

The sawfly subfamily Allantinae, Selandrinae and Heterarthrinae from Laos (Hymenoptera: Tenthredinidae)

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HARIS, A.: *The sawfly subfamily Allantinae, Selandrinae and Heterarthrinae from Laos (Hymenoptera: Tenthredinidae)*.

Abstract: 77 species are reported from Laos. Fifteen new species are described: *Apethymus turrissii* spec. nov., *Beleses gusenleitneri* spec. nov., *Caliroa laoparvula* spec. nov., *Caliroa laonigrissima* spec. nov., *Caliroa laominuta* spec. nov., *Denticornia laoensis* spec. nov., *Emphystegia pseudomaculata* spec. nov., *Heptamelus kubani* spec. nov., *Neostromboceros kubani* spec. nov., *Neothrinax phoupanensis* spec. nov., *Ridgea laoensis* spec. nov., *Taxonus laoensis* spec. nov., *Taxonus rubroscapus* spec. nov., *Taxonus albotemplis* spec. nov. and *Taxonus sanctifloriani* spec. nov. Further 36 species are new records for Laos. Members of *Beleses multipicta* (Rohwer, 1916) group are keyed and compared.

Keywords: Laos, Hymenoptera, Symphyta, Tenthredinidae, new species

Introduction

Only few papers were published on the sawfly fauna of Indochina in the early 20th century (TURNER 1919 and 1920), which included the present territory of Laos, based on the results of the Vitalis de Salvaza expeditions. 87 years later, HARIS and ROLLER (2007) reported 25 sawfly species from the country including 11 new species for the science. In this paper, 69 sawfly species are published collected by Dr. Eduard Jednek, Dr. Ondrej Sausa and Dr. Roman Hergovits.

Material and methods

Most of the studied material was collected by Dr. C. Holzschuh and in smaller part by Dr. Vit Kubán with the help of local volunteers. It amounts approximately 500 specimens. For the identification of the species, we consulted the comprehensive books of SAINI 2006a,b and c completed with numerous papers as follows: HARIS 2006, 2008, HARIS and ROLLER 1999, 2007a,b, KOCH 1988, MALAISE 1944, 1963, NIU and WEI 2009, SAINI and VASU 2001, SMITH and SAINI 2003, WEI 1997a,b, WEI and NIE 1997, 1998, WEI and XIAO 2002, WEI and ZHU 1999, ZHU and WEI 2008.

Holotypes are deposited in the Biologiezentrum Linz, Austria, some paratypes are in Rippl-Rónai Museum, Kaposvár, Hungary.

List of species

Allomorpha incisa Cameron, 1876: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 17. 05. 2011, 3 females; 02-03. 05. 2011, 1 female, 1 male; 14-15. 05. 2010, 1 female; 16-18. 05. 2010, 1 female; 01. 05. 2010, 2 females; 03-04. 05. 2010, 1 female; 01. 05. 2011, 1 female; 18. 05. 2011, 2 females; 19. 05. 2011, 1 female; 24. 05. 2011, 1 female, 1 male; 22. 05. 2011, 1 female; 21. 05. 2011, 1 female, 1 male; 01. 05. 2010, 1 female; 05. 05. 2011, 1 female; 07. 05. 2011, 1 female, 2 males; 20. 05. 2011, 2 females; 13. 05. 2011, 1 female; 04. 05. 2011, 2 males; 31. 05. 2011, 2 males.

Beleses multipictus (Rohwer, 1916): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 05. 05. 2011, 1 male.

Beleses nigropilosus Wei and Niu, 2012: Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, 28. 05. – 20. 06. 2003, 1 female.

Beleses stigmatalis (Cameron, 1876): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 05. 05. 2011, 1 female.

Eusunoxa major (Wei, 2003): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 08. 06. 2009, 1 male.

Eusunoxa formosana Enslin, 1911: Bolikhamsai province, Ban Nape env., 350 m, 07-16. 05. 2004, 18° 20' N 105° 08' E, 2 males.

Eusunoxa semipunctata Smith & Saini, 2003: Khammouan province, Ban Khoun Ngeun, 250 m, 18° 07' N 104° 29' E.

Taxonus shanicus (Malaise, 1957): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 08. 05. 2011, 1 female; 10. 05. 2011, 2 females; 02-03. 05. 2011, 1 female; 29. 05. 2011, 1 female; 27. 05. 2011, 1 female; 15. 05. 2011, 1 male; Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 12. 05. 2011, 1 male; 04. 05. 2011, 1 male; Louang Phrabang prov., Ban Song Cha env., 1200 m, May of 1999, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 16. 05. 2011, 1 female.

Nepala incerta (Cameron, 1876): Boli Kham Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 600 m, 01-18. 05. 2001, 6 males; Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 3 males; Boli Kham Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 350 m, 07-16. 05. 2004, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10-09. 05. 2009, 2 males; 13. 05. 2010, 1 female, 21. 05. 2011, 1 female, 03-05. 06. 2009, 1 female, 06. 05. 2011, 1 female.

Rhoptoceros malaisei (Wei and Wang, 1995): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 01-03. 06. 2009, 1 female; 06. 06. 2009, 1 female; 24. 05. 2011, 1 male; 22-23. 05. 2010, 1 male; 08. 06. 2009, 1 male; 10. 06. 2009, 1 female.

Allantus (Emphytus) nigrocaeruleus (F. Smith, 1874): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 26. 05. 2011, 1 female.

Canonias inopinus inopinus Konow, 1900: Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, May-June 2003, 1 female; 06-17. 05. 2004, 2 females, 1 male; 28. 05. – 20. 06. 2003, 1 male; Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 2 females, 3 males; Oudom Xai, 17 km, 20°45'N, 102°09'E, 1100 m, 01-09. 05. 2002, 1 male; Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 2 males; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 01-03. 06. 2009, 1 male.

Athlophorus gracilis gracilis (Konow, 1898): Ban Houaykong, 18-30. 04. 1999, 1 male; Louang Phrabang prov., Ban Song Cha env., 1200 m, May of 1999, 2 males.

Athlophorus mimicarius Malaise, 1947: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 30. 05. 2011, 1 female; Boli Kham Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 600 m, 01-18. 05. 2001, 1 female.

Athlophorus perplexus perplexus (Konow, 1898): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 04. 05. 2011, 1 female; Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 01. 05. 2010, 1 female; 18. 05. 2011, 1 female; 17. 05. 2011, 1 male; 06. 06. 2009, 1 female; 27-28. 04. 2011, 1 male.

Athlophorus placidus (Konow, 1898): Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 7 females.

Beleses nigrolividus Wei, 2002: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 08. 05. 2011, 1 female; Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, 28. 05. – 20. 06. 2003, 1 female

Mallachiella rufithorax Malaise, 1934: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 27-28. 04. 2011, 1 female; Louang Phrabang prov., Ban Song Cha env., 1200 m, May of 1999, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 21-22. 04. 2010, 1 female; 02-03. 05. 2011, 1 male; 04. 05. 2011, 1 male; 21. 05. 2011, 1 male; 07-09. 04. 2010, 1 male.

Xenapatidea tricolor Malaise, 1957: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 11. 05. 2011, 1 female; 19. 05. 2011, 1 female; 14-16. 06. 2009, 1 female; Oudom Xai, 17 km, 20°45'N, 102°09'E, 1100 m, 01-09. 05. 2002, 1 female.

Busarbia hoaensis Haris, 2012: Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, 28. 05. – 20. 06. 2003, 9 females, 2 males; Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 1 female; Phongsaly prov., Phongsaly, 21°41'N, 102°06'E, 1500 m, 06-17. 05. 2004, 3 females, 4 males.

Busarbia formosana (Rohwer, 1916): Boli Kam Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 600 m, 01-18. 05. 2001, 1 female.

Darjilingia weii M.S. Saini, Blank & D.R. Smith, 2006: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011, 1 female.

Darjilingia vietnamensis Haris, 2006: Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 female.

Darjilingia hoangliensis Haris, 2006: Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, 28. 05. – 20. 06. 2003, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 16. 05. 2011, 1 female.

