

# The genus *Tenthredo* (Linné, 1758) in Laos

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HARIS, A: *The genus Tenthredo (Linné, 1758) in Laos.*

**Abstract:** 46 new species are reported from Laos. Eight new species are described: *Tenthredo holzschuchi* sp. nov. *Tenthredo (Tenthredo) sanguinota* sp. nov. *Tenthredo nigromandali* sp. nov. *Tenthredo fulvissima* sp. nov. *Tenthredo (Tenthredo) laoensis* sp. nov., *Tenthredo (Tenthredina) bilobita* sp. nov., *Tenthredo gusenleitneri* sp. nov. and *Tenthredo laoviridis* sp. nov. Further 36 species are new records for Laos.

**Keywords:** Hymenoptera, Symphyta, Tenthredo, Laos, 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, 5 *Tenthredo* species were 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 MALAISE 1945 and SAINI 2007 completed with numerous papers as follows: HARIS and ROLLER 1998, 2007a, b; HARIS 2000, 2004, 2006, 2007, 2008, 2009, 2010, 2012; NIE and WEI 1998, 1999, 2002; NIU and WEI 2008; SHINOHARA 1998; TOGASHI 1980, 1987; WEI 2002, 2006; WEI and NIE 1997, 1998a, b, 2002 a, b, c, d, 2006; WEI et al., 2003; WEI and NIU 2009; WEI et al., 1999, YAN et al., 2008 and WEI and ZHONG 2002).

Types are deposited in the collection of Landesmuseum Linz, some paratypes are deposited in the collection of Somogy County Museum.

## List of species

*Tenthredo (Dorhettenyx) frontata* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 06. 06. 2009, 1 female; 06. 05. 2011, 1 female; 07. 05. 2011, 2 females; 04. 05. 2011, 1 female; 16-18. 05. 2010, 1 female; 06. 06. 2009, 1 female; 10. 05. 2011, 1 male; 30. 04. 2010, 1 male; 06. 06. 2009, 1 male; 03-05. 06. 2009, 1 male; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 male.

*Tenthredo (Dorhettenyx) ichneumonia* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 25. 05. 2010, 1 female.

*Tenthredo (Dorhettenyx) pompilina* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 04. 05. 2011, 1 female; 01. 05. 2011, 1 female; 06. 05. 2011, 1 female; 10. 05. 2011, 2 females; 30. 05. 2011, 1 female; 02. 05. 2010, 1 female; Laos: Phongsaly prov., Phongsaly, cca. 1500 m., 21° 41' N, 102° 06' E, June 2003, 1 female.

*Tenthredo (Tenthredella) compressicornuta* Taeger & Blank, 1996: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 10. 05. 2011, 1 female; 27. 05. 2011, 1 female.

*Tenthredo (Tenthredina) fortunii* W.F. Kirby, 1882: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 22. 04. 2010, 1 female.

*Tenthredo (Tenthredina) nigricornis* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 21. 05. 2010, 1 female.

*Tenthredo (Tenthredina) nubipennis* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 28-29. 04. 2010, 1 female; 11. 04. 2010, 1 female, 08. 05. 2011, 1 female; 10. 05. 2011, 1 female; 10-19. 05. 2009, 1 female; 05. 05. 2010, 1 female; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 2 females.

*Tenthredo (Tenthredo) dilaticornis* Muche, 1986: Laos: Phongsaly prov., Phongsaly, cca. 1500 m., 21° 41' N, 102° 06' E, June 2003, 9 females, 5 males; Laos, 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.

*Tenthredo annandalei* (Rohwer, 1915): Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 01-20. 06. 2011, 2 females; 10-22. 05. 2011, 4 females; Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 06. 05. 2011, 1 female; 11. 05. 2011, 1 female; 30. 05. 2011, 1 female; 19. 05. 2011, 1 female; 01. 05. 2011, 3 females; 21. 05. 2011, 2 females; 07. 05. 2011, 1 female; 10. 05. 2011, 1 female; 01-03. 06. 2009, 5 females; 21. 05. 2010, 1 female; 06. 05. 2011, 1 female; 22. 04. 2010, 1 female; 20-31. 05. 2009, 1 female; 10-19. 05. 2009, 1 female; 18. 04. 2010, 1 female; 21. 05. 2011, 1 female; 21. 04. 2010, 1 female; 10. 05. 2010, 1 female; 28. 04. 2010, 1 female; 25-26. 04. 2010, 1 female; 12. 05. 2010, 2 females; 12. 05. 2010, 1 female; 25. 05. 2010, 1 female; 28. 04. 2010, 1 female; 13. 05. 2010, 1 female; 20-31. 05. 2009, 1 female; 03-05. 06. 2009, 4 females; 06. 06. 2009, 1 female; 28-29. 04. 2010, 1 female; 16-18. 05. 2010, 2 females; 26. 05. 2011, 1 female; 20. 05. 2011, 1 male; 07. 05. 2011, 1 male; 06. 05. 2011, 1 male; 22-23. 05. 2010, 1 male; 21. 05. 2010, 1 male; 21-22. 04. 2010, 1 male; 14-16. 06. 2009, 1 male; 12-13. 04. 2010, 1 male; 27-28. 04. 2010, 1 male; 01. 05. 2011, 2 males; 30. 05. 2011, 1 male; 16-18. 05. 2010, 1 male; 13. 05. 2010, 1 male; 18. 04. 2010, 1 male; 01. 05. 2010, 1 male; 13. 05. 2010, 1 male; 13. 05. 2011, 1 male; 27-28. 04. 2011, 1 male.

*Tenthredo assamensis* Konow, 1898: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m., 07. 05. 2011, 1 female; 09-10. 04. 2010, 1 female; 10-19. 05. 2010, 1 female; 28. 04. 2010, 1 female; 03-05. 06. 2009, 1 female; 10. 05. 2010, 1 female; 04. 05. 2011, 1 female; 13. 05. 2010, 1 male; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female, 01-20. 06. 2011, 1 female.

*Tenthredo caerulea* Cameron, 1899: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 04. 05. 2010, 1 female; 14-16. 06. 2009, 1 female; 07-09. 04. 2010, 1 female; 18. 04. 2010, 1 female; 21-22. 04. 2010, 1 female; 01. 05. 2010, 1 female; 06. 06. 2009, 1 female; 01-03. 06. 2009, 1 female; 06. 06. 2009, 1 female; 01-03. 06. 2009, 1 female; 10-19. 05. 2009, 1 female; 28. 04. 2010, 1 female; 06. 06. 2009, 1 female; 10. 04. 2010, 1 male.

*Tenthredo cyanata* Konow, 1898: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 10. 05. 2011, 1 female; 28. 05. 2011, 1 female; 06. 05. 2011, 1 female.

