

Sawflies from Vietnam (Hymenoptera: Symphyta)

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HARIS, A.: *Sawflies from Vietnam (Hymenoptera: Symphyta)*.

Abstract: *Tenthredo (Tenthredella) devriesi* sp. nov., *Athlophorus abrahami* sp. nov., *Busarbia hoensis* sp. nov., *Heptamelus wuquangensis* sp. nov., *Mimathlophorus rubropedis* sp. nov., *Eusunoxa brunnea* sp. nov. and *Eurhadinoceraea quyi* sp. nov. are described from Vietnam. *Tenthredo (Tenthredella) compressicornuta* Taeger & Blank, 1996; *Neostromboceros planifrons* Wei, 1997; *Taxonus tianmunicus* Wei & Nie, 1998; *Athlophorus kurahashii* Togashi, 1979; *Athlophorus assamensis* Malaise, 1947; *Athlophorus maculiventris* (Cameron, 1899); *Parallantus maculipennis* Wei & Nie, 1998; *Empria litturata* (Gmelin, 1790); *Caliroa bilobatina* Wei, 2002; *Neostromboceros chalybeus* (Konow, 1908); *Ametastegia (Prottemphytus) formosana* (Rohwer, 1916) and *Formosempria crassicornis* Wei & Nie, 2002 are first records for Vietnam.

Keywords: Hymenoptera; Symphyta; Tenthredinidae; Vietnam; New species

Introduction

The present paper is the fifth contribution of the author to the knowledge of the common sawflies (Tenthredinidae) of Vietnam (HARIS 2006, 2007, 2008 and 2010). Previously only few papers were published on the sawfly fauna of Vietnam. The first data were recorded from Indochina by MOCÁRY (1900), TURNER (1920) and FORSIUS (1931). In the late Nineties, WEI (1997a) described five new species from this country.

Material and Methods

This small collection was collected by Professor Cees van Achterberg and Mr. Rob de Vires both from Leiden Natural History Museum (Naturalis) in The Netherlands. It contains 70 specimens of 35 species including 7 species new to science. For identification, we used monographs of MALAISE (1945, 1947) and Saini (2006, 2007) augmented with high number of subrecently published works of the research group of Dr. Meicai Wei (WEI 1997a, b, c, NIE and WEI 1998, WEI et al. 2003, WEI and NIE 1997, LIAO et al. 2007; WEI and ZONG 2002 etc.). The voucher specimens and holotypes are deposited in the collection of the Leiden Natural History Museum, Naturalis (official abbreviation RNMH). To identify the studied Symphyta, the identified and type material of the extensive Oriental Hymenoptera collections in Leiden NCB Naturalis and the Hungarian Natural History Museum were examined.

For identification of the new species, the morphological studies were completed with genitalia drawings and descriptions. Sawsheaths, lancets and penis valves were studied

and figured. Lancets and penis valves were mounted on slides and studied under high magnification (1000x and 1500x) of microscope, sawsheaths were studied under stereo microscope with 100x magnification.

Descriptions

Tenthredo (Tenthredella) devriesi sp. nov.

(Fig. 1, 4, 7, 15, 23, 24)

Material: Holotype, female(RMNH): N. Vietnam, Hoa Bink, Pa Co Hang Kia N. R., 1377 m., N20°44'44", E10°53'34", 10-24. x. 2009, Mal. tr. 21. RMNH. Cees van Achterberg and Rob de Vries.

