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Distributional notes on some species of Heteroptera from Czechoslovakia with a contribution on the taxonomy of the genus Hyoidea (Heteroptera, Miridae)

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Before a general check-list of *Heteroptera* of Czechoslovakia can be published our present knowledge of the Heteropterological fauna in Czechoslovakia must be expanded as far as possible. Therefore the main knowledge obtained in study of the strength of populations as well as of vertical and horizontal distribution of respective species within the areal will be, for the time being, gradually published.

In the present and following papers there will be published results of the examination of material which has been being collected for several years for that purpose.

Family **Cydnidae**

Subfamily **Sehirinae**

Ochetostethus nanus (H. Sch., 1834)

1 ♀ — Moravia: Hodonín, 27. VII. 1942, in sandy conditions, collected Hoffer.
1 ♀ — Slovakia: Kamenín, 6. VI. 1960, in salty conditions, collected Hoberlandt.

Although this species certainly has a wide distribution through several xerothermic localities of the southern parts of our country, there are until now only four records, from Moravia: Mutěnice (Balthasar, 1945) and Brno (Dobšík, 1949) and from Slovakia: Chotín and Zadiel (Slovenský kras) (Stehlík & Hoberlandt, 1953). Further records are based on single specimens which have been collected in similar conditions as these mentioned by previous authors. A female from Kamenín has been collected in salty conditions.

This species has Eurosiberian distribution with a rather southern extension ranging as far as Central Asia.

Family **Pentatomidae**

Subfamily **Scutellerinae**

Phimodera galgulina (H. Sch., 1839)

1 ♀ — Slovakia: Čenkov, 7. V. 1960, in sandy conditions, collected Hoberlandt.

All records from Czechoslovakia are from hot sandy areas of Moravia and Slovakia: Šardice (Stehlík, 1944), Bzenec and Mistřín (Hober-

landt, 1944b) and Somotor (Horváth, 1897; Balthasar, 1937). A single specimen collected in Čenkov comes from similar condition to all previous finds.

Species of an European distribution recorded from all adjacent countries.

Trigonosoma (Trigonosoma) trigonum (Kryn., 1871)

7 ♂♂ and 9 ♀♀ Slovakia: Zadiel, 17. VII. 1953, in steppe conditions, collected Hoberlandt.

15 ♂♂ and 17 ♀♀ — Slovakia: Kovačov, 1. VII. 1954, in steppe conditions, collected Hoberlandt.

5 ♂♂ and 7 ♀♀ — Slovakia: Kamenica n. Hr., 6. VI. 1960, in steppe conditions, collected Hoberlandt.

15 ♂♂ and 19 ♀♀ — Slovakia: Šahy, 11. VI. 1962, in steppe conditions, collected Hoberlandt.

This species seems to be wide-spread throughout the warm areas of South and East Slovakia and the previously published knowledge does not reflect the actual distribution, the species previously being recorded from Malé Karpaty (Little Carpathian Mts.) near Bratislava (Balthasar, 1937) and Štúrovo (Parkan) (Stehlík, 1947). According to the material collected recently in Zadiel, Kamenica—Kovačov and Šahy it seems to be rather abundant there.

Species of Pontomediterranean distribution, recorded from adjacent countries Hungary, Roumania, Poland and USSR.

Ancyrosoma leucogrammes (Gmel., 1789)

1 ♀ — Slovakia: Kamenica n. Hr., 6. VI. 1960, in steppe conditions, collected Hoberlandt.

Second specimen of this species collected within our country (the first being recorded by Stehlík & Hoberlandt (1954) from Štúrovo.

Species of Mediterranean distribution extending into the steppe zone of Central Europe.

Subfamily **Pentatominae**

Menaccarus arenicola (Schltz., 1846)

1 ♂ and 1 ♀ — Moravia: Bzenec, 6. VI. 1942, in sandy conditions, collected Hoffer.

2 ♂♂ and 3 ♀♀ — Slovakia: Čenkov, 7. VI. 1960 and 1 ♂ and 2 ♀♀ — 10. VI. 1962, in sandy conditions, collected Hoberlandt.

Previously recorded in our country from two sandy localities in Somotor (Horváth, 1897 and Balthasar, 1937) and Mutěnice (Dlabola, 1943).

Typically psammophilous species of Mediterranean distribution extending into steppe zone of Central Europe and there recorded from Germany, Hungary, Poland and Austria.

Family **Lygaeidae**

Subfamily **Megalonotinae**

Pionosomus opacellus Horv., 1895

3 ♂♂ and 3 ♀♀ — Slovakia: Čenkov, 10. VI. 1962, in sandy conditions, collected Hoberlandt.

Previous records from Czechoslovakia are only from Moravia: Mutěnice (Balthasar, 1942a, b; Hoberlandt, 1944b).

Species of European distribution ranging from Southern parts of USSR through Hungary, Roumania, Bulgaria, Germany as far as Denmark.

Henestaris halophilus (Burm., 1835)

3 ♂♂ and 2 ♀♀ — Slovakia: Kamenín, 3. VII. 1954, 2 ♂♂ and 4 ♀♀ — 6. VI. 1960, in salty conditions, collected Hoberlandt.

In Czechoslovakia previously recorded only from two localities in Moravia and Slovakia: Nesyt near Sedlec (Stehlík, 1946) and Okoličná na Ostrově (Žitný ostrov) (Stehlík & Hoberlandt, 1953).

Species of Southern origin ranging Northwards as far as England and from Central Asia as far as the shores of the Atlantic. In Central Europe recorded from Hungary and Germany.

Subfamily **Artheneinae**

Chilacis typhae (Perr., 1857)

♂♂ and ♀♀ (thousand of specimens) — Bohemia: Blatec, 23. III. 1957 on Typha sp., collected Hoberlandt.

1 ♀ — Slovakia: Kovačov, 3. VI. 1960, collected Hoberlandt.

This species has been recorded in our country only during the last years from different localities of Bohemia and Moravia: Jindřichův Hradec (Stehlík, 1947), Soos (Roubal, 1957a; Štys, 1960), Velký Javorník near Nový Hrozenkov (Stehlík, 1958). Specimens I collected at Lake Blatec in Southern Bohemia in the heads of Typha sp. in March occurred in thousands. Majority of them were hidden in heads of the Great Reedmace and there were present, in addition to adults, a large number of nymphs belonging to two last instars. It is obvious that oviposition had occurred in autumn.

Species of European distribution, in Central Europe recorded from Germany, Hungary, Poland and Austria.

Subfamily **Oxycareninae**

Brachyplax palliata (Costa, 1852)

3 ♂♂ — Slovakia: Štúrovo, VI. 1948, collected Kouřil.

Only single record is previously known from Czechoslovakia: Čenkov (Stehlík & Štěpánovičová, 1961).

Species of Mediterranean distribution, in Central Europe recorded from Hungary only.

Camptotelus costalis (H. Sch., 1853)

4 ♂♂ and 1 ♀ — Slovakia: Čenkov, 10. VI. 1962, in sandy conditions, collected Hoberlandt.

Only two previous records are known from Moravia and Slovakia: Dubňany (Hoberlandt, 1944b) and vicinity of Bratislava (Balthasar, 1937).

Species of European distribution, in Central Europe recorded from Germany, Poland and Hungary.

Family **Tingidae**

Subfamily **Tinginae**

Stephanitis oberti (Kol., 1856)

3 ♂♂ and 3 ♀♀ — Bohemia: Keřkov near Přibyslav, 2. VII. 1948, on Vaccinium vitis idaea, collected Starý.

Species of Eurosiberian distribution, in Central Europe recorded from Germany and Austria. Stichel (1960) records this species from Czechoslovakia, also. However I do not know any published record besides those mentioned above. Meanwhile *Stephanitis pyri* (Fab.) is recorded in Bohemia from Cheb (Dalla Torre, 1877) and from Praha and Aš (Duda, 1885, 1892) and recently from Slovakia: Štúrovo (Stehlík, 1962).

Family **Reduviidae**

Subfamily **Harpactorinae**

Rhinocoris niger (H. Sch., 1844)

2 ♂♂ — Slovakia: Kovačovské kopce (hills), V. 1948, collected Obenberger.
1 ♂ — Slovakia: Štúrovo, V. 1951, collected Strejčková.
5 ♂♂ — Slovakia: Kovačov, 16. V. 1953, collected Šteif.
18 ♂♂ — Slovakia: Kamenica n. Hr., 2., 5., 8. VI. 1960, in steppe conditions, collected Hoberlandt.

Probably of Pontomediterranean distribution, previously recorded from Southern USSR, Hungary, Yugoslavia and Czechoslovakia (Hoberlandt, 1944a). All records in Czechoslovakia are included within the small steppe areas of Southernmost Slovakia near the Danube.

Family **Berytidae**

Subfamily **Metacanthinae**

Gampsocoris culicinus Seidenst., 1948

24 ♂♂ and 3 ♀♀ — Moravia: Čejč, V. 1941, collected Hoffer.
3 ♂♂ and 14 ♀♀ — Moravia: Bzenec, 10. VII. 1940, collected Hoffer.
2 ♂♂ and 15 ♀♀ — Moravia: Mutěnice, 20. VII. 1941, collected Hoffer.
20 ♂♂ and 18 ♀♀ — Moravia: Rohatec, 9. VII. 1942, collected Hoffer.
12 ♂♂ and 15 ♀♀ — Moravia: Hodonín, 27. VII. 1942, collected Hoffer.

8 ♂♂ and 1/ ♀♀ — Moravia: Pavlovské kopce (hills), 25. VI. 1956, collected Hoberlandt.
1 ♂ — Slovakia: Kamenica n. Hr., 2. VI. 1960, in steppe conditions, collected Hoberlandt.

Previous record from Czechoslovakia: Kežmarok (Seidenstükker, 1948), Štúrovo (Roubal, 1961), Dvérce (Roubal, 1957a, b), Vranice-Kácov (Roubal, 1957b). Species of European distribution.

Family **Miridae**

Subfamily **Phylinae**

Conostethus salinus J. Shlb., 1870

24 ♂♂ and 34 ♀♀ — Slovakia: Kamenín, 30. V. 1953, in salty conditions, collected Hoberlandt.
40 ♂♂ and 36 ♀♀ — Slovakia: Kamenín, 25. VII. 1954, in salty conditions, collected Hoberlandt.
21 ♂♂ and 22 ♀♀ — Slovakia: Kamenín, 6. VI. 1960, in salty conditions, collected Hoberlandt.
1 ♂ — Slovakia: Čenkov, 7. VI. 1960, in sandy conditions, collected Hoberlandt.

Stehlík (1961) previously recorded this species from Kamenín, also. Species of European distribution. From Čenkov in South Slovakia is recorded (Stehlík, 1961) another species, *Conostethus hungaricus* Wagner, known from Austria, Hungary and South USSR.

Amblytylus concolor Jak., 1877

2 ♂♂ and 7 ♀♀ — Slovakia: Čenkov, 10. VI. 1962, in sandy conditions, collected Hoberlandt.

Species of Pontomediterranean distribution, from adjacent countries recorded only from Austria, Hungary, Roumania and USSR. No previous record from Czechoslovakia is known.

Tytthus pygmaeus (Zett., 1840)

1 ♂ — Bohemia: Břehyně near Doksy, 14. VII. 1960, collected Hoberlandt.

Species widespread mainly throughout North and North East Europe, in the last few years newly recorded from Germany: Oberhessen and lower valley of Main (Wagner, 1952) and in vicinity of München (Remane, 1959). Recently it has been recorded from a single locality in Czechoslovakia: Silesia, Závada by Štys (1962), and in Poland in the valley of river Łyn near Olsztyn by Mikołajski (1962).

The recent record from Bohemia is from the southern shore of Lake Břehyně in a swampy place around the bases of Caluna vulgaris on the edge of a pine-wood. This locality seems to be very similar to that given by Štys. These two records from Silesia and Bohemia are the only records from Czechoslovakia up to this time.

General distribution: Sweden, Finland, Northern parts of USSR, Holland, France, Germany, Poland, Czechoslovakia, England (Wales and Ireland).