Busarbidea thaiana Togashi, 1988: Oudom Xai, 17 km, 20°45'N, 102°09'E, 1100 m, 01-09. 05. 2002, 1 female.

Busarbidea pedicellidea Wei & Nie, 1998: Boli Kam Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 600 m, 01-18. 05. 2001, 1 female.

Clypea sinobirmana Malaise, 1961: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011, 1 female.

Hemathlophorus foveatus M.S. Saini & Vasu, 1996: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 11. 05. 2011, 1 female.

Xenapatidea nigrissima Haris & Roller, 2007: Phongsaly prov., Phongsaly, 21°41'N, 102°06'E, 1500 m, June 2003, 1 male.

Taxonus formosacola (Rohwer, 1916): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 11. 05. 2011, 2 females.

Taxonemphytus fulvus Malaise, 1947: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 12. 05. 2011, 1 female; 10. 05. 2011, 2 females; 10. 05. 2011, 1 male; 24. 05. 2011, 1 male; 08. 05. 2011, 1 male; 30. 05. 2011, 1 male; 05. 05. 2011, 1 male; 08. 05. 2011, 1 male; 06. 05. 2011, 1 female; 07. 05. 2011, 1 female.

Ametastegia (Protemphytus) formosana (Rohwer, 1916): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 11. 05. 2011, 1 male.

Caliroa angustata Forsius, 1927: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 01. 05. 2011, 1 female; 27-28. 04. 2011, 1 female; 07. 05. 2011, 1 female; 01. 06. 2011, 1 female.

Caliroa bilobatina Wei, 2002: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 14-16. 06. 2009, 1 female.

Caliroa curvata Wei, 1997: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 02-03. 05. 2011, 1 male; Ban Houaykong, 18-30. 04. 1999, 1 male.

Caliroa glabrifrons Malaise, 1961: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011, 2 females.

Caliroa megomma Wei, 1997: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 18°07'N, 104°29'E, 02-03. 05. 2011, 1 female.

Caliroa siamana Togashi, 1982: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 19. 05. 2011, 1 female.

Caliroa tenuicornis Wei, 1997: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 01. 05. 2010, 1 female.

Caliroa vietnamensis Haris, 2008: Khammouan prov., Ban Khoun Ngeun, 250 m, 18°07'N, 104°29'E, 20-29. 05. 2004, 1 female.

Neostromboceros congener (Konow, 1900): Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 30. 05. 2011, 1 female; 10. 05. 2011, 1 male; 08. 06. 2009, 1 male; Boli Kham Xai prov., Ban Nape 8km NE, 18°21'N, 105°08'E, 600 m, 01-18. 05. 2001, 1 male; Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 06. 05. 2011, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°15'N, 104°02'E, 1500-2000 m, 26.04.-11. 05. 2001, 1 female; Boikhamsai prov., Pakkading, 18°19'N, 103°59'E, Novembre 2000, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 02-03. 05. 2011, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 11. 05. 2011, 1 female.

Neostromboceros chalybeus (Konow, 1908): Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 1 female.

Neostromboceros punctatus (Konow, 1908): Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 28. 05. 2011, 1 male.

Neostromboceros nigrogiganteus Haris, 2006: Hua Phan Prov., Phou Pan Mt., 20°12'N, 103°59'E, 1350-1900 m, 10-22. 05. 2011, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 18. 05. 2011, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 28. 05. 2011, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 27. 05. 2011, 1 female.

Neostromboceros rugifrons Malaise, 1944: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 15. 05. 2011, 1 female.

Neostromboceros caeruleiceps (Cameron, 1899): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 12. 05. 2010, 1 male; 24-25. 05. 2010, 1 female; 06. 06. 2009, 1 male; 16. 05. 2011, 1 male; 03-05. 06. 2009, 1 male.

Neostromboceros nigrocollis Wei, 1998: Phongsaly prov., Phongsaly, 21°41'N, 102°06'E, 1500 m, 06-17. 05. 2004, 1 female; Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 2 females; Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 1 male.

Neostromboceros fuscitarsis Takeuchi, 1929: Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 1 female; Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 2 males; Phongsaly prov., Phongsaly, 21°41-42'N, 102°06-08'E, 1500 m, 28. 05. – 20. 06. 2003, 1 female.

Neostromboceros indobirmanus Malaise, 1944: Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 1 female.

Iconia versicolor Malaise, 1944: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 27. 05. 2011, 1 female; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011, 1 female.

Denticornia ruficornis (Rohwer, 1915): Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 04. 05. 2011, 1 female.

Denticornia siamana Togashi, 1988: Phongsaly prov., Phongsaly, 21°41'N, 102°06'E, 1500 m, 06-17. 05. 2004, 1 male.

Edenticornia formosana (Malaise, 1944): Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, 1 female.

Neothrinax corvina Malaise, 1944: Louangphrabang, Thong Khan, 19°35'N, 101°58'E, 11-21. 05. 2002, 1 male.

Heptamelus kalamunitopensis M.S. Saini & T.P. Saini, 1997: Phongsaly prov., Phongsaly, 21°41-42'N, 102°06-08'E, 1500 m, May-June 2003, 2 males.

Nesoselandria birmana Malaise, 1944: Bolikhamxai prov., Pakkading, 18°20'N, 104°00'E, 300 m, 27. 05. 2003, 1 female; Phongsaly prov., Phongsaly, 21°41'N, 102°06'E, 1500 m, 06-17. 05. 2004, 1 male; Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°15'N, 104°02'E, 1500-2000 m, 06-18. 05. 2004, 1 female; Louangphrabang, Thong Khan, 750 m, 19°35'N, 101°58'E, 11-21. 05. 2002, 1 female.

Nesoselandria ruga M.S. Saini & Vasu, 1999: Khammouan prov., Ban Khoun Ngeun, 250 m, 18°07'N, 104°29'E, 20-29. 05. 2004, 3 females.

Nesoselandria annandalei (Rohwer, 1915): Louang Phrabang prov., Ban Song Cha env., 1200 m, May 1999, 1 female.

Nesoselandria shanica Malaise, 1944: Khammouan prov., Ban Khoun Ngeun, 250 m, 18°07'N, 104°29'E, 20-29. 05. 2004, 1 male.

Nesoselandria devriesiana Haris, 2006: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011, 1 female.

Nesoselandria annamitica (Forsius, 1931): Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 female; Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 01-08. 05. 2004, 1 female.

Nesoselandria indica M.S. Saini, T.P. Saini & Vasu, 2001: Khammouan prov., Ban Khoun Ngeun, 250 m, 18°07'N, 104°29'E, 20-29. 05. 2004, 1 female; Bolikhamsai prov., Ban Nape env., 350 m, 18°20'N, 105°08'E, 07-16. 05. 2004, 1 female.

Description of the new species

Apethymus turrisii spec. nov. (Figs. 1, 11, 16 and 25)

Holotype: female: Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 15. 05. 2011. Paratypes: female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 02-03. 05. 2011; female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 21. 05. 2011; female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10. 05. 2011.