*Tenthredo ferrea* Taeger, Blank & Liston, 2009: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 08. 05. 2010, 1 female.

*Tenthredo flavobrunneus* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 07. 05. 2011, 1 female; 08. 05. 2011, 1 female; 16. 05. 2011, 1 female.

*Tenthredo genitalis* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 10. 05. 2011, 3 females; 21. 05. 2011, 1 female; 31. 05. 2011, 1 female; 25-26. 04. 2010, 2 females; 08. 05. 2010, 1 female; 21-22. 04. 2010, 1 female; 04. 05. 2011, 1 female; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female; 01-20. 06. 2011, 1 female.

*Tenthredo heinrichi* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 06. 05. 2011, 1 male.

*Tenthredo jendeki* Haris & Roller, 2007: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 26. 04. 2010, 1 female; 05. 05. 2010, 3 females; 07-09. 04. 2010, 1 female; 25-26. 04. 2010 1 female; 03-04. 05. 2010, 1 female; 10-09. 05. 2009, 1 female; 25-26. 04. 2010, 1 female; 03. 05. 2011, 1 female; 03-04. 05. 2010, 1 female; 28. 04. 2010, 1 female; 22-23. 05. 2010, 1 female; 08. 06. 2009, 1 female; 08. 06. 2009, 1 female; 03-05. 06. 2009, 1 female; 03-04. 05. 2010, 1 female; 10-19. 05. 2009, 1 female; 27-28. 04. 2010, 1 female; 20. 04. 2010, 1 female; 03. 05. 2011, 1 female; 06. 05. 2011, 1 female; 19. 04. 2009, 1 female; 30. 04. 2010, 1 female; 03-04. 05. 2010, 1 male; 01. 05. 2010, 1 male; 28-29. 04. 2010, 1 male; 28. 04. 2010, 1 male; 03-04. 05. 2010, 1 male; 02. 05. 2010, 2 males; 18. 04. 2010, 1 male; 02. 05. 2010, 1 male; 06. 05. 2011, 1 male; 30. 04. 2010, 1 male; 28. 04. 2010, 1 male; 28-29. 04. 2010, 1 male; 19. 04. 2010, 1 male; 28-29. 04. 2010, 2 males; 27-28. 04. 2010, 1 male; 02. 05. 2010, 1 male; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female.

*Tenthredo kuangtungensis* Malaise, 1945: Laos, 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; 13. 05. 2010, 1 female.

*Tenthredo largifasciata* (Konow, 1900): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 06. 06. 2009, 4 females; 03-05. 06. 2009, 1 female; 01. 06. 2011, 1 female; Laos: Phongsaly prov., Phongsaly, cca. 1500 m., 21° 41' N, 102° 06' E, June 2003, 2 females, 28. 05.-20. 06. 2003, 1 female.

*Tenthredo lasurea* (Mocsáry, 1909): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 08. 05. 2010, 1 female; 16. 05. 2011, 1 female.

*Tenthredo maculicula* Wei, 2005: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 07. 05. 2011, 2 females.

*Tenthredo maculisternum* M.S. Saini & Vasu, 1999: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 17. 05. 2011, 1 female.

*Tenthredo malimilova* Wei, 2005: Laos, 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; 10-09. 05. 2009, 1 female; 10. 05. 2010, 1 female; 22-23. 05. 2010, 1 female; 26. 05. 2011, 1 female; 06. 06. 2009, 1 female; 10. 05. 2010, 1 female; 14-06. 06. 2009, 1 female; 19. 05. 2011, 1 female; 05. 05. 2010, 1 female; 24-25. 05. 2010, 1 female; 01. 05. 2010, 1 female; 07. 05. 2011, 1 female; 11. 05. 2011, 1 female; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female.

*Tenthredo margaretella* (Rohrer, 1916): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 25. 05. 2010, 1 female; 09. 05. 2010, 1 female.

*Tenthredo megacephala* Cameron, 1899: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 07-09. 04. 2009, 3 females; 10-19. 05. 2009, 3 females, 1 male; 20-31. 05. 2009, 1 females, 1 male; 01-03. 06. 2009, 8 females, 3 males; 06. 06. 2009, 2 females, 1 male; 08. 06. 2009, 6 females;; 03-05. 06. 2009, 2 females, 5 males; 10. 06. 2009, 1 female; 14-16. 06. 2009, 3 female, 4 males; 12-13. 04. 2010, 1 female; 14-18. 04. 2010, 1 female; 18. 04. 2010, 5 females; 21. 04. 2010, 1 female; 25-26.

04. 2010, 1 female; 27-28. 04. 2010, 1 male; 30. 04. 2010, 1 female; 01. 05. 2010, 3 females, 3 males; 02. 05. 2010, 2 females, 1 male; 03-04. 05. 2010, 1 female, 1 male; 08. 05. 2010, 1 male; 09. 05. 2010, 2 females, 1 male; 10. 05. 2010, 4 females, 2 males; 11. 05. 2010, 1 female; 12. 05. 2010, 2 females; 13. 05. 2010, 1 female; 14-15. 05. 2010, 1 male; 16-18. 05. 2010, 2 males; 20. 05. 2010, 1 female; 06. 06. 2009, 1 female; 06. 05. 2010, 1 male; 07-08. 05. 2010, 1 female; 10. 05. 2010, 1 male; 11. 05. 2010, 1 female, 2 males; 13. 05. 2010, 1 female, 1 male; 16-18. 05. 2010, 1 female; 19. 05. 2010, 1 female; 14-15. 05. 2010, 1 female; 21. 05. 2010, 2 females; 22-23. 05. 2010, 4 females, 2 males; 24-25. 05. 2010, 1 male; 02-03. 05. 2011, 4 females; 04. 05. 2011, 3 females; 06. 05. 2011, 2 females; 07. 05. 2011, 1 female, 1 male; 08. 05. 2011, 1 female; 10. 05. 2011, 2 females; 10. 05. 2011, 1 male; 16. 05. 2011, 1 female; 17. 05. 2011, 3 females; 21. 05. 2011, 10 females; 24. 05. 2011, 1 female; 26. 05. 2011, 1 female; 27. 05. 2011, 1 female; 28. 05. 2011, 2 females; 30. 05. 2011, 3 females; 31. 05. 2011, 1 female; 01. 06. 2011, 4 females; 01-20. 06. 2011, 10 females; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 01-20. 06. 2011, 4 females, 3 males; 10-22. 05. 2011, 7 females, 1 male. Remark: all these specimens belong to the colour variation which was earlier described as *Tenthredo megacephala* ssp. *elegans* (Mocsáry, 1909).

