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**Revision of the genus *Polymerus* (Heteroptera: Miridae)
in the Eastern Hemisphere. Part 1: Subgenera *Polymerus*,
Pachycentrum subgen. nov. and new genus *Dichelocentrum* gen. nov.**

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Table of contents

Abstract	3
Introduction	4
Material and methods	4
Structure of vesica and terminology of male and female terminalia	5
Introduction to taxonomic affinities of <i>Polymerus</i>	7
Key to genera <i>Proboscidocoris</i> , <i>Dichelocentrum</i> gen. nov. , <i>Charagochilus</i> and <i>Polymerus</i>	8
Family MIRIDAE Hahn, 1833, Subfamily MIRINAE Hahn, 1833, Tribe MIRINI Hahn, 1833, Genus <i>Polymerus</i> Hahn, 1831	13
Notes on the division of the genus into subgenera, their phylogenetic status and conjectural relationships	16
Key to Eastern Hemisphere species of subgenera <i>Polymerus</i> and <i>Pachycentrum</i> subgen. nov.	17
Subgenus <i>Pachycentrum</i> subgen. nov.	17
1. <i>Polymerus (Pachycentrum) carpathicus</i> (Horváth, 1882)	18
2. <i>Polymerus (Pachycentrum) nigrita</i> (Fallén, 1807)	21
3. <i>Polymerus (Pachycentrum) unciniger</i> sp. nov.	26
Subgenus <i>Polymerus</i> Hahn, 1831	30
4. <i>Polymerus (Polymerus) holosericeus</i> Hahn, 1831	30
5. <i>Polymerus (Polymerus) russatus</i> sp. nov.	33
6. <i>Polymerus (Polymerus) pekinensis</i> Horváth, 1901	34
7. <i>Polymerus (Polymerus) amurensis</i> Kerzhner, 1988	37
<i>Polymerus</i> incertae sedis	41
<i>Polymerus rugulus</i> (Ballard, 1927)	41
Genus <i>Charagochilus</i> Fieber, 1858	44
1. <i>Charagochilus flavipes</i> (Distant, 1904) comb. nov.	52
2. <i>Charagochilus bimaculatus</i> (Poppius, 1910) comb. nov.	54
3. <i>Charagochilus obscuratus</i> (Poppius, 1914) comb. nov.	55
4. <i>Charagochilus madagascariensis</i> (Poppius, 1914) comb. nov.	56
5. <i>Charagochilus consanguineus</i> (Distant, 1904) comb. nov.	56
6. <i>Charagochilus aureus</i> (Ballard, 1927) comb. nov.	58
Genus <i>Proboscidocoris</i> Reuter, 1882	59
1. <i>Proboscidocoris solitus</i> (Walker, 1873) comb. nov.	61
2. <i>Proboscidocoris nitidus</i> Odhiambo, 1959	62
Genus <i>Dichelocentrum</i> gen. nov.	68
Key to species of genus <i>Dichelocentrum</i> gen. nov.	72
1. <i>Dichelocentrum longirostre</i> (Reuter, 1905) comb. nov.	73
2. <i>Dichelocentrum flora</i> (Linnavuori & van Harten, 2005) comb. nov.	78
3. <i>Dichelocentrum ornatifrons</i> (Odhiambo, 1959) comb. nov.	79
4. <i>Dichelocentrum transvaalicum</i> sp. nov.	80
5. <i>Dichelocentrum alkadamum</i> (Linnavuori & van Harten, 2005) comb. nov.	85
Acknowledgements	85
References	85