Head black; white: labrum and clypeus entirely, most of mandibles except brown apex, small supraclypeal triangle above clypeus between base of antennae and palpi. Antenna black, segments 7-9 white. Thorax black; white: pronotum, propleuron, tegula, parapterum, metascutellum, mesoscutellum entirely, anterior margins of mesonotal middle lobes. Legs white (including all coxae, trochanters and tarsi); black: all femora (except narrow white apex and base of first and middle femora), apical third of fore and middle tibiae and apical 40% of hind tibia. Wings gently subinfumated. Costa, subcosta, stigma and venation brownish black. Basal third of costa and base of stigma white. Abdomen black; pale yellow: hind margin of first tergite (propodeum), second tergite (except large middle black spot), ventro-lateral spots of tergites (except last 2 tergites), all sternites (except last sternite which has only yellow middle line), large middle spot on tergite 9 and apical triangle on last tergite (tergite 10). Vertex and temples finely, minutely and densely punctured, shiny. Frontal area densely and roughly punctured, hardly shiny. Pentagonal frontal area elevated. Postocellar furrow reaching hypothetical hind margin of head. Clypeus deeply and roundly emarginated. Depth of clypeal emargination: middle length of clypeus: 3:7. Ratios of antennal segments: 16:9:45:48: 41:30:26:22:25. Head gently dilated than contracted behind eyes, more or less subparallel. Gena as long as diameter of anterior ocellus. Postoccipital carina reaching up to the upper corner of eye. Mesonotum, mesoscutellum and mesoscutellar appendage densely and moderately deeply punctured, moderately shiny. Interspaces about 2/3x as large as diameter of a puncture. Metascutellum moderately densely and deeply punctured. Interspaces about as large as a diameter of a puncture. Mesopleuron very densely roughly and deeply punctured, hardly shiny. Mesosternum moderately densely punctured with deep and small punctures, shiny. Interspaces about 1-3x as large as diameter of a puncture. Mesoscutellum flat. Abdominal tergites (including propodeum) with fine and dense surface sculpture, moderately shiny. Length of ovipositor: length of hind tibia: 53: 80. Length of inner hind tibial spur: length of hind basitarsus: 11:40. Claws without basal lobe, inner tooth longer and wider than apical (Fig. 16). 14.7 mm. (paratypes: 13.9-16.5 mm).

Individual variation: paratypes has no white line on anterior margin of mesonotal lateral lobe.

The new species is dedicated to Dr. Fabricio Turrisi.

The related species:

Apethymus koltthoffi (Forsius, 1927): It's clypeus is black, first and middle tibiae are brown, 10:0-11.5 mm (KOCH 1988). The new species has white clypeus, all tibiae are white with black apex. 14-16.5 mm. Serrulae are also completely different, compare Fig. 1 with Fig. 6.3 in KOCH 1988.

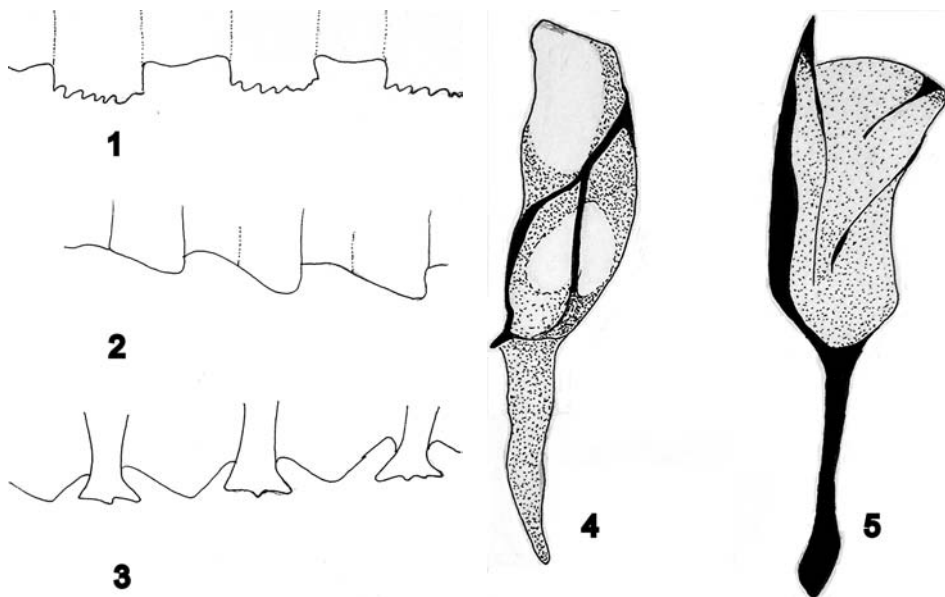


Fig. 1: 3-5 serrulae of *Apethymus turrinii* spec. nov.; Fig. 2: 3-5 serrulae of *Taxonus rubroscapus* spec. nov.; Fig. 3: 4-6 serrulae of *Taxonus laoensis* spec. nov.; Fig. 4: Penis valve of *Caliroa laonigrissima* spec. nov.; Fig. 5: Penis valve of *Caliroa laominuta* spec. nov.;

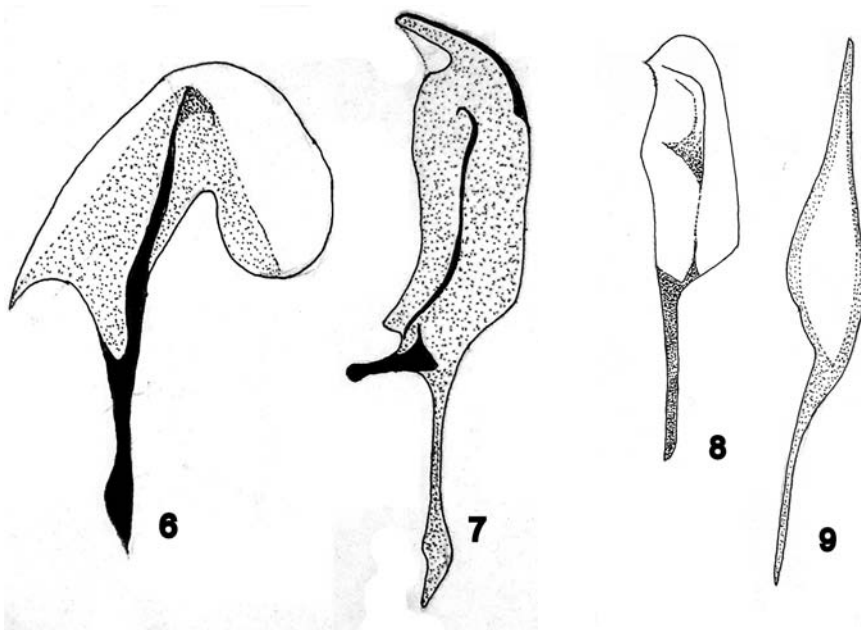


Fig. 6: Penis valve of *Neostromboceros kubani* spec. nov.; Fig. 7: Penis valve of *Taxonus sanctifloriani* spec. nov.; Fig. 8: Penis valve of *Emphystegia pseudomaculata* spec. nov.; Fig. 9: Penis valve of *Taxonus albotemplis* spec. nov.

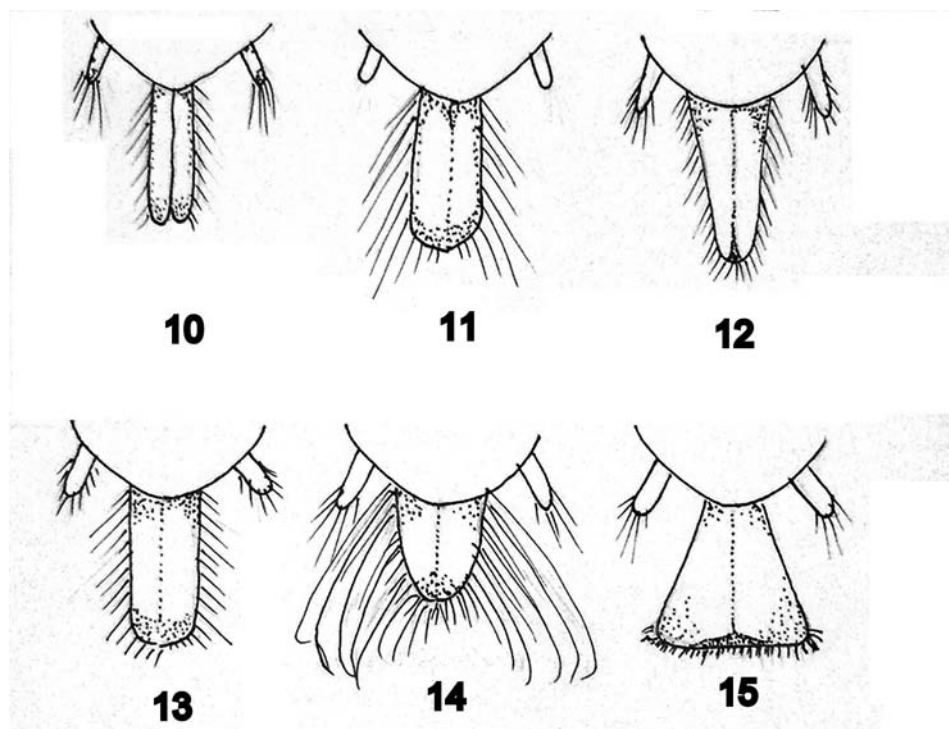


Fig. 10: Sawsheath of *Heptamelus kubani* spec. nov.; Fig. 11: Sawshetah of *Apethymus turrisii* spec. nov.; Fig. 12: Sawsheath of *Taxonus rubroscapus* spec. nov.; Fig. 13: Sawsheath of *Taxonus laoensis* spec. nov.; Fig. 14: Sawsheath of *Beleses gusenleitneri* spec. nov.; Fig. 15: Sawsheath of *Taxonus sanctifloriani* spec. nov.

