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NOTES ON WATER BUGS FROM SOUTH EAST ASIA  
AND AUSTRALIA  
(Heteroptera: Nepomorpha & Gerromorpha)

ABSTRACT - BUZZETTI F.M., NIESER N. & DAMGAARD J., 2006 - Notes on water bugs from South East Asia and Australia (Heteroptera: Nepomorpha & Gerromorpha).

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Faunistical data on some Nepomorpha and Gerromorpha from South East Asia and Australia are given. *Hydrometra greeni* Kirk., *Limnogonus* (*Limnogonoides*) *pectoralis* Mayr and *Halobates* sp. are reported as new records for Myanmar.

KEY WORDS - Faunistics.

RIASSUNTO - BUZZETTI F.M., NIESER N. & DAMGAARD J., 2006 - Su alcuni Emitteri acquatici del Sud Est Asiatico e dell'Australia (Heteroptera: Nepomorpha & Gerromorpha).

Si riportano alcuni dati faunistici relativi a Nepomorfi e Gerromorfi dal Sud Est Asiatico e dall'Australia. *Hydrometra greeni* Kirk., *Limnogonus* (*Limnogonoides*) *pectoralis* Mayr e *Halobates* sp. sono per la prima volta citati per il Myanmar.

PAROLE CHIAVE - Faunistica.

INTRODUCTION

In this publication the Nepomorpha and Gerromorpha from South East Asia and Australia presently in the F. M. B. private collection are reported. Some specimens transferred to the Nieser collection are indicated NCTN. Other data from the collection of the Zoological Museum of Copenhagen University are indicated as ZMUC. Some synonymy is abbreviated but can be found in the publications cited under the various species. When given, measurements are in mm.

The collecting localities from Myanmar are shown in Map 1.

## Nepomorpha

## Belostomatidae

*Lethocerus insulanus* (Montandon, 1898)

*Belostoma insulanus* Montandon, 1898: 430-431

*Lethocerus insulanus*; Menke 1960: 228

*Lethocerus insulanus*; Perez Goodwyn 2006: 59-60.

*Material examined*: **Papua New Guinea**: Maprik, E Sepik prov., 27.V.1998, 1 ♂.

*Distribution*: Australia, New Caledonia, Papua New Guinea, Philippines (Andersen & Weir, 2004).

The genus *Lethocerus* Mayr, comprises the largest Heteroptera known. Contrary to the egg-laying and brooding of the Belostomatinae, where the female glue the eggs on the back of the male, females of Lethocerinae deposit their eggs on vegetation, stones and other objects out of the water. The eggs are watered and defended by the male. In many countries of tropical Asia these insects are bred as food (Andersen & Weir, 2004).

## Gelastocoridae

*Nerthra lobata* (Montandon, 1899)

*Mononyx lobatus* Montandon 1899, Bull. Soc. Sc. Bucarest, VIII, 4 & 5: 397.

*Nerthra lobata*; Todd 1955: 407.

*Material examined*: **Indonesia**: Sumatra, Aceh Kutacane, 4.IV.2000, 1 ♂, lg. J. Hulcr.

*Distribution*: Sumatra and Java (Todd, 1955).

