a right angle, petiole low (l : h = 1.5), postpetiole no more than 1/3 wider than petiole.

Ratios of Mean Measurements of Parts of the Body in Ants of the Genus Leptothorax

Species	Indices										
	head			antenna		thorax		petiole			
	l : w	w : l of scape	l : l of scape*	l of eye: l of cheek	w : l of 2nd funicular seg.	l : w of 2nd seg. of clavus	l : h	h : l of epinotal spine	l : h of petiole	w : l of postpetiole	w of postpetiole: w of petiole
<i>L. caucasicus</i>	1.13	1.24	1.15	1.13	1.50	1.25	2.90	6.5	4.4	1.35	1.25
<i>L. anodonta</i>	1.33	0.98	1.08	0.90	1.15	1.23	3.10	10.0	1.5	1.36	1.29
<i>L. korbi</i>	1.05	1.30	1.20	0.90	1.60	0.95	2.65	6.7	1.65	1.75	1.38
<i>L. brauneri</i>	1.27	1.03	1.07	0.90	1.42	1.20	2.87	2.6	1.20	1.40	1.37
<i>L. discoloratus</i>	1.20	1.12	1.20	1.0	1.50	1.09	2.60	3.2	1.50	1.35	1.35
<i>L. volgensis</i>	1.19	1.15	1.05	0.97	1.05	1.43	2.52	2.5	1.38	1.52	1.45
<i>L. tesquorum</i>	1.29	1.06	1.05	1.0	1.05	1.32	3.03	1.9	1.33	1.55	1.35
<i>L. satunini</i>	1.18	1.16	1.23	1.05	1.09	1.20	2.52	5.8	1.20	1.50	1.50
<i>L. pithyusae</i>	1.18	1.20	1.23	1.05	1.50	1.03	2.73	2.3	1.33	1.45	1.33
<i>L. sevanensis</i>	1.18	1.19	1.16	0.80	1.20	0.97	2.70	10.0	1.17	1.40	1.23
<i>S. pratostepposus</i>	1.25	1.13	1.15	1.05	1.52	1.10	2.49	3.5	1.3	1.62	1.36
<i>L. jallensis</i>	1.15	1.33	1.33	1.45	2.00	1.01	2.68	4.7	1.13	1.55	1.20
<i>L. nikitae</i>	1.18	1.07	1.05	0.92	1.38	1.40	2.50	2.0	1.30	1.48	1.38
<i>L. junipereti</i>	1.14	1.09	1.06	0.90	1.40	1.37	2.50	1.7	1.20	1.40	1.47

Note. l I - distance from scape to occipital margin of head.

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Hairs profuse, rather long, longer than the diameter of the scape. Sculpture rather strong, with long longitudinal rugae on the head, also with reticulation on the frons and near the eyes, thorax and both nodes of petiole with coarse longitudinal rugosity.

Brown, in various shades, antennae, including clavus, brownish, dorsal surface of head dark brown, tarsi, knees, femora (basally) and base of 1st abdominal tergite yellow. 2.6-3.0 mm.

♂. Head narrowing strongly behind the eyes, posterior angles indicated, eyes same size as tempora; thorax flat, long, epinotum without teeth. Thorax bearing coarse longitudinal rugae above, nodes of petiole finely sculpted. Dark brown, legs straw colored.

Armenia, Sevan, July-Aug. 1927 (Arnol'di).  
Holotype - ♀, 12 paratypes (including ♀♀ and ♂♂).  
Subalpine meadows at 2200-2600 m, nesting in crevices.

Similar to L. alpinus from the subalpine zone of the Greater Caucasus, distinguished immediately by the almost complete reduction of the epinotal spines and by the very coarse sculpture.

Leptothorax discoloratus.