Apethymus compressicornis Zhu & Wei, 2008: Tibiae are without white, mesoscutellum and metascutellum black. 13.0 mm (ZHU and WEI 2008). The new species has basal 2/3 of all tibiae, mesoscutellum and metascutellum are white. 14-16.5 mm.

Apethymus pleuritanus Wei, 1999: It's mesoscutellum is black and mesopleuron is impunctate and shiny, 9.0 mm (WEI and ZHU 1999). The mesoscutellum of the new species is white, mesopleuron is densely and roughly punctured, matt. The new species is significantly larger: 14-16.5 mm.

Beleses gusenleitneri spec. nov. (Figs. 14, 21 and 26)

Holotype: female, Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 06. 05. 2011, leg. C. Holzschuh and locals.

Body, including legs and mouthparts brownish orange; black: 2-4 antennal segments. Wings infusate, subcosta, veins black, costa and stigma yellow transparent. Upper margin of stigma infusate. Frontal area and area between eyes roughly, deeply and densely punctured with large punctures, hardly shiny. Temples and vertex densely punctured with shallow, moderately large punctures, shiny. Antenna about as long as head, thorax

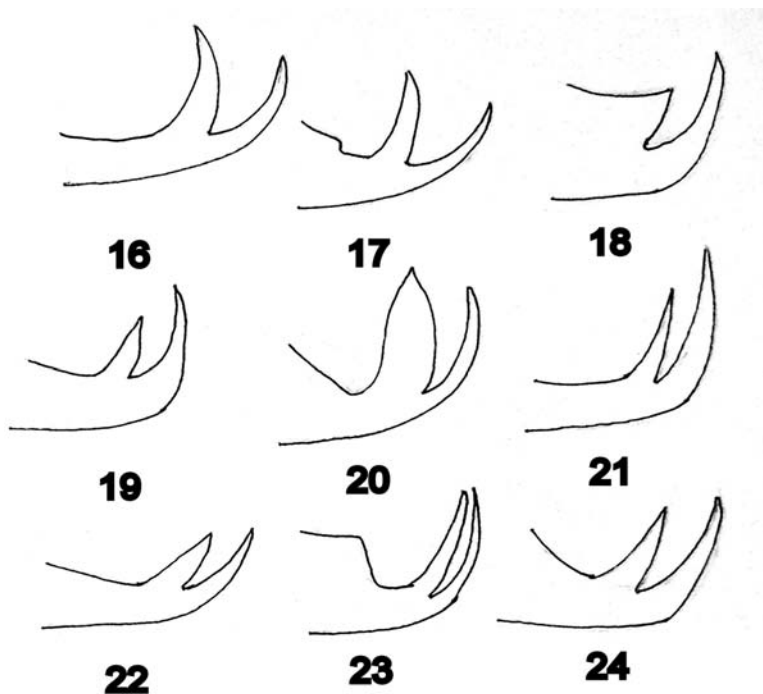


Fig. 16: Claw of *Apethymus turrisii* spec. nov.; Fig. 17: Claw of *Heptamelus kubani* spec. nov.; Fig. 18: Claw of *Caliroa laonigrissima* spec. nov.; Fig. 19: Claw of *Neothrinax phoupanensis* spec. nov.; Fig. 20: Claw of *Taxonus rubroscapus* spec. nov.; Fig. 21: Claw of *Beleses gusenleitneri* spec. nov.; Fig. 22: Claw of *Ridgea laoensis* spec. nov.; Fig. 23: Claw of *Neostromboceros kubani* spec. nov.; Fig. 24: Claw of *Taxonus laoensis* spec. nov.

and first 2 abdominal segments combined. Ratios of antennal segments: 11 : 11 : 30 : 28 : 27 : 21 : 21 : 16 : 20. OOL : POL : OCL: 9: 10 : 10. Length : width of postocellar area: 1.0 : 2.0. Postoccipital carina non visible. Frontal area slightly elevated. Clypeus truncate. Gena narrow, about 0.4x as wide as diameter of anterior ocellus. Head contracted behind eyes. Mesonotal lobes shiny with moderately sparse, small punctures. Mesoscutellum, mesoscutellar appendage and metascutellum smooth and shiny. Hind wing with 1 closed middle cell. Anal cell of hind wing with short petiole, nervellus runs into petiole just behind apex of anal cell. Prepectus present. Mesopleuron nearly smooth and shiny with sporadic small, shallow punctures. Abdominal tergites shiny, with undefined surface sculpture. Hind basitarsus narrow, elongated. Length of inner hind tibial spur: length of hind basitarsus: 5 : 14. Claw with slender subapical toooth, little shorter than apical without basal lobe. Length: 10.3 mm.

The new species is dedicated to Dr. Fritz Gusenleitner.

According to the generic interpretation of MALAISE (1963), the new species belongs to genus *Eusunoxa* Enslin, 1911, since claws without basal lobe. In this case, the new species is related to *Eusunoxa major* (Wei, 2003). This species has hind basitarsus flat and

dilated like all other typical species of this genus. The hind basitarsus of the new species is normal and cylindrical.

In the keys of SAINI (2006a) and SMITH and SAINI (2003) the new species is a *Beleses* Cameron, 1877, because the hind basitarsus normal. In this case, the new species related to *Beleses unicolor* Wei, 1999 and *Beleses satonis* (Takeuchi, 1929) these species has antenna fulvous or fulvous and white. The antenna of the new species has fulvous-black-fulvous. Also, these 2 species have claws with basal lobe, the claw of the new species is without basal lobe which is not usual in genus *Beleses* Cameron.

***Caliroa laoparvula* spec. nov. (Fig. 28)**

Holotype: female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 10-19. 05. 2009, leg. C. Holzschuh and locals.

Head, antenna, thorax and abdomen black including palpi and mouthparts. Legs black; white: anterior and middle knees, basal fifth of hind tibia, basal half of hind basitarsus. Wings hyaline, costa black, stigma, subcosta and venation brown. Ratios of antennal segments 1-9: 9 : 11 : 25 : 15 : 13 : 9 : 7 : 6 : 8. Antenna about as long as head and mesonotal lobes combined. Clypeus subtriangularly emarginated, clypeal emargination about 0.33x as deep as clypeal median length. Temples and vertex smooth and shiny. Frontal area with fine and small, moderately dense punctures, shiny. Supraantennal pits, large, about 1.2x larger than front ocellus. Frontal area without ridges, gently elevated. Head contracted behind eyes and temples behind eyes about half as wide as length of scape. Gena linear. Postoccipital carina present but very short, restricted to lower 15 percent of hind orbit. Mesonotal lobes, mesoscutellum, mesoscutellar appendage, metascutellum and mesopleuron smooth and shiny. Hind wing with 2 closed middle cell, anal cell of hind wing with petiole. Length of hind tibial spur : width of hind tibia: 2 : 3. Claw with large basal tooth and without subapical tooth (similar to Fig. 18). Length: 5.0 mm.

In WEI 1997b, the new species runs to *Caliroa parvula* Wei, 1997. The differences, in *Caliroa parvula* Wei, middle cells are missing, four anterior tibiae are white and basal half of hind tibia is white. The new species has 2 middle cells in hind wing, four anterior tibiae are dominantly black, as it is described above and only a basal ring is white on hind tibia.

***Caliroa laonigrissima* spec. nov. (Figs. 4, 18 and 27)**

Holotype: male, Lao, Phongsaly prov., Phongsaly env., 21°41'N, 102°06'E, 1500 m, June 2003, leg.: Pacholatko.

Male. Head, thorax, abdomen including antennae, palpi, mouthparts and legs entirely black without any white or whitish spot and without any bluish tinge. Wings dark infusate. Costa, subcosta, stigma and venation brownish-black. Tegulae grayish-brown. Frontal area, vertex, temples densely and shallowly punctured, shiny. Antenna short, about as long as head and prescutum combined. Ratio of antennal segments 1-9: 9 : 7 : 22 : 12 : 10 : 9 : 7 : 6 : 6. Temples subparallel behind eyes and about as wide as length of 5th antennal segment. Gena linear, clypeus truncate. Pentagonal frontal area marked by blunt ridges. Mesonotum, mesoscutellum, mesoscutellar appendage and metascutellum sparsely, minutely punctured, shiny. Mesopleuron smooth and shiny. Abdominal



Fig. 25: *Apethymus turrisii* spec. nov. paratype



Fig. 26: *Beleses gusenleitneri* spec. nov. holotype



Fig. 27: *Caliroa laonigrissima* spec. nov. holotype



Fig. 28: *Caliroa laoparvula* spec. nov. holotype

tergites 1-3 smooth and shiny. Other tergites with undefined shallow surface sculpture, shiny. Hind wing without closed middle cell and without marginal vein. Inner hind tibial spur as long as apical width of hind tibia. Claws with large basal lobe without subapical tooth (Fig. 18). Penis valve in Fig. 4. Length: 6.9 mm.

In WEI 1997b, this species runs to *Caliroa cerasi* (Linné, 1758). The penis valve clearly differentiates the new species from *Caliroa cerasi* L. (compare Fig. 2 in WEI, 1997b and Fig. 4). Wings of *Caliroa cerasi* L. hyaline, the new species has wings infumate.

***Caliroa laominuta* spec. nov. (Fig. 5)**

Holotype: male, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 22. 04. 2010, leg. C. Holzschuh and locals, paratype, female, topotypic but 01. 05. 2010.

Head (including mouthparts and palpi), antenna, thorax and abdomen black. Cephala greyish brown. Legs black, apices of all femora, basal fifth of all tibiae, ventral surface of anterior tibia, basal 4 segments of anterior tarsus, basal 2 segments of middle tarsus white. Wings hyaline, costa, subcosta, stigma and venation brownish black. Ratios of antennal segments 1-9: 4 : 6 : 18 : 13 : 9 : 6 : 5 : 4 : 5. Temples, vertex and frontal area shiny with small and shallow moderately dense punctures. Temples contracted behind eyes and about as wide as length of last antennal segment. Outer orbite matt and roughly punctured with deep punctures. Gena linear. Clypeus roundly emarginated, clypeal emargination about 0.4x as deep as clypeal median length. Frontal area marked with blunt ridges. Supraantennal pits deep and large, about as large as front ocellus. Mesonotal lobes and mesoscutellum with sporadic small punctures, shiny. Mesoscutellar appendage smooth and shiny. Metascutellum with few punctures, shiny. Mesopleuron smooth and shiny. Inner hind tibial spur shorter than width of hind tibia as 2 : 3. Hind wing without closed middle cells and without marginal vein. Claw similar to Fig. 18. Penis valve in Fig. 5. Length: 4.3 mm.

In WEI 1997b, the new species would run to *Caliroa parvula* Wei, 1997. The differences: in *Caliroa parvula* Wei, 1997, anal cell of hind wing is petiolate, basal half of hind tibia and four anterior tibia are white. In the new species, anal cell of hind wing is sessile, basal quarter of hind tibia is white and middle tibia dominantly (in 3/4) is black. *Caliroa parvula* Wei, 1997 is smaller, only 3.4 mm.

***Denticornia laoensis* spec. nov. (Fig. 29)**

Holotype: male, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 07. 05. 2011.

Head, antennae, palpi, mouthparts and thorax black with slight bluish lustre, only tegulae white (except black margin). Legs black; yellow: basal 2 segments of hind basitarsus; white: basal 2/3 of hind tibia, ventral surface of anterior tibia, central spot of ventral surface of middle tibia, ventral apex of anterior tibia. Wings hyaline, apical part from base of costa slightly brown infumate; costa, subcosta, stigma and venation dark brown. Abdomen black, tergites 3 and 4 entirely, triangular spot on tergite and base of tergite 4, sternites 3-4 and partly sternite 5 yellowish white. Apices of antennal segments

2-8 with projecting tufts of black hair. Ratios of antennal segments: 9 : 5 : 19 : 20 : 15 : 13 : 12 : 9 : 10. Antenna as long as head and thorax combined without propodeum. Pentagonal frontal area sunken bordered by blunt ridges, clypeal emargination about 0.25x as deep as clypeal median length. Gena linear. Middle and lateral pits about as large as front ocellus. Mesonotum and mesoscutellum with shallow, sporadic punctures, shiny. Hind margin of middle mesonotal lobe with deep and moderately dense punctures. Mesoscutellar appendage with few, moderately small and deep punctures. Length of inner hind tibial spur: length of hind basitarsus: 9:31. Length: 7.9 mm.

The closest relative is *Denticornia sikkimensis* (Malaise, 1934) having slight metallic lustre and all legs extensively white. However, the wide white band on the abdomen (tergite 3 and 4 entirely white) differs the new species from all other relatives. During genitalia dissection, the specimen fallen into part and badly destroyed.

***Emphystegia pseudomaculata* spec. nov. (Fig. 8)**

Holotype: male, Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 13. 05. 2011, leg. C. Holzschuh and locals.

Head black; white: clypeus, labrum, mandibles (except brown apex). Antenna entirely black. Thorax black; hind corner of pronotum, parapteron, denchri and small middle spot in middle of mesoscutellum and that of metascutellum white; tegula brown. Coxae and trochanters white, anterior coxa with small basal, other coxae with large basal black spot. Anterior and middle femora, all tibiae fulvous. Hind femur black, basal 2/3 of hind tibia fulvous, apical third black. Wings hyaline, stigma, costa dark brown, subcosta, venation blackish brown. Abdomen black, sternite 5 with wide basal spot. Ratios of antennal segments: 12 : 5 : 22 : 30 : 30 : 24 : 20 : 15 : 19. OOL : POL : OCL: 11 : 5 : 15. Head smooth and shiny, contracted behind eyes. Antenna about as long as head, thorax and half abdomen combined. Antenna filiform. Postoccipital carina reach to half level of eye. Clypeus broadly and slightly emarginated. Clypeal emargination about 0.2x as deep as clypeal median length. Gena about 0.4x as wide as diameter of anterior ocellus. Postocellar furrow deep reaching hypothetic hind margin of head. Thorax smooth and shiny. Wings with 4 cubital cells. Hind wing without closed middle cells. Anal cell of anterior wing with oblique cross-vein. Hind wing without marginal vein. Anal cell of hind wing sessile. Inner hind tibial spur short, length of inner hind tibial spur : hind basitarsus: 10 : 41. Claws with inner tooth, shorter than apical, without basal lobe. Length: 7.6 mm.

Closest relative: *Isotaxonus maculatus* M.S. Saini & Vasu, 2001. Differences: the internal triangular sclerotised part of penis valve is in bottom position in *Isotaxonus maculatus* M.S. Saini & Vasu, 2001, but it is in central position in the new species. The stem is connected to ventral margin of penis valve in straight line in the new species but this point is deeply concave *Isotaxonus maculatus*. (Compare Fig. 8 and Fig. 7 in SAINI and VASU 2001). Male of *Isotaxonus maculatus* has hind femur fulvous and tergites 2-3 dominantly, tergites 4-5 entirely fulvous. In the new species, all these parts are black. In *Isotaxonus maculatus* metascutellum black, in the new species with central white spot.

***Heptamelus kubani* spec. nov. (Figs. 10, 17 and 30)**

Holotype: female. Laos N., 1200 m., Louang Phrabang prov., Ban Song Cha env., May 1999, Leg. V. Kuban.



Fig. 29: *Denticornia laoensis* spec. nov. holotype



Fig. 30: *Heptamelus kubani* spec. nov. holotype



Fig. 31: *Neostromboceros kubani* spec. nov. holotype



Fig. 32: *Neothrinax phoupanensis* spec. nov. holotype

Head and thorax black, tegulae pale brownish-white. Abdomen black, hind margin of tergite 1, total abdominal segments 2-5 light brownish-yellow. Abdominal sternites and basal part of ovipositor brownish-yellow except black last 2 sternites and valvula 3. All legs entirely brownish-yellow. Antenna black, scape and pedicel brownish-yellow. Wings subhyaline, costa, subcosta, stigma and veins brownish-black. Frontal area, vertex and temples shiny with moderately deep and moderately dense punctures, shiny interspaces about 2-3x as large as a diameter of a puncture. Frontal area not marked with sutures or ridges neither elevated or sunken. Lateral supraantennal pits longitudinally elongated and narrow, suture like. Middle supraantennal pit oval, longitudinally elongated. Clypeus roundly emarginated, clypeal emargination about 0.25x as deep as clypeal median length. Gena short, about 0.3x as long as diameter of median ocellus. Ratios of antennal segments: 12 : 11 : 27 : 17 : 15 : 13 : 18. OOL:POL:OCL: 14:9:14. Head without postoccipital carina. Postocellar furrows reaching hypotethic hind margin of head. Head contracted behind eyes. Mesopleuron shiny, upper half of mesopleuron with deep, large punctures, shining interspaces about as large as 0.1-0.5x of diameter of one puncture. Mesonotal lobes and mesoscutellum shiny with moderately small and moderately deep punctures. Mesoscutellar appendage and postscutellum smooth and shiny. Mesoscutellum flat. Abdominal tergites 1 and 2 smooth and shiny. Other tergites with fine coriaceous surface sculpture, shiny. Claws with basal lobe (Fig. 17). Internal tooth of claw longer and thicker than apical. Length of ovipositor: length of hind tibia: 81 : 88. Sawsheath in Fig. 10. Length: 6.65 mm.

The new species is dedicated to Mr. Vit Kuban.

The new species is related to *Heptamelus mangshanicus* Wei, 2002. *Heptamelus mangshanicus* Wei, 2002 has tergites 2-6 yellowish brown with black maculae (WEI and XIAO 2002). The new species has tergites 2 -5 entirely brownish yellow without any black maculae. It is also related to *Heptamelus verticinus* Wei, 1997. However, *H. verticinus* Wei, 1997 has abdominal tergites with black maculae and central area of mesonotum is reddish-brown (WEI and NIE 1997). The new species has no black maculae on tergites and mesonotum is entirely black. *Heptamelus yunnanensis* Wei, 1997 is also related to the new species. But, *H. yunnanensis* Wei, 1997 is larger, 8.2 mm., tergites 2 and 5 with black central part and pedicel is black (WEI and NIE 1997). The new species is smaller and these parts are brownish-yellow.

Neostromboceros kubani spec. nov. (Figs. 6, 23 and 31)

Holotype: male, Louangnamtha prov., Namtha: Muang Sing, 21°09'N, 101°19'E, 05-31. 05. 1997, leg. Vit Kubán.

Head and antenna black, only labrum white. Thorax black, tegula rusty brown, cenchri white. Legs black, base of all tibiae with small white spot. Abdomen black, propodeum and first abdominal segment entirely white (sternites and tergites). Wings hyaline. Subcosta and venation blackish brown. Costa light brown, stigma white with black apex. Postoccipital carina short reaching up to 1/3 of the height of eye. Ratios of antennal segments 1-9: 11 : 8 : 30 : 25 : 18 : 11 : 10 : 8 : 11. Antenna about as long as head and thorax combined without propodeum. Head contracted behind eyes, temple behind eye as wide as half of third antennal segment. Vertex and temples smooth and shiny. Frontal area moderately densely punctured with small and shallow punctures, shiny. Supraantennal tubercles large and double. Pentagonal frontal area elevated without ridges. Clypeus

gently emarginated with middle blunt wide tooth. Gena linear. Mesonotal lobes with small, shallow punctures, shiny. Mesoscutellum with row of punctures behind otherwise smooth and shiny. Mesoscutellar appendage and metascutellum smooth and shiny. Mesopleuron with moderately dense, small punctures, shiny. Abdomen without sinus sexualis. Second tergite compressed. First 3 abdominal tergites smooth and shiny, others with fine surface sculpture. Apical and subapical teeth of claws subequal in length, subapical tooth wider, claws with basal lobe (Fig. 23). Length of inner hind tibial spur: apical width of hind tibia: 7 : 5. Penis valve in Fig. 6. Length: 8.3 mm.

The new species is dedicated to Mr. Vit Kuban.

In shape of penis valve, the new species related to *Neostromboceros macropunctatus* Vasu & M.S. Saini, 1999. *N. macropunctatus* Vasu and Saini is entirely black, without white ring in middle of abdomen and the apex of penis valve acute in the new species (blunt in *N. macropunctatus*) the plate of penis valve significantly larger than stem in proportion in the new species (while the proportion of plate and stem is opposite in *N. macropunctatus*). Also internal structure of penis valve is different in the 2 closely related species.

Neothrinax phoupanensis spec. nov. (Figs. 19 and 32)

Holotype: female, Prov. Hua Phan, Phou Pan Mt., Umg. Ort Ban Saleui, 20°13'30"N, 103°59'26"E, 1350-1900 m, 28. 05. 2011, leg. C. Holzschuh and locals, paratype, 1 female, topotypic, but 14-16. 06. 2009.

Head black; clypeus, labrum, palpi and base of mandibles white. Antenna black, scape with longitudinal white spot. Thorax and abdomen black, hind margin of pronotum, tegula, horizontal band on mesopleuron white. Abdominal tergites 4-8 with narrow yellow hind margin, last tergite yellow. Tegulae whitish brown. Apical 4 tarsal joints of middle leg, all tarsal joints of hind legs brown, legs otherwise entirely white. Wings hyaline, costa, subcosta, stigma and venation black. Ratios of antennal segments: 11 : 9 : 32 : 25 : 16 : 11 : 10 : 10 : 9. Antenna as long as head and half of thorax till apex of mesoscutellum. Postoccipital carina reaching up to the upper edge of eye. Clypeal emargination wide and about 0.4x as deep as clypeal median length. Gena short, 0.25x as long as diameter of anterior ocellus. Frontal area elongated, laterally marked with ridges. Supraantennal pits large, basin-like covering total area from frontal area till inner margin of eyes. Temples contracted behind eyes and about as wide as length of 5th antennal segment. Head smooth and shiny. Outer halves of mesonotal lobes with shallow, sporadic punctures, shiny, inner halves and mesoscutellum smooth and shiny. Mesoscutellar appendage smooth and shiny in middle, hind corners with large and deep punctures. Metascutellum with dense surface sculpture, matt. Mesopleuron smooth and shiny. Basal 3 abdominal tergites smooth and shiny others with fine surface sculpture, shiny. Claws with subapical tooth little shorter than apical (Fig. 19). Length of inner hind tibial spur: length of hind basitarsis: 6 : 16. Length: 7.2 mm.

It's closest relative is *Neothrinax corvina* Malaise, 1944. *Neothrinax corvina* Malaise has dominantly black femora, black coxae and trochanters, basal sternites, base of scutellum and spots on extreme lateral corners of prescutum are white, 4 anterior tibiae with black strip. The new species has thorax entirely black, coxae, trochanters and femora white and tibiae white without black strip.



Fig. 33: *Ridgea laoensis* spec. nov. holotype



Fig. 34: *Taxonus laoensis* spec. nov. holotype



Fig. 35: *Taxonus rubroscapus* spec. nov. holotype



Fig. 36: *Taxonus albotemplis* spec. nov. holotype

It is also similar to *Neothrinax achterbergi* Haris, 2008. However, *Neothrinax achterbergi* Haris is much smaller, only 4.0 mm and basal antennal segments are white.

***Ridgea laoensis* spec. nov. (Figs. 22 and 33)**

Holotype: female, Phongsaly prov., Phongsaly, 21°41'-42'N, 102°06'-08'E, 1500 m, May-June 2003, leg. Kubán.

Body black; white: prepectus, tegula, scape, pedicel, basal spot on 3rd antennal segment, abdominal sternites 1-6 and cenchri. Legs white, black: apical half of middle and hind tibiae, small apical spot on anterior femora, apical quarter of middle and hind femora, apical segment of tarsi. Wings hyaline, costa, subcosta, veins and stigma brownish black. Ratios of antennal segments 1-9: 9 : 4 : 19 : 19 : 15 : 10 : 9 : 9 : 10. Antenna as long as head, thorax and first 3 abdominal tergites combined. Temples and vertex moderately densely and moderately deeply punctured, hardly shiny. Frontal area very densely punctured, matt. Pentagonal frontal area missing. Eyes connected by a horizontal supraantennal ridge (genus *Ridgea* Saini and Saini 1996). Gena linear. Postoccipital carina short, reaching up to 1/3 of eye. Clypeus shallowly emarginated. Temples behind eyes contracted and about as wide as length of pedicell. Anal cell of fore wing with crossvein. Anal cell of hind wing petiolate. Anterior wing with 2 cubital cells. First cubital crossvein missing. Basalis and first recurrent vein contracted. Hind wing with 2 closed middle cells. Mesonotal lobes with moderately deep and moderately large, sparse punctures, moderately shiny. Mesoscutellum with small, moderately deep punctures, moderately shiny. Mesoscutellar appendage and metascutellum smooth and shiny. Mesopleuron smooth and shiny. First abdominal tergite (propodeum) smooth and shiny, others with granulated surface sculpture, hardly shiny. Claws with large subapical tooth without basal lobe, subapical tooth shorter than apical (Fig. 22). Length of inner hind tibial spur: length of hind basitarsus: 15 : 49. Ovipositor very short, apex of ovipositor hardly visible above. Length: 6.6 mm.

The new species related to *Ridgea kalatopensis* M.S. Saini & T.P. Saini, 1996. *Ridgea kalatopensis* has first 2 abdominal tergites and sternites reddish brown, femora are entirely white. The new species has tergites black and sternites 1-6 white. Femora with black spots. Inner tooth of claws are small in *R. kalatopensis* (as it figured in SAINI and SAINI 1996) but large in the new species.

***Taxonus laoensis* spec. nov. (Figs. 3, 13, 24 and 34)**

Holotype: female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 14-18. 04. 2010, leg. C. Holzschuh and locals.

Head and antenna black; white: labrum, palpi, middle part of mandible and 4 apical antennal segments. Thorax black; tegula and hind mesonotal margin light brownish white. Cenchri brown. Abdomen black, tergites 3-4 reddish yellow, tergite 3 with 2 large brown spot. Next 3 tergites with reddish basal margin. Sternites 1-5 reddish yellow. Legs reddish yellow, apical 2/3 of hind femora black. Wings hyaline, costa, subcosta, veins and stigma blackish brown, apical half of costa yellowish brown. Ratios of antennal joints 1-9: 11 : 5 : 37 : 27 : 25 : 21 : 18 : 17 : 20. Head subparallel behind eyes, temples behind eyes as wide as length of 8th antennal segment. Head moderately sparsely punctured with moderately large and shallow punctures, shiny. Frontal area moderately

densely with shallow and moderately large punctures, moderately shiny. Frontal area marked with sharp ridges. Clypeus roundly and deeply emarginated. Clypeal emargination as deep as clypeal median length. Antenna about as long as head, thorax (including propodeum) combined. Gena narrow, about half as wide as diameter of anterior ocellus. Postoccipital carina hardly developed, reaching up to half length of eye. Mesonotal lobes moderately sparsely punctured with shallow and moderately large punctures, shiny. Mesoscutellum moderately densely punctured with large, moderately deep punctures, moderately shiny. Mesoscutellar appendage smooth and shiny, metascutellum shiny with few deep and large punctures. Upper 2/3 of mesoscutellum with large, dense and deep punctures, hardly shiny, lower third shiny, with moderately sparse, moderately deep and moderately large punctures. Length of ovipositor : length of hind tibia: 44 : 54. Inner hind tibial spur : maximal apical width of hind tibia: 11 : 9. Subapical tooth of claws about as large as apical, claws without basal lobe (Fig. 24). Serrulae in Fig. 3. Sawsheath in Fig. 13. Length: 10.0 mm.

The 2 related species, namely *Taxonus alboclypea* (Wei, 1997) and *Taxonus albocollinia* Wei, 1998 (Wei and Nie, 1998) can easily be differentiated by genitalia (compare Fig. 1 in WEI and NIE 1998, Fig. 21b in WEI 1997a and Fig. 3). Further differences: *Taxonus albocollinia* Wei central part of mesoscutellum is white, central area of tergites 4-6 are brown, in the new species mesoscutellum without white spot and tergites 3-4 are entirely reddish yellow, apical part of tergite 2 is frequently reddish yellow. In *Taxonus alboclypea* (Wei, 1997) posterior and lateral margins of tergites 2-6 are yellowish brown, scutellum is reddish brown. In the new species, scutellum is black and tergites are as it described above. *Taxonus smerinthus* has complete marginal vein on hind wings even in females, clypeus is white, third antennal segment shorter than fourth. In the new species, hind wing without marginal vein, third antennal segment is much longer than fourth, clypeus is black. Genitalia (lancets) of the 2 species is also completely different. See also *Taxonus sanctifloriani* spec. nov.

***Taxonus rubroscapus* spec. nov. (Figs. 2, 12, 20 and 35)**

Holotype: female, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 15. 05. 2011, leg. C. Holzschuh and locals.

Head black; labrum, clypeus, basal half of mandible, palpi and supraclypeal triangle white. Scape, pedicel and base of third antennal segment rusty brown. Antennal segments 3-6 black, 7-9 white. Thorax black, tegula, most of mesoscutellum (except narrow margins) and cenchri white. Coxae, trochanters and 4 apical segments of hind tarsus rusty white. Anterior and middle femora, anterior and middle tibiae and tarsi rusty brown. Hind femur and apical third of hind tibia black. Basal 2/3 of hind tibia and hind basitarsus rusty brown. Abdomen black, 2nd tergite except middle part and hind margins of tergites 3-5 rusty yellow, apical tergite entirely and hind margins of 2 subapical tergites white. Ovipositor entirely black. Wings hyaline. Costa, subcosta, venation blackish brown, apical third of subcosta rusty brown. Stigma black with white basal third. Ratios of antennal joints: 15 : 8 : 40 : 44 : 40 : 30 : 24 : 23 : 25. Antenna about as long as head, thorax and first 3 abdominal segments combined. Last antennal segment apically flattened. Head contracted behind eyes, temple as wide as length of subapical antennal segment. Clypeus deeply and trapesoidally emarginated, clypeal emargination about half as deep as clypeal median length. Clypeus deeply and densely punctured. Gena about 2/3 as wide as diameter of front ocellus. Temples and vertex with moder-



Fig. 37: *Taxonus sanctifloriani* spec. nov. paratype

ately sparse punctures, shiny. Frontal area laterally marked with blunt ridges, opened above and below. OOL : POL : OCL: 5 : 3 : 5. Mesonotal lobes moderately densely punctured, shiny. Mesoscutellum densely and finely punctured moderately shiny. Mesoscutellar appendage and metascutellum smooth and shiny. Mesoscutellum densely and roughly punctured, matt. Length of inner hind tibial spur : apical width of hind tarsus : 2 : 3. Claws with basal lobe, inner tooth longer and wider than apical (Fig. 20). Serrulae are very special, even in the highest magnification (ocular 10x20 and objective 160/0.17) the microteeths are invisible as seen in Fig. 2. Sawsheath in Fig. 12. Length: 9.9 mm.

There are other 4 species having 3-colors antenna, the most similars are *Taxonus qinlinginus* Wei, 1998 and *Taxonus liui* Wei & Niu, 2009. Differences in genitalia: compare NIU and WEI 2009 Fig. 8, WEI and NIE 1998, Fig. 6 and Fig. 2). Further important difference: in *Taxonus liui* Wei & Niu, and *Taxonus qinlinginus* Wei, the head is dominantly reddish brown, while black in the new species (see Fig. 7 in NIU and WEI 2009).

***Taxonus albotemplis* spec. nov. (Fig. 9 and 36)**

Holotype: male, Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 13. 05. 2010, leg. C. Holzschuh and locals.

Head white (including mouthparts) black: large spot covering total vertex, anterior half of temples, narrow outer orbits, frontal area down to clypeus and hind part of head behind hypothetical hind margin of vertex. Antenna black; yellowish white: anterior surface of segment 3 and total 4 and 5 segments. Thorax black; white: hind and lateral margin of pronotum, lateral spot on propleuron, parapteron, tegula, apex of mesonotal

anterior lobes, mesoscutellum, mesoscutellar appendage, metascutellum, cenchri and katepimeron. Coxae, trochanters and bases of femora white (except base of hind femora which orange yellow), sides of middle and hind coxae black. Anterior and middle femora orange-yellow with white base. Hind femur black with orange yellow base and orange yellow longitudinal, anterior strip. All tibiae and tarsi whitish orange-yellow. Wings subhyaline, costa brown with white base, stigma dark brown with white basal spot, subcosta and veins blackish brown. Abdomen black, orange yellow: sternites (except last one) basal triangular spot on tergite 2, tergite 3-5 and central part of apical tergites orange yellow. Head densely, moderately deeply punctured with moderately small punctures. Shining interspaces about 1.0-0.5x as large as a puncture, on frontal area punctures more dense. Ratios of antennal segments 1-9: 13 : 9 : 37 : 26 : 25 : 15 : 15 : 15 : 17. OOL : POL : OCL: 16 : 7 : 20. Antenna about as long as head and thorax combined including propodeum. Last 4 antennal segments laterally compressed. Postoccipital carina reaching up to half of eye. Gena about 0.5x as wide as diameter of anterior ocellus. Clypeus very deeply and roundly emarginated. Clypeal emargination about 0.67x as deep as clypeal median length. Oval frontal area gently indicated by blunt ridges. Temples nearly as long behind eyes as 5th antennal segment. Mesonotal lobes, mesoscutellum, mesoscutellar appendage densely, deeply punctured with moderately large punctures. Moderately shiny. Interspaces between punctures about 0.5-0.7x as large as diameter of a puncture. Mesopleuron very densely, roughly punctured with moderately large and deep punctures, slightly shiny. Mesoscutellum flat without ridges or carina. Abdomen elongated, propodeum smooth and shiny with few deep punctures, other tergites shiny, with deep, moderately large, dense punctures. Hind basitarsus nearly as long as following tarsal segments combined. Anterior tibial spur bifurcate. Claw with subapical tooth, little shorter than apical. Basal lobe not visible. Penis valve in Fig. 9. Length: 10.3 mm.

The closest relative is *Taxonus compressicornis* Wei, 1998, having middle antennal segment white. However, *Taxonus compressicornis* Wei, has basal antennal joints red and body is brown with few yellow and black spots. In the new species, basal antennal segments are black, body is black and white only abdominal tergites and legs are coloured with reddish yellow. The special penis valve also differentiates the new species from its all relatives.

***Taxonus sanctifloriani* spec. nov. (Figs. 7, 15 and 37)**

Holotype: female, Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20°13'30"N, 103°59'26"E, 1350-1900 m, 04. 05. 2011, leg. C. Holzschuh and locals. Paratypes: female, topotypic, but 04. 05. 2011, female, topotypic but 12. 05. 2011, female, topotypic but 05. 05. 2011, male, topotypic but 06. 05. 2011.

Head black, labrum, anterior 2/3 of clypeus and mandibles reddish brown, palpi brownish white. Antenna black, 3 apical segments white. Thorax black, tegula reddish brown. Legs (including coxae and trochanters) reddish yellow only hind femur black. Wings subhyaline. Costa, subcosta, stigma and veins black. Abdomen and ovipositor black, reddish yellow: basal 4 sternites, tergite 2 (except large brown central spot) and tergite 3 completely. Ratios of antennal segments: 11 : 5 : 40 : 31 : 30 : 25 : 21 : 20 : 20. OOL : POL : OCL: 15 : 6 : 17. Length : width of postocellar area: 17 : 20. Head subparallel behind eyes, large, but very shallow, sporadic punctures, shiny. Postoccipital carina reaching up to half of eye. Head subparallel behind eyes. Frontal area sunken and bor-

dered by blunt carinas. Gena linear. Clypeus roundly and deeply emarginated. Clypeal emargination about 0.5x as deep as clypeal median length. Mesonotal lobes with sporadic, middle sized, shallow punctures, shiny. Mesoscutellum with sporadic deep punctures, shiny. Mesoscutellar appendage and metascutellum smooth and shiny. Upper half of mesopleuron with separated, very large and deep and dense punctures, moderately shiny, lower half smooth and shiny. Mesoscutellum gently elevated, blunt. Abdominal tergites smooth and shiny. Length of hind basitarsus : length of other tarsal joints combined: 10:9. Length of inner hind tibial spur: length of hind basitarsus: 1.0 : 5.0. Basal lobe of claws not visible, subapical tooth little shorter than apical. Sawheath dilated in dorsal view. Length: 9.1 mm (paratypes 8.0-9.0 mm), male: 7.3 mm.

The new species is closely related to *Taxonus smerinthus* Wei, 2003. The differences: *Taxonus smerinthus* has complete marginal vein on hind wings even in females, clypeus and labrum are white, third antennal segment is shorter than fourth. In the new species hind wing without marginal vein, third antennal segment is much longer than fourth, clypeus and labrum are reddish brown not white. Genitalia (penis valve) of the 2 species is also completely different. It is also similar to *Taxonus laoensis* spec. nov. *Taxonus laoensis* has entirely black clypeus (not reddish brown like in the new species) and sawsheath is gently narrowed (not apically expanded like in the new species).

Beleses sapaensis Haris, 2008; *Beleses tianmuensis* Haris, 2008 and *Beleses multipicta* (Rohwer, 1916)

1 (2) Antennal segments 5-9 are white. Tegula and mesoscutellar appendage are pale. Mesopleuron is entirely smooth and shiny with few isolate small and deep punctures. (Hind basitarsus and hind femur are entirely yellow. Sawsheath clearly reaches beyond the last tergite and bluntly rounded in lateral view. Metascutellum is smooth and shiny.). 8.6 mm.....*Beleses multipicta* (Rohwer, 1916)

2 (1) Antennal segments 6-9 are white (in. *B. sapaensis* also apex of 5th segment is white). Tegula and mesoscutellar appendage are black. Most of mesopleuron is uniformly, moderately densely and deeply punctured, moderately shiny only posterior part of mesopleuron is smooth and shiny.

3 (4) Hind femur is yellow. Basal fifth of hind basitarsus is black. Sawsheath is extremely short, apex of sawsheath hardly exceeds the last tergite. (Figure in HARIS 2008). Metascutellum is granulated. 9.5 mm.....*Beleses sapaensis* Haris, 2008

4 (3) Apical fifth of hind femur is black. Hind basitarsus is yellow. Sawsheath is very long, parallel, subacute in lateral view and exceed far beyond the last tergite (figure in Haris, 2008). Metascutellum is smooth and shiny. 11.6 mm.

.....*Beleses tianmuensis* Haris, 2008

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Submitted: 25. 08. 2014

Accepted: 15. 09. 2014

Published: 15. 12. 2014