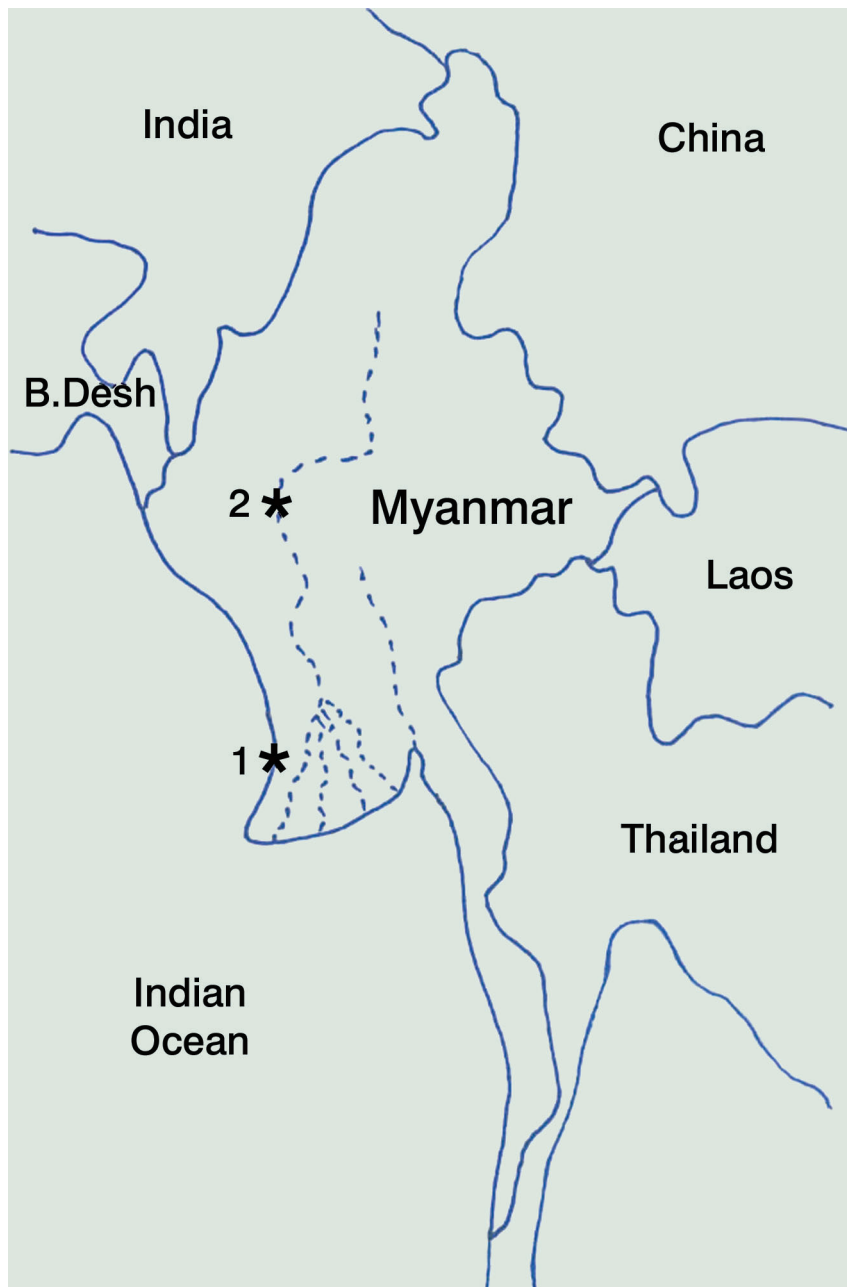
*Nerthra nudata* Todd, 1955

*Material examined*: **Australia**: Queensland, Lamington National Park, Binna Burra, I.1997, 1 ♀; Northern Territory, Kakadu National Park, Gunlon Falls, 23.III.1991, 1 ♀, lg. Borsato.

*Distribution*: East Australia (Andersen & Weir, 2004).

## Naucoridae

*Heleocoris nebulosus thienemanni* Lundblad, 1933



Map. 1. Collecting localities in Myanmar. 1: Chaungtha; 2 Bagan.

*Heleocoris nebulosus* var. *thienemanni* Lundblad, 1933: 72-75.

*Heleocoris nebulosus thienemanni*; La Rivers 1974: 12.

*Heleocoris obscuratus*; Nieser & Chen 1992: 33.

*Material examined: Indonesia:* Sumatra, Aceh Kutacane, 4.IV.2000, 2 ♀♀, lg. J. Hulcr (1 ♀ NCTN).

*Distribution:* Sumatra and Java (Nieser & Chen, 1992).

Nieser & Chen (1992) provisionally synonymized *H. nebulosus thienemanni* with *H. obscuratus* Montandon 1897. Now we have brachypterous females of both taxa at hand and they are different species, so *H. nebulosus thienemanni* Lundblad is not a synonym of *H. obscuratus* Montandon.

*Laccocoris nervicus* Montandon, 1897

*Laccocoris nervicus* Montandon 1897: 52-54.

*Material examined: Indonesia:* Sumatra, Aceh Kutacane, 4.IV.2000, 2 ♂♂, 2 ♀♀, lg. J. Hulcr (1 ♂, 1 ♀ NCTN).

*Distribution:* Indonesia: Sumatra.

## Corixidae

*Micronecta haliploides* Horvath, 1904

*Micronecta haliploides* Horvath 1904: 594-595.

*Sigara punctata* Fieber 1844: 293.

*Micronecta punctata*; Chen 1960: 117.

*Material examined: Indonesia:* Sumatra, Aceh Kutacane, 4.IV.2000, 1 ♀ brachypterous, lg. J. Hulcr.

*Distribution:* From India and Sri Lanka through continental SE Asia to Sumatra and Java (Wróblewski, 1968).