Female (Figs. 23 and 24). Head including mouthparts white; black: vertex, hind margin of temples, upper third of postoccipital area above, frontal spot not reaching eyes and antennae, middle spot of clypeus, lower clypeal margin, upper narrow margin of eyes and apical half of mandible. Antenna black; white: small apical spot on scape, apical half of antennal segment 4, whole antennal segment 5 and half of segment 6 in dorsal view. Thorax black; white: long oval spot on propleuron, hind corners of pronotum, tegula, arrow shaped hind margin of mesonotal middle lobe, larger rectangular spot on upper third of mesopleuron, narrow horizontal line in middle of mesopleuron, most of mesoscutellum, mesoscutellar appendage, rectangular spot behind metascutellum, large rectangular central spot on metapleuron and narrow line in middle of mesosternum. Cenchri pale brownish white. Coxae black. Middle and hind coxae with white strip, fore coxa with white apex. Trochanters white. Middle and hind femora, tibiae and tarsi reddish yellow. Fore femur white, dorso-apical 2/3 black. Dorsal side of fore tibia black, ventral side white. Fore tarsal segments white with dorsal black line on segments 1-4. Apical half of fore and hind wings moderately brown infuscate. Stigma, subcosta and venation black, costa yellow. Abdomen black with violet luster; white: large rectangular spot on side of propodeum; reddish yellow: large spot covering middle part of tergite and sternites of abdominal segments 2 and 3. Head strongly shiny, shallowly and sparsely punctured. Occipital carina reaches up to middle of the temple. Head contracted behind eyes. Frontal area deeply sunken, moderately densely and moderately deeply punctured, shiny. Supraantennal tubercles separated, extremely narrow, not reaching upto base of scape, white with light brown apical margin. Postocellar furrows slightly divergent reaching hypothetic hind margin of head. Clypeus widely and moderately deeply emarginated up to 1/3 of its median length. Gena linear. Labrum large, slightly and bluntly projected apically. OOL : POL : OCL: 22 : 4 : 17. Length : width of postocellar area: 19 : 17. Ratios of antennal segments (1-9): 21 : 10 : 55 : 70 : 52 : 49 : 39 : 37 : 37. Antenna long, about as long as head, thorax and first 2 abdominal segments combined. Pronotum and mesonotum moderately densely and moderately deeply punctured, shiny. Interspaces between punctures about 0.75x diameter of a puncture. Mesopleuron moderately densely and moderately deeply punctured, shiny, spaces between punctures about 0.5-1x diameter of a puncture. Mesoscutellum densely punctured with moderately deep, shallow and larger punctures. Spaces between puncture about 0.4x diameter of a puncture. Mesoscutellar appendage smooth and shiny. Metascutellum with fine, superficial and transversal surface sculpture with sporadic large and deep punctures, shiny. Abdominal tergites shiny with fine superficial surface sculpture. First abdominal tergite (propodeum) smooth and shiny. Mesoscutellum blunt and subpyramidal without carina. Mesosternum smooth without thorn, side of mesopleuron bluntly rounded. Ovipositor

(Figs. 1 and 4) longer than hind basitarsus as 18 : 15. In dorsal view, ovipositor narrowed and covered with straight, black hairs. Sawsheath with 29 serrulae, middle serrulae with 20-22 minute teeth. Serrulae 7-9 in Fig.15. Subapical tooth of claw wider and longer than apical (Fig. 7). Length: 16.5 mm.

Etymology: the new species is gratefully dedicated to Mr. Rob de Vries, Dutch entomologist, member of the expedition.