*Tenthredo melanotarsus* Cameron, 1876: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 27. 05. 2011, 1 female; 27-28. 04. 2011, 1 female; 10-19. 05. 2009, 1 female; 21. 04. 2010, 1 female; 07. 05. 2011, 1 female; 16-18. 05. 2010, 1 female; 01. 05. 2010, 2 females; 02. 05. 2010, 1 female; 18. 04. 2010, 1 female; 01. 05. 2011, 1 female; 10. 05. 2011, 2 females; 21. 05. 2011, 1 female; 02-03. 05. 2011, 1 female; 21. 05. 2011, 2 females; 31. 05. 2011, 1 female; 22. 05. 2011, 1 female; 02. 05. 2010, 1 male; 18. 04. 2010, 1 male; 01. 05. 2010, 1 male; 03-04. 05. 2010, 1 male; 03. 05. 2011, 1 male; 11. 05. 2011, 1 male; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female; 01-20. 06. 2011, 1 female.

*Tenthredo opacifrons* Malaise, 1934: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 01-03. 06. 2009, 2 females, 1 male; 06. 06. 2009, 1 female; 18. 04. 2010, 1 female; 16. 05. 2011, 1 male.

*Tenthredo poeciloptera* Enslin, 1911: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 10. 05. 2011, 1 female; 20. 05. 2011, 1 female; 30. 05. 2011, 2 females; 07. 05. 2011, 1 female; 01-03. 06. 2009, 1 female; 06. 05. 2011, 1 female; 02. 05. 2010, 1 female; 09-10. 04. 2010, 1 female; 06. 06. 2009, 1 female, 2 males; 11. 04. 2010, 1 female; 01-03. 06. 2009, 1 male; 03-05. 06. 2009, 1 male; 27-28. 04. 2010, 1 male.

*Tenthredo provida* (F. Smith, 1878): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 01. 05. 2010, 1 female (color var. former: *Tenthredo providus* ssp. *fletcheri* Malaise, 1945); Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 female. (color var. former: *Tenthredo providus* ssp. *concolor* Malaise, 1945).

*Tenthredo pseudoferruginea* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 30. 05. 2011, 1 male.

*Tenthredo rugulosa* (Mocsáry, 1909): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 22-23. 05. 2010, 1 female.

*Tenthredo scintillans* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 08. 05. 2010, 1 female; 13.05.2011, 1 female.

*Tenthredo seriemaculata* Malaise, 1945: Laos, 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; 11. 05. 2011, 1 female; 21. 05. 2011, 1 female; 10. 05. 2010, 1 female; 06. 05. 2011, 1 female; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 2 females.

*Tenthredo serrulata* D. Singh & M.S. Saini, 1988: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 21. 05. 2011, 1 female.

*Tenthredo sporadipunctata* Malaise, 1945: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 06. 05. 2010, 1 female; 18. 04. 2010, 2 females; 21. 04. 2010, 1 female; 01. 05. 2010, 1 female; 08. 06. 2009, 1 female; 02. 05. 2010, 1 female; 08. 05. 2010, 1 female; 24. 04. 2010, 1 female; 09. 05. 2010, 1 female; 10. 05. 2011, 1 female; 20-31. 05. 2009, 1 female; 10-19. 05. 2009, 1 female; 28-29.

04. 2010, 1 female; 08. 06. 2009, 1 female; 06. 05. 2010, 1 female; 22-23. 05. 2010, 1 female; 11. 05. 2010, 1 female; 14-05. 05. 2010, 1 female; 14-08. 04. 2010, 1 female; 03-05. 06. 2009, 1 female; 07-08. 2010, 1 female; 03-04. 05. 2010, 1 female; 08. 06. 2009, 1 female; 21. 05. 2011, 1 female; 11. 05. 2011, 1 female; 18. 04. 2010, 1 female; 21. 04. 2010, 1 female; 11. 05. 2010, 1 female; 18. 04. 2010, 1 male; 03-05. 06. 2009, 1 male; 05. 09. 2010, 1 male; 03-05. 06. 2009, 1 male; 09. 05. 2010, 1 male; 14-15. 05. 2010, 1 male; 18. 04. 2010, 1 male; 03-04. 05. 2010, 1 male; 19-20. 04. 2010, 1 male; 13. 05. 2010, 1 male; 11. 05. 2010, 1 male; Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 01-20. 06. 2011, 1 female.

*Tenthredo tonkinensis* (Mocsáry, 1909): Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 03-05. 06. 2009, 1 female; 21. 05. 2011, 1 female; 20-31. 05. 2009, 1 female; 10-19. 05. 2009, 1 female; 01-03. 05. 2009, 1 female; 14-16. 06. 2009, 1 female; 27. 05. 2011, 1 male; 20-31. 05. 2009, 1 male; 10-19. 05. 2009, 2 males; 06. 06. 2009, 1 male; Laos: Phongsaly prov., Phongsaly, cca. 1500 m., 21° 41' N, 102° 06' E, June 2003, 1 female; 28. 05. – 02. 06. 2003, 1 female, 1 male.

*Tenthredo tuberculifera* Konow, 1898: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 16. 05. 2011, 1 female.

*Tenthredo xanthoptera* Cameron, 1876: Laos, Hua Phan Prov., Mt. Phu Pane, cca. 1500 m, 20° 12' N, 103° 59' E, 10-22. 05. 2011, 1 male, 1 female; Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 13. 05. 2011, 1 female; 10-09. 05. 2010, 1 female; 01. 05. 2010, 1 female; 01-03. 06. 2009, 1 female; 20-31. 05. 2009, 1 female; 03-04. 05. 2010, 1 female.

## Description of the new species

### *Tenthredo (Tenthredo) sanguinota* sp. nov. (Fig. 1)

Holotype: female: Laos: Phongsaly prov., 21° 41'-2' N, 102° 06'-8' 26" E, 28. 05.-20. 06. 2003, Phongsaly env., 1500 m, Vit Kubán leg.