♀. Head tetragonal, parallel-sided in the cheek region, sides weakly convex behind the eyes, posterior angles rather broadly rounded, occipital margin straight; eyes flattened, oval, same size as cheeks; scape not reaching occipital margin, 2nd-6th funicular segments transverse, 2nd segment of clavus very weakly elongate. Thorax relatively massive, convex in profile, dorsal line curved in a continuous gentle arc and basal surface of epinotum descending appreciably caudad, metasternal lobes projecting strongly caudad; spines slender, rodlike, projecting at an angle of 45°, no more than 1/3 as long as the basal surface. Petiole with weakly developed cylindrical part, node fairly regularly and broadly conical in profile, both surfaces gentle, anterior surface slightly concave, apex acute-angled with weak transverse fold; postpetiole high, very steeply rounded, weakly transverse above, slightly broader than petiole.

Hairs short and stout; rows on head at the sides of the median line of the frons; length of hairs on ab-

domen considerably less than the distances between them. Sculpture dense but weak; matte, head with very fine superficial rugae, shagreening apparent on posterior half. Thorax finely rugose and shagreened, like the nodes of the petiole. Markedly bicolorous, reddish yellow, petiole more reddish; abdomen entirely black, shining as if varnished. 3.2 mm, ♂ and ♀ unknown.

Northwestern Caucasus: mouth of Mezyb' River, South of Gelendzhik, 17 April 1957 (K. Arnol'di).  
1 ♀ (holotype).

An attractive ant; distinctive by virtue of the contrasting coloration. Also distinguished by the convex thorax and the dense sculpture; in the structure of the petiole it is closer to the L. angustulus - L. exilis group (Bernard, 1968); affinity with L. jallensis, is possible in the Soviet fauna.

Leptothorax jallensis

♀. Head rectangular with very weakly convex lateral margins, narrowly rounded posterior angles and weakly notched occipital margin. Eyes large, flat, far larger than cheeks (i. = 1.45); scape short, falling considerably short of the occipital margin (i. = 1.35), rather steeply curved basally and relatively thick at the inflection, 2nd-6th funicular segments sharply transverse (index of 2nd segment 1.95), 2nd segment of clavus practically square. Thorax with flat dorsal profile, without impressions; epinotum only slightly convex, sloping surface concave, but very gently so on the lower half, denticles short but pointed. Petiole high (i. = 1.1), with a distinct short cylindrical part, node more or less wedge-shaped in profile, anterior surface gently concave, apex very sharp, posterior surface also slightly concave, but gentler than anterior surface, apical transverse raised edge prominent; postpetiole very short and high in profile, steeply rounded with prominent process below; slightly wider than petiole above (index postpetiole : petiole = 1.2).

Hairs on upper surface of body very short, not exceeding the least diameter of the scape even on the thorax and the petiole. Sculpture not coarse, weak on head; smooth posterior half of head, clypeus and middle of frons very shiny; rugae apparent on sides

of frons and near eyes; thorax matte, longitudinally rugose, weak shagreening and punctation apparent in places, nodes of pedicel irregularly and finely rugose.

Reddish, dorsal surface of head and usually sides of thorax dark reddish brown; clavus not darkened, petiole and 1st abdominal tergite, apart from a small light basal spot, dark brown. 2.0-2.3 mm.

Crimean mountainous region, National Park, 800 m, 17 July 1947, on beech bark, holotype (♀) and 2 paratypes, 22 Sept. 1947 - 3 ♀♀ (K. Arnol'di). ♂ and ♀ unknown.

The species is very similar to *L. exilis*, which it resembles in its dark color and the weak sculpture of the head, but it is well distinguished by the extremely short hairs, especially on the abdomen, and also by the high, acute-angled petiole, which is short in profile.

As yet the species is known only from the Crimea, but it is very possible that the reference by Ruzsky (1905 : 590) to *L. exilis* in Transcaucasia relates to this species.

#### Leptothorax tesquorum.

♀. Head elongate-rectangular, with practically straight lateral margins, broadly rounded posterior angles and straight occipital margin; scape long, reaching or practically reaching occipital margin (i. = 1.05); eyes same size as cheek; 2nd-6th funicular segments square or very slightly transverse (i. = 1.05), segments of clavus elongate (i. of 2nd segment = 1.32); thorax relatively low, long (i. = 3.03), dorsal profile even, epinotal spines sharp, slender, no more than 1/3 of the length of the basal surface; petiole with cylindrical portion indicated, anterior surface slightly concave in profile, apex steeply rounded, apical platform inclined caudad; postpetiole 1.5 times width of petiole above.

Hairs not profuse, shorter than the eye diameter. Sculpture dense, long longitudinal rugae on head not weakened on frons and on vertex, interstices uneven, granular, cheeks without distinct semicircular rugae around the antennal sockets. Thorax with confused rugae on the sides, granular like the pedicel.

Piceous, unicolorous, antennae and legs brown, clavus not darker, no light spot on 1st abdominal tergite. 2.0-2.4 mm.

Sal'sk steppes, Manych-Gruzskoye, 28 May 1927, solonchak (K. Arnol'di), holotype (♀), 1 paratype - No. 2390, 2 paratypes - Nos. 2392. ♂ and ♀ unknown.

An unusual species, similar in coloration to *L. serviculus*. Closest to the Transcaucasian *L. brauneri*.

#### Leptothorax pithyusae

♀. Head rectangular, with slightly convex lateral margins, broadly rounded posterior angles, straight occipital margin, eyes same size as cheeks, scape falling short of the occipital margin of the head by its own diameter, 2nd-6th funicular segments sharply transverse, 2nd segment of clavus quadrate. Thorax relatively low and flat, without a promesonotal depression, but suture sometimes indicated as a line, epinotum high, spines toothlike and short, usually no longer than 1/3 of the basal surface of the epinotum; petiole with short cylindrical part, anterior surface

weakly concave in profile, upper angle straight or very briefly rounded, upper platform oblique, with transverse raised border; postpetiole far lower than petiole, steeply rounded, narrow above, only 1/3 wider than the petiole.

Hairs not profuse, their length less than the eye diameter. Body sculpture weak; head with very small longitudinal striatiform rugae which are smoothed on the frons and vertex (these places are shiny), antennal sockets without prominent concentric rugae, thorax with confused rugae, petiole very delicately rugose.

Reddish-yellow, of one shade, clavus not darkened, posterior half of 1st abdominal tergite usually brownish. 2.3-2.8 mm.

♀. Comparatively large (5.5 mm). Thorax shiny in places, denticles of epinotum short, abdomen brown, anterior half of 1st tergite yellow.

Northwestern Caucasus, Gelendzhik, Dzhankhot, 8 June 1956. Holotype (♀). Described on the basis of 25 ♀♀ and 4 ♀♀ collected in the same locality by K. Arnol'di in a *Pinus pithyusa* wood. The nests are constructed in the forest litter and in tree stumps. ♂ unknown.

The species is similar to *L. unifasciatus*, and in part also resembles *L. corticalis*, but is distinguished by weakened sculpture.

#### Leptothorax pithyusae babuganicus.

♀. Distinguished from the nominate subspecies by its greater size (2.8-3.2 mm) and the more massive head; the scape falls short of the occiput by 1.5 diameters. Unicolorous yellow-orange, abdomen brown.

Crimean mountainous region, National Park, holotype (♀) and 4 paratypes, 6 June 1947, on oak in longhorn beetle passages (K. Arnol'di). ♂ and ♀ unknown.

#### Leptothorax sevanensis.

♀. Head rectangular, very weakly convex laterally, with broadly rounded posterior angles and slightly concave occipital margin; middle of anterior margin of clypeus slightly notched; eyes small (i. = 0.80), far smaller than cheeks; scape falling short of occipital margin of head by 1 1/2 times its diameter; 2nd-6th funicular segments slightly transverse, 2nd segment of clavus quadrate. Thorax relatively low, dorsal profile flat, without impressions, epinotal spines very short, rather like acute angles, petiole short, segments massive, petiole high (i. = 1.17), virtually without a cylindrical part in profile, anterior surface straight-lined, steep, upper angles obtuse, platform convex, inclined, raised borders apparent; postpetiole broadly rounded in profile, relatively narrow above, only 1/4 wider than the petiole.