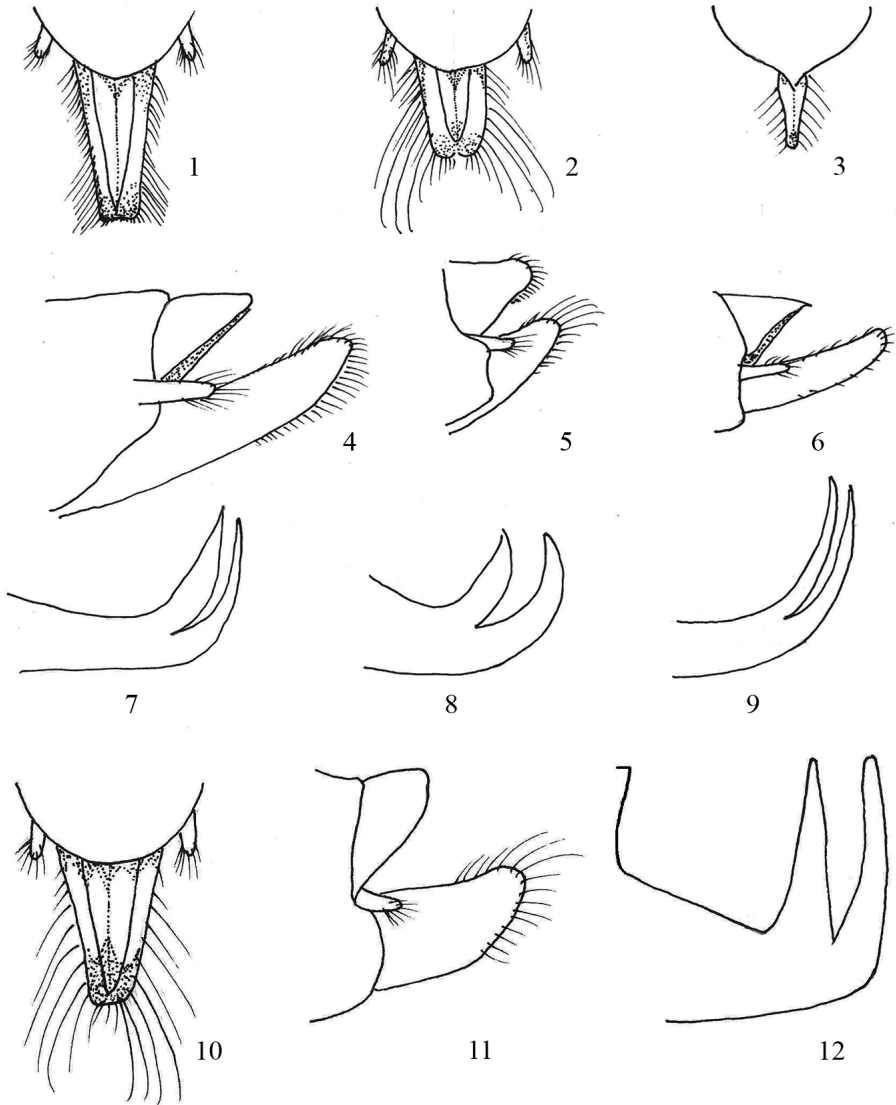
In Malaise's and Sainis's keys (MALAISE 1945, SAINI 2007), the new species runs to *Tenthredo cretata* Konow, 1898. In *T. cretata* Konow, not only 2nd and 3rd abdominal tergites are reddish-yellow, but even the 4th and 6th are as well. In *T. cretata*, the head in dorsal view, is dominantly black (in this view, the white area is restricted to temples), mesonotal middle lobe without arrow like apex only with white lateral margins, hind orbit in the upper quarter is black, apical tooth of claw is much longer than subapical. In the new species, reddish yellow color of abdomen is restricted to tergite and sternite 2 and 3. Head in dorsal view dominantly white: not only temples but vertex and wide inner orbits as well. Mesonotal middle lobe with arrow-like apical spot and outer orbits are entirely white. Subapical tooth of claw is longer than apical. For other morphological differences see SAINI 2007. Amongst the recently described Chinese species, there are several similar species in having white ringed antenna like *Tenthredo niui* Wei, 1998, *T. oligoleucomacula* Wei, 1998, *T. puncticincta* Wei, 1998, *T. rufotibianella* Wei, 1998, (NIE and WEI 1998) *T. micrommota* Wei, 2002 (WEI and ZHONG 2002) and *T. taumatogaster* Wei and Nie, 2003 (WEI et al. 2003) but none of them is closer to the new species than *Tenthredo cretata* Konow.

Athlophorus abrahami sp. nov.

(Fig. 2, 5, 8, 14, 25, 26)

Material: Holotype, female (RMNH); N. Vietnam, Hoa Binh, Pa Co Hang Kia Nr., 1330 m, N20°44'37", E 04°53'45", 10-24. x. 2009, Mal. trap. 11, RMNH. Cees van Achterberg and Rob de Vries.