Female (Fig. 1). Head and antenna black; brownish white: clypeus, labrum, base of mandible, basal 3 segments of mandible palp (palpus mandibularis), lower ¼ of outer orbit including gena; rusty red: scape (except longitudinal black line) and supraantennal tubercles. Thorax rusty red; black: mesosternum and lower 2/3 of katepimeron. Metapleuron black with large white spot. Coxae black, trochanters, femora and tibiae white. Hind tibia with black apical ring, middle and fore femora and tibiae with black longitudinal line, anterior tarsus white with black apices of tarsal segments, middle tarsus white with black longitudinal line, hind tarsus black. Propodeum white with wide anterior and narrow posterior black margins. Tergites 2-6 rusty red (tergite 2 partly black), apical 3 tergites black, all sternites and ovipositor black. Apical 2/3 of fore wing dark brown infuscated, hind wing and basal third of fore wing hyaline. Head densely, moderately deeply punctured, weakly shiny. Mesonotum and mesoscutellum with dense, small and moderately deep punctures, moderately-weakly shiny. Mesoscutellar appendage with large and deep punctures, hardly shiny. Metascutellum with few, deep punctures, shiny. Mesopleuron densely punctured with large, moderately deep punctures, slightly shiny. Propodeum smooth and shiny. Second tergite sporadically punctured with moderately large, moderately deep punctures, shiny. Other tergites densely punctured with small, moderately deep punctures, hardly shiny. Ratio of antennal segments: 15 : 12 : 42 : 29 : 20 : 16 : 14 : 14 : 12. Antenna short, about as long as head and thorax combined without propodeum. Head with complete postoccipital carina. Clypeus roundly emarginated, clypeal emargination about 0.4x as deep as clypeal median length. Supraantennal tubercles confluent with frontal crest, supraantennal tubercles not reaching scape. Mesoscutellum strongly elevated, rounded, blunt. Mesopleuron bluntly elevated.

Mesosternum without thorn. Subapical tooth of claw wider and little longer than apical. Length: 13.2 mm.

The species unique in genus *Tenthredo*. It's coloration and wing pattern resemble to some *Xenapatidea* Malaise, 1957 species.

*Tenthredo turrisii* sp. nov. (Figs 2 and 13)

Holotype: female: Laos, Prov. Hua Phan, Phou Pan Mt., Ban Saleui Village, 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 20-31. 05. 2009, leg. C. Holzschuh and locals, paratypes: 1 male, topotypic but 18. 04. 2010; 1 male: Laos: Phongsaly prov., 21° 41'-2' N, 102° 06-8' 26" E, 28. 05.-20. 06. 2003, Phongsaly env., 1500 m, Vit Kubán leg; 1 female: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 01. 05. 2010, leg. C. Holzschuh and locals.

Female (Fig. 2). Black; yellow: labrum, clypeus, scape, base of pedicell, supraantennal tubercles, mandibles (except apex), anterior 2/3 of mesoscutellum, hind margin of mesoscutellar appendage, hind margin of pronotum, tegula, cenchri, narrow hind margin of propodeum, wide hind margins of tergites 2,3, tergite 5 entirely, basal lateral spots on tergite 6, tergites 8-9, all trochanters, 4 anterior femora, 4 anterior tarsi (except longitudinal black line on middle tarsus and apices of segments of anterior tarsus). Wings yellowish hyaline, apical part of second radial cell, 4th cubital cell and apical part of 3rd cubital cell brown infumated. Stigma, subcosta and venation dark brownish black. Costa brownish yellow except black apex. Head with shallow, moderately large, moderately dense locally sporadic punctures, strongly shiny. Mesonotum, mesoscutellum sporadically punctured with moderately deep and moderately large punctures, shiny. Mesopleuron densely punctured with relatively large, moderately deep punctures with shiny narrow interspaces. Propodeum smooth and shiny. Second tergite with minute surface sculpture, moderately shiny. Other tergites with coriaceous surface sculpture, matt, hardly shiny. Ratios of antennal segments: 18 : 12 : 45 : 30 : 29 : 24 : 20 : 17 : 18. Antenna about as long as head and thorax combined (including propodeum). Head with complete postocipital carina. Supraantennal tubercles small, not reaching scape, confluent with frontal crest. Clypeus shallowly emarginated, clypeal emargination about 0.2x as deep as clypeal median length. Mesoscutellum roundly elevated, mesopleuron slightly and bluntly elevated. Mesosternum without thorn. Ratios of hind tarsal segments: 49 : 22 : 18 : 12 : 18. Length of inner hind tibial spur : length of hind basitarsus: 25 : 49. Apical tooth of claw narrower and slightly longer than subapical. Length: 14.2 mm.

Males: like females, but all sternites yellow and apical abdominal tergites black. 9.7-11.4 mm. Penis valve in Fig. 13.

In the key of SAINI 2007, the new species runs to *T. allantosikkimensis* Haris, 2004. The new species is completely different from *T. allantosikkimensis* compare the photo in HARIS 2004 with the new species.

Colour variations: in one female paratype, the gena is widely whitish yellow and sternites 1-5 are entirely yellow.

In MALAISE 1945, the new species runs to *Tenthredo maculipennis* Malaise, 1945. *T. maculipennis* is completely different. It is black with bluish iridescence (the new species is black and yellow without any bluish iridescence).

It is also resembles to *Tenthredo hengshana* Wei and Yan, 2008. *Tenthredo hengshana* has 3rd abdominal segment yellow not 5th, scape and pedicell black (yellow in the new



species). Compare the Fig. 2 and photo YAN et al., 2008.

Subgeneric position of this species is not defined. In ZHELOCHOVTSEV 1988, it runs to couplet 71, but eyes are strongly converging towards clypeus and distance between them shorter than clypeal width.

***Tenthredo nigromandali* sp. nov.** (Figs 3 and 16)

Female (Fig. 3). Black; white: clypeus, mandible (except apex), labrum, palpi, lateral and hind margins of pronotum, wide margins of tegulae, cenchri, rectangular spot behind metascutellum, narrow ridges lateral to meso- and metascutelli, hind margin of propodeum, narrow anterior margin of tergite 4, large lateral spots on tergite 4, entire tergite 9, apices of coxae, trochanters. Legs red; black: coxae, femora (except red longitudinal line on anterior and middle femora), apices of tibiae. Head smooth and shiny, mesonotal lobes with small, moderately deep and moderately dense punctures, shiny, inner sides of lateral and middle lobes only sporadically punctured, shiny. Mesoscutellar appendage densely punctured with large, shallow punctures, slightly shiny, metascutellum smooth and shiny. Mesopleuron densely and roughly punctured, matt. Propodeum smooth and shiny other tergites with fine surface sculpture, moderately shiny. Ratio of antennal segments: 17 : 7 : 38 : 38 : 33 : 27 : 23 : 18 : 17. Antenna slender, apical joints slightly compressed. Antenna about as long as head, thorax and first 2 abdominal segments combined. OOL : POL : OCL: 18 : 5 : 16. Head strongly narrowed behind eyes. Postoccipital carina complete. Gena linear. Supraantennal tubercles short. Supraantennal tubercles and frontal crest confluent. Clypeus roundly emarginated, clypeal emargination about 0.3x as deep as clypeal median length. Mesoscutellum subpyramidally elevated but not acute. Mesopleuron bluntly elevated. Mesosternum without thorn. Ratios of hind tarsal segments: 30 : 15 : 8 : 5 : 15. Length of inner hind tibial spur: length of hind basitarsus: 21 : 30. Apical tooth of claw as long as subapical. Number of serrulae: 24. Serrulae in Fig. 16. Length: 9.7 mm (paratype: 9.4 mm).