Thoracic hairs no shorter than the eye diameter, not profuse. Matte, with dense punctate sculpture, head with delicate long longitudinal rugae that are slightly smoothed on the frons and vertex, so that these parts are slightly shiny; interstices between rugae finely sculpted. Thorax and pedicel with dense small rugae. Dark yellow, posterior half of 1st abdominal tergite light brown, clavus only slightly darkened. 2.3-2.7 mm.

♀. Distinguished by dark brown coloration, without a light spot on the 1st abdominal tergite, legs light, clavus darkened, eyes relatively small, far smaller than tempora. Longitudinal rugae more prominent. Thorax rugose on the sides and above. Spines very short, pointed. 3.8-4.1 mm.

Armenia, Sevan, July 1927 (K. Arnol'i, No. 2803): holotype (♀), 8 ♂♂ and 2 ♀♀-paratypes. ♂ unknown. In mountain meadows, underneath stones, common.

Very similar to *L. unifasciatus tauricus* Ruzs. Clearly distinguished by the small eyes of ♀ and ♀.

#### *Leptothorax pratostepposus*.

♀. Similar to *L. tuberum*, more massive. Thorax broader, especially at the shoulders. Funicular segments sharply transverse (i. of 2nd segment = 1.52), 2nd segment of clavus slightly longer than broad. Dorsal profile of thorax even, flattened, epinotal spines broad, toothlike, approximately 1/4 as long as the basal surface of the epinotum. Angle of petiole fairly acute, upper platform strongly canted caudad, transverse carina weakly indicated.

Sculpture dense; matte; rugae on head longitudinal, giving way to a dense network on the sides, interstices densely punctate and shagreened, punctation and shagreening particularly prominent on posterior half and on thorax.

Yellowish brown, dorsal surface of head, clavus and abdomen, apart from yellow basal spot, dark brown. 2.7-3.2 mm.

♀. Longitudinal rugosity of head more prominent than in ♀. Entire thorax rugose above, sides of mesonotum more shiny, finely sculpted, epinotal teeth short and thick; 1st abdominal tergite with light spot. 4.2 mm.

Kirsk Province, Streletskaia steppe, 29 June 1964 (K. Arnol'di). Holotype (♀) and 10 paratypes. A typical species for the wooded steppe of the central chernozem zone. An abundant species that nests in the sod formed by cereal grasses.

Distinguished from *L. tuberum* mainly by the predominance of shagreening and punctation in the sculpture of the head and thorax.

#### *Leptothorax nikitae*.

♀. Head slightly elongate. Sides not very convex, especially in front of the eyes, posterior angles rounded, occipital margin straight, eyes oval, relatively small, slightly smaller than cheeks, clypeus broadly rounded in front; scape slender, relatively long (i. = 1.07), falling short of the occipital margin by a short distance, approximately its own diameter; 2nd-6th funicular segments slightly longer than their width or equal to it, 2nd segment exactly square, segments of clavus slender, length of 2nd segment 1.5 times its width (i. = 1.55). Thorax comparatively short and deep, dorsal profile weakly convex, without sutures, basal surface of epinotum convex, inclined caudad, sloping surface concave in a regular arc, metathoracic lobes broad, directed rearward and downward, epinotal spines long, their length practically equal to that of the basal surface, of uniform thickness throughout their length, slightly bent downward. Petiole high, with a distinguished cylindrical part, anterior surface in profile concave at base of node,

thereafter ascending to the well indicated, although very briefly rounded anterior angle, apex convex, giving way to a steep posterior surface, a short transverse cariniform ruga on apex; postpetiole briefly angularly and steeply rounded in profile, broader above than the cross-section of the petiole, broadest near the delineated anterior angles.