Female (Figs. 25 and 26). Head reddish brown; white: clypeus, labrum, wide inner orbit up to 2/3 of eye, whole outer orbit; black: narrow margins of lateral teeth of clypeus, narrow hind corner of gena. Antenna reddish brown, scape whitish brown, apical half of antennal segment 4 and total antennal segment 5 black. Mesonotal lobes reddish brown with longitudinal blackish shadow on lateral lobes. Hind margin of lateral mesonotal lobe whitish brown. Mesoscutellum black with 2 larger lateral white spots, these white spots with reddish brown inner margins. Mesoscutellar appendage light reddish brown. Metascutellum black with lateral whitish brown spots. White: cenchri, triangular area behind cenchri. Sunken lateral parts of postnotum reddish brown with lateral black margin. Mesopleuron black with wide white hind margin and with large white spot in middle of its upper third. Mesopleuron separated from mesosternum with wide reddish brown band. Inner margin of katepimeron black with reddish brown coloration in middle and white outside. Lower 2/3 of metapleuron white, upper 1/3 light reddish brown with black margin on top. Mesosternum black, metasternum white. Coxae white, anterior coxa with black ventral band, hind coxa with ventral and lateral black bands, middle coxa entirely white with narrow black apex. Trochanters white with ventral black spots. All femora and tibiae white with black longitudinal lines. Tarsi white with black ventral line, apical joint of fore and middle tarsi and apical 2 joints of hind tarsus black. Wings hyaline, radial cells entirely and adjoining parts of cubital cells brown infusate. Venation black, costa and stigma yellow. Upper third of first tergite black with 2 basal triangular reddish brown spots. Abdominal tergites brown, except black tergite 8. Apical 2/3 of first tergite, wide lateral triangular margins of tergites 2-4,



Figs. 1-12: Sawsheath in dorsal view: Fig. 1: *Tenthredo (Tenthredella) devriesi* sp. nov.; Fig. 2: *Athlophorus abrahami* sp. nov.; Fig. 3: *Heptamelus wuquangensis* sp. nov.; Fig. 10: *Mimathlophorus rubropedis* spec. nov.; Sawsheath in lateral view: Fig. 4: *Tenthredo (Tenthredella) devriesi* sp. nov.; Fig. 5: *Athlophorus abrahami* sp. nov.; Fig. 6: *Heptamelus wuquangensis* sp. nov.; Fig. 11: *Mimathlophorus rubropedis* spec. nov.; Claw: Fig. 7: *Tenthredo (Tenthredella) devriesi* sp. nov.; Fig. 8: *Athlophorus abrahami* sp. nov.; Fig. 9: *Heptamelus wuquangensis* sp. nov.; Fig. 12: *Mimathlophorus rubropedis* sp. nov.