The new species runs to *Tenthredo mandali* D. Singh & M. S. Saini, 1987. Differences: in *Tenthredo mandali* Singh and Saini, white are: sides of tergum 2, deflexed sides and broad anterior and narrow posterior margin of tergum 3, terga 4, sterna 2-5 and posterior margins of 6-9. These parts are black in the new species. Serrulae are also different: in *Tenthredo mandali*, apical side of serrulae (basal 5-8) with 5-6 sharp and long microteeth, other microteeth are invisibly small. In the new species, each side of serrulae (basal and apical) mostly with 3 blunt and well visible microteeth (sometimes only 2). Compare Fig. 16 and Fig. 472 in SAINI 2007.

***Tenthredo fulvissima* sp. nov.** (Figs 4 and 14).

Holotype: male: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 16. 05. 2011, leg. C. Holzschuh and locals. Paratype: 1 male, topotypic, 2 males, topotypic but 10. 05. 2011, 1 male, topotypic but 07. 05. 2011, 1 female: topotypic, but 31. 05. 2011, 1 female, topotypic but 06. 05. 2011.

Male (Fig. 4). Body light brownish-orange-yellow (fulvous); black: supraantennal pits and a diffuse line starting from lateral pits (at some paratype they reach lateral ocelli and form an U-shaped pattern), antennal flagellar segments, narrow bordering line of anterior mesonotal lobes, 2 rectangular spots between mesoscutellar appendage and metascutellum, narrow line between cenchri, narrow anterior margin of propodeum, small line between mesopleuron and katepimeron, spot on metapleuron and longitudinal line on

hind femur, that on hind tibia and that on hind tarsus; whitish yellow: V-shaped margin of mesonotal anterior lobe, small spot adjoined to this on lateral lobe, clypeus, labrum, mesopleuron, katepimeron, hind margin of pronotum and tegula. Wings yellowish hyaline. Costa, apical 1/5th of subcosta and stigma yellow, venation black. Inner orbit smooth and shiny, temples and vertex with small shallow and moderately dense punctures, shiny. Mesonotum and mesoscutellum with dense, small and moderately deep punctures, smooth and shiny. Mesoscutellar appendage and mesoscutellum smooth and shiny. Mesopleuron with minute, shallow and sporadic punctures, shiny. Propodeum with sporadic, minute punctures, shiny. Other tergites with dense, minute punctures, moderately shiny. Ratios of antennal segments: 21 : 9 : 40 : 33 : 27 : 19 : 18 : 18 : 18. OOL : POL : OCL: 24 : 6 : 20. Antenna about as long as head and thorax (including propodeum) combined. Postoccipital carina complete. Gena linear. Clypeus trapezoidally emarginated, clypeal emargination about 0.25x as deep as clypeal median length. Head gently narrowed behind eyes. Frontal crest confluent with supraantennal tubercles. Supraantennal tubercles do not reach scape. Mesoscutellum and mesopleuron bluntly elevated. Mesosternum without thorn. Ratios of hind tarsal segments (without claw): 61 : 26 : 18 : 10 : 27. Length of hind basitarsus : length of inner hind tibial spur: 61 : 22. Apical and subapical tooth of claws subequal or apical tooth slightly longer. Subapical tooth wider than apical. Penis valve in Fig. 14. Length: 14.5 mm.

Female: similar to male, mesoscutellum, metanotum, metascutellum, frontal crest, supraclypeal area and inner orbit may also be whitish yellow. Length: 16.5 mm.

In Saini and Malaise keys (MALAISE 1945 and SAINI 2007) the new species runs to *Tenthredo violaceipennis* Cameron, 1899. However, the new species has no black lines on mesonotal lateral lobes (*Tenthredo violaceipennis* has) and male genitalia completely different. Compare the figure 14 with Fig. 664 in SAINI 2007.

Subgeneric classification of the new species has not been defined, close to subgenus *Eurogaster* Zirngiebl, 1953.

***Tenthredo (Tenthredo) laoensis* sp. nov.** (Figs 5 and 12)

Holotype: male: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 24. 05. 2011, paratypes: 1 female, topotypic, but 27-28. 04. 2011, 2 females, NE Laos, Hua Phan prov., cca. 1500 m, 20° 12' N, 103° 59' E, 01-20-06. 2011, S. Jakl leg.

Male. Black; whitish yellow: clypeus, labrum (except brown longitudinal line), hind wide corner of pronotum, large posterolateral spot on propodeum, apices of coxae, trochanters, spot on metapleuron above hind coxa, lateral spot on tergites 3-5, small line on lateral hind margin of tergite 4, entire sternite 3 and apical sternite. Wings subhyaline, apical part from base of stigma also apex of hind wing slightly but clearly brown infuscate. Head roughly and densely punctured all over, matt. Mesonotum and mesoscutellum deeply, moderately densely punctured, hardly shiny. Mesoscutellar appendage and post-scutellum smooth and shiny. Mesopleuron very deeply, uniformly, densely and roughly punctured, only narrow interspaces shiny. Propodeum smooth and shiny, other tergites with fine surface sculpture, matt. Ratio of antennal segments: 11 : 7 : 31 : 17 : 16 : 11 : 10 : 9 : 7. Antennal flagellum from segment 4 incrassate and flattened. OOL : POL : OCL: 17 : 7 : 14. Occipital carina complete. Gena linear. Frontal crest invisible. Head gently contracted behind eyes. Clypeus widely emarginated, clypeal emargination about 0.28x as deep as clypeal median length. Mesoscutellum gently elevated. Mesopleuron



without elevation. Mesosternum without thorn. Ratio of hind tarsal segments: 35 : 17 : 13 : 9 : 16. Length of inner hind tibial spur: length of hind basitarsus: 17 : 35. Apical and subapical tooth of claws subequal. Penis valve in Fig. 12. Length: 8.5 mm.

Females (Fig. 5): like male, but on clypeus sometimes only a central spot is yellowish white, sometimes entirely black, tergites 3-7 with large lateral spot (visible mostly in lateral view), tergite 8 and 9 whitish yellow. Antenna very short, do not exceed pronotum in length. Length: 11.5-12.0 mm.

In MALAISE 1945, the new species runs to *Tenthredo asperata* (Konow, 1906). *Tenthredo asperata* has yellow mesoscutellum, propodeum, 4 and 5 abdominal tergites with continuous wide yellow hind margins. These are missing in the new species.