Psallus salicellus (M e y. D., 1843)

1 ♂ — Slovakia: Zadiel-plateau, 28. VIII. 1959, on Corylus avellana, collected Hoberlandt.

Species recorded in Czechoslovakia only from single localities — Bohemia: Jindřichův Hradec, Teplice, Stráž pod Ralskem (D u d a, 1885, 1892; S c h o l t z, 1930), Moravia: Brno, Kuřím, Zbrašov near Hranice, Ondřejov, Široká Niva (S t e h l í k, 1961), Slovakia: Bardějov, Slovenský kras (B a l t h a s a r, 1937). Species of European distribution.

Atractotomus tigripes (M u l s., 1852)

39 ♂♂ and 13 ♀♀ — Slovakia: Kovačovské kopce (hills), in steppe conditions, collected Hoberlandt.

Up to the present time only few records are known from Czechoslovakia — Moravia: Mohelno, Březník (S t e h l í k, 1944), Kobylí (H o b e r l a n d t, 1947, S t e h l í k, 1948), Javorník (H o b e r l a n d t, 1947), Slovakia: Zadiel, Súľovské skály (S t e h l í k & H o b e r l a n d t, 1954). Species of European distribution with rather southern extension.

Hallodapus suturalis (H. S c h., 1839)

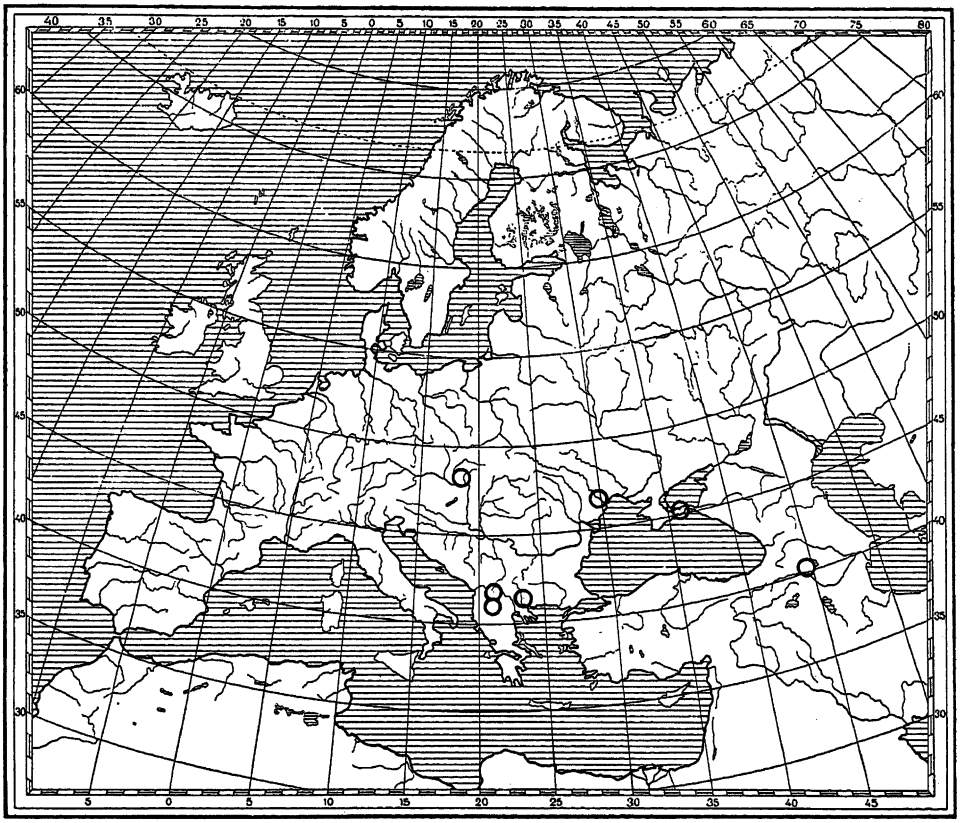
55 ♂♂ and 32 ♀♀, 10 nymphs — Slovakia: Čenkov, 7. VI. 1960, in sandy conditions, collected Hoberlandt.

Only two records from Czechoslovakia are so far known — Moravia: Pouzdřany (S t e h l í k & H o b e r l a n d t, 1954), Slovakia: Somotor (B a l t h a s a r, 1937). Species of Mediterranean distribution, in Central Europe recorded from Hungary only.

Systellonotus kiritshenkoi P o p p i u s, 1912

Systellonotus kiritschenkoi P o p p i u s, 1912, Rev. Russ. d'Ent., 12: 202—203.
Systellonotus kiritshenkoi; K i r i t s h e n k o, 1912, Rev. Russ. d'Ent., 12: 364.
Systellonotus kormilevi H o r v á t h, K o r m i l e v, 1936, Bull. Soc. Sc. Skoplje, 17: 49 and 54. Nomen nudum.
Systellonotus skopljensis K o r m i l e v, 1939. Bull. Soc. Sc. Skoplje, 20: 197. **New synonymy.**
Systellonotus skopljensis; W a g n e r, 1947, Entom. Monthly Mag., 84: 4 and 5, fig. 2 B.
Systellonotus kiritshenkoi; K i r i t s h e n k o, 1951, Nastojaščie polužestokokrylye evrop. časti SSSR. Opred. po faune SSSR, 42: 171.
Systellonotus kiritshenkoi; S t i c h e l, 1956, I l. Bestimmungstabellen der Wanzen, II. Europa. 1: 400 and 825.
Systellonotus skopljensis; S t i c h e l, 1956, III. Bestimmungstabellen der Wanzen, II. Europa. 1: 401 and 825.
Systellonotus skopljensis; J o s i f o v, 1958, Izvestija na zool. inst., 7: 346.
Systellonotus kiritshenkoi; C a r v a l h o, 1958, Arq. do Mus. Nac., 45: 178.
Systellonotus skopljensis (scopliensis); C a r v a l h o, 1958, Arq. do Mus. Nac., 45: 178.
Systellonotus skopljensis; J o s i f o v, 1960, Izvestija na zool. inst., 9: 137.

Species originally described by P o p p i u s (1912) from Crimea (Kerch as type locality) and later again recorded from Crimea, Kerch by K i r i t s h e n k o (1912). K o r m i l e v (1939) described *Systellonotus skopljensis* from Skopje and Donje Nerezi in S. Yugoslavia, when formerly (K o r m i l e v, 1936) recorded under the unpublished name of *S. kormilevi* H o r v á t h (nomen nudum). K i r i t s h e n k o (1951) records this spe-



Map. 1: *Systellonotus kiritshenkoi* Popp. — distribution map. Each circle denotes a known locality.

cies again from Crimea and further from territory of Odessa and from Armenia. Finally Josifov (1958, 1960) records this species from Petrich in S. W. Bulgaria.

I have had the possibility to study the authentic material from Crimea as well as from Skopje and find that the material is conspecific.

The further new distributional area of this species is inside of our country and constitutes not only a new record for the Czechoslovakian fauna, but this is northernmost limit of its distribution (map 1).

Material collected: 1 ♂ — S. Slovakia, Kamenica n. Hr., 8. VI. 1960, collected Hoberlandt. Single male swept in dry wood-steppe on southern slope of Hills of Kovačov near Danube.

Further material examined: 1 ♂ — USSR, Crimea, Kerch, 11. VII. 1907, collected A. N. Kiritshenko.

1 ♂ — S. Yugoslavia, Skopje, 10. V. 1932, collected N. A. Kormilev.

1 ♀ — S. Yugoslavia, Skopje, 28. V. 1933 collected N. A. Kormilev.

1 ♂ — S. Yugoslavia, Skopje, 6. V. 1939, collected N. A. Kormilev.

2 ♀♀ — S. Yugoslavia, Donje Nerezi near Skopje, 7. V. 1939, collected N. A. Kormilev.

1 ♂ — S. W. Bulgaria, Petrich, 7.—12. VII. 1956 collected M. Josifov.

General distribution: USSR (Ukraine, Crimea, Armenia), S. Yugoslavia, S. W. Bulgaria and S. Czechoslovakia.

Measurements[1]) of males of *Systellonotus kiritshenkoi* P o p p.

Locality	Head			Antennal segments				Pronotum		Length of body	Width of body
	length	width	synthlipsis	I.	II.	III.	IV.	length	width		
USSR, Crimea Kerch	0.57	0.72	0.33	0.39	1.38	1.11	0.69	0.63	1.08	4.75	0.95
Yugoslavia, Skopje	0.60	0.69	0.33	0.39	1.35	1.08	0.69	0.66	1.11	5.00	1.06
Czechoslovakia, Kamenica	0.60	0.72	0.33	0.39	1.38	1.11	0.69	0.66	1.08	5.13	1.20

Subfamily **Dyciphinae**

Macrolophus nubilus (H. S c h., 1835)

1 ♂ — Bohemia: Praha-Žižkov, 28. VI. 1962, at light trap, collected Slouková.

Only few Czechoslovakian records are known up to this time — Bohemia: Stráž pod Ralskem (D u d a, 1885, 1892), Moravia: Rychlebské hory (Š t y s, 1959), Slovakia: Slovenský kras, Bardějov (B a l t h a s a r, 1937).

Species of Mediterranean distribution with rather northern extension ranging as far as England. In Central Europe recorded from Germany, Poland, Austria and Hungary.

Subfamily **Orthotylinae**

Orthocephalus brevis (P a n z., 1798)

1 ♂ and 1 ♀ — Bohemia: Budňany, 15. V. 1948, on Campanula sp., collected Starý.

Species of Mediterranean distribution, northwards extending into steppe regions of Central Europe. From Czechoslovakia are only the following exact records from Bohemia: Praha-Chuchle, Karlovy Vary (D u d a, 1885, 1892), Valeč (R o u b a l, 1957a); for Slovakia this species is stated only generally (B a l t h a s a r, 1937).

Pachytomella parallela (M e y. D., 1843)

2 ♂♂ and 1 ♀ — Bohemia: Šumava, Horská Kvilda, 29. VIII. 1962, swept in wood near peat-bog, collected Hoberlandt.

The present records of this species in Czechoslovakia are from Bohemia and Moravia only: Krušné hory, Chodov, Oloví (D u d a, 1886, 1892; N i c k e r l, 1905), Nejdek, Nové Hamry (R o u b a l, 1957a), Rychlebské hory (Š t y s, 1959).

It is a mountainous species of European distribution.

[1]) All measurements in mm.

Reuteria irrorata (Say, 1831)

1 ♂ — Slovakia: Bojnice, 17. VII. 1959, collected Bouček.
3 ♂♂ and 11 ♀♀ — Slovakia: Silice-plateau, 27. VIII. 1959, on Corylus avellana, collected Hoberlandt.
1 ♂ and 1 ♀ — Slovakia: Zadiel-plateau, 28. VIII. 1959, on Corylus avellana, collected Hoberlandt.

This species is in Czechoslovakia recorded only from Moravia: Brno (Stehlík, 1961) and Slovakia: Plešivec (Stehlík & Hoberlandt, 1953).

Species distributed throughout the warm areas of the whole of Europe and numerous records are given from North America.

Genus **Hyoidea** Reuter, 1876

Hyoidea Reuter, 1876, Pet. Nouv. Ent., 2: 34.
Hyoidea; Atkinson, 1889, Jour. Asiatic. Soc. Beng., 58: 125.
Hyoidea; Reuter, 1891, Hemiptera Gym. Eur., 4: 101—102 and 160.
Hyoidea; Hüeber, 1906, Syn. der deut. Blindwanzen, 2: 5.
Hyoidea; Kirkaldy, 1906, Trans. Amer. Ent. Soc., 32: 131.
Hyoidea; Oshanin, 1910, Verz. der pal. Hemipteren, 1: 783.
Hyoidea; Reuter, 1910, Acta Soc. Sc. Fenn., 37: 147.
Hyoidea; Oshanin, 1912, Kat. der pal. Hemipteren, Berlin: 75.
Hyoidea; Van Duzee, 1916, Psyche, 23: 141.
Hyoidea; Stichel, 1933, Ill. Bestimmungstabellen der deut. Wanzen: 235. Berlin.
Hyoidea; Kiritshenko, 1951, Nastojaščie polužestkokrylye evropejskoj časti SSSR. Opredeliteli po faune SSSR, 42: 126. Leningrad.
Hyoidea; Carvalho, 1952, An. Acad. Brasil. Ci. 24: 77.
Hyoidea; Carvalho, 1955, Bol. Mus. Goeldi, 11: 77.
Hyoidea; Stichel, 1956, Ill. Bestimmungstabellen der Wanzen. II. Europa, 2: 434, 835. Berlin.
Hyoidea; Carvalho, 1958, Arq. do Mus. Nac., 47: 76.

Type-species: *Hyoidea notaticeps* Reuter, 1876, by monotypy and original designation.

Genus *Hyoidea* has included until now, two species, *Hyoidea notaticeps* Reuter, predominantly of European distribution, and *Hyoidea horvathi* Montandon, known from the type-locality, Oran, only.

Reuter described *Hyoidea notaticeps* according to the type-series from Sarepta (type-locality) and is at present known from different parts of steppe areas of South USSR between rivers Don and Ural, in South Ukraine, Gruziya, Tadzhikistan and Central Europe (Hungary), all records being within the distributional area of Ephedra distachya (map 2). During the last few years this species has been stated as occurring in the southernmost territory of Czechoslovakia, attached to Ephedra distachya in sandy conditions of Čenkov in South Slovakia, preserved as a state reserve for the above mentioned peculiar conifer. This sandy area in the vicinity of Čenkov is situated not far from the Danube at an altitude of 110 m, with a few sandhills at the present time partly cultivated as vineyards. The remaining sand area is overgrown thinly by Robinia pseudoacacia, Pinus silvestris, Populus alba, Populus nigra, Quercus pedunculata and Q. sessiliflora with a rich undergrowth of Stipa pennata. Ephedra distachya, a tertiary relict in our flora, showing an extreme xerophyte adaptation, grows only on arid rocks, mostly on limestone or often on arid sands.

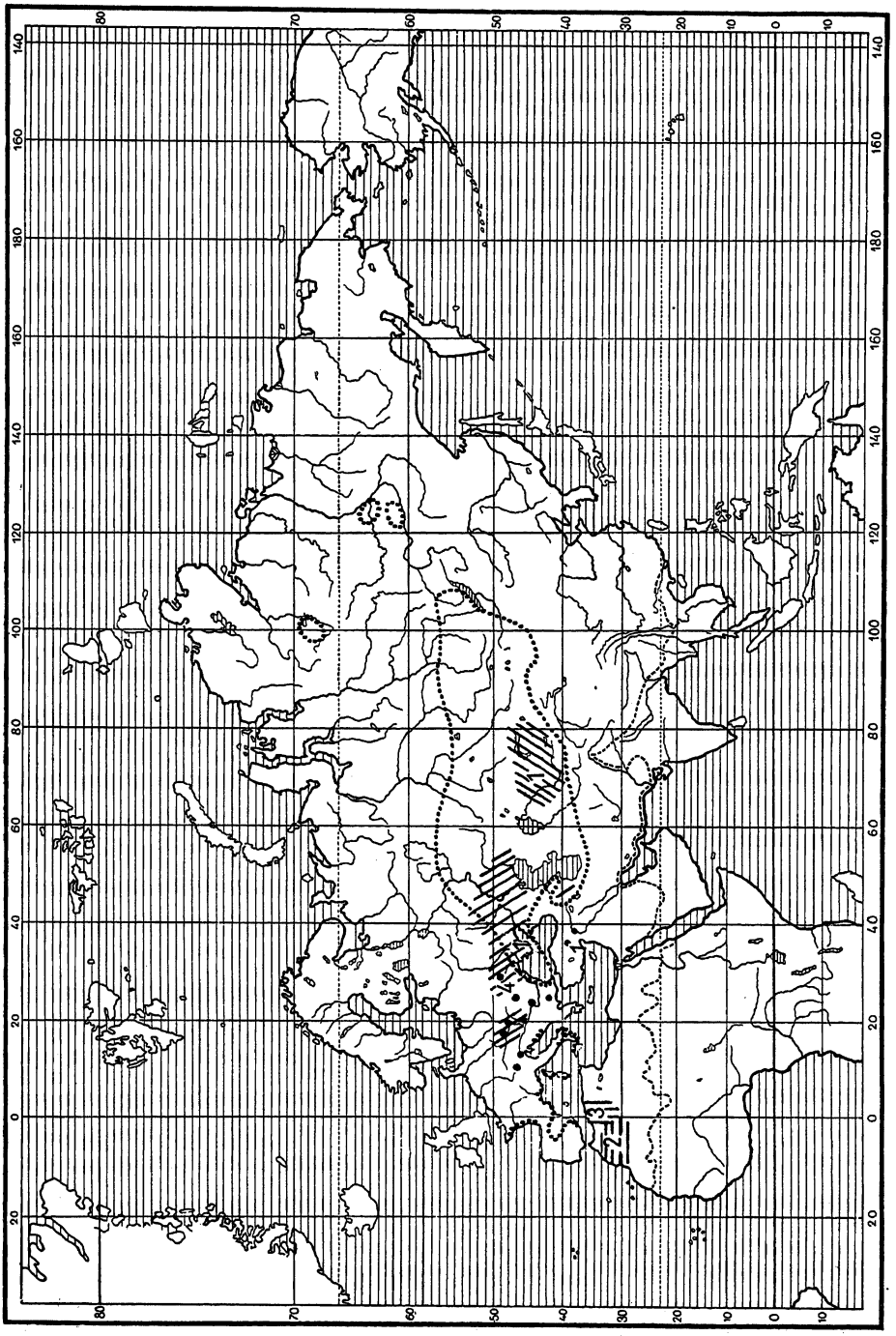
It is a typical plant of coast areas, but occurs in inland, also. In Europe occurs only scarcely, in Southern USSR and in Central Asia it belongs to the typical plants of steppes and semi-deserts. The localities of Ephedra in Hungary are similar to that in S. Czechoslovakia. *Hyoidea notaticeps* Reuter under the conditions of Central Europe seems to be rather sparse. I visited several times the locality at state reservation of Čenkov (in 1948, 1952, 1953, 1954, 1955, 1960 and 1962), but this species was collected only in 1960 (7 specimens by sweeping) and in 1962 (one specimen). During the same time Mr. Štys collected further specimens, in 1961 (1 specimen by sweeping), in 1962 (15 specimens by sweeping and singly) and in 1963 (46 specimens by sweeping and singly). These records are the first in Czechoslovakia and form the west and northmost limit in distributional area of this species.

However, when studying the complete material of the *Hyoidea* complex from the whole area of its distribution it appeared that in the steppes and half-deserts regions of South USSR and Central Asia and Anatolia there occurs another species described below as new species and that the species of *Hyoidea* recorded by Lindberg (1941) from Morocco under the name *Hyoidea horvathi* forms the fourth species, described as new in this papers, also.

Characters of the genus:

General shape of the body elongate with margins rather parallel or only slightly rounded.

Head vertical, distinctly broader than long, eyes large, elevated, vertex flattened with an oblique blackish coloured pit on each side near the inner margin of eye, basally with a distinct transverse carine along the whole width of vertex. Frons on each side with large vertically elongate black or blackish spot or with transversely situated black stripes sharply separated from each other or more or less fusing together and in outline forming, the pattern of the frontal spot. Clypeus projecting, variable in black markings to entirely black. Rostrum reaches to the middle coxae. Antennae in general slender, second antennal segment sometimes moderately widened in apical direction, entirely black or dark brown, sometimes second to fourth with brownish parts. Surface of antennae with sparse short or dense rather longer suberected hairs, chiefly on second, third and fourth segment. Pronotum in basal direction more or less conspicuously widened, base of pronotum being more or less distinctly broader than the width of head across eyes. Disc of pronotum basally strongly arched, anteriorly with two distinct calli, anterior margin with very narrow, sometimes indistinct collar; surface of the pronotum distinctly transversely rastrate, calli black or blackish, sharply delimited or obsolete. Scutellum large, triangular, of the same structure as pronotum. Hemelytra very long in macropterous forms, overreaching the apex of abdomen by a large part of membrane, or in subapterous forms reaching only to the apex of abdomen. Membrane with one very large and one, exterior, small cell. Surface of the head, pronotum, scutellum, clavus, corium and cuneus with short adpressed twisted scale-like pubescence, lower surface with short pale hairs.



Map. 1: *Systellonotus kiritshenkoi* Popp. — distribution map. Each circle denotes *kerzhneri*, n. sp., 2: *Hyoidea lindbergi*, n. sp., 3: *Hyoidea horvathi* Mont., 4: *Hyoidea notaticeps* Reut. The dotted line shows the limits of distributional area of *Ephedra distachya* and the black dots its disjunctive areas.

Arolia short, broad, distinctly convergent, pseudoarolia absent. Tibiae with short spines.

Ninth male genital segment conically narrowed towards the apex, anal opening elongate oval on left side with a distinct spine.

Hyoidea kerzhneri, n. sp.

(Figs. 1—2, 7—8, 14—29)

M a l e, macropterous; length 4.6—5.8 mm, width 1.3—1.5 mm.

General shape of the body rather elongate, being 3.58—3.78 times as long as broad with straight parallel sides to the body.

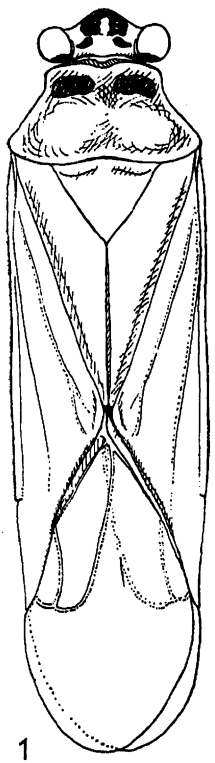
Head 2.1 times as broad as long, ocular index 2.13—2.57. Margins of head in front to eyes straight or slightly sinuate. Clypeus projecting, apically obtuse and vertically declivous. Vertex rather flattened, basally bordered by a sharp thansverse carine. Head seen from anterior 1.5—1.6 times as broad as high, seen from side 1.4 times as high as long. Rostrum reaching nearly to posterior margin of mesosternum. Antennae slender, first antennal segment stouter than the second at base, 0.75—0.82 times as long as width of synthlipsis, covered with short sparse suberect pubescence, second antennal segment as long as or 1.2 times as long as the width of pronotum, in apical direction along the whole length regularly widened, with pubescence of two types, suberect dense pale pubescence and numerous erect longer brown hairs, third and fourth antennal segment more slender than second, linear and with similar pubescence to that on the second one.

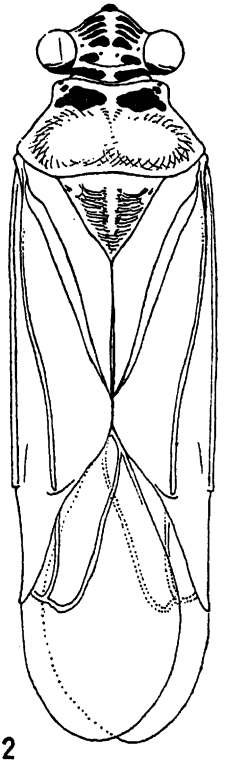
Pronotum 1.85—1.95 times as broad as long, disc of pronotum in basal part strongly convex, anteriorly declivous and on each side with transverse slightly elevated calli, anterior margin slightly sinuate with very narrow collar-like border, lateral margins of pronotum only slightly sinuate, basal margin distinctly so. Surface of the pronotum transversely coarsely rastrate with the exception of calli and anterior margin. Head and pronotum shining, with dense adpressed pale shining scale-like twisted hairs. Scutellum triangular with straight sides and similar sculpture and hairs to those on pronotum.