hind margins of tergites 5-8, apical spot of tergite 9 and tergite 10 entirely white. Sternite 1st black with white margin, sternites 2-4 entirely white other sternites black with white hind margin. Ovipositor black with reddish brown lower margin. Head with minute, shallow, moderately dense punctures, shiny. Distance between cubital vein and basal vein on the subcosta about as long as first cubital crossvein: 1.0 : 1.0. Fore wing with 3 cubital cells. Crossvein of anal cell strongly oblique, about 45°. Anal cell of hind wing with long petiole. Cubital and middle cell of hind wing opened. Clypeus deeply emarginated, nearly half as deep as clypeal median length. OOL : POL : OCL: 17 : 10 : 23. Ratios of antennal segments 1-9: 15 : 6 : 31 : 34 : 30 : 19 : 15 : 15 : 16. Apical 5 antennal segments gently compressed. Width : length of postocellar area: 24 : 23. Postoccipital carina narrow reaching nearly up to the top of eyes. Frontal area raised up above level of head without sharp carina. Supraantennal tubercles narrow and small. Antenna about as long as head and thorax combined till the end of metanotum. Mesonotum and pronotum very finely, moderately densely punctured with small and shallow punctures, shiny. Mesoscutellum densely punctured with deep and small punctures, slightly shiny. Mesoscutellar appendage sporadically punctured with small, shallow punctures. Metanotum smooth and shiny. Upper half of mesopleuron (except smooth and shiny white central spot) with large, deep punctures, shiny. Ventral half of mesopleuron with small, moderately dense and shallow punctures, shiny. Katepimeron smooth and shiny. Metapleuron with shallow, dense, small punctures in middle otherwise smooth and shiny. Mesopleuron bluntly rounded and slightly elevated with short longitudinal carina starting from hind margin and reaching central part of mesopleuron. Abdominal tergites with fine, superficial, coriaceous surface sculpture. Propodeum smooth and shiny. Length of hind basitarsus : length of inner hind tibial spur: 40 : 14. Ovipositor (Figs. 2 and 5) in dorsal view gently narrowed, covered with pale, soft hairs. Length of ovipositor : length of hind basitarsus: 53 : 42. Apical and subapical teeth of claws subequal (Fig. 8). Sawsheath with 23 serrulae. Serrulae 8-10 in Fig.14. Length: 8.0 mm.

Etymology: The new species is dedicated to Dr. Levente Ábrahám, Hungarian entomologist.

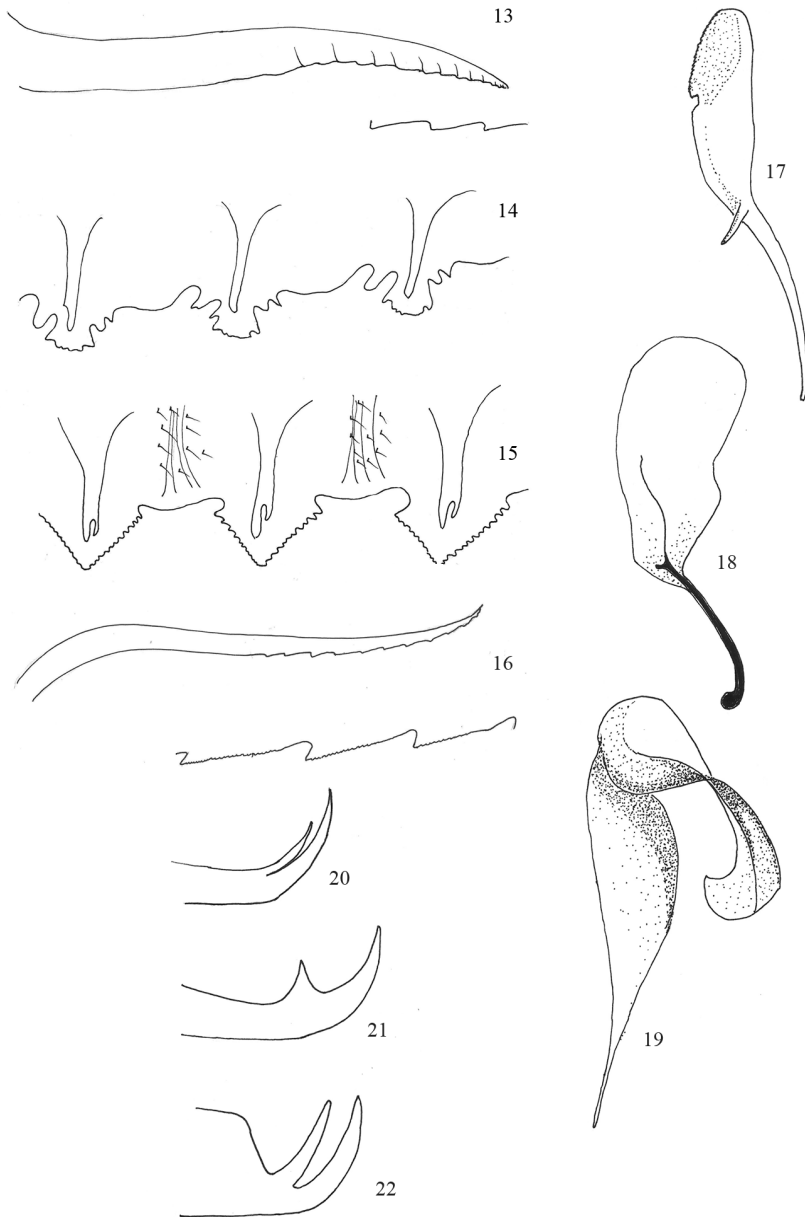
Regarding the closely related *Athlophorus* species, in the key of MALAISE (1947), the new species runs to *Athlophorus stigma* Malaise, 1947. In *A. stigma* Malaise, apical antennal segments are white, not reddish, stigma is bicolor, mesoscutellum with acute thorn and head with black spots. In the new species, apical antennal segments are reddish, stigma is yellow, mesoscutellum is nearly flat and head is without any black spots. Several new species were published by Wei and Saini, however, the unique oculus-pattern of mesopleuron (see Fig. 25) distinguish the new species from the allied ones.

