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On the genus Nasocoris Rt. (Het., Miridae).

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Nasocoris RT., recently revised by WAGNER (1968), consists of plant bugs living on species of *Ephedra* (*Gnetales*). The genus extends from the West-Mediterranean region to Turkestan, but the various species seem to have quite restricted ranges. The following study is based on the material of the genus in my private collection, comprising altogether 7 species, two of them new to science. Only the recently described *N. breviceps* WGN. is still unknown to me.

Key to the species:

1 (4) 1st antennal joint incrassate, at least 0.75 × as long as diatone; its hair covering yellowish, rather adpressed; hairs not longer than the greatest breadth of the joint
2 (3) 2nd antennal joint 1.60 – 1.72 × as long as basal width of pronotum. Pronotum 1.47 – 1.56 × as broad as long. Apical margin of corium and inner margin of cuneus red ..... *artemis*
3 (2) 2nd antennal joint about 1.40 × as long as basal width of pronotum. Pronotum about 1.67 × as broad as long. Apical margin of corium and inner margin of cuneus concolorous ..... *platycranoides*
4 (1) 1st antennal joint shorter and more slender, at most 0.65 × as long as diatone; its hair covering (except in *breviceps*) very long, dense and more erect
5 (6) Hair covering of 1st antennal joint short, white and adpressed. Head remarkably short ..... *breviceps* WGN. (Algeria)
6 (5) Hair covering of 1st antennal joint long, erect
7 (10) Hair covering of 1st antennal joint distinctly brown
8 (9) Tibiae with small dark spots ..... *ephedrae*
9 (8) Tibiae immaculate ..... *brevicornis*
10 (7) Hair covering of 1st antennal joint whitish or nearly so
11 (12) Pronotum dark brown. Ocular index 1.0 – 1.1 (♂) or 1.30 – 1.35 (♀) ..... *albipennis*
12 (11) Pronotum pale. Ocular index different
13 (14) 3rd antennal joint shorter than 2nd, which is 1.61 – 1.64 × as long as basal width of pronotum. Hind margin of pronotum provided with 4 distinct knobs ..... *argyrotrichus*
14 (13) 3rd antennal joint as long as 2nd, which is only 1.17 × as long as basal width of pronotum. Hind margin of pronotum only indistinctly tuberculate ..... *psyche*

1. *N. ephedrae* RT.

A small species, easily recognizable by the dark-spotted tibiae. Ocular index (♀) 1.80 – 2.22. Proportions between antennal joints 11:25:27:14, lst joint 0.52 – 0.63 × as long as diatone, 2nd about 1.04 × as long as basal width of pronotum, 3rd joint longer than 2nd in my specimens, recorded as 0.8 × as long by WAGNER (p. 299). Pronotum 2.18 × as broad as long.

Material studied: Spain, Albarracia, 2 spec. Range: Spain and Morocco. Hosts: *Ephedra nebrodensis* and *E. cossonii*.

2. *N. brevicornis* Kir.

Length 4.3 mm. Head whitish ochraceous, with a few obscure reddish markings. Antennae yellow-brown, lst joint reddish brown. Pronotum brown, becoming more greyish basally. Scutellum brown, apex paler. Elytra greyish white, membrane brownish smoky. Under surface orangish and yellow-brown. Femora fulvous, apically tinged with brownish, basally with reddish. Tibiae and tarsi whitish, immaculate.

Relatively small, elongate. Hair covering pale. Head in profile slightly shorter than high (14:15); base of vertex only faintly marginate; ocular index 1.5 (♂); eyes prominent. Proportions between antennal joints 11:29:26.5:?; lst joint incrassate, tapering only gradually apicad, 0.52 × as long as diatone, with long, dense, erect brown hairs; 2nd joint 1.16 × as long as basal width of pronotum; 3rd shorter than 2nd. Pronotum 1.92 × as broad as long; sides slightly insinuated. Hairs of legs rather long, pale.

Material studied: Turkestan, Kara-kum, 1 ♂. Range: Turkestan.

Easily distinguished from *N. ephedrae* by the larger size, the immaculate tibiae and the difference in measurements mentioned above.

3. *N. albipennis* Ldb.

This and the following two species are characterized by the very long, erect, gleaming white hair covering of the lst antennal joint and the remarkably long white hairs of the fore and middle tibiae, the hairs being much longer than the cross-section of the corresponding tibia. *N. albipennis* differs from its relatives in the dark pronotum, the large eyes and the narrow vertex.

Length 3.75 – 4.3 mm. Ocular index 1.0 – 1.1 (♂), 1.30 – 1.35 (♀). lst antennal joint about 0.65 × as long as diatone, 2nd 1.23 – 1.28 × as long as basal width of pronotum.

Material studied: Egypt, Sinai, Wadi Feiran, several, 29. IX. 1962, Linnavuori. Range: Egypt (Sinai). The host plant is *Ephedra alata*, as pointed out by me previously (Linnavuori 1964, p. 329). Nevertheless Wagner (p. 299) has again cited the old, erroneous record of *Haloxylon schweinfurthi* as the host. *Haloxylon* bushes often grow in the vicinity of *Ephedra* in Sinai, which explains the occasional finds on this plant. I found several adults and larvae on *Ephedra*, leaving no doubt about the correct host plant.

4. *N. argyrotrichus* Rt.

Length 3.75 — 4.3 mm. A relatively large species, easily recognized by the pale colouring: Antennae totally pale yellow. General colouring whitish. Pronotum with 4 faint, broad, orangish longitudinal bands; scutellum orangish. Elytra, including membrane, pale.

Ocular index 1.50 — 1.55 (♂), 1.70 — 1.77 (♀). lst antennal joint 0.60 — 0.61 × as long as diatone (♀), 2nd 1.51 — 1.64 × as long as basal width of pronotum, 3rd distinctly shorter than 2nd; proportions between the joints 14:41:38:19. Pronotum about 1.7 × as broad as long; lateral margins distinctly insinuated, basal margin with 4 small tubercles.

Material studied: Turkestan, some, J. SAHLBERG. Range: S. Russia, Turkestan. Host: *Ephedra* sp.

5. *N. psyche* n.sp.

Length 3.75 mm. Whitish. Antennae totally pale yellow. Vertex with two small, indistinct, triangular reddish spots. Pronotum whitish; basal margin with two faint dark median spots. Scutellum reddish, base brownish. Elytra whitish; membrane smoky; veins near cuneus fulvous, the outer vein concolorous, smoky. Femora dilute reddish, apically paler; legs otherwise whitish.

Body small, about 4 × as long as broad at base of pronotum. Hair covering whitish. Head in profile slightly higher than long (15:17); base of vertex only faintly marginate; ocular index 1.82 (♀). Proportions between antennal joints 13:27:27:12; lst joint distinctly tapering apicad, 0.62 × as long as diatone, with very dense, long, erect, whitish or partly slightly brownish hair covering; 2nd joint 1.17 × as long as basal width of pronotum, 3rd as long as 2nd. Pronotum broad, 1.92 × as broad as long; lateral margins slightly insinuated, basal margin with two very faint median tubercles. Fore and middle tibiae with very long, erect white hairs.

Material studied: Sardinia, Platamona, 1 ♀, type, 11. VII. 1949, SERVADEI. Recorded as *N. platycranoides* MTD. by SERVADEI (1952, p. 455).

Much as *N. argyrotrichus*, but easily distinguished by the smaller size, the dark membrane, the reddish femora and the differences in measurements mentioned above. Differs from the species of the *ephedrae* group in the pale pronotum, the pale hairs of the lst antennal joint and the long pilosity of the fore and middle tibiae.

6. *N. platycranoides* MTD.

This and the following species are characterized by the remarkably long, reddish lst antennal joint with a shorter and more adpressed hair covering (hairs not longer than the greatest width of the joint) than in the other species; hairs rather pale. The hairs of the tibiae short.

The largest species of the genus, length 4.25 – 5.25 mm. Whitish ochraceous, head anteriorly tinged with fulvous. Antennae yellowish, lst joint reddish. Pronotum laterally and basally tinged with reddish brown. Scutellum dark reddish brown. Elytra yellow-brown, concolorous; membrane with veins brownish smoky. Femora tinged with reddish.

Head in profile distinctly longer than high, in apical view (♀) about 1.27 × as broad as long; ocular index 2.17 (♀). Antennae long; proportions between joints 20:42:42:16; lst joint incrassate, distinctly tapering apicad, 0.8 × as long as diatone; 2nd joint 1.40 × as long as basal width of pronotum, 3rd as long as 2nd or slightly shorter. Pronotum transverse, 1.67 × as broad as long; lateral margins nearly straight.

Material studied: Morocco, Atlas maj., Reraia, 1 ex., 29. V. – 16. VI. 1926, LINDBERG. Range: Morocco, Algeria. Host: *Ephedra cossonii*.

7. *N. artemis* n.sp.

Length 4.5 mm. Whitish yellow. Antennal tubercles and two small spots on basal margin of vertex fulvous. Antennae pale yellow, lst joint orangish. Lateral and basal margins of pronotum only slightly infuscate. Scutellum reddish, with a pale median stripe. Elytra whitish yellow, apical margin of corium and inner margin of cuneus narrowly red or orange; membrane with veins brownish smoky. Under surface and legs pale, hind femora slightly tinged with fulvous.

As *N. platycranoides*, but smaller and considerably paler. Head in apical view about 1.38 × as broad as long, in profile slightly longer than high (20:19). Antennae longer; proportions between joints 17:43:43:12; lst joint longer and thinner, about 5 × as long as broad (about 4.48 × in *platycranoides*), 0.75 – 0.80 (♂) or 0.91 – 1.0 (♀) × as long as diatone, 2nd joint 1.61 – 1.72 (♂) or 1.60 – 1.65 (♀) × as long as basal width of pronotum, 3rd joint as long as 2nd or slightly longer. Pronotum narrower, 1.47 – 1.56 × as broad as long, with lateral margins more strongly insinuated. Elytra somewhat longer.

Material studied: Israel, Rehovot, 1 ♀, type and some paratypes (♂♀), 28. VII. 1958, LINNAVUORI. Host: *Ephedra* sp.

Recorded as *N. albipennis* LDB. by me (LINNAVUORI 1961, p. 11). The other specimens from Israel mentioned in the same paper also belong to *artemis*. WAGNER (op.cit., p. 301) likewise incorrectly recorded it as *N. argyrotrichus*. In fact, it is closely related to *N. platycranoides*, differing as above.

Reference: LINNAVUORI, R. 1961. Hemiptera of Israel II. Ann. Zool. Soc. Vanamo 22: 7, p. 1 – 51. — 1964. Hemiptera of Egypt, with remarks on some species of the adjacent Eremian region. Ann. Zool. Fennici 1, p. 306 – 356. — SERVADEI, A. 1952. Hemiptera Sardiniae. Redia 37, p. 443 – 478. — WAGNER, E. 1968. Über die Gattung Nasocoris Reuter, 1879. Reichenbachia 8, p. 297 – 301.

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