Abstract

The paper represents the first part of a series dealing with the Eastern Hemisphere species of the genus *Polymerus* Hahn, 1831 and includes a redescription of the genus and the nominative subgenus, and descriptions of *Pachycentrum* **subgen. nov.**, *P. (Polymerus) russatus* **sp. nov.** and *P. (Pachycentrum) unciniger* **sp. nov.** The specific name *P. funestus* Reuter, 1906 is transferred from the subgenus *Poeciloscytus* Fieber, 1858 to the nominative subgenus and synonymised with *P. pekinensis* Horváth, 1901. New combinations for seven African, Indian, and Australian species are proposed: *Charagochilus aureus* (Ballard, 1927) **comb. nov.**, *Ch. bimaculatus* (Poppius, 1910) **comb. nov.**, *Ch. consanguineus* (Distant, 1904) **comb. nov.**, *Ch. flavipes* (Distant, 1904) **comb. nov.**, *Ch. madagascariensis* (Poppius, 1914) **comb. nov.**, *Ch. obscuratus* (Poppius, 1914) **comb. nov.**, *Proboscidocoris solitus* (Walker, 1873) **comb. nov.** The species *Polymerus nitidus* (Odhiambo, 1959) is returned to the genus *Proboscidocoris*. Five African and Arabian species are included in the new genus *Dichelocentrum* **gen. nov.**: *D. alkadamum* (Linnavuori & van Harten, 2005) **comb. nov.**, *D. flora* (Linnavuori & van Harten, 2005) **comb. nov.**, *D. longirostre* (Reuter, 1905) **comb. nov.**, *D. ornatifrons* (Odhiambo, 1959) **comb. nov.** and *D. transvaalicum* **sp. nov.** The specific name *Polymerus xerophilus* Linnavuori, 1975 **syn. nov.** is synonymised with *D. ornatifrons* **comb. nov.** Key, diagnoses, data on distribution, and illustrations of the parameres, entirely inflated vesica and the gynatrium are provided for all recognised species from the subgenera *Polymerus*, *Pachycentrum* **subgen. nov.** and the genus *Dichelocentrum* **gen. nov.**

5. *Dichelocentrum alkadanum* (Linnavuori & van Harten, 2005) comb. nov.

(Figs 35 M–O; 36 C, H; 39 D; 42 I)

Polymerus (*Polymerus*) *alkadanus* Linnavuori & van Harten, 2005: 87–89, figs 2,3.

Material examined. *Holotype*. **Yemen**, Al Kadan, Oct. 2001, van Harten, Abdul-Hag, female (NMWC).

Paratypes: the same data as above, 2 females*; **Yemen**, Sana'a, Suq Bani Mansour, 14 Nov.–28. Dec. 2001, 1 female (NMWC). A single male from the type series is lost: it is absent in the collection of R. Linnavuori, in AMNH and NMWC.

Diagnosis. Recognised by the dark colouration and large size of the body (Fig. 42 I). This species can be confused with dark specimens of *D. ornatifrons* in colouration, but differs from the latter species by dark brown cuneus and absence of reddish spots on membranal veins and also by shape of parameres and smaller ratio of length of second antennal segment to width of pronotum (1.21–1.26 vs. 1.45 in *D. ornatifrons*).

Right and *left parameres* are figured in the paper of Linnavuori & van Harten (2005). Hypophysis of right paramere is similar to those of *D. longirostre* and *D. flora*, from latero-posterior view looks almost rectangular and wider than in the latter two species (Fig. 35 M, N). Hypophysis of left paramere in the picture is rather short, with evenly convex superior margin, not concave before apex and with inferior margin as in *D. transvaalicum* **sp. nov.**; extreme apex of hypophysis is figured as rather wide (Fig. 35 O).

Vesica. Superior margin of posterior branch of spicule on figures of Linnavuori & van Harten (2005) looks rather smoothly curved in apical part (Fig. 36 C, G).

Gynatrium (Fig. 39 D). Notch on ventral margin of interramal sclerites moderately deep, triangular. Dorsal margin of interramal sclerite smoothly concave, without medial prominence. Separate sclerite near dorsal margin of interramal sclerites absent.

Distribution. Yemen.

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References

- Akingbohunge, A.E. (1978) A new hyaliodine genus for *Megacoelum nigroscutellatum* Distant with new combinations and tribal reassignment for some other species of Miridae (Heteroptera). *Journal of Natural History*, 12, 87–95.
<http://dx.doi.org/10.1080/00222937800770071a>
- Aukema, B. & Rieger, Ch. (Eds.) (1995–2006) *Catalogue of the Heteroptera of the Palaearctic Region*, 1–5. Wageningen, The Netherlands, 222, 361, 577, 346, 550 pp.
- Ballard, E. (1927) Some new Indian Miridae (Capsidae). *Memoirs of the Department of Agriculture in India, Entomological Series*, 10 (4), 61–68.
- Carvalho, J.C.M. (1955) Keys to the genera of Miridae of the world (Hemiptera). *Boletim do Museu Paraense Emilio Goeldi, Zoologia*, 11 (2), 1–151.
- Carvalho, J.C.M. (1959) *A catalogue of the Miridae of the world. Part IV*. Arquivos do Museu Nacional, Rio de Janeiro, 48, 1–384.
- Carvalho, J.C.M. & Leston, D. (1952) The classification of the British Miridae (Hem.) with keys to the genera. *Entomologist's Monthly Magazine*, 88, 231–251.
- Cassis, G. (2008) The Lattinova complex of austromirine plant bugs (Hemiptera: Heteroptera: Miridae: Orthotylinae). *Proceedings of the Entomological Society of Washington*, 110 (4), 845–939.
<http://dx.doi.org/10.4289/0013-8797-110.4.845>
- Davis, N.T. (1955) Morphology of the female organs of reproduction in the Miridae (Hemiptera). *Annals of the Entomological Society of America*, 48, 132–150.

- Douglas, J.W. & Scott, J. (1865) *The British-Hemiptera, 1. Hemiptera-Heteroptera*. The Ray Society, London, 627 pp.
- Distant, W.L. (1904a) Rhynchotal Notes. XXII. Heteroptera from North Queensland. *Annals and Magazine of Natural History*, (7), 13, 263–276.
- Distant, W.L. (1904b) The fauna of British India, including Ceylon and Burma. *Rhynchota*, 2 (2), 243–503.
- Fallén, C.F. (1807) *Monographia Cimicum Sveciae*. C.G. Proft, Hafniae, 123 pp.
- Gapon, D.A. (2001) Inflation of heteropteran aedeagi using microcapillaries (Heteroptera: Pentatomidae). *Zoosystematica Rossica*, 9 (1), 157–160.
- Gistel, J. (1857) *Achthundert un zwanzig neue oder un beschreibene wirbellose Thiere*. Straubing, 94 pp.
- Hahn, C.W. (1831) *Die wanzenartigen Insecten. Vol. 1*. Zeh, Nurnberg, 36 pp.
- Herrich-Schaeffer, G.A.W. (1841) *Die wanzenartigen Insecten. Vol. 6*. C. H. Zeh, Nurnberg, pp. 37–92.
- Horváth, G. (1901) Hemiptera. In: *Zoologische Ergebnisse der dritten Asiatischen Forschungsreise des Grafen Eugen Zichy*, 2. Homyansky & Hiersmann, Budapest & Leipzig, pp. 245–274.
- Kelton, L.A. (1955) Genera and subgenera of the *Lygus* complex (Hemiptera: Miridae). *Canadian Entomologist*, 87, 277–301. <http://dx.doi.org/10.4039/ent87277-7>
- Kerzhner, I.M. (1988a) 21. fam. Miridae (Capsidae). In: Lerh, P.A. (Ed.), *Opredelitel' nasekomykh Dalnego Vostoka Rossii [Keys to the insects of the Russian Far East]. Vol. 1*. Dal'nauka, Vladivostok, pp. 778–837. [in Russian]
- Kerzhner, I.M. (1988b) *New and little-known heteropterous insects (Heteroptera) from the Far East of the USSR* (1987). Acad. Sci. USSR, Far Eastern Centre, Vladivostok, 83 pp. [in Russian].
- Kerzhner, I.M. & Josifov, M. (1999) Miridae Hahn, 1833. In: Aukema, B. & Rieger, Ch. (Eds.), *Catalogue of the Heteroptera of the Palaearctic Region*, 3. Wageningen, The Netherlands, 576 pp.
- Kerzhner, I.M. & Konstantinov, F.V. (1999) Structure of the aedeagus in Miridae (Heteroptera) and its bearing to suprageneric classification. *Acta Societatis Zoologicae Bohemicae*, 63, 117–137.
- Knight, H.H. (1923) Guide to the insects of Connecticut. Part IV. The Hemiptera or sucking insects of Connecticut-Family Miridae (Capsidae). *State of Connecticut Geological and Natural History Survey, Bulletin*, 34, 422–658.
- Komarov, V.L. (1928) Les itinéraires botaniques des principales expéditions russes en Asie Centrale. Livre second. Itinéraires de G.N. Potanine (1876–1899). *Acta Horti Petropolitani*. XXXIV(II), 199–404. [in Russian with the preface in French]
- Konstantinov, F.V. (200) Male genitalia in Miridae (Heteroptera) and their significance for suprageneric classification of the family. Part I: general review, Isometopinae and Psallopinae. *Belgian Journal of Entomology*, 5, 3–36.
- Lavrenko, E.M. (1965) Subdivision into provinces of the Central-Asiatic and Irano-Turanian subregions of the Afro-Asiatic Desert Region. *Botanical Journal*, 50 (1), 3–15. [in Russian]
- Linnavuori, R.E. (1973) A collection of Heteroptera from Katanga, with remarks on some species from other parts of the Ethiopian Region. *Annales Entomologici Fennici*, 39, 70–94.
- Linnavuori, R.E. (1975) Hemiptera of the Sudan, with remarks on some species of the adjacent countries. 4. Miridae and Isometopidae. *Annales Zoologici Fennici*, 12, 1–118.
- Linnavuori, R.E. (1977) Additional notes on the hemipterous fauna of Somalia. *Bollettino della Società Entomologica Italiana*, 109, 61–65.
- Linnavuori, R.E. & van Harten, A. (2005) Additional notes on the Heteroptera (Insecta: Hemiptera) of Yemen III. Dipsocoromorpha, Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha (Cantacaderidae, Tingidae, Miridae, Cimicidae). *Acta Universitatis Carolinae, Biologica*, 49, 79–97.
- Pagola-Carte, S., Zabalegui, I. & Ribes, J. (2004) Some interesting Miridae (Hemiptera: Heteroptera) from the Basque Country. *Heteropterus Revista de Entomologie*, 4, 31–39.
- Pluot-Sigwalt, D. & Matocq, A. (2006) On some particular sclerotized structures associated with the vulvar area and the vestibulum in Orthotylinae and Phylinae (Heteroptera, Miridae). *Denisia*, 19, 557–570.
- Poppius, B. (1910) 12. Hemiptera 4. Miridae, Anthocoridae, Teratophylidae, Microphysidae, und Nabidae. In: *Wissenschaftliche ergebnisse der Schwedischen zoologischen expedition nach dem Kilimandjaro, dem Meru und den umgebenden Massaiesteppen Deutsch-Ostafrikas 1905–1906, unter leitung von prof. dr. Yngve Sjöstedt. Hrsg. mit unterstützung von der Königl. schwedischen akademie der wissenschaften*, 2 (8–14), pp. 25–60.
- Poppius, B. (1912) Die Miriden der Äthiopischen Region I Mirina, Cylapina, Bryocorina. *Acta Societatis Scientiarum Fennicae*, 41 (3), 1–203.
- Poppius, B. (1914) Die Miriden der Äthiopischen Region II - Macrolophinae, Heterotominae, Phylinae. *Acta Societatis Scientiarum Fennicae*, 44 (3), 136 pp.
- Reuter, O.M. (1905) Ad cognitionem Capsidarum aethiopicarum. II. *Öfversigt af Finska Vetenskaps-societetens Förhandlingar*, 47 (10), 22 pp.
- Reuter, O.M. (1879) Capsidae Turkestanae, Diagnoser öfver nya Capsider fran Turkestan. *Öfversigt af Finska Vetenskaps-societetens Förhandlingar*, 21, 199–206.
- Reuter, O.M. (1896) *Hemiptera Gymnocerata Europae. Hémiptères gymnocérates d'Europe, du bassin de la Méditerranée et de l'Asie Russe*. V. Helsingfors, 392 pp. [also published in (1896) *Acta Societatis Scientiarum Fennicae*, 23 (2), 1–392]
- Reuter, O.M. (1906) Capsidae in prov. Sz'tschwan Chinae a DD. G. Potanin et M. Beresowski collectae. *Ezhagodnik Zoologicheskago Muzeya Imperatorskoy Akademii Nauk*, 10, 1–81.
- Rinne, V. (1989) Review of the European *Polymerus* subgenus *Poeciloscytus* (Heteroptera, Miridae), with two new species and special reference to the Finnish fauna. *Annales Entomologici Fennici*, 55, 89–101.

- Sadeghi, R., Pourabad, R.F., Kazemi, M.H. & Hassanzadeh, M. (2009) Introduction of some Heteroptera of Qurigol (Iran). *Munis Entomology & Zoology*, 4 (2), 498–500.
- Schuh, R.T. (2002–2013) On-line Systematic Catalog of Plant Bugs (Insecta: Heteroptera: Miridae), the American Museum of Natural History. Available from: <http://research.amnh.org/pbi/catalog/> (accessed 9 August 2013)
- Schuh, R.T. (2006) Revision, phylogenetic, biogeographic, and host analyses of the endemic Western North American Phymatopsallus group, with the description of 9 new genera and 15 new species (Insecta: Hemiptera: Miridae: Phylinae). *Bulletin of the American Museum of Natural History*, 301, 1–115.
[http://dx.doi.org/10.1206/0003-0090\(2006\)301\[1:rpbaha\]2.0.co;2](http://dx.doi.org/10.1206/0003-0090(2006)301[1:rpbaha]2.0.co;2)
- Scudder, G.G.E. (1959) The female genitalia of the Heteroptera: morphology and bearing on classification. *Transactions of the Royal Entomological Society of London*, 111 (14), 405–467.
- Schwartz, M.D. (1989) *Polymerus castilleja*, a new mirine plant bug from California and Oregon, with remarks on generic characters of the genus *Polymerus* Hahn (Heteroptera: Miridae). *Proceedings of the Entomological Society of Washington*, 91, 461–467.
- Schwartz, M.D. (2011) Revision and phylogenetic analysis of the North American genus *Slaterocoris* Wagner with new synonymy, the description of five new species and a new genus from Mexico, and a review of the genus *Scalponotatus* Kelton (Heteroptera: Miridae: Orthotylinae). *Bulletin of the American Museum of Natural History*, 354, 290 pp.
- Schwartz, M.D., Scudder, G.G.E. & Henry, T.J. (1991) The first Nearctic records of two Holarctic species of *Polymerus* Hahn, with remarks on a monophyletic species-group (Heteroptera: Miridae: Mirinae). *Canadian Entomologist*, 123, 721–743.
- Walker, F. (1873) *Catalogue of the specimens of Hemiptera Heteroptera in the collection of the British Museum. Part VI.* British Museum, London, 210 pp.
- Wagner, E. (1961) Unterordnung: Ungleichflügler, Wanzen, Heteroptera (Hemiptera). *Die Tierwelt Mitteleuropas*, 4, 1–173.
- Wagner, E. (1974) Die Miridae Hahn, 1831, des Mittelmeerraumes und der Makaronesischen Inseln (Hemiptera, Heteroptera). Teil. 1. *Entomologische Abhandlungen*, 37, Suppl. iii + 484 pp.
- Zheng, L. & Li, X. (1987) Notes on the genus *Polymerus* from China (Hemiptera: Miridae). *Acta Scientiarum Naturalium Universitatis Nankaiensis*, 2, 45–52.