Hairs relatively long, blunt and, especially on the abdomen, at least as long as the diameter of the scape. Body matte; rugae on frons and vertex long, but anastomosed, antennal socket bounded at the rear by a system of more or less transverse rugae extending back beyond the level of the anterior eye margin; shagreening apparent in the region of the posterior angles of the head; thorax irregularly and, in part, reticulately rugose above, indistinct shagreening emerging only on the sides of the segments of the petiole. Unicolorous, brownish yellow, dorsal surface of head and clavus darker, abdomen brown with a small indistinct light spot on base of 1st tergite. 2 mm.

Southern Crimean coast, Cape Mart'yan, 26 Sept. 1964, *Juniperetum*, in litter (K. Arnol'di), holotype (♀); Nikita Botanical Gardens, 3 Oct. 1966. Described on the basis of 5 ♀♀; ♂ and ♀ unknown.

An unusual and very small *Leptothorax*. In the structure of the thorax and the development of the spines it resembles *L. nassonovi*, and is a species with a short petiole; it is also distinguished by the slender segments of the clavus, by the presence of a transverse carina on the petiole and by the unusual sculpture of the antennal socket.

#### *Leptothorax junipereti*.

♀. Head not very elongate (i. c. = 1.14), considerably wider in the region of the tempora than in front of the eyes, posterior angles broadly rounded, occipital margin straight, clypeus rounded in a smooth arc, eyes smaller than cheeks, scape falling short of the occipital margin by 1-1.5 diameters, 2nd-6th funicular segments transverse (w : l of 2nd segment = 1.4), length of 2nd segment of clavus 1.4 times its width. Thorax relatively deep (i. = 2.5), dorsal profile weakly convex, mesoepinotal suture only slightly indicated, spines long practically equal to the basal surface of the epinotum, of uniform width, twisted in the distal third. Nodes of petiole relatively low, petiole virtually without a cylindrical part, anterior surface slightly concave in profile, about a straight line, apical angle very narrowly rounded, with transverse raised border, posterior surface short, steep; upper surface of postpetiole about 1.5 times as wide as petiole.

Hairs on thorax and abdomen fairly long, reaching the diameter of the eye, hairs on 1st abdominal tergite sparser. Longitudinal rugae on head slender and long, reaching the occiput, without obvious anastomoses, antennal sockets at rear and cheeks bearing concentric rugae, thorax and pedicel bearing slender irregular rugae.

Brownish yellow, dorsal surface of head, antennae and abdomen brownish. 2 mm.

South Crimean coast, Nikita Botanical Gardens, 2 Oct. 1962, *Juniperetum*, in litter (K. Arnol'di). Holotype (♀) and 1 paratype. ♂ and ♀ unknown.

A species of the *L. nassonovi* group, which it resembles in the development and structure of the

spines; distinguished by extremely small size, by the longer hairs and by coloration.

Leptothorax satunini.

This species, which was described by M. Ruzsky (1902) from the Araks Basin, is in need of redescription having regard to the characters adopted in this article.

♂. Head relatively broadly oval, short (i. c. = 1.18), with the lateral margins not very strongly, but prominently convex, with rounded posterior angles and a straight occipital margin; eyes oval, slightly larger than cheeks; scape relatively short (i. = 1.23), slender, 2nd-6th funicular segments quadrate, very slightly broader than long, 2nd segment of clavus weakly elongate. Thorax short (i. = 2.52) with even dorsal profile, sloping surface of epinotum weakly concave, long, spines very short, toothlike and sharp. Petiole relatively short (i. = 1.2), node narrow in profile, of the typical shape: anterior surface rising practically in a straight line at an angle of 45°, apex narrowly rounded, not forming an angle and a transverse carina in front, posterior surface steep, almost perpendicular, so that the node appears to be directed caudad. Postpetiole uniformly rounded in profile, its width above approximately 1.5 times the width of the petiole.

Hairs sparse, but long, blunt, longer than the maximum diameter of the scape, hairs of pubescence very delicate and small. Sculpture weak; shiny. Frons, vertex and posterior part of clypeus smooth, with a strong luster, light longitudinal rugae on cheeks, around eyes and on posterior part of clypeus, shagreening apparent in places. Thorax semi-matte above, with longitudinal rugae, shagreening on its sides and on the segments of the petiole.

Yellow, legs pale yellow, posterior half of 1st abdominal tergite slightly brownish. 2.6-2.8 mm.

Armenia, Georgia.

According to Forel (1904) this species is similar to L. bulgaricus and it is listed by him from Eastern Bukhara; an examination of the material with which Forel worked shows that he was dealing with L. mel-leus. L. satunini is evidently a Transcaucasian endemic species.

Leptothorax volgensis.

L. nassonovi volgensis Ruzsky, 1905: 582. - L. stipaceus: K. Arnol'di (1971: 1825), non Ruzsky, 1905.

An unusual species that is more similar to L. brauneri. It is found in the Southeast European regions of the USSR: the Lower Volga; Manych (K. Arnol'di). Ruzsky records it for Zhigulya.

Leptothorax brauneri.

L. serviculus v. brauneri Ruzsky, 1905: 603.

This species, which occurs in Western Transcaucasia, is specifically different from L. serviculus and more reminiscent of L. corticalis. It nests in the soil and in forest litter.

Leptothorax korbi.

L. corticalis v. korbi Emery, 1898: 10, ♀ and ♂; Ruzsky, 1905: 589. - L. korbi K. Arnol'di, 1948.

This species, which is abundant in Eastern Transcaucasia, especially in the Talysh, is undoubtedly specifically distinct; the ants nest in a tree or in timber remains on the ground.

Leptothorax tuberum ciscaucasicus.

♀. Distinguished from the nominate form by the smooth sculpture of the frons and vertex, as a result of which the head is here more or less shiny and practically devoid of shagreening; long longitudinal rugae on thorax; node of petiole massive, upper platform wide, convex, indistinctly bounded by a raised border. Yellowish brown, rather unicolorous, clavus scarcely darkened, 1st abdominal tergite with a large blurred light spot in ♀ and ♂.

Northwestern Ciscaucasia. Holotype (♀) and paratype (♂). Shuntuk, Tula district (K. Arnol'di), Common.

Leptothorax tuberum acutinodis.

♀. Eyes rather large, 1/3 larger than the cheeks; platform of petiole clearly truncate, angle acute, raised borders distinct. Epinotal spines short and thick. Thickness of 2nd funicular segment 2/3 greater than its length; 2nd segment of clavus slightly longer than wide. Rugae on head fine, shagreening present and very fine. Color as in the previous species, anterior third of 1st abdominal tergite yellow.

Armenia, Sevan, June 1927. Holotype (♀) and many paratypes (K. Arnol'di). A common species in subalpine meadows, nesting under stones in the ground.

Leptothorax unifasciatus ucrainicus.

♀. Yellow, anterior part of head and clavus dark, 1st abdominal tergite with a broad brownish band. Epinotal spines basally thick, strongly curved, resembling those of L. nylanderi; petiole deep, upper angle a right angle in profile, but slightly rounded, upper platform distinct, only slightly canted caudad, abbreviated, raised borders indistinct.

Southern wooded steppe and steppe in the basin of the Donets and the Don; Gornaya, Donskoy forest division. Holotype (♀), paratypes (K. Arnol'di), Common.

Leptothorax (Mychothorax) scamni.

L. muscorum v. scamni Ruzsky, 1905: 620.

A large compact ant distinguished by strongly developed rodlike spines; a distinct species that is widely distributed in the upper forest and subalpine zone of the Caucasus.

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A. N. Severtsov Institute of Evolutionary Morphology and Animal Ecology,  
USSR Academy of Sciences, Moscow