In SAINI 2007, the new species runs to *Tenthredo inguinalis* (Konow, 1908). *T. inguinalis* has abdomen with bluish tinge which is missing in the new species. Abdomen has yellow spots only on lateral part of propodeum and tergite 2, the yellow spots on the abdomen of the new species are extended to all tergites but only the 2nd tergite remains entirely black.

In SHINOHARA 1998, the penis valve of the new species slightly resembles to that of *Tenthredo tonkinensis* (Mocsáry, 1909), which could indicate relationship between the 2 species, although the penis valve of the 2 species has similar structure, in details they are very different. Compare the Fig. 12 and Fig 16 in SHINOHARA 1998.

***Tenthredo (Tenthredina) bilobita* sp. nov.** (Figs. 6, 15 and 17)

Holotype: male: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 28. 04. 2010, leg. C. Holzschuh and locals. Paratype: 1 male, topotypic, 1 female: topotypic, but 12. 05. 2011.

Male (Fig. 6). Body reddish brown; black: 3-9th antennal segments, supraantennal pits, U shaped pattern through hind ocelli ending at lateral supraantennal pits and drop-shaped spot around middle ocellus, narrow longitudinal line on all tibiae (fragmented in anterior tibia) and wider longitudinal line on hind femora and on hind coxa, border between mesopleuron and katepimeron, upper margin of metapleuron (in paratype also mesonotal sutures). Whitish yellow: labrum, clypeus, mandible (except apex), palpi, supraclypeal area, frontal crest, lower half of inner and hind orbits, wide hind margin of pronotum, anterior margin of mesoscutellum (in paratype anterior half of mesoscutellum), mesoscutellar appendage, steep posterior part of mesonotum, wide horizontal band behind metascutellum (metascutellum darker brown than ground colour), mesopleuron, katepimeron and metapleuron. Wings yellowish hyaline, costa, stigma yellow, venation brown. Head shiny, sporadically and shallowly punctured, punctures on temples more dense (on paratypes, male and female, also V shaped hind margin of anterior mesonotal lobes and small triangular spots adjoined to this on lateral mesonotal lobes whitish yellow). Mesonotum with small, moderately deep and moderately sparse punctures, shiny. Mesoscutellum with moderately deep, moderately dense punctures, shiny. Mesoscutellar appendage and metascutellum smooth and shiny, metascutellum with few punctures. Mesopleuron sporadically punctured with large, shallow punctures, shiny. Propodeum smooth and shiny. Tergites 2 and 3 with minute surface sculpture, shiny. Other tergites with rough surface sculpture, matt. Ratios of antennal segments: 17 : 6 : 35 : 20 : 18 : 14 : 13 : 11 : 11. OOL : POL : OCL: 19 : 5 : 14. Postoccipital carina complete. Head contracted behind eyes. Frontal crest well developed and separated from small supraantennal tubercles. Gena linear. Clypeus roundly emarginated, clypeal emargination 0.28x as deep as clypeal median length. Mesoscutellum gently and roundly elevated. Mesopleuron

with slight elevation. Mesosternum without thorn. Third abdominal segments very narrow. Ratios of hind tarsal segments: 48 : 25 : 20 : 14 : 20. Length of inner hind tibial spur : length of hind basitarsus: 20 : 48. Apical and subapical teeth of claw subequal. Penis valve in Fig. 15. Length: 11.7 mm (male paratype: 11.6 mm).

Female: similar to male, lower margin of valula 3 black, 11.8 mm. Serrulae with (12) 11-10 teeth (Fig. 17).

In MALAISE (1945), the new species runs to *Tenthredo matsumurai* Takeuchi. The yellow-black-brown pattern of *T. matsumurai* differentiate it from the new species (see Fig. 123 in NAITO 2004).

In Saini, (SAINI 2007) *Tenthredo (Tenthredina) brunnea* (Cameron, 1899) resembles to the new species. In *Tenthredo brunnea*, the margin of penis valve between the apical lobe and lateral lobe (projections) are close to straight, in the new species this edge of penis valve is very deeply arched (compare Fig. 15 and Fig. 781 in SAINI 2007).

***Tenthredo gusenleitneri* sp. nov.** (Figs 7 and 11)

Holotype: female: Laos, Hua Phan Prov., Ban Saleui, Phou Pan Mt., 20° 13' 30" N, 103° 59' 26" E, 1350-1900 m, 03-04. 05. 2010, leg. C. Holzschuh and locals, paratypes: 1 female, topotypic but 07-09. 04. 2010, 1 female, topotypic but 17. 05. 2011, 1 female, topotypic but 06. 05. 2010, 1 female, topotypic but 22-23. 05. 2010, 1 female, topotypic but 02-03. 05. 2011, 1 female, topotypic but 06. 05. 2011, 1 female, topotypic but 09. 05. 2010, 1 female, topotypic but 01-03. 06. 2009, 1 female, topotypic but 08. 05. 2011, 1 female, topotypic but 11. 05. 2010, 1 female, topotypic but 10-09. 05. 2009, 1 male, topotypic but 14-15. 05. 2010, 1 male, topotypic but 21. 05. 2010.

Female (Fig. 7). Head black above except reverse  $\pi$ -shaped green pattern on vertex, head otherwise including mouthparts, palpi green, supraantennal tubercles and small area between clypeus and antennal base also green. Antenna including scape and pedicell black. Thorax black, green: large transversal band on mesopleuron, middle part of katepimeron, wide margin of pronotum, tegula, triangular apex of mesonotal middle lobe, mesoscutellum (except black hind margin), 2 spot adjoined to the corner of mesoscutellum, mesoscutellar appendage and postscutellum. Abdominal tergites black with reddish-yellow confluent spots in middle of 1-(5)6 tergites. Sternites green. Pale parts of legs reddish-yellow, tarsi black, femora and 4 anterior tibiae with black longitudinal line, hind tibia black. Wings hyaline, costa, subcosta, stigma and venation black. Head smooth and shiny, temples with sporadic, moderately large, deep punctures. Mesonotum shiny with sporadic deep punctures. Mesonotum shiny with sporadic deep piunctures. Mesoscutellum, mesoscutellar appendage and metascutellum smooth and shiny. Mesopleuron with moderately dense deep puncture, slightly shiny. First tergite smooth and shiny, other abdominal tergites with fine coriaceous surface sculpture, weekly shiny. Ratios of antennal segments: 15 : 9 : 41 : 32 : 26 : 21 : 17 : 14 : 16. OOL : POL : OCL: 4.0 : 1.0 : 4.0. Antenna as long as head and thorax combined, including propodeum. Clypeus widely emarginated, clypeal emargination about 0.25x as deep as clypeal median length. Frontal crest confluent with supraantennal tubercles. Postoccipital carina complete. head slightly contracted behind eyes. Mesoscutellum subconvex, not pyramidal. Mesopleuron elevated but not acute. Mesosternum without thorn. Sawsheath short, not exceed apex of abdomen. Ratio of hind tarsal segments: 44 : 19 : 14 : 7 : 18. Length of hind basitarsus : length of inner hind tibial spur: 44 : 21. Subapical and apical teeth of claws subequal, subapical tooth wider. Length: 10.6-12.6 mm females.



Fig. 1. *Tenthredo sanguinota* sp. nov.



Fig. 2. *Tenthredo turrisii* sp. nov.





Fig. 3. *Tenthredo nigromandali* sp. nov.



Fig. 4. *Tenthredo (Tenthredina) fulvissima* sp. nov.



Fig. 5. *Tenthredo laoensis* sp. nov.



Fig. 6. *Tenthredo (Tenthredina) bilobita* sp. nov.





Fig. 7. *Tenthredo gusenleitneri* sp. nov.



Fig. 8. *Tenthredo laoviridis* sp. nov.



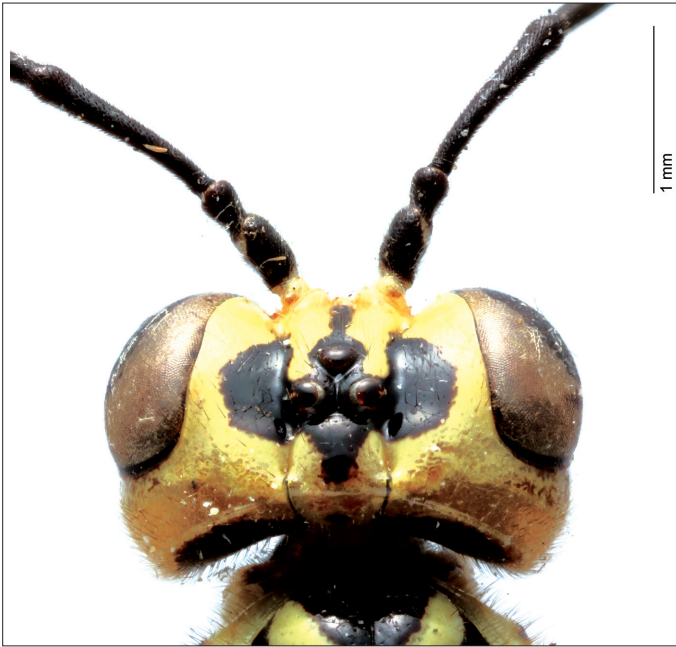


Fig. 9. Head of *Tenthredo nigroscalaris* Malaise (lectotype)  
Photo: Dr. Hege Vardal



Fig. 10. *Tenthredo nigroscalaris* Malaise (lectotype in ventral view)  
Photo: Dr. Hege Vardal

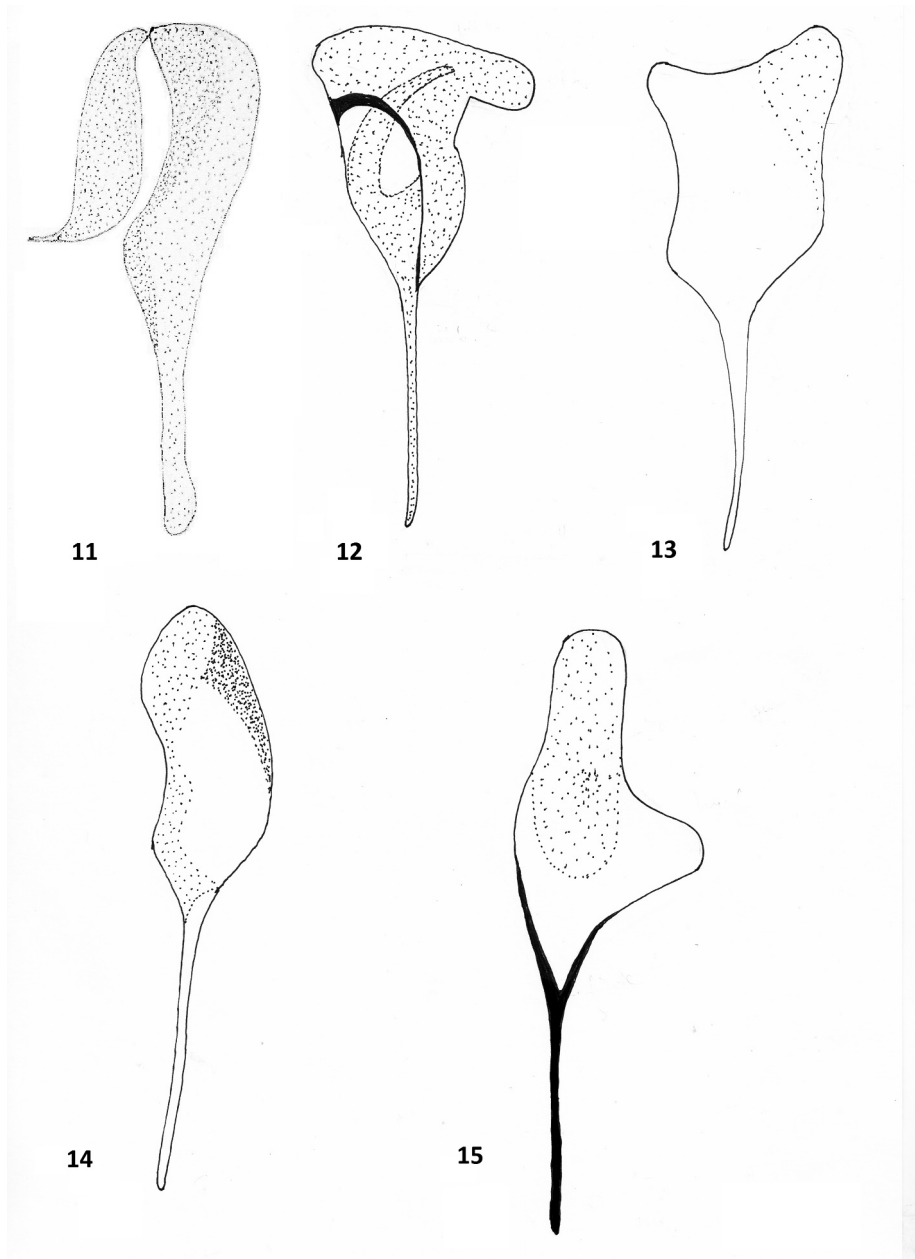


Fig. 11. Penis valve of *Tenthredo gusenleitneri* sp. nov., Fig. 12. Penis valve of *Tenthredo laoensis* sp. nov., Fig. 13. Penis valve of *Tenthredo turrisii* sp. nov., Fig. 14. Penis valve of *Tenthredo fulvissima* sp. nov., Fig. 15. Penis valve of *Tenthredo (Tenthredina) bilobita* sp. nov.

16

17

18

19

Fig. 16. Basal 6-8th serrulae of *Tenthredo nigromandali* sp. nov., Fig. 17. Basal 7-9th serrulae of *Tenthredo bilobita* sp. nov., Fig. 18. Basal 6-8th serrulae of *Tenthredo laoviridis* sp. nov., Fig. 19. Head of *Tenthredo laoviridis* sp. nov.

Individual variations: Confluent spots on abdominal tergites 4-6 may darkened but always remain confluent. Sometimes even tergites 1-8 with pale dorsal band.

Males: like females. Penis valve in Fig. 11.

It is not easy to decide whether "supraantennal tubercles highly elevated, quite free standing and abruptly cut off from frontal ridges" or "supraantennal tubercles gradually sloping backwards and confluent with frontal ridges or separated by a quite shallow furrow" at this species since supraantennal tubercles remarkably separated by its colour (head black, supraantennal tubercles green); they are somehow elevated but the furrow is slight. Therefore we checked both groups. We found 3 related species:

*Tenthredo triangulifera* Malaise, 1945: "In both sexes, the tree or four basal tergites-with the extremely narrow hind margin broadened to a triangular pale spot in the middle". Opposite of this, in the new species the basal 5-6 (or sometimes even 8) tergites with confluent pale dorsal band (similar to Fig. 349 in SAINI 2007) and never separated into triangular spots. In *T. triangulifera*, "upper side of head together with the 2/5ths of the hind orbit black without any pale markings". Opposite of this, in the new species, vertex with wide reverse  $\pi$ -shaped green pattern.

*Tenthredo convergenomma* Wei, 1998: "Greenish yellow...spot near the hind margin of temple". This region is completely black in the new species, however vertex with wide green spot as it is described above. *T. convergenomma*: "Greenish yellow... central triangle of mesosternum". It is entirely black in the new species. In *T. convergenomma*, ratio of antennal segments 3 and 4 is as 3:2, in the new species this is 4:3. In *T. convergenomma*, "mesonotum densely punctured and microsculptured, opaque", it is sporadically punctured and shiny in the new species. In *T. convergenomma*, abdominal tergites are black with "triangular spots on apex of tergites 1-5" and "mesopleuron with pale spot in the front part". In the new species, abdominal tergites with confluent rusty green band which never separated into triangles furthermore mesopleuron with long wide horizontal band from anterior till posterior margin of mesopleuron.

In MALAISE 1945 and SAINI 2007, the new species would also run to *Tenthredo simlaensis* Cameron, 1899. The penis valve and black pattern of frontal area of *T. simlaensis* is completely different from the new species (compare with Figs. 313 and 709 in SAINI 2007).

### *Tenthredo laoviridis* sp. nov. (Figs 8, 18 and 19)

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, paratype: 1 female, topotypic but 10. 05. 2011.

Female (Fig. 8). Head whitish straw (green in life); black: large frontal spot (not reaching eyes), head behind postoccipital carina, 2 small strip erected from outside of postocellar furrows (Fig. 19). Antenna totally black. Thorax black; white (probably green in life): wide lateral margins of mesonotal anterior lobes, 2 small triangular spot on lateral lobes close to outer margins of anterior lobes, mesoscutellum, mesoscutellar appendage, metascutellum, steep posterior part of mesonotum, posterior margin of metanotum, small spots at edges of metascutellum, wide pronotal margins all around, mesopleuron, katepimeron, metapleuron. (In ventral view, mesosternum widely black.)

Coxae, trochanters, femora reddish straw (probably green in life), hind tibia and tarsus black, four anterior tibia and tarsus with longitudinal black line, apex of hind femur black. Abdomen reddish straw, tergites black, tergites 1-8 with wide, reddish straw

horizontal bands, last tergite straw. Valvula 3 with narrow black margin all around. Wings hyaline, costa, stigma and venation brownish black. Head smooth and shiny. Mesonotum with small sporadic punctures, shiny. Mesoscutellum with horizontal carina and few punctures, shiny. Mesoscutellar appendage and metascutellum smooth and shiny. Mesopleuron with sporadic, small punctures, shiny. Ratios of antennal segments: 15 : 8 : 43 : 33 : 31 : 21 : 18 : 17 : 19. Antenna as long as head and thorax combined. OOL : POL : OCL: 21 : 4 : 15. Clypeus roundly emarginated, clypeal emargination about 0.25x as deep as clypeal median length. Postoccipital carina reaching up to vertex. Vertex without carina. Gena linear, supraantennal tubercles and frontal crest confluent. Supranatennal tubercles do not cover scape. Mesoscutellum blunt, subpyramidal. Mesopleuron bluntly elevated. Mesosternum without thorn. Ratio of hind tarsal segments: 38 : 13 : 9 : 6 : 15. Length of hind basitarsus : length of inner hind tibial spur: 38 : 20. Apical tooth of claw longer than subapical. Number of serrulae: 20. Length: 10.6 mm.

In the key of Malaise (MALAISE 1945), the new species runs to *Tenthredo occipitalis* Malaise, 1945. *T. occipitalis* has entire underthorax pale (black in the new species), head is extensively black as it is figured in SAINI (2007) Fig. 307. In SAINI (2007), the new species runs to *Tenthredo pleuriimpunctata* Vasu & M. S. Saini, 2004. Differences: the pattern of frontal spot is completely different, compare SAINI 2007: Fig. 316 and Fig 13. Only apex of hind tibia is black in *Tenthredo pleuriimpunctata* but totally black in the new species. Subgeneric classification has not been resolved: "clypeus demarcated from face by distinct suture", according to point 71 in ZHELOCHOVTSEV 1988, but distance between eyes is definitely shorter than clypeal width. Serrulae of *Tenthredo pleuriimpunctata* with 6 sharp teeth, in the new species with 4- 5 blunt teeth (only serrulae 7 and 8 with 6 blunt teeth) compare Fig. 18 with Fig. 433 in SAINI 2007.

The new species is also related to *Tenthredo nigroscalaris* Malaise, 1945 (Figs. 9 and 10). The differences: the black pattern of head different, for instance, in *T. nigroscalaris*, the ocellar area dominantly green, but black in the new species, temples next to vertex with 1-1 strip, these strips are missing in *T. nigroscalaris*, lateral projections of frontal spot reach antennae in the new species, these projections are missing in *T. nigroscalaris* (compare Fig. 9 and Fig. 19). Mesosternum, costa and stigma green in *T. nigroscalaris* (see Fig. 10) but they are all black in the new species.

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