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A new genus and two new species of Alysiinae (Hymenoptera: Braconidae) from Papua New Guinea

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Abstract

Two new species of the genus *Leptotrema* van Achterberg, 1988 and one new genus of the Alysiinae from Mt Wilhelm, Madang Province, Papua New Guinea are described and illustrated. The distribution of the genus *Leptotrema* is extended to the Australasian region. Three new combinations are established *Idiasta fulmeki* (Fischer, 2010) **comb. n.** (= *Microcrasis fulmeki* Fischer, 2010), *Apiasta postfurcata* (Papp, 1966) **comb. n.** (= *Microcrasis postfurcata* (Papp, 1966)), and *Leptotrema bovefemora* (Bhat, 1979) **comb. nov.** (= *Aspilota bovefemora* Bhat, 1979). The status of the genus *Apiasta* Wharton, 2002 (**stat. n.**) is reviewed. Keys are provided to enable their identification.

Key words: new taxa, altitudinal transect, Australasian region

Introduction

The Hymenoptera fauna of Papua New Guinea is particularly poorly known, with most of species described in the early years of the 20th century (e.g. Cameron, 1907). In the last few years, large numbers of parasitic wasps have been reared or collected as parts of food web research in the lowland forests of Madang or East Sepik (Novitny *et al.* 2004, 2007, 2010, Hreck *et al.* 2011). In 2000, one of the ecological investigations have been done by canopy fogging in the centre of Baiteta forest (S 5°01', E 145°45'), 4 km inland from the North Coast and 50 meters above sea level. Baiteta forest is a remnant patch of lowland mixed tropical rainforest with a relatively high canopy of 35–40 m (Missa, 2000). Material of these collections was used for several taxonomical papers on Braconidae (Braet, 1999; Quicke *et al.* 2012a,b, 2013, 2014); in this paper we deal with Alysiinae specimens.

The subfamily Alysiinae Leach, 1815 (Hymenoptera: Braconidae) contains small to medium-sized parasitoids that occur throughout the world. Alysiinae are distinguished from almost all other Braconidae by their large, outwardly-directed and non-overlapping mandibles (“exodont”). These exodont mandibles are used to escape from the puparium (cocoon) of their hosts. All Alysiinae are koinobiont endoparasitoids of cyclorhaphous dipterous larvae. Several groups of the Alysiinae have been revised and publications of Fischer (1974, 1988, 1993), Belokobylskij (1998), Chen & Wu (1994), Wharton & Austin (1991) and Wharton (2002) are of great use for further studies and to understand their classification, especially for the Oriental and Australasian regions.

Among the 1227 specimens (424 morphospecies, 28 subfamilies) found in Malaise trap samples collected by the “Our Planet Reviewed—IBISCA Niugini 2012–2013”, three specimens of Alysiini are here described. Two belongs to a new species of the genus *Leptotrema* van Achterberg, 1988 and one to a new genus closely related to the *Idiasta* Foerster, 1862.

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References

- Achterberg, C. van (1988) The genera of the *Aspilota*-group and some descriptions of fundicolous Alysiini from The Netherlands (Hymenoptera: Braconidae: Alysiinae). *Zoologische Verhandelingen Leiden*, 247, 1–88. [ISSN 0024–1652]
- Achterberg, C. van (1993) Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea). *Zoologische Verhandelingen Leiden*, 283, 1–189.
- Belokobylskij, S.A. (1998) 9. Alysiinae (Alysiini). In: Ler, P.A. (Ed.), *Key to the insects of Russian Far East. Vol. 4. Neuropteroidea, Mecoptera, Hymenoptera. Pt 3.* Vladivostok, pp. 163–298.
- Bhat, S. (1979) Studies on the genus *Aspilota* Foerster (Hymenoptera: Braconidae). *Oriental Insects*, 13 (3–4), 365–381.
<http://dx.doi.org/10.1080/00305316.1979.10433630>
- Braet, Y. (1999) Description of New Braconidae (Hymenoptera) from Papua New Guinea. *Belgian Journal of entomology*, 1, 3–20.
- Butcher, B.A. & Quicke, D.L.J. (2014) Three new species of *Kerevata* (Braconidae: Rogadinae: Clinocentrini) from mainland Papua New Guinea. *Zootaxa*, 3811 (3), 338–346.
<http://dx.doi.org/10.11646/zootaxa.3811.3.4>
- Cameron, P. (1907) Hymenoptera of the Dutch expedition to New Guinea in 1904 and 1905. Part II: Parasitic Hymenoptera. *Tijdschrift voor Entomologie*, 50, 27–57.
- Chen, J.H. & Wu, Z.S. (1994) [The Alysiini of China: (Hymenoptera: Braconidae: Alysiinae)], 1–218. [in Chinese]
- Fischer, M. (1974) Redeskription von *Phaenocarpa cubiceps* (Bischoff) aus Java (Hymenoptera, Braconidae, Alysiinae). *Mitteilungen aus dem Zoologischen Museum in Berlin*, 50 (1), 143–147.
- Fischer, M. (1988) Einzelheiten zur Taxonomie exotischer Alysiinae der Gattungen *Aphaereta* Foerster, *Asobara* Foerster, *Coelalysia* Cameron und *Phaenocarpa* Foerster (Hymenoptera, Braconidae). *Annalen des Naturhistorischen Museums in Wien*, 90, 93–130.
- Fischer, M. (1993) Zur Formenvielfalt der Kieferwespen der Alten Welt: Über die Gattungen *Synaldis* Foerster, *Trisynaldis* Fischer und *Kritscherysia* Fischer gen. n. (Hymenoptera, Braconidae, Alysiinae). *Annalen des Naturhistorischen Museums in Wien*, 94/95B, 451–490.
- Hrcek, J., Miller, S.E., Quicke, D.L.J. & Smith, M.A. (2011) Molecular detection of trophic links in a complex insect host-parasitoid food web. *Molecular Ecology Resources*, 11, 786–794.
<http://dx.doi.org/10.1111/j.1755-0998.2011.03016.x>
- Missa, O. (2000) *Diversité et hétérogénéité de la faune des charançons (Coleoptera, Curculionidae) dans la canopée d'une forêt tropicale humide en Papouasie Nouvelle Guinée.* Unpublished thesis. Université Libre de Bruxelles, Belgique, 159 pp.
- Novotny, V., Miller, S.E., Baje, L., Balagawi, S., Basset, Y., Cizek, L., Craft, K.J., Dem, F., Drew, R.A.I., Hulcr, J., Leps, J., Lewis, O.T., Pokon, R., Stewart, A.J.A., Samuelson, G.A. & Weiblen, G.D. (2010) Guild-specific patterns of species richness and host specialization in plant-herbivore food webs from a tropical forest. *Journal of Animal Ecology*, 79, 1193–1203.
<http://dx.doi.org/10.1111/j.1365-2656.2010.01728.x>
- Novotny, V., Miller, S.E., Hulcr, J., Drew, R.A.I., Basset, Y., Janda, M., Setliff, G.P., Darrow K., Stewart, A.J.A., Auga, J., Isua, B., Molem, K., Manumbor, M., Tamtai, E., Mogia, M. & Weiblen, G.D. (2007) Low beta diversity of herbivorous insects in tropical forests. *Nature*, 448, 692–695.
<http://dx.doi.org/10.1038/nature06021>
- Novotny, V., Miller, S.E., Leps, J., Basset, Y., Bito, D., Janda, M., Hulcr, J., Damas, K. & Weiblen, G.D. (2004) No tree an island: the plant-caterpillar food web of a secondary rain forest in New Guinea. *Ecology Letters*, 7, 1090–1100.
<http://dx.doi.org/10.1111/j.1461-0248.2004.00666.x>
- Quicke, D.L.J., Smith, M.A., Hrcek, J. & Areekul Butcher, B. (2013) *Cystomastacoides* van Achterberg (Braconidae, Rogadinae): first host record and descriptions of three new species from Thailand and Papua New Guinea. *Journal of*

Hymenoptera Research, 28, 135–141.

<http://dx.doi.org/10.3897/JHR.31.3385>

Quicke, D.L.J., Smith, M.A., Miller, S.E., Hrcek, J. & Butcher, B.A. (2012a) *Colastomion* Baker (Braconidae, Rogadinae): nine new species from Papua New Guinea reared from Crambidae. *Journal of Hymenoptera Research*, 28, 85–121.

<http://dx.doi.org/10.3897/jhr.28.3484>

Quicke, D.L.J., Smith, M.A., van Achterberg, C., Miller, S.E. & Hrcek, J. (2012b) A new genus and three new species of parasitoid wasp from Papua New Guinea and redescription of *Trigonophatnus* Cameron (Hymenoptera, Braconidae, Rogadinae). *Journal of Natural History*, 46, 1369–1385.

<http://dx.doi.org/10.1080/00222933.2012.658585>

Wharton, R.A. & Austin, A.D. (1991) Revision of Australian Dacnusiini (Hymenoptera: Braconidae: Alysiinae), parasitoids of cyclorrhaphous Diptera. *Journal of Australian Entomology*, 30, 193–206.

<http://dx.doi.org/10.1111/j.1440-6055.1991.tb00411.x>

Wharton, R.A. (2002) Revision of the Australian Alysiini (Hymenoptera: Braconidae). *Invertebrate Systematics*, 16 (1), 7–105.