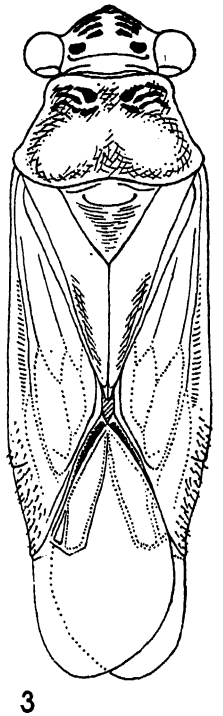
Hemelytra long, overreaching the apex of abdomen by $^2/_3$ of the length of membrane; clavus, corium and cuneus coarse, hyaline and with sparse scale-like adpressed short hairs. Sides of hemelytra straight, parallel. Membrane as long as the length of corium.

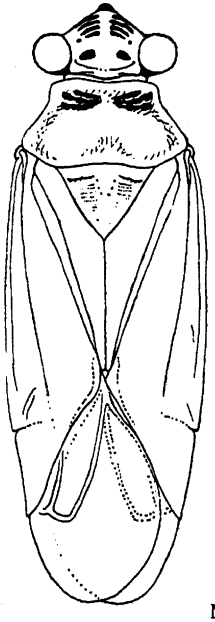
Sternum and venter with dense adpressed scale-like pale shining hairs. Legs slender, femora towards the apex distinctly narrowed, posterior tibiae 4.3 times as long as tarsi. Relative lengths of tarsal segments 4 : 5 : 9. Legs with short sparse adpressed pubescence, femora with some longer erect hairs and tibiae with some erect bristles.

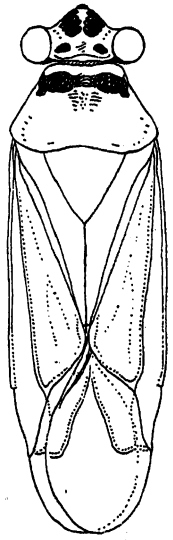
Male genitalia: right clasper in basal portion widest, distinctly bisinuate and apically strongly bent back and pointed, apical portion and the extreme apex with some prominent teeth and sparse erect bristles. Left clasper in the middle broken bent at an angle of 120°, the widened, apically distinctly narrowed and hocked; the middle portion with a pro-

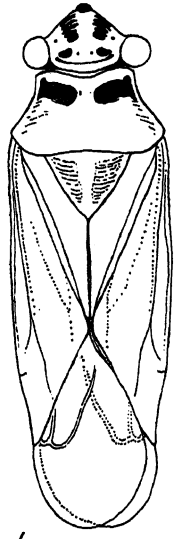












Males (macropterous) of species of *Hyoidea*.
Fig. 1: *Hyoidea kerzhneri*, n. sp. (Karaganda, Kazakhstan); fig. 2: *Hyoidea kerzhneri*, n. sp. (Sudak, Crimea); fig. 3: *Hyoidea lindbergi*, n. sp. (G. Atlas, Morocco); fig. 4: *Hyoidea horvathi* Mont. (Oran, Algeria); fig. 5: *Hyoidea notaticeps* Reut. (Sarepta, USSR); fig. 6: *Hyoidea notaticeps Reut.* (Čenkov, Czechoslovakia).

jecting long toothed process and some suberect bristles. Vesical appendages relatively short, convergent, apically nearly parallel, provided with few teeth.

General colour greyish brown or greyish yellow with olive shade; with black or blackish pattern. Head rather yellowish, clypeus black or at least the basal portion and lateral areas black more or less fusing together and so in general appearing dark, frons on each side with 6—7 transverse distinct, more or less fusing black stripes, vertex near the inner margin of eyes with an oblique black spot. Lora anteriorly black and blackish bordered, base of antennae black.

Antennae in general unicolorous black, only sometimes the apical part of second antennal segment as well as third and fourth with brownish shade; pubescence of antennae pale shining. Eyes brown. Calli of pronotum black with brownish pattern shining through, borders of calli sharply delimited; anterior margin of the pronotum yellowish, rest of the pronotum of ground colour, sometimes with more or less dense irregular brownish spots. Hairs on head and pronotum pale shining. Scutellum dark brown with yellowish base and a medial yellowish longitudinal stripe. Hemelytra sometimes, like pronotum, with numerous more or less distinct irregular brownish spots, respective sutures and veins darkened. Membrane semitransparent, brownish opalescent, with darkened veins. Legs brown, femora dorsally darkened, below with irregular dark or blackish spots, tibiae paler with longitudinal darker stripe, tarsi dark. Pubescence of legs pale, spines brown. Pubescence in general pale, scale-like hairs whitish.

Female, macropterous; length 3.8—5 mm, width 1.2—1.5 mm.

The body short, rather ovate, 2.9—3.3 times as long as broad, with lateral margins regularly rounded and towards the apex narrowed.

Head 1.9—2.1 times as broad as long, ocular index 2.57—3.5. Antennae distinctly thicker than in male, respective antennal segments shorter, second antennal segment in apical direction more distinctly widened, first antennal segment 0.5—0.83 times as long as width of synthlipsis, second antennal segment 0.69—0.89 times as long as the width of pronotum. Pronotum 1.7—1.9 times as broad as long. Hemelytra with completely developed membrane, slightly exceeding the apex of the abdomen, or in some specimens only as long as the apex of abdomen (subbrachypterous?).

Other characters and colour similar to these of male, however the brown spots on head, pronotum and hemelytra more conspicuous.

Material examined:

Holotype — male (macropterous): USSR; Kazakhstan, Karaganda, Sand Samejnkum, N. Karakoin Lake, W. Betpakdala Desert, 29. VI. 1962, on Ephedra distachya, collected Kerzhner (Zoological Institute Acad. Sc., Leningrad).

Allotype — female (macropterous), same data as on holotype.

Paratypes — 32 ♂♂ (macropterous) and 18 ♀♀ (macropterous), same data as on holotype and allotype.

Paratype — 1 ♂ (macropterous): USSR, Kazakhstan, Station Taldy-kurgan, 23. V. 1937, collected Lukjanovič.

Paratypes — 2 ♂♂ (macropterous) and 5 ♀♀ (macropterous): USSR, Karasaj, Dzhagan-ata, Karatau Mountains, 27.—29. V. 1936, collected Lukjanovič.

Paratypes — 1 ♂ (macropterous) and 1 ♀ (macropterous): USSR, Lake Kargaly-kulj, Desert Mujun-Kumy, 24. V. 1910, collected Kiritshenko.

Paratype — 1 ♂ (macropterous): USSR, Daghestan, Tarki Mountain near Machatshkala, 10. VI. 1945, collected Rjabov.

Paratypes — 3 ♂♂ (macropterous): USSR, S. Ukraine, Crimea Sudak, 4. VI. 1915, collected Kiritshenko.

Paratypes deposited in the Zoological Institute Acad. Sc., Leningrad and in the National Museum, Praha.

Distribution: USSR (Kazakhstan, Daghestan, S. Ukraine) and Turkey.

Recorded on Ephedra distachya only.

Note: this species has been recorded from Turkey (Tarsus — Mersin, Adana — Misis) by Seidenstücker (1957) under the name of *Hyoidea notaticeps* (not Reuter).

Hyoidea lindbergi, n. sp.

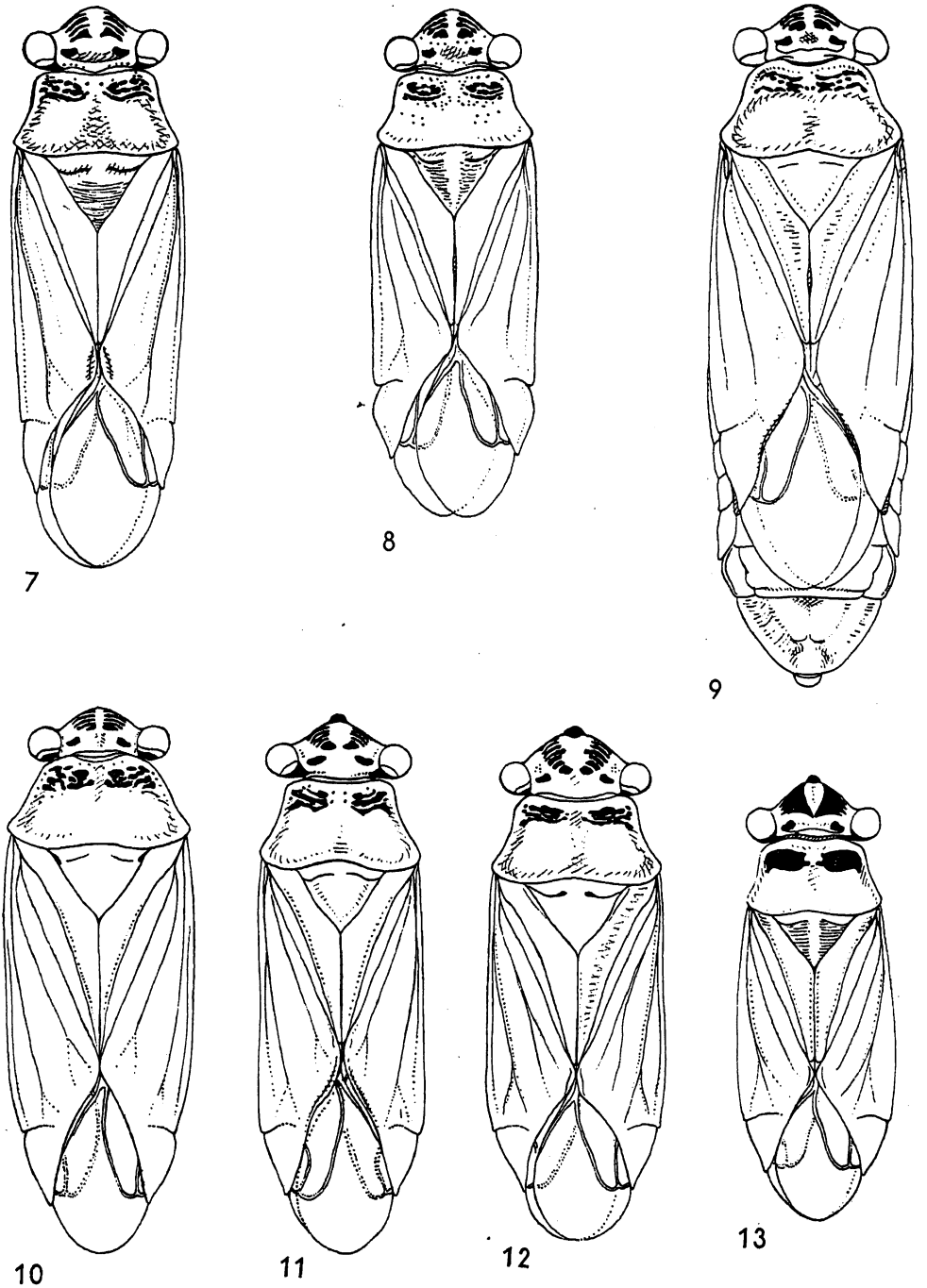
(Figs. 3, 9—10, 30—32)

Male, macropterous; length 4.75—4.9 mm, width 1.44—1.6 mm.

General shape of the body elongate, being 3.1—3.2 times as long as broad, with nearly straight and in posterior direction slightly divergent sides.

Head 2.2 times as broad as long, ocular index 2.35, margins of head nearly straight, clypeus projecting, apically obtuse and vertically declivous. Vertex rather flattened, basally with strongly elevated transverse carine. Eyes large globular, sessile. Head seen from anterior 1.5 times as broad as high, and seen from side 1.8 times as high as long. Antennae slender, first antennal segment stouter than the second on base, 0.74 times as long as width of synthlipsis, with sparse pubescence and with one or two suberect longer bristles, second antennal segment 1.3 times as long as width of pronotum, along the whole length of equal width, with dense short adpressed pubescence, third and fourth segment more slender and with pubescence similar to that on second segment.

Pronotum 1.6 times as broad as long, disc convex anteriorly strongly declivous, in anterior third on each side with transverse elevated sharply separated calli. Anterior margin of pronotum slightly bent with an obsolete narrow collar, lateral sides of pronotum distinctly sinuate with broadly rounded posterior angles, basal margin sinuate in the middle. Surface of the pronotum transversely rastrate with the exception of anterior calli and anterior margin. Head and pronotum shining; with short sparse adpressed pale pubescence. Scutellum triangular, with straight sides and sculpture similar to that on pronotum. Hemelytra long, greatly overreaching the apex of abdomen, sides slightly bent, in apical direction distinctly widened. Clavus corium and cuneus coarse, hyaline, shining



Females of species of *Hyoidea*.

Fig. 7: *Hyoidea kerzhneri,* n. sp., macropterous (Karaganda, Kazakhstan); fig. 8: *Hyoidea kerzhneri,* n. sp., macropterous (Karasaj, USSR); fig. 9: *Hyoidea lindbergi,* n. sp., subbrachypterous (G. Atlas, Morocco); fig. 10: *Hyoidea lindbergi,* n. sp., macropterous (G. Atlas, Morocco); fig. 11: *Hyoidea horvathi* Mont., subbrachypterous (Oran, Algeria); fig. 12: *Hyoidea notaticeps* Reut., macropterous (Kiskunhalas, Hungary); fig 13: *Hyoidea notaticeps* Reut., subbrachypterous (Čenkov, Czechoslovakia).

with short adpressed whitish scale-like hairs. Membrane semitransparent, shining. Sternum and abdomen with only sparse pubescence.

Legs slender, straight; femora towards the apex regularly narrowed. Posterior tibiae 2.9 times as long as tarsi. Relative length of posterior tarsal segments 4 : 7 : 9. Legs with sparse pubescence, rather more visible on tibiae, tibiae with single short bristles.

Male genitalia: right clasper simple, long, distinctly sinuate, towards the apex widened and apically club-shaped, bent and terminated with a row of teeth of which the exterior are largest, apical portion with numerous tubercles and bristles. Left clasper in its entirety nearly equally broad; in central part broken-bent and then towards the apex only slightly narrowed and apically beak shaped; central portion of the clasper with three stout unequally long pointed processes and some long bristles, middle of basal portion interiorly with a strongly chitinous scraper-like broad process and one row of bristles. Vesical appendages unibranchate, strongly convergent, very long and narrow, apically acute and without teeth, only the left appendage in front with a single fine notch at apex.

General colour pale olive brown with black margins on head and pronotum and with disperse small orange spots on head, pronotum, scutellum and hemelytra. Frons of head on each side with separated transverse black short stripes, forming in outline the pattern of a black spot, vertex near the base on each side with one transverse oval spot, clypeus ochraceous with black short middle stripe on base and with one black longitudinal stripe on each side. Rostrum brownish, apex black. Antennae unicoloured brownish-black or black with pale pubescence. Pronotum and scutellum olive brown with disperse small orange spots, chiefly in anterior portion of the pronotum, calli with transverse black stripes, sides of scutellum darkened, leaving the middle longitudinal area pale. Whole hemelytra unicolorous olive brownish with darkened veins on corium and membrane, shining, membrane opalescent. Scale-like pubescence of corium, clavus and cuneus whitish, the other sparse pubescence brownish. Lower part of the body pale yellowish-brown, sternum below black, pubescence of venter pale. Legs pale olive brown, femora with rather brownish shade and some more or less distinct brown spots, tibiae with brownish bristles.

F e m a l e, subbrachypterous; length 4.9—5.3 mm, width 1.56—1.6 mm.

Subbrachypterous female in size rather oval being 3.2—3.3 times as long as broad with rather roundish margins to the body. Ocular index 2.4—3. Antennae generally shorter than in the male, first antennal segment 0.64 times as wide as synthlipsis, second antennal segment as long as width of pronotum, in the apical half distinctly widened. Relative lengths of antennal segments 15 : 46 : 17 : 10. Pronotum of female rather broader, being 1.8 times as broad as long. Hemelytra of subbrachypterous form with developed membrane reaching only to before the posterior margin of 7th tergite.

General colour of female similar to that of male, however the disperse orange spots on head, pronotum and hemelytra seems to be more marked,

second antennal segment only in apical widest third and the extreme base black.

Female, macropterous; length 4.3 mm, width 1.4 mm.

Specimen examined is distinctly smaller with distinct roundish sides of the body and with apically convergent sides of hemelytra, membrane distinctly overreaching the apex of the body.

Material examined:

Holotype — male (macropterous): Morocco, Great Atlas, Reraia Valley, near Asni, 29. V.—15. VI. 1926, on Ephedra cossoni, collected H. Lindberg. (Zoological Museum of the University, Helsinki.)

Allotype — female (subbrachypterous), same data as on holotype.

Paratypes — 1 ♂ (macropterous) and 2 ♀♀ (subbrachypterous and macropterous), same data as on holotype and allotype. (Zoological Institute of the University, Helsinki and National Museum, Praha.)

Distribution: Morocco.

Note: this species has been recorded from Morocco by H. Lindberg (1941) under the name *Hyoidea horvathi* (not Montandon).

Hyoidea horvathi Montandon, 1890

(Figs. 4, 11, 33—35)

Hyoidea Horvathi Montandon, 1890, Rev. d'Ent., 9: 178—179.
Hyoidea Horvathi; Reuter, 1891, Hemiptera Gym. Eur., 4: 103, 171.
Hyoidea horvathi; Oshanin, 1910, Verz. der pal. Hemipteren, 1: 783.
Hyoidea horvathi; Oshanin, 1912, Kat. der pal. Hemipteren, Berlin: 75.
Hyoidea horvathi; Stichel, 1958, Ill. Bestimmungstabellen der Wanzen. II. Europa, 1: 835.
Hyoidea horvathi; Carvalho, 1958, Arq. do Mus. Nac., 47: 77.

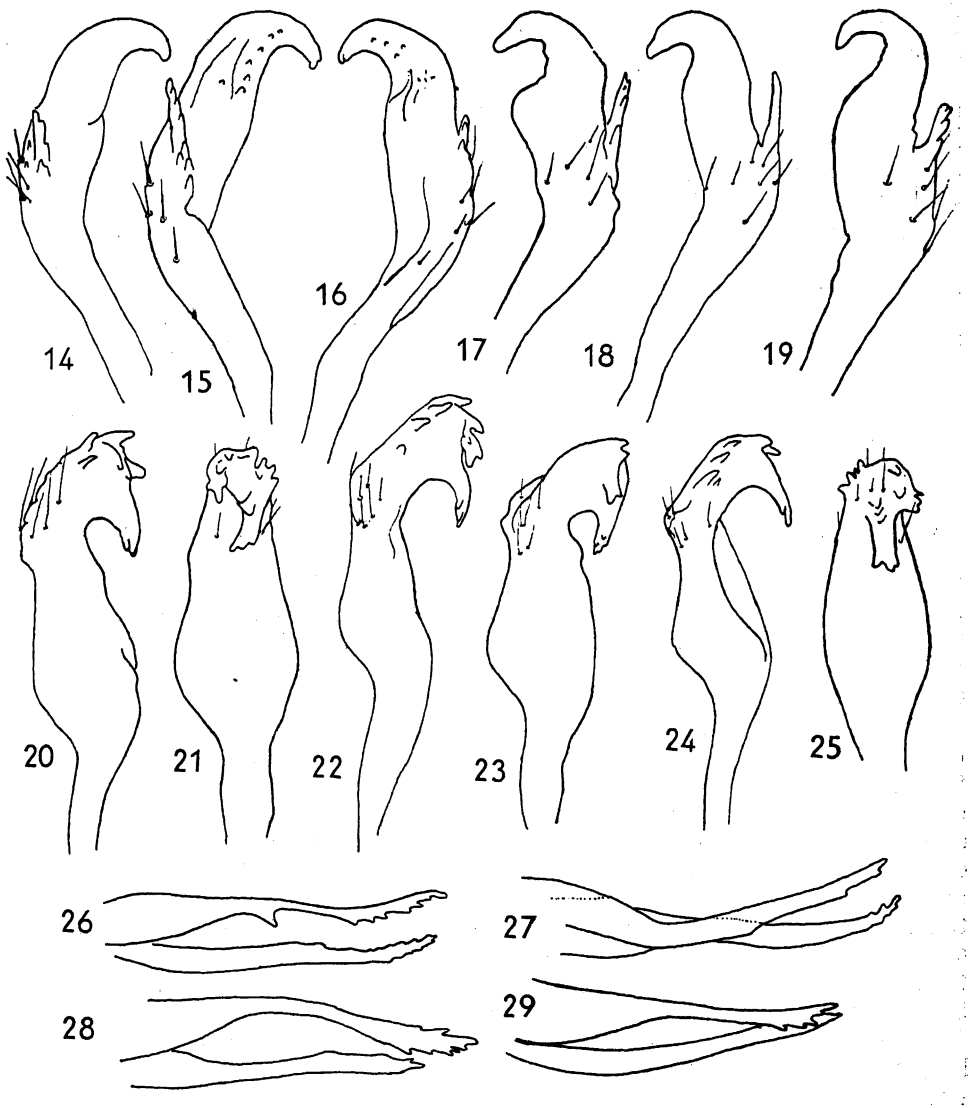
Male, macropterous; length 4.5 mm, width 1.4 mm.

General shape of the body elongate, slender, with slightly roundish sides, 3.27 times as long as broad.

Head 1.83 times as broad as long, ocular index 2.71. Margins of head slightly sinuate, clypeus distinctly projecting apically, obtuse and vertically declivous. Head distinctly convex, frons anteriorly declivous. Vertex rather convex, basally separated by a shallow impression from basal transverse carine. Eyes large, globular, sesile. Head seen from anterior 1.4 times as broad as high, clypeus distinctly projecting, head seen from side 1.1 times as high as long, clypeus folded down beneath the head, below rather straight, lora nearly quadrangular.

Antennae arising in front to lower margin of eyes, slender, first antennal segment stout with suberect long pubescence, 0.63 times as long as the width of synthlipsis, second antennal segment 1.2 times as long as width of pronotum, linear, along the whole length of equal width with dense suberect pubescence being as long or longer than the width of the segment, third and fourth segments linear, more slender than the second segment, with similar pubescence to that on the second. Relative lengths of respective antennal segments 12 : 45 : 20 : 14.

Pronotum 1.9 times as broad as long, basally widened and only 1.1 times as broad as the width of head across eyes, sides anteriorly slightly



Hyoidea kerzhneri, n. sp.

Figs. 14—19: left claspers from different positions — fig. 14 and 15: male from Karaganda, Kazakhstan; fig. 16: male from Mujun-Kumy, USSR; fig. 17: male from Taldy kurgan, Kazakhstan; fig. 18: male from Daghestan, USSR; fig. 19: male from Sudak, Crimea. Figs. 20—25: right claspers from different positions — fig. 20 and 21: male from Karaganda, Kazakhstan, fig. 22: male from Mujun-Kumy, USSR; fig. 23: male from Taldy-kurgan, Kazakhstan; fig. 24: male from Daghestan, USSR; fig. 25: male from Sudak, Crimea. Figs. 26—29: vesical appendages — figs. 26 and 27: male from Karaganda, Kazakhstan; fig. 28: male from Mujun-Kumy, USSR; fig. 29: male from Sudak, Crimea.

bent, anterior margin convex, subelevated with narrow distinct collar, basal margin bisinuate, basal angles broadly and regularly rounded. Disc of pronotum basally regularly arched, anteriorly declivous and in anterior third on each side with transversely elevated black marbled calli reaching laterally up to the pronotal sides. Surface of the pronotum nearly smooth with only irregular obsolete transverse scratches, with sparse adpressed twisted scale-like pale hairs. Scutellum triangular with straight margins, surface rather smooth.

Hemelytra long, overreaching the apex of abdomen by the half of the membrane length, margins of hemelytra along the whole length slightly roundish, cuneus long and narrow. Surface of hemelytra nearly smooth with sparse short adpressed pale twisted scale-like hairs. Abdomen below smooth shining with very short sparse adpressed hairs.

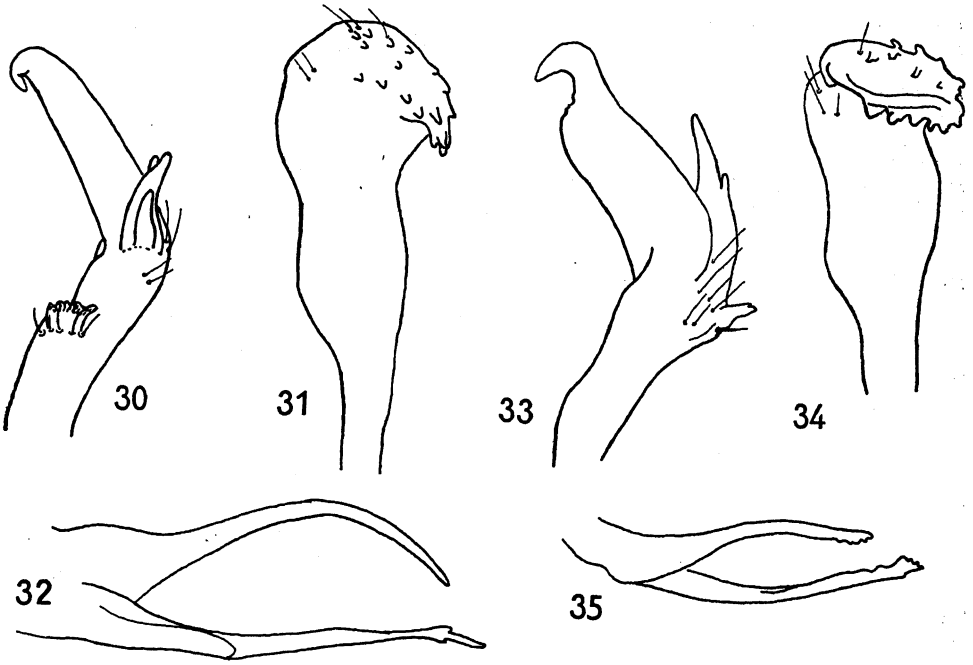
Legs with short adpressed pale hairs, tibiae with long suberected hairs and some pale spines. Posterior tibiae 3.7 times as long as the length of tarsi. Relative lengths of posterior tarsal segments 4 : 5 : 7.

Male genitalia: right clasper simple, short, slightly sinuate, towards the apex moderately widened, extreme apex truncate and in the whole width bent; apical portion with numerous tubercles, terminal margin with large teeth. Left clasper in central part broken-bent, in apical direction narrowed and the extreme apex constricted and hooked; central bent portion exteriorly with one long and one minute satelite pointed process and on base of this central bent portion with two small equal dark points. Vesical appendages of aedoeagus long and slender, subconvergent, only apically with few fine teeth.

Colour in general appearance pale greyish brown. Head pale greyish brown, frons on each side with six transverse black short stripes forming in outline the pattern of a black spot, near the inner margin of eye with one or two distinct small spots, vertex near the margin on each side with one great oval black spot, clypeus of pale ground colour with sharply delimited black bordered sides and at base with a short longitudinal black stripe passing to frons. Lora anteriorly with narrow black stripe. Antennae dark brown, first antennal segment subapically blackish, second antennal segment darker than the third and fourth. Pronotum and scutellum pale greyish brown, calli of pronotum with irregular transverse black stripes. Hemelytra of pale greyish brown colour with slightly darkened veins. Lower part of sternum and venter pale yellowish brown, legs pale brownish, tarsi darkened, femora below with irregular dark spots or longitudinal stripes.

F e m a l e, subbrachypterous; length 4.22—4.6 mm, with 1.45—1.7 mm.

General shape of the body relatively shorter and wider than in male being only 2.75—2.92 times as long as broad, in posterior direction distinctly, widened with rather roundish margins of hemelytra. Head 2—2.17 times as broad as long. Ocular index 2.75—2.93. Relative lengths of antennal segments 12 : 45 : 22 : 12. First antennal segment 0.57 times as long as width of synthlipsis, second antennal segment 1.1 times as long as width of pronotum, along the whole length of the segment slightly widened in apical direction. Pronotum 1.75—1.86 times as broad as long



Hyoidea lindbergi, n. sp. and *Hyoidea horvathi* Mont.

Figs. 30—32: *Hyoidea lindbergi,* n. sp., male from G. Atlas, Morocco — fig. 30: left clasper; fig. 31: right clasper; fig. 32: vesical appendages. Figs. 33—35: *Hyoidea horvathi* Mont., male from Oran, Algeria — fig. 33: left clasper; fig. 34: right clasper; fig. 35: vesical appendages.

and 1.1 times wider than the width of head across eyes. Membrane of female hemelytra slightly shortened, not reaching to the extreme tip of abdomen.

Colour, structure and pubescence similar to that of male.

Material examined:

1 ♂ (macropterous) and 2 ♀♀ (subbrachypterous) — Algeria: Oran, Coll. Horváth. (Hungarian Nat. Hist. Museum, Budapest).

Distribution: Algeria, Oran (type locality).

Hyoidea notaticeps Reuter, 1876

(Figs. 5—6, 12—13, 36—51)

Hyoidea notaticeps Reuter, 1876, Pet. Nouv. Ent., 2:34.
Hyoidea notaticeps; Jakovlev, 1877, Bull. Soc. Imp. Natur. Moscou, 52: 277.
Hyoidea notaticeps; Atkinson, 1890, Jour. Asiatic. Soc. Beng., 58: 125.
Hyoidea notaticeps; Reuter, 1891, Hemiptera Gym. Eur., 4: 102—103 and 171.
Hyoidea notaticeps; Horváth, 1904, Ann. Hist.-Nat. Mus. Nat. Hung., 2: 577.
Hyoidea notaticeps; Oshanin, 1910, Verz. der pal. Hemipteren, 1: 783.
Hyoidea notaticeps; Oshanin, 1912, Kat. der pal. Hemipteren, Berlin: 75.

Hyoidea notaticeps; Kiritshenko, 1918, Mém. Mus. Caucase, Ser. A, 6: 152.
Hyoidea notaticeps; Stichel, 1933, Bestimmungstabellen der deut. Wanzen, Berlin: 236, 488.
Hyoidea notaticeps; Kiritshenko, 1951, Ustschele Kondara, p. 194.
Hyoidea notaticeps; Kiritshenko, 1951, Nastojaščie polužestkokrylye evropejskoj časti SSSR. Opredeliteli po faune SSSR, 42: 181.
Hyoidea notaticeps; Carvalho, 1952, An. Acad. Brasil. Ci. 24: 77.
Hyoidea notaticeps; Kiritshenko, 1954, Trudy zool. inst. AN SSSR, 16: 308.
Hyoidea notaticeps; Stichel, 1956 Bestimmungstabellen der Wanzen. II. Europa, 2: 437—438, 835, Berlin.
Hyoidea notaticeps; Carvalho, 1958, Arq. do Mus. Nac. 47: 76.
Hyoidea notaticeps; Putshkov, 1961, Praci Inst. zool. AN URSR, 17: 89.

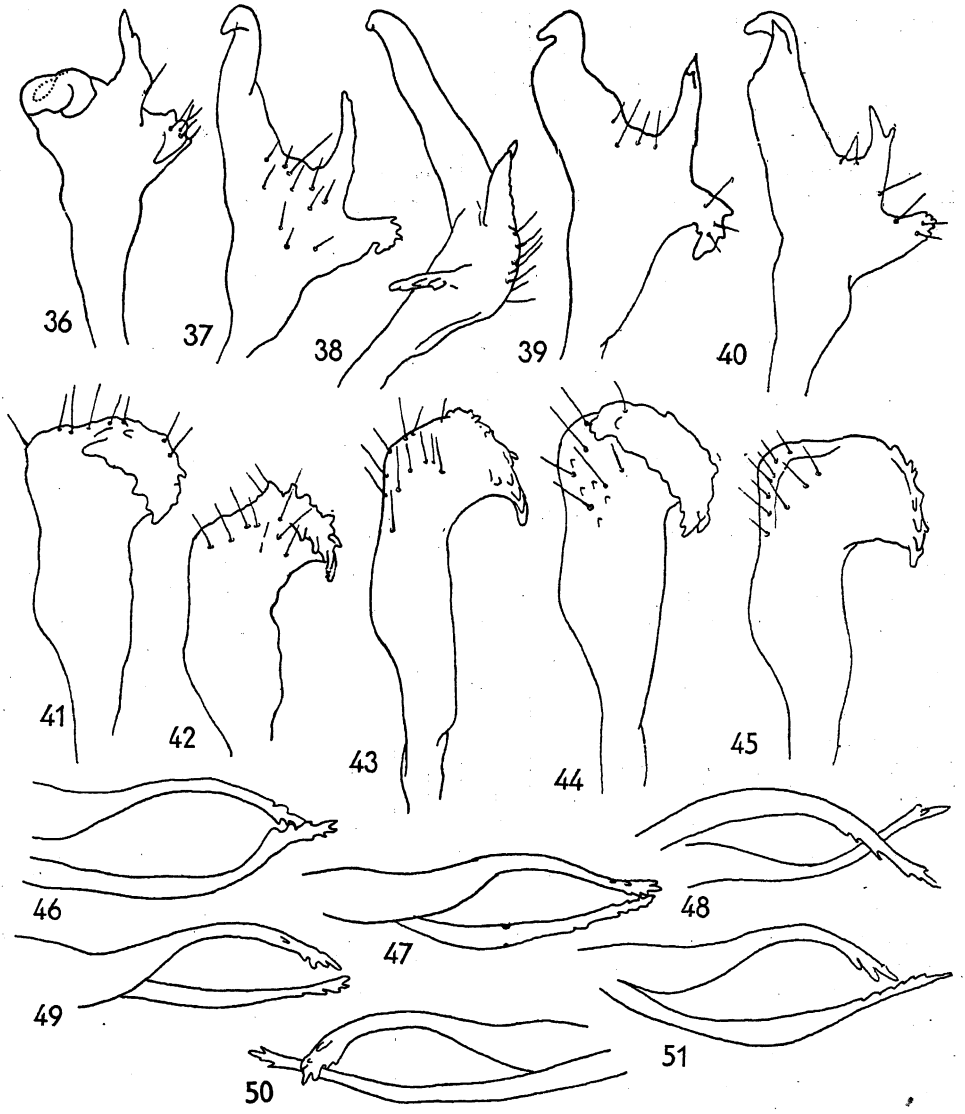
Male, macropterous; length 3.68—4.4 mm, width 1.14—1.25 mm.

General shape of the body elongate, being 3.2—3.8 times as long as broad, with straight, nearly parallel sides of hemelytra, only slightly widened at the level of base of cuneus.

Head 2—2.2 times as broad as long, ocular index 2.4—3.1, margins of head straight or slightly sinuate, clypeus distinctly projecting apically, obtuse and vertically declivous, vertex flattened and basally, along the whole width distictly carinate, frons on each side with obsolete oblique sulci. Eyes large globular, sessile. Head seen from anterior 1.5—1.6 times as broad as high, clypeus distinctly projecting over lora, head seen from side 1.2—1.4 times as high as long. Surface of head with scarce pale pubescence. Antennae arising in front to lower margin of eyes, slender, first antennal segment stout, 0.66—0.71 times as long as width of synthlipsis, with sparse short pubescence, second antennal segment 0.92—1.17 times as long as the width of pronotum, towards the apex slightly widened, with short dense adpressed pale pubescence. Third and fourth segment linear, more slender than second, with short dense adpressed pale pubescence and some suberect longer pale hairs. Relative lengths of antennal segment 10 : 38 : 17 : 11.

Pronotum 1.6—2 times as broad as long, basally widened, 1.1—1.23 times broader than width of head across eyes, disc basally strongly arched, anteriorly declivous and adpressed, on each side with transverse sharply separated black calli, laterally reaching up to the pronotal sides, pronotum anterior to the calli distinctly elevated but not forming a distinct collar, anterior angles regularly rounded not projecting, sides of the pronotum distinctly sinuate, lateral angles broadly rounded, basal margin bisinuate. Surface of pronotum shining, punctate and coarsely transversely rastrate, calli smooth; with rather dense scale-like light coloured adpressed hairs. Scutellum triangular, with straight margins, surface transversely finely rastrate.

Hemelytra long, subhyaline, shining, with half of the membrane length overreaching the apex of abdomen, sides up to the base of cuneus straight, nearly parallel and then slightly divergent. Surface of clavus, corium and cuneus rough, with dense scale-like whitish shining adpressed hairs. Cuneus long and narrow, lateral margins slightly bent. Membrane semitransparent, as long as $^5/_6$ of the length of corium, apically broadly rounded. Sternum and under surface of abdomen smooth with whitish shining short scale-like hairs. Legs slender, femora towards the apex



Hyoidea notaticeps Reut.

Figs. 36—40: left claspers from different positions — fig. 36: male from Sarepta, USSR; fig. 37: male from Čenkov, Czechoslovakia; fig. 38: male from Kiskunhalas, Hungary; fig. 39: male from Karaganda, Kazakhstan; fig. 40: male from Taldy-kurgan, Kazakhstan. Figs. 41—45: right claspers from different positions — fig. 41: male from Sarepta, USSR; fig. 42: male from Čenkov, Czechoslovakia; fig. 43: male from Kiskunhalas, Hungary; fig. 44: male from Taldy-kurgan, Kazakhstan; fig. 45: male from Karaganda, Kazakhstan. Figs. 46—51: vesical appendages — fig. 46: male from Sarepta, USSR; fig. 47: male from Čenkov, Czechoslovakia; fig. 48: male from Kiskunhalas, Hungary; fig. 49: male from Taldy-kurgan, Kazakhstan; fig. 50: male from Taldy-kurgan, Kazakhstan; fig. 51: male from Karaganda, Kazakhstan.

regularly and strongly narrowed, tibiae basally subsinuate; legs with distinct pale pubescence and tibiae with longer pale bristles. Relative lengths of hind tarsi 4 : 6 : 8; posterior tibiae 2.8—3.3 times as long as the length of tarsi.

Male genitalia: right clasper simple, long extendedly sinuate, apically widened and bent, terminally with 6 to 12 dents; apical portion with numerous long erect bristles. Left clasper large, basal stalk straight and slender, towards the central body of the clasper widened, central body large, flat, projecting into three long processes, the two outside ones being longest, narrowed towards the apex, apically bent and acute, the longest being more or less contorted, whilst the opposite one provided with some distinct irregular teeth and erect bristles, the middle process shorter, apically truncate or more or less distinctly bifurcate. Vesical appendages apically strongly convergent and each provided apically with some distinct irregular teeth.

Colour in general appearence pale yellowish-brown to olive or dark brownish grey with black marking on head. Head pale brownish grey, frons on each side with large elongate irregular black or blackish spot, near inner margin of each eye with one to three small darkish dots, clypeus pale on base or dark and with black bordered lateral margins, lora anteriorly with large black spot occupying the whole width of lorum, their sutures blackish. Base of antennae darkened. Frontal spots in different combinations fuse with each other over the base of clypeus or with black parts of clypeus and with paired black roundish spots on vertex. Antennae unicolorous blackish or blackish brown, sometimes second segment apically as well as the fourth one with rather brownish shade. Transverse basal carine of vertex sometimes darkened. Disc of pronotum olive brownish, calli unicolorous black sharply delimited, sometimes with few brownish patterns obsoletely shining through. The part of the pronotum in front to calli yellowish brown. Scutellum olive brownish, rather darker than hemelytra, base and medial longitudinal line brownish. Hemelytra olive brownish, sutures and corial veins darkened, shining, membrane of the same shade as corium, opalescent with darkened veins. Sternum black or blackish, venter yellowish with irregular dark spots on sutures, dorsum blackish, 9th abdominal segment blackish. Legs below brownish, anterior trochanters basally with black spot, femora with irregular dark spots or longitudinal stripes, femora and tibiae as well as tarsi olive brown.

F e m a l e, subbrachypterous; length 3.7—4.4 mm, width 1.2—1.3 mm.

General shape of the body 2.8—2.4 times as long as broad with sides of hemelytra slightly rounded. Second antennal segment 0.97—1.3 times as long as width of pronotum, towards the apex only slightly widened. Ocular index 2.8—3.4. Relative lengths of antennal segments 11 : 35 : 18 : 12. Membrane of hemelytra not reaching to the posterior margin of 7th tergite. Other characters and colour as in male.

Female, macropterous; length 3.46—3.8 mm, width 1.22—1.29 mm.

The membrane of hemelytra distinctly overreaching the apex of abdomen. In dimensions, other characters and colour not differing from subbrachypterous females.

Material examined:

Authentic material from Czechoslovakia:

5 ♂♂ (macropterous) and 3 ♀♀ (subbrachypterous and macropterous) — S. Slovakia, Čenkov, 6. VI. 1960, on Ephedra distachya, collected Hoberlandt (National Museum, Praha).

1 ♂ (macropterous) — S. Slovakia, Čenkov, 10. VI. 1962, on Ephedra distachya, collected Hoberlandt. (National Museum, Praha.)

14 ♂♂ (macropterous) and 32 ♀♀ (macropterous) — S. Slovakia, Čenkov, 30. V. 1963, on Ephedra distachya, collected Štys. (Coll. Štys.)

1 ♂ (macropterous) — S. Slovakia, Čenkov, 10. VI. 1961, collected Štys (Coll. Štys).

10 ♂♂ (macropterous) and 5 ♀♀ (macropterous) — S. Slovakia, Čenkov, 10.—11. VI. 1962, on Ephedra distachya, collected Štys (Coll. Štys).

Further material:

1 ♂ (macropterous) — USSR, Sarepta (Krasnoarmejsk), near Volgograd, from collection Jakovlev (male from type-serie, the holotype of *Hyoidea notaticeps* Reuter being female, deposited in the collections of the Zoological Institute Acad. Sc., Leningrad).

1 ♂ and 1 ♀ (macropterous) — USSR; S. Ukraine, Odessa, Luzanovka, 9. V. 1920, collected Kiristhenko. (Zoological Institute Acad. Sc., Leningrad.)

1 ♂ and 1 ♀ (macropterous) — Hungary, Rakospalota, 30. V. 1881. (Hungarian Nat. Hist. Museum, Budapest.)

1 ♀ (subbrachypterous) — Hungary, Kapasztásmegyer, 18. I. 1920. (Hungarian Nat. Hist. Museum, Budapest.)

1 ♂ and 1 ♀ (macropterous) — Hungary, Kiskunhalas, 10. and 17. V. 1925, collected Kuthy (Hungarian Nat. Hist. Museum, Budapest).

1 ♂ (macropterous) — USSR, Kazakhstan, pos. Ilijskij on river Ili, 4. V. 1937, collected Lukjanovic (Zoological Institute Acad. Sc., Leningrad).

2 ♂♂ (macropterous) — USSR, Kazakhstan, okr. st. Taldy-Kurgan, 23. V. 1937 collected Lukjanovic. (Zoological Institute Acad. Sc., Leningrad.)

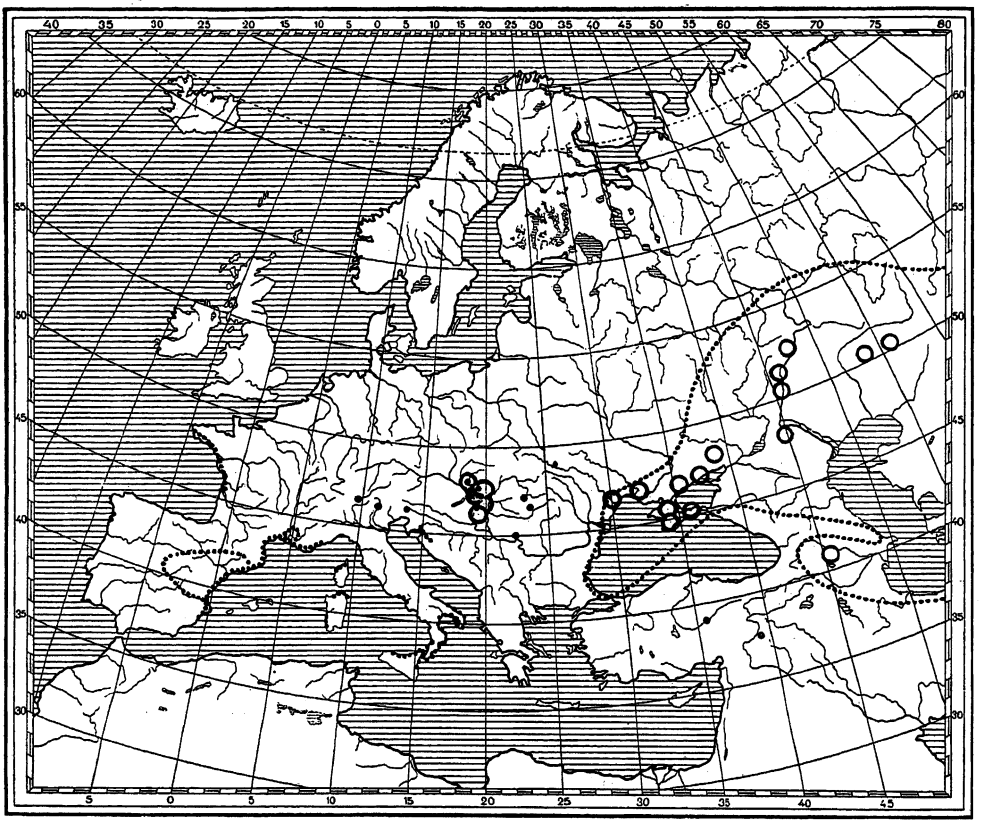
1 ♂ (macropterous) — USSR, Kazakhstan, Karaganda, Sand Samenjkum, N. Karakoin Lake, W. Betpakdala Desert, 29. V. 1962, on Ephedra distachya, collected Kerzhner. (National Museum, Praha.)

Larvae and adults of this species feed on Ephedra distachya. They are very active and climb the plants and run from one plant to the other. Eggs are probably laid in the stems of the food-plant and pass through the winter to hatch in early May. Adults occur in Central European conditions from mid-May until June. Štys (unpublished dates) observed that the specimens have been sitting down near the soil in arm-pits of respective twigs, a few specimens on each plant.

According to V. G. Putshkov (1961) this species occurs in Ukraine here and there in great numbers (in 1955 at Geroiskov at Crimea on littoral growth of Ephedra distachya), and sporadically in hill region (near Stari Krim, Bogotovo, Karadajska biostancia). According to Putshkov in Southern Ukraine it overwinters in the egg stage and larval development begin at the end of May or in first days of June and adults occur from the end of June until mid-July.

Distribution: distribution of this species covers, on the whole, the distributional area of Ephedra distachya including its disjunctive areas in Central Europe (map 3):

USSR: Sarepta (Krasnoarmejsk), near Volgograd (type-locality), (Reuter, 1876, 1891; Jakovlev, 1877); Petrovo-Janvarevo near



Map 3: Distribution map of *Hyoidea notaticeps* Reut. in Europe — each circle denotes a known locality. The dotted line shows the limits of distributional area of *Ephedra distachya* and the black dots its disjunctive areas.

Uralsk (Kiritshenko, 1954); Berdjansk on Sea of Azov (new record); Ukraine: Region of Lugansk, Provalskij Steppe (Putshkov, 1961), Krim, Geroiskov, Starij Krim, Bogatov, Karadagskaja biostancia (Putshkov, 1961; Kiritshenko, 1951), Tshkalov, Saratov (Kiritshenko, 1951), Odessa, Luzanovka (new record), Vosnesjensk on river S.-Bug (new record), Tshongar, Siwash (new record), Krim, Kertsh (new record), vicinity of Cherson (new record); Gruzia: Mtshet near Tbilisi (Kiritshenko, 1918); Tadzhikistan: Gissar Mountain, Kondara Valley, 1.800 m and Ruidost plateau, 2.800 m (Kiritshenko, 1951), Ilijsk on river Ili (Horváth, 1904), Taldy-Kurgan (new record); Kazakhstan, Karaganda, Sand Samenjkum, N. Karakoin Lake, W. Betpakdala Desert (new record).

Hungary: Budapest-Csepel (Horváth, 1918), Kiskunhalas; Kapasztásmegyer; Rákospalota (new records).

Czechoslovakia: S. Slovakia, Čenkov (new record).

Measurements[2]) of species of *Hyoidea* Reuter

Species and locality	Head			Antennal segments				Pronotum		Length of body	Width of body
	length	width	synthlipsis	I.	II.	III.	IV.	length	width		
Hyoidea kerzhneri, n. sp.-male											
USSR, Kazakhstan, Karaganda	0.42	0.99	0.54	0.48	1.59	0.60	0.33	0.72	1.35	5.51	1.59
USSR, Kazakhstan, Karaganda	0.45	0.99	0.57	0.45	1.56	0.54	0.33	0.69	1.35	5.32	1.41
USSR, Kazakhstan, Karasaj	0.51	0.96	0.54	0.51	1.59	0.51	0.36	0.72	1.38	5.62	1.29
USSR, Kazakhstan, Karasaj	0.45	0.93	0.51	0.42	1.17	0.48	0.30	0.63	1.17	4.64	1.37
USSR, Ukraine, Crimea	0.48	0.99	0.54	0.39	1.32	0.57	0.42	0.66	1.26	5.32	1.41
Turkey, Tarsus-Mersin	0.45	0.84	0.45	0.39	1.23	0.63	0.33	0.57	1.05	4.90	1.41
Hyoidea kerzhneri, n. sp.-female											
USSR, Kazakhstan, Karaganda	0.48	0.99	0.63	0.42	0.99	0.45	0.33	0.66	1.20	4.10	1.25
USSR, Kazakhstan, Karasaj	0.51	0.96	0.57	0.33	0.81	0.39	0.33	0.60	1.17	3.80	1.14
USSR, Kazakhstan, Karasaj	0.45	0.96	0.60	0.30	0.90	0.39	0.33	0.60	1.17	3.88	1.33
USSR, Kazakhstan, Muyun Kumy	0.60	1.11	0.66	0.48	1.26	0.54	0.36	0.75	1.29	5.05	1.56
Turkey, Tarsus-Mersin	0.48	0.93	0.54	0.42	1.14	0.57	0.33	0.60	1.14	4.18	1.52
Hyoidea lindbergi, n. sp.-male											
Morocco	0.48	1.05	0.57	0.42	1.65	—	—	0.78	1.26	4.90	1.59
Hyoidea lindbergi, n. sp.-female											
Morocco	0.54	1.14	0.69	0.45	1.38	0.54	0.30	0.75	1.35	5.28	1.63
Hyoidea horvathi Mont.-male											
Algeria	0.54	0.99	0.57	0.36	1.35	0.60	0.42	0.57	1.11	4.48	1.37
Hyoidea horvathi Mont.-female											
Algeria	0.60	1.14	0.66	0.42	1.41	0.66	0.39	0.72	1.29	4.59	1.59
Hyoidea notaticeps Reut.-male											
USSR, Sarepta	0.42	0.90	0.51	0.30	1.14	0.51	0.30	0.60	1.11	3.72	1.17
USSR, Ukraine, Odessa	0.42	0.90	0.51	0.30	1.30	0.51	0.33	0.63	1.02	4.10	1.22
Hungary	0.45	0.93	0.57	0.30	1.26	—	—	0.60	1.11	4.18	1.25
Czechoslovakia	0.42	0.93	0.54	0.30	1.26	0.54	0.33	0.60	1.11	3.99	1.21
USSR, Kazakhstan, Ilijsk	0.39	0.99	0.57	0.42	1.08	0.48	0.36	0.66	1.17	4.01	1.22
Hyoidea notaticeps Reut.-female											
USSR, Ukraine, Odessa	0.54	1.08	0.63	0.33	1.05	0.54	0.39	0.66	1.29	4.41	1.29
Hungary	0.57	1.05	0.66	0.33	1.08	0.54	0.36	0.60	1.17	4.14	1.33
Czechoslovakia	0.51	0.99	0.60	0.33	1.08	0.57	0.36	0.57	1.05	3.68	1.22

[2]) All measurements in mm.

KEY TO THE SPECIES OF HYOIDEA REUTER

1. Pronotum towards the base very distinctly widened, base of pronotum being 1.3—1.4 times as broad as the width of head across eyes. First antennal segment in male 0.75—0.82 times, in female 0.65—0.83 times as long as the width of synthlipsis, second antennal segment in male 1.17—1.2 times, in female 0.69—0.89 times as long as width of pronotum. Left male genital clasper in the middle broken-bent and in the middle portion with a projecting long toothed process. Vesical appendages relatively short, convergent, apically nearly parallel and provided with few teeth . . . . . **H. kerzhneri, n. sp.**

— Pronotum towards the base not conspicuously widened, base of pronotum being maximally 1.19 times as broad as width of head across eyes. First antennal segment in male 0.65—0.74 times, in female 0.5—0.64 times as long as width of synthlipsis . . . . . 2.

2. Surface of head, pronotum, scutellum and hemelytra with disperse distinct dark brown spots. First antennal segment in male 0.74 times, in female 0.64 times as long as width of synthlipsis. Left male genital clasper in the middle broken-bent, and in the middle portion with three stout unequal long subpointed processes and in the middle of basal portion with strongly chitinous scraper-like process. Vesical appendages strongly convergent, very long and apically acute, practically without teeth . . . . . **H. lindbergi, n. sp.**

— Whole surface of head, pronotum, scutellum and hemelytra unicolorous without distinct dark spots. First antennal segment in male 0.63—0.71 times, in female 0.5—0.63 times as long as width of synthlipsis . . . . . 3.

3. First antennal segment in male 0.63 times, in female 0.61—0.63 times as long as width of synthlipsis. Left male genital clasper in central part broken-bent and here exteriorly with one long and one minute pointed satellite process and on base of this central bent portion with two small equal points. Vesical appendages of aedoeagus subconvergent, only apically with few fine teeth . . . . . **H. horvathi** Montadon

— First antennal segment in male 0.66—0.71 times, in female 0.5—0.58 times as long as width of synthlipsis. Left male genital clasper widened towards the central area, which is large, flat and projecting into three long processes. Vesical appendages of aedoeagus apically strongly convergent and each provided with some distinct irregular teeth . . . . . **H. notaticeps** Reuter

Globiceps (Paraglobiceps) horvathi Reut., 1912

2 ♀♀ — Slovakia: Kovačovské kopce (hills), 9. VI. 1960, in steppe conditions, collected Hoberlandt.

Species of European distribution recorded from Hungary, Bulgaria, Greece and Czechoslovakia (Slovakia: Zadiel, Stehlík & Hoberlandt, 1953; Stehlík, 1953).

Mecomma dispar (Boh., 1852)

2 ♂♂ and 1 ♀ — Bohemia: Krušné hory (Erz Mountains), Cínovec, 28. VI. 1956, in woodland conditions, collected Hoberlandt.

Boreo-montane species previously not recorded from our country. This species follows in general the European distribution restricted to mountanous wood areas. In Central Europe recorded from Austria and Germany.

Subfamily **Mirinae**

Teratocoris antennatus (B o h., 1852)

2 ♂♂ — Bohemia: Hradec Králové, VIII. 1959, collected Bouček.
1 ♀ — Bohemia: Týniště nad Orlicí, 8.—10. VII. 1959, collected Bouček.

This bug is found in Czechoslovakia in swamps and is here recorded from Bohemia: Praha (D u d a, 1886, 1892; R e u t e r 1881; R o u b a l 1953, 1957), Čelakovice (R o u b a l, 1953, 1957c), Františkovy Lázně (Š t y s, 1960), Soos (Š t y s, 1960); Moravia: Dolní Věstonice (S t e h l í k, 1961) and Slovakia: Bratislava (R o u b a l, 1957d).

Myrmecoris gracilis (J. S h l b., 1848)

4 ♂♂ (apterous), 1 ♂ (macropterous) and 4 ♀♀ (apterous), 1 ♀ (macropterous) and 3 nymphs — Bohemia: Středohoří, Lovoš, 6. VI. 1956, occurring in dry sandy soil, collected Hoberlandt.
3 ♂♂ (apterous) and 1 ♀ (apterous) — Bohemia: Středohoří, Lovoš, 15. VI. 1960, collected Hoberlandt.
1 ♂ (apterous) and 1 ♀ (apterous) — Slovakia: Kamenica nad Hr., 5. VI. 1960, in steppe conditions, collected Hoberlandt.

Only sporadically recorded from our country: Bohemia: Stráž pod Ralskem, Praha (D u d a, 1885, 1892; S c h o l t z, 1930), Středohoří, Kožov (R o u b a l, 1905, 1957), Moravia: Mohelno, Pouzdřany (S t e h l í k, 1946), Hodonín (H o b e r l a n d t, 1947), Jeseník, Opavice, Divoká Desná, Královský Potok (S t e h l í k, 1952), Ostružná (Š t y s, 1959). Slovakia: Somotor, Vranov nad Topľou (H o r v á t h, 1897; B a l t h a s a r, 1937).

Species of Eurosiberian distribution, generally distributed in Europe.

Family **M i c r o p h y s i d a e**

Myrmedobia distinguenda R e u t., 1884

1 ♀ — Bohemia: Šumava, Horská Kvilda, 1.000 m, 29. VIII. 1962, in conifer trees, collected Hoberlandt.

Species of European distribution, in Central Europe recorded from Germany, Poland and Czechoslovakia (according to S t i c h e l, 1959), however I do not know an exact locality from our country.

SUMMARY

Six species of Heteroptera are recorded as new records for the fauna of Czechoslovakia: *Stephanitis oberti* (K o l.) (*Tingidae*), *Amblytylus concolor* J a k., *Systellonotus kiritshenkoi* P o p p., *Hyoidea notaticeps* R e u t., *Mecomma dispar* (B o h.) (*Miridae*) and *Myrmedobia distinguenda* R e u t. (*Microphysidae*).

A new synonymy is proposed for *Systellonotus kiritshenkoi* P o p p., 1912 (*Systellonotus skopljensis* K o r m., 1936, new syn.) and a map of geographical distribution of this species is given. Two new species of the

genus *Hyoidea* Reut. are described: *Hyoidea kerzhneri,* n. sp. from USSR and *Hyoidea lindbergi,* n. sp. from Morocco. *Hyoidea horvathi* Mont. and *Hyoidea notaticeps* Reut. are redescribed, a key for species of the genus is given as well as maps of their distribution.

O rozšíření některých ploštic v Československu a poznámky k taxonomii rodu Hyoidea

V práci je uveřejněno několik zajímavých nálezů ploštic v ČSSR, z nichž 6 je oznámeno poprvé z území našeho státu: *Stephanitis oberti* (Kol.) (*Tingidae*), *Amblytylus concolor* Jak., *Systellonotus kiritshenkoi* Popp., *Hyoidea notaticeps* Reut., *Mecomma dispar* (Boh.) (*Miridae*) a *Myrmedobia distinguenda* Reut. (*Microphysidae*).

Současně je pro druh *Systellonotus kiritshenkoi* Popp., 1912 navrženo nové synonymum (*Systellonotus skopljensis* Korm., 1936, n. syn.) a v mapce je zakresleno rozšíření tohoto druhu. V rodě *Hyoidea* Reut. jsou popsány dva nové druhy: *Hyoidea kerzhneri,* n. sp. ze SSSR a *Hyoidea lindbergi,* n. sp. z Maroka. Druhy *Hyoidea horvathi* Mont. a *Hyoidea notaticeps* Reut. jsou znovu charakterizovány a pro všechny druhy tohoto rodu je uveřejněn určovací klíč. Dvě mapky znázorňují rozšíření druhů rodu *Hyoidea* Reut.

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