***Busarbia hoensis* sp. nov.**

(Fig. 18, 21, 27, 28)

Material: Holotype, male (RMNH);, N. Vietnam, Hoa Bink, Pa Co Hang Kia N. R., 1379 m., N20°44'42", E 10°53'34", 10-24. x. 2009, Mal. tr. 17. RMNH. Cees van Achterberg and Rob de Vries.

Male (Figs. 27 and 28). Head black, clypeus, labrum, mandibles and palpi white. Apex of mandible brown. Antenna black, scape and pedicell white, third antennal segment whitish brown in dorsal view. Thorax black; white: pronotal corner, tegula, parapteron, cenchri, metapleuron, metasternum and one moderately large spot on middle-hind margin of mesopleuron. Legs (including coxae and trochanters) white except dark greyish-brown apical tarsal segments. First abdominal tergite (propodeum) black with large white triangular membranous area. Other tergites dark brown. Sternites whitish brown except apical 2 dark brown sternites. Wings slightly and evenly infusate. Costa, stigma



Figs 13-22: Fig. 13: Lancet and serrulae 3-5 of *Mimathlophorus rubropedis* sp. nov.; Fig. 14: Serrulae 8-10 of *Athlophorus abrahami* sp. nov.; Fig. 15: Serrulae 7-9 of *Tenthredo* (*Tenthredella*) *devriesi* sp. nov.; Fig. 16: Lancet and serrulae 3-5 of *Heptamelus wuquangensis* sp. nov.

Penis valve: Fig. 17: *Eusunoxa brunnea* spec. nov.; Fig. 18: *Busarbia hoensis* sp. nov.; Fig. 19: *Eurhadinoceraea quyi* sp. nov.

Claw: Fig. 20: *Eusunoxa brunnea* spec. nov.; Fig. 21: *Busarbia hoensis* sp. nov.; Fig. 22: *Eurhadinoceraea quyi* sp. nov.