Chen (1960) correctly concluded that *Sigara punctata* Fieber (1844) and *Micronecta haliploides* Horvath (1904) are the same species. As the late Anti Jansson pointed out (pers. com.), she overlooked the fact that the original name of Fieber, *Sigara punctata*, is a homonym of *Sigara punctata* Illiger (1807) which is now *Corixa punctata* (Illiger, 1807). So the valid name for this species is *Micronecta haliploides* Horvath, 1904.

*Sigara (Tropocorixa) truncatipala* Hale, 1922

*Sigara (Tropocorixa) truncatipala* Hale 1922: 314.

*Material examined:* **Australia:** NSW: Lord Howe Island, Soldier Creek at road crossing, ult..VIII.2004, 3 ♂♂, 16 ♀♀, lg. J. Damgaard, ZMUC.

*Distribution:* Australia, Papua New Guinea, New Caledonia (Andersen & Weir, 2004).

## Notonectidae

*Anisops niveus* (Fabricius, 1775)

*Notonecta nivea* Fabricius 1775: 690.

*Anisops nivea*; Brooks 1951: 373-376.

*Anisops niveus*; Nieser 2004: 84, 88-89.

*Material examined:* **Indonesia:** Sumatra, Aceh Kutacane, 4.IV.2000, 4 ♂♂, 4 ♀♀, lg. J. Hulcr (1 ♂, 1 ♀ NCTN).

*Distribution:* India through SE Asia to Sumatra (Brooks, 1951).

*Enithares ciliata* (Fabricius, 1798)

*Notonecta ciliata* Fabricius, 1798: 524-525.

*Enithares ciliata*; Lansbury 1968: 413-416.

*Enithares ciliata*; Nieser 2004: 93.

*Material examined:* **Indonesia:** Sumatra, Aceh Kutacane, 4.IV.2000, 1 ♂, 3 ♀♀, lg. J. Hulcr.

*Distribution:* From Mauritius through India, Bhutan and Sri Lanka to Vietnam and the Malay Peninsula.

*Enithares lineatipes* Horvath, 1889

*Enithares lineatipes* Horvath 1889: 39.

*Enithares lineatipes*; Lansbury 1968: 418-420.

*Material examined:* **India:** N Uttarpradesh, Almora, 22/25.VII.2003, 1 ♂, lg E. Kucera.

*Distribution:* Oman, Pakistan, North India.

*Enithares stridulata* Brooks, 1948*Enithares stridulata* Brooks 1948: 37-38*Enithares stridulata*; Lansbury 1968: 366-368.

*Material examined: Thailand:* Chiang Mai prov., Doi Suthep, Chiang Mai, 21/22.VI.2002, 1300/1350 m, WGS 84: N 12° 05' E 102° 21', 1 ♂, 1 ♀, lg R. Fouquè.

*Distribution:* Indochina and Thailand, a common species in virtually stagnant parts of streams in mountainous areas in N Thailand.

## Gerromorpha

## Mesoveliidae

*Mesovelia vittigera* Horvath, 1895*Mesovelia vittigera* Horvath, 1895: 160.*Mesovelia vittigera*; J. & D. Polhemus 2000: 226-229.

*Material examined: Myanmar:* Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 1 ♀, lg. F. M. B.

*Distribution:* Very widespread, throughout Africa, Mediterranean Europe through the Middle East to SE Asia, S China, far SE Russia, Indonesia, The Philippines, Guam, Samoa, New Caledonia, N Australia and New Guinea (Polhemus & Polhemus, 2000).

The specimen agrees well with female specimens of *M. vittigera* from SE Asia in the collection of the Zoological Museum of Copenhagen and in view of the fact that it is very common throughout nearby Thailand, there is little doubt that it is indeed this species.

## Hydrometridae

*Hydrometra greeni* Kirkaldy, 1898*Hydrometra greeni* Kirkaldy, 1898, Entomol. 21: 2.*Hydrometra greeni*; Polhemus & Polhemus, 1995: 22.

*Material examined: Myanmar:* Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 1 ♂, lg. F. M. B.; Mandalay State, Bagan, 26/28.X.2003, 7 ♀♀, 11 ♂♂, lg. F. M. B.

*Distribution:* India, Nepal, Bangladesh, Ceylon, China, Myanmar, Thailand, Vietnam, Sumatra.

All the specimens are macropterous and, except for the male from Chaungtha, have been collected during the nighttime at light. The male from Chaungtha has been caught walking on a temporary pond of brackish water in the coastal forest.

As noted by Gunawardane & Kaunaratne (1965) and Polhemus & Polhemus (1995), variability is shown by the shape of the male abdominal terminalia, both in the acumination of last tergite spine and in the more or less pronounced ventral transverse sulcus of the seventh abdominal sternite.

*H. greeni* Kirkaldy was not known before from Myanmar, but from all the adjacent countries.

*Hydrometra strigosa* (Skuse, 1893)

*Hydrometra strigosa* Skuse, 1893: 43.

*Hydrometra risbeci*; Hungerford 1938: 81.

*Hydrometra strigosa*; Polhemus & Lansbury 1997: 29.

*Material examined:* **Australia:** NSW: Lord Howe Island, VIII.2004, 1 ♀ lg. J. Damgaard, ZMUC.

*Distribution:* Australia, New Caledonia, Vanuatu, New Zealand and Society Islands (Andersen & Weir, 2004).

Veliidae

Rhagoveliinae

*Rhagovelia* (*Rhagovelia*) *kawakamii* (Matsumura, 1913)

*Kotovelina kawakamii* Matsumura, 1913, Thousand Insects of Japan, Additamenta 1: 98.

*Rhagovelia kawakamii*: Lundblad, 1937, Entomol. Tidskrift 58: 1.

*Rhagovelia* (*Rhagovelia*) *hoberlandti* Hungerford & Matsuda, 1961 Univ. Kansas Sci. Bull 42 (4): 260.

*Rhagovelia* (*Rhagovelia*) ? *hoberlandti*: Andersen, 1967: 272.

*Rhagovelia kawakamii*: Polhemus & Reiss, 1976 Kailkasan Phil. Jour. Bio. 5 (3): 275.

*Rhagovelia kawakamii*: Zettel, 1996: 127.

*Material examined:* **Philippines:** Mt. Montalaban, Rizal Wa-wa Dam, 150-200m, 17.III.1965, 1 ♂, 1 ♀, lg. L. M. Torrevillas.

*Distribution:* Taiwan, Malaysia and Philippines.

*Rhagovelia (Rhagovelia) philippina* Lundblad, 1936*Rhagovelia philippina* Lundblad, 1936, Arkiv. Zool. 28A (21): 36.

*Material examined: Philippines:* Mountain Prov., Abatan, Buguias 60km S of Bontoc, 1800-2000m, «light trap», 1 ♂, 1 ♀, lg. H. M. Torrevillas.

*Distribution:* Philippines (Zettel, 1995).

*Rhagovelia (Rhagovelia) sumatrensis* Lundblad, 1933*Rhagovelia femorata* Dover var. *sumatrensis* Lundblad, 1933*Rhagovelia sumatrensis*; Zettel, 2000, Entomological Problems 31(2): 178.

*Material examined: Java:* Tegalega, 27.VI.1965, 1 ♂, 1 ♀, lg. J. Winkler.

*Distribution:* From South India to South East China and the Malay Peninsula, Taiwan, Indonesia (Zettel, 2000).

## Perittopinae

*Perittopus vicarians* Breddin, 1905*Perittopus vicarians* Breddin, 1905, Mitt. Naturhist. Mus. Hamburg 22: 129.*Perittopus vicarians*; Zettel, 2001, Raffles Bull. Zool. 49 (1): 118.

*Material examined: Java:* Tjibodas, 27.VII.1965, 1 ♂, 1 ♀, lg. J. Winkler.

*Distribution:* West Java (Indonesia) (Zettel, 2001).

Tjibodas (a. k. a. «Cibodas») is the type locality and there are at least four localities designed with this name in West Java.

## Gerridae

## Onychotrechinae

*Amemboa (Amemboa) lyra* (Paiva, 1918)*Onychotrechus lyra* Paiva, 1918, Rec. Ind. Mus. 14: 24.*Amemboa (Amemboa) lyra*; J. Polhemus & Andersen, 1984, Steenstrupia 10 (3): 90.*Amemboa (Amemboa) riparia* J. Polhemus & Andersen, 1984, Steenstrupia 10 (3): 90.*Amemboa lyra*; Zettel & Chen, 1996: 156*Amemboa (Amemboa) lyra*; Zettel & Chen, 1997: 100.



*Material examined:* **Thailand:** Kanchanaburi, 17.X.2003, 1 ♂, lg. F. M. B.

*Distribution:* Myanmar, Thailand and Vietnam (Zettel & Chen, 1996).

### Cylindrostethinae

#### *Cylindrostethus scrutator* (Kirkaldy, 1899)

*Gerris (Aquarius) scrutator* Kirkaldy, 1899 Rev. d'Ent. 18: 90.

*Cylindrostethus scrutator*; Distant, 1903: 184.

*Cylindrostethus naiades* Kirkaldy, 1909 Canadian Entomol. 41: 389.

*Cylindrostethus flaviventer* Schmidt, 1915, Stett. Entomol. Zeit. 76: 363

*Cylindrostethus scrutator*; Lundblad, 1933: 372.

*Cylindrostethus scrutator*; Hungerford & Matsuda, 1962, Univ. Kan. Sc. Bull. 63: 372

*Cylindrostethus scrutator*; Polhemus, 1994: 12.

*Material examined:* **Centr. Borneo:** Sg. Birang, 1925, 1 ♂, 1 ♀, leg. Mjöberg.

*Distribution:* from India to Indonesia (Polhemus, 1994).

### Halobatinae

#### *Halobates* sp.

*Material examined:* **Myanmar:** Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 2 ♀♀, lg. F. M. B.;

To date the genus *Halobates* Eschscholtz includes 46 species of mostly marine insects. Reliable identification of many species is only possible with examination of the male genitalia. The material examined belongs probably to *H. flaviventris* Eschscholtz, 1822, but male specimens are needed for confirmation (Andersen, pers. comm.).

Other species present in the area of the Andaman Sea are: *Halobates elephanta* Andersen & Foster, 1992, *Halobates esakii* Miyamoto, 1967, *Halobates formidabilis* (Distant, 1910), *Halobates hayanus* White, 1883, *Halobates trynae* Herring, 1964.

The material has been collected approximately at 5 meters from the shore.

This is the first recording for the genus *Halobates* in Myanmar.

## Gerrinae

*Aquarius adelaidis* (Dohrn, 1860)

*Gerris argentata* Spinola, 1837: 65 (non Schummel, 1832).

*Gerris adelaidis* Dohrn, 1860 Stettin. ent. Ztg. 21: 408.

*Gerris spinolae* Lethierry & Severin, 1896 Catal. génér. Hémipt. 3: preface, 63.

*Gerris spinolae*; Distant, 1902: 180.

*Aquarius adelaidis*; Andersen, 1990: 61

*Aquarius adelaidis*; Andersen, 1995: 111.

*Material examined: Myanmar:* Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 1 ♂, lg. F. M. B.; Tinghawk Sakan, 19.V.1944, 2 ♂ ♂, 1 ♀ micr., J. C. Kuitert leg., Snow Collection, Lawrence, Kansas. **Pakistan:** Sind Kalri Lake, 1 ♂, 1 ♀ macr., 17.I.1975, E. Heiss leg., ZMUC.

*Distribution:* from Pakistan to Indonesia and West Malaysia.

The present material is the first recording for Pakistan and extends westward the known distribution of the species.

*Aquarius paludum paludum* (Fabricius, 1794)

*Gerris paludum* Fabricius, 1794:188.

*Hydrometra japonica* Motschulsky, 1866: 188.

*Hygrotrechus remigator* Horvath, 1879a: CVIII (syn. Esaki, 1926: 181). - ST: Japan; HNHM.

*Gerris fletcheri* Kirkaldy, 1901a: 51.

\**Cylindrostethus bergrothi* Lindberg, 1922: 16.

*Gerris paludum* var. *obscura* Puschnig, 1925: 90.

*Gerris paludum* var. *demarginata* Puschnig, 1925: 90.

\**Gerris (Aquarius) uhleri* Drake & Hottes, 1925b: 69.

*Gerris paludum palmonii* Wagner, 1954: 205.

*Gerris paludum insularis* (non Motschulsky, 1866); Miyamoto, 1958: 118.

*Aquarius paludum*; Andersen, 1990: 58.

*Material examined: Laos:* Naten, along Nam Lang River, 13.X.2004, 2 ♂ ♂, 3 ♀ ♀, lg. E. Guilbert, ZMUC.

*Distribution:* Widely distributed throughout the Palaearctic Region.

The material here listed represents the first recording for *A. p. paludum* in Laos. South East Asia is the southernmost area of distribution of this subspecies actually known for Myanmar and northern regions of Thailand, Laos and Vietnam.

The other conspecific subspecies, *A. p. amamiensis* Miyamoto, 1958, is restricted to Amami Oshima and the Ryukyu Islands (Andersen, 1990).

*Limnogonus (Limnogonoides) pectoralis* (Mayr, 1865)

*Hydrometra pectoralis* Mayr, 1865, Verh. zool.-bot. Ges. Wien 15: 443.

*Limnogonus (Limnogonoides) pectoralis*; Andersen, 1975: 69.

*Material examined: Myanmar:* Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 1 ♀, lg. F. M. B.

*Distribution:* Sri Lanka and Myanmar.

Winged ♀ (Fig. 1), total body length 7.64; maximum body width 2.43.

This species is described from Ceylon and cited by Andersen (1975) only for that country. Was not known before for Myanmar.

The individual is macropetrous and has been collected in a lateral pond of a forest stream.

*Limnogonus (Limnogonus) fossarum gilguy* Andersen & Weir, 1997

*Hidrometra australis* Skuse, 1893, Rec. Aust. Mus. 2: 42.

*Gerris fossarum*; Distant, 1902: 178.

*Limnogonus pacificus* Esaki, 1928, Insects of Samoa 2: 71. Andersen, 1975: 40 (partim).

*Limnogonus (Limnogonus) fossarum skusei*; Andersen, 1975: 36.

*Limnogonus (Limnogonus) fossarum gilguy* Andersen & Weir, 1997: 255

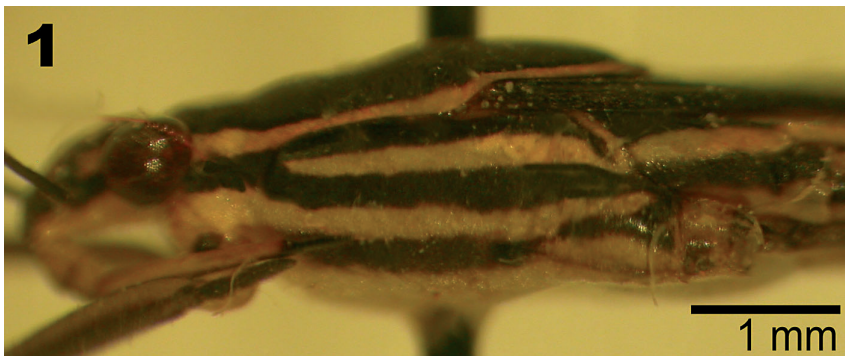


Fig. 1. *Limnogonus (Limnogonoides) pectoralis* (Mayr, 1865). Thorax lateral view of the female collected in Myanmar, Chaungta. (Photo F. M. B.).

*Material examined:* **Australia:** Northern Territory, Top Spring, 180km W of Dunmarra, 29.XII.1998, 1 ♂, lg. Rossi.

*Distribution:* from Indonesia and Malaysia to Australia (Andersen & Weir, 2004)

***Limnogonus (Limnogonus) nitidus*** (Mayr, 1865)

*Hydrometra nitida* Mayr, 1865, Verh. zool.-bot. Ges. Wien 15: 443.

*Gerris nitida*; Distant, 1902: 178.

*Limnogonus nitidus*; Kirkaldy, 1908, Proc. Linn. Soc. N. S. W. 33: 21.

*Limnogonus (Limnogonus) nitidus*; Matsuda, 1960: 198.

*Limnogonus (Limnogonus) nitidus*; Andersen, 1975: 62.

*Material examined:* **Myanmar:** Ayeyarwady State, Chaungtha, 29.X/5.XI.2003, 1 ♂, 3 ♀♀, lg. F. M. B.; Mandalay State, Bagan, 26/28.X.2003, 2 ♀♀, lg. F. M. B.

*Distribution:* from India (including Maldive Is.) and China to Indochina (Andersen, 1975), Indonesia, Sulawesi and Flores (Chen & Nieser, 1992).

***Neogerris parvulus*** (Stål, 1859)

*Gerris parvulus* Stål, 1859, Zoology 4: 265.

*Limnogonus parvulus*; Stål, 1868, K. svenska vetensk.-Akad. Handl. 7: 133.

*Gerris tristan* Kirkaldy, 1899, Rev. Ent. 18: 88.

*Gerris ysolt* Breddin, 1905, Mitt. naturw. Mus. Hamburg 22: 130.

*Limnogonus parvulus*; Lundblad, 1933: 384-387.

*Limnogonus (Limnogonellus) parvulus*; Hungerford & Matsuda, 1959, J. Kans. ent. Soc. 31: 41.

*Limnogonus (Neogerris) parvulus*; Hungerford & Matsuda, 1961, Insecta matsum. 24: 114.

*Neogerris parvula*; Andersen, 1975: 86

*Material examined:* **Thailand:** ME Griffith, 7.I.1953, 1 ♂, ME Griffith, 16.I.1953, 1 ♀.

*Distribution:* from Saudi Arabia to New Guinea and Island of the Pacific Ocean (Andersen, 1975).

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## LITERATURE CITED

- ANDERSEN N. M., 1967 - A contribution to the knowledge of Philippine semiaquatic Hemiptera-Heteroptera - *Entomologiske Meddelelser*, 35: 260-282.
- ANDERSEN N. M., 1975 - The *Limnogonus* and *Neogerris* of the Old World with Character Analysis and a Reclassification of the Gerrinae (Hemiptera: Gerridae) - *Entomologica Scandinavica, Supplementum*, 7: 1-96.
- ANDERSEN N. M., 1990 - Phylogeny and taxonomy of water striders genus *Aquarius* Schellenberg (Insects, Hemiptera, Gerridae), with a new species from Australia - *Steenstrupia*, 16 (4): 37-81.
- ANDERSEN, N.M., 1995 - Cladistics, historical biogeography, and a check list of gerrine water striders (Hemiptera, Gerridae) of the World - *Steenstrupia*, 21: 93-123.
- ANDERSEN N. M. & WEIR T A., 1997 - The Gerrinae Water Striders of Australia (Hemiptera: Gerridae): Taxonomy, Distribution and Ecology - *Invertebrate Taxonomy*, 11: 203-299.
- ANDERSEN N. M. & WEIR T. A., 2004 - Australian Water Bugs. Their Biology and Identification (Hemiptera-Heteroptera, Gerromorpha & Nepomorpha) - *Entomograph vol. 14*, Apollo Books, CSIRO Publishing, 344 pagg.
- BROOKS G. T., 1948 - New species of Enithares (Hemiptera, Notonectidae) - *Journal of the Kansas Entomological Society*, 21: 37-54.
- BROOKS G. T., 1951 - A revision of the genus *Anisops* (Notonectidae, Hemiptera) - *The University of Kansas Science Bulletin*, 34: 301-519.
- CHEN L., 1960 - A study of the genus *Micronecta* of India, Japan, Taiwan and adjacent regions - *Journal of the Kansas Entomologica Society*, 33: 99-118.
- CHEN P.P. & NIESER N., 1992 - Gerridae, mainly from Sulawesi and Palan Buton (Indonesia) - *Tijdschrift voor Entomologie*, 135: 145-162.
- DAMGAARD J. & ZETTEL H., 2004 - Genetic diversity, species phylogeny and historical biogeography of the *Aquarius paludum* group (Heteroptera: Gerridae) - *Insect Systematics and Evolution*, 34: 313-328.
- DISTANT W. L., 1903 - The fauna of British India including Ceylon and Burma. Rhynchota vol. II (Heteroptera) - *Taylor and Francis*, London, 503 pp.
- FIEBER F. X., 1844 - Monographie der gattung *Sigara*. *Abhandlungen der Böhmischen Gesellschaft der Wissenschaften*, 3 (1845): 289-293.
- GUNAWARDANE W. T. T. P. & KAUNARATNE P. B., 1965 - The genus *Hydrometra* (Hemiptera, Heteroptera) in Ceylon, with description of a new species - *Spolia Zeylanica*, 30: 1-14.

- HALE H. M., 1922 - Studies in Australian aquatic Hemiptera. N. I. *Records of South Australian Museum*, 2: 309-330.
- HORVATH G., 1889 - Analecta ad cognitionem Heteropterorum Himalayensium conscripsit - *Természetrizsi Füzetek*, 12: 29-40.
- HORVATH G., 1895 - Hémiptères nouveaux d'Europe et des pays limitrophes - *Revue d'Entomologie*, 14: 152-165.
- HORVATH G., 1904 - Hydrocorisae tres novae - *Annales Musei Nationalis Hungarici*, 2: 594-595.
- HUNGERFORD H.B., 1938 - A new Hydrometra from New Caledonia and Australia - *Pan-Pacific Entomologist*, 14: 81-83.
- LANSBURY L., 1968 - The *Enithares* (Hemiptera-Heteroptera: Notonectidae) of the Oriental Region - *Pacific Insects*, 10: 353-442.
- LA RIVERS I., 1974 - Catalogue of taxa described in the family Naucoridae (Hemiptera) Supplement No. 1 - *Biological Society of Nevada Occasional Papers*, 38: 1-17.
- LUNDBLAD O., 1933 - Zur Kenntnis der aquatilen und semiaquatilen Hemipteren aus Sumatra, Java und Bali - *Archiv. Hydrobiol*, 12 (Suppl.): 1-195, 263-488.
- MATSUDA R., 1960 - Morphology, Evolution and a Classification of the Gerridae (Hemiptera-Heteroptera) - *The University of Kansas Science Bulletin*, 41: 25-632.
- MENKE, A.S., 1960 - A review of the genus *Lethocerus* (Hemiptera: Belostomatidae) in the Eastern Hemisphere with the description of a new species from Australia. *Australian Journal of Zoology*, 8: 285-288.
- MONTANDON A. L., 1897 - Hémiptères-Hétéroptères exotiques - *Annales de la Société Entomologique Belgique*, 16: 50-66.
- MONTANDON, A.L., 1898 - Hemiptera Cryptocerata. Notes et descriptions d'espèces nouvelles. II fam. Belostomidae - *Buletinul Societatii de sciinte Bucuresti*, 7: 430-432.
- NIESER N., 2004 - Guide to aquatic Heteroptera of Singapore and Peninsular Malaysia III. Pleidae and Notonectidae - *The Raffles Bulletin of Zoology*, 52: 79-96.
- NIESER N. & CHEN P., 1992 - Notes on Indonesian Waterbugs (Nepomorpha & Gerromorpha) - *Storkia*, 1: 30-40.
- PEREZ GOODWYN P.J., 2006 - Taxonomic revision of the subfamily Lethocerinae Lauck & Menke (Heteroptera: Belostomatidae) - *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)*, 695: 1-71.
- POLHEMUS J. T., 1994 - Taxonomy. Phylogeny and Zoogeography of the genus *Cylindrostethus* Fieber in the Paleotropical region (Heteroptera: Gerridae) - *Bishop Museum Occasional Papers*, 38: 1-34.
- POLHEMUS J. T & LANSBURY A., 1997 - Revision of the genus *Hydrometra* Latreille in Australia, Melanesia and the Southwest Pacific (Heteroptera: Hydrometridae). *Bishop Museum Occasional Papers*, 47: 1-97.
- POLHEMUS J. T & POLHEMUS D. A., 1995 - Revision of the genus *Hydrometra* Latreille in Indochina and the Western Malay Archipelago (Heteroptera: Hydrometridae) - *Bishop Museum Occasional Papers*, 43: 9-72.

- POLHEMUS J. T. & POLHEMUS D. A., 2000 - The genus *Mesovelvia* Mulsant & Rey in New Guinea (Heteroptera: Mesoveliidae) - *Journal of the New York Entomological Society*, 108: 205-230.
- SKUSE F. A. A., 1893 - Notes on Australian aquatic Hemiptera. N. 1 - *Records of the Australian Museum*, 2: 42-45.
- SPINOLA, M. M., 1837 - Essai sur les insectes Hémiptères L. ou Rhyngotes F. et à la section des Hétéroptères. *Tip. Y. Graviers*, Geneva: 1-383.
- TODD E. L., 1955 - A taxonomic revision of the family Gelastocoridae (Hemiptera) - *University of Kansas Science Bulletin*, 37: 277-475.
- WRÓBLEWSKI A., 1968 - Notes on Oriental Micronectinae (Heteroptera, Corixidae) - *Polskie Pismo Entomologiczne* 37: 229-251.
- ZETTEL H., 1995 - Revision der philippinischen Arten der gattung Rhagovelia (Heteroptera: Veliidae) 2. Teil - *Entomological Problems*, 26 (1): 43-78.
- ZETTEL H., 1996 - Revision der philippinischen Arten der Gattung *Rbagovelia*, 3. Teil (Heteroptera: Veliidae) - *Entomological Problems*, 27 (2): 111-140.
- ZETTEL H. & CHEN P., 1996 - Beitrag zur Taxonomie und Faunistik der Gerridae Vietnams mit Neubeschreibungen der Gattung *Andersenius* gen. nov. aus der Unterfamilie Ptilomerinae und weiterer Arten (Insecta: Heteroptera: Gerridae) - *Entomologische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 57 (6): 149-182.
- ZETTEL H. & CHEN P., 1997 - Three new taxa of Amemboa Esaki, 1925, from Thailand and Viet Nam (Heteroptera: Gerridae) - *Annales Historico-Naturales Musei Nationalis Hungarici*, 89: 93-101.
- ZETTEL H., 2000 - *Rbagovelia inexpectata* sp. nov., a sibling species of *R. sumatrensis* from Southeast Asia (Heteroptera: Veliidae) - *Entomological Problems*, 31 (2): 175-178.
- ZETTEL H., 2001 - Five new species of *Perittopus* Fiebe, 1861 (Hemiptera: Veliidae) from Southeast Asia - *The Raffles Bulletin of Zoology*, 49 (1): 109-119.

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