Fig. 23: *Tenthredo (Tenthredella) devriesi* sp. nov. holotype head and thorax



Fig. 24: *Tenthredo (Tenthredella) devriesi* sp. nov. holotype



Fig. 25: *Athlophorus abrahami* sp. nov. head and thorax, holotype



Fig. 26: *Athlophorus abrahami* sp. nov. holotype

and venation brownish black. head strongly contracted behind eyes. Postgenal carina very fine, hardly visible reaching up to the 1/3 of eye. Frontal area sunken, subtriangular above and sharply limited by carina similar to the illustration in Malaise, 1944 Fig. 8/c on page 16. Inner margin of eyes gently convergent, subparallel. OOL : POL : OCL: 12 : 5 : 18. Width: length of postocellar area: 19: 18. Ratios of antennal segments (1-9): 9 : 6 : 24 : 27 : 19 : 11 : 10 : 10 : 10. Scape and pedicell longer than wide. Antenna slightly longer than head and thorax (including propodeum) combined. Gena about as wide as 1/3 length of front ocellus. Clypeus widely and roundly emarginated. Clypeal emargination about 0.36x as deep as clypeal median length. Number of cubital cells: 4. Basalis evenly curved, meet with first recurrent vein in one point. Radial crossvein meets radial vein in front of last cubital crossvein. Anal cell of fore wing without crossvein. Distance between basal vein and cubital vein on subcosta subequal with length of first cubital crossvein. Anal cell of hind wing with short petiole. Head and thorax smooth and shiny. Frontal basin with few, large wrinkles, moderately shiny. Propodeum smooth and shiny with fine coriaceous surface sculpture in middle. Abdominal tergites with fine, coriaceous surface sculpture, moderately shiny. Prescutum normal without distinct depressed area and middle carina. Mesoscutellum flat without carina. Mesoscutellar appendage 1/3x as long as mesoscutellum. Ratios of hind tarsal segments: 30 : 10 : 7 : 4 : 5. Hind tarsus slightly longer than other tarsal segments. Inner hind tibial spur simple. Length of inner hind tibial spur: length of hind basitarsus: 1.0 : 3.0. Claws without basal lobe, with small inner tooth (Fig. 21). Penis valve in Fig. 18. Length: 4.3 mm. Female unknown.

Etymology: the specific name refers to the place of collection.

The new species closely related to *Busarbia santokhi* M.S. Saini & D.R. Smith, 2005. The new species strikingly different from *Busarbia santokhi* by the shape of penis valve (see Fig. 18), also the genal width is significantly shorter.

***Heptamelus wuquangensis* sp. nov.**

(Fig. 3, 6, 9, 16, 29)

Material: Holotype, female (RMNH): C. Vietnam, Ha Tinh, Wu Quang NP., 88 m. N18°19'46", E105°26'38", 23. ix.- 05. x. 2009. Mal. tr. 26. Cees van Achterberg and Rob de Vries.

Female (Fig. 29): Head black; labrum and apical half of mandibles brown. Thorax black; white: tegula and cenchri; yellow: 2 triangular spots between mesoscutellum and mesoscutellar appendage and metascutellum. Brown: mesoscutellar appendage; brownish white: narrow hind margins of pronotum. Antenna black, scape and pedicell white, pedicell dorsally with brown suffusion. Palpi brownish white. Fore and middle coxae, fore and middle trochanters, all tarsi white, other parts of legs yellow, hind tibia with brown apical spot outside. Wings slightly infumate-subhyaline, venation, costa and stigma dark brown. Stigma wide and rounded, length: width: 2 : 1. Number of radial cells: 3. First radial crossvein fragmented. Basalis strongly curved. Distance between basalis and radial vein on subcosta equal with length of second radial crossvein. Hind wing with 2 closed middle cells. Anal cell of hind wing with long petiole. Abdomen yellow; brown: margin around triangular membranous blotch of propodeum, tergites 2-6 with gradually increasing central black spots. Four last apical tergites entirely black, apical half of ovipositor black. Hind margins of temples and vertex moderately densely punctured, other parts of head with small and moderately deep punctures. Temples and vertex sparsely punctured with small punctures, shiny. Clypeus moderately densely punctured with small punctures, shiny. Length and width of clypeus: 11: 31. Temples narrow, strongly contracted behind eyes. OOL : POL : OCL: 4 : 2 : 5. Width : length of postocellar area: 7 : 5. Ratios of antennal segments (1-7): 7 : 6 : 14 : 14 : 13 : 12 : 14.

Clypeus widely and triangularly emarginated, 0.33x clypeal median length. Gena linear, head without postgenal and postoccipital carina. Postocellar furrows straight and parallel. Frontal area not marked. Supraantennal longitudinal furrow present. Antenna as long as head and thorax combined without propodeum. Inner margins of eyes convergent. Mesonotal lobes moderately densely, minutely and shallowly punctured, shiny. Mesoscutellum sporadically punctured with moderately large and moderately deep punctures, shiny. Mesoscutellar appendage and metanotum smooth and shiny. Mesopleuron sparsely punctured with large, deep punctures, shiny. Abdominal tergites 1-3 smooth and shiny, other tergites with fine, superficial coriaceous sculpture, shiny. Subapical tooth of claw (Fig. 9) wider and longer than apical. Basal lobe missing. Ovipositor (Figs. 3 and 6) strongly narrowed in dorsal view with straight black hairs. Ovipositor long, length of ovipositor : length of hind basitarsus: 83 : 49. Ratios of hind tarsal segments: 39 : 15 : 8 : 3 : 11. Lancet with 11 serrulae. Serrulae 3-5 in Fig. 16. Length of inner hind tibial spur: length of basitarsus: 13 : 39. Length: 6.5 mm. Male unknown.

Etymology: the specific name refers to the place of collection.

The most closely allied species is *Heptamelus kalamunitopensis* Saini and Saini, 1997 (SAINI 2006). However, clypeus in *H. kalamunitopensis* is very deeply and roundly emarginated. Emargination of the the clypeus in the new species is only moderately deep and triangular. Among Chinese species, *Heptamelus yunnanensis* Wei, 1997 (WEI and NIE 1997) is the most similar to the new species. In *H. yunnanensis* middle fovea is round, deep and much larger than an ocellus, tegula and scape are brown, pedicell is black and the whole thorax including metanotum and propodeum is black. In the new species, middle fovea is narrow, furrow like, deep and much smaller than an ocellus. Hind margin of pronotum, tegula, scape and pedicell are white and mesoscutellum with 2 large ocker-yellow lateral spots on hind margin, propodeum is yellow with brown margin and metanotum is yellow.

***Mimathlophorus rubropedis* sp. nov.**

(Fig. 10, 11, 12, 13, 30)

Material: Holotype, female (RMNH): N. Vietnam, Hoa Binh, Pa Co Hang Kla , 1327 m, N20°44' 6", E104°53'46", 10-24. x. 2009, Taiw. tr. Cees van Achterberg and Rob de Vries.

Female (Fig. 30). Head black; labrum, basal half of mandible white, apical half reddish brown. Antenna black, apical 2/3 of 5th segment, and whole of 6th and 7th segments white. (Last 2 antennal segments missing). Palpi white. Thorax black, tegulae, cenchri, large central spot on mesoscutellum and metascutellum white. Fore and middle legs yellowish white, apical 3 tarsal joints dark brown. Hind coxa black with white longitudinal band, hind trochanter white, hind femur black with white basal spot, hind tibia yellow with black apical ring, hind tarsus entirely white. First abdominal tergite black. Tergites 2-7 dark brown with wide white basal margins. Tergite 8-9 dominantly white with dark brown basal band. Abdominal sternites white, except dark brown apical three sternites. Ovipositor brownish black. Wings hyaline, subcosta, most of stigma and venation dark brown. Costa and basal quarter of stigma white. Number of cubital cells 3, anal cell of fore wing with transverse, about 60° crossvein. Basalis and first recurrent vein subparallel. Basalis meets cubitus in one point on subcosta. Hind wing without closed middle cell. Anal cell with short petiole, nervellus join to apex of anal cell. Head uniformly covered with dense, shallow and minute punctures, moderately shiny. Temples wide, contracted behind eyes. Postgenal carina weak reaching not longer than ¼ of eye length. OOL : POL : OCL: 6 : 3 : 10. Width : length of postocellar area: 4 : 5. Margines of



Fig. 27: *Busarbia hoaensis* sp. nov. head and Fig. 28: *Busarbia hoaensis* sp. nov. holotype



Fig. 29: *Heptamelus wuquangensis* sp. nov. holotype



Fig. 30: *Mimathlophorus rubropedis* sp. nov. holotype



Fig. 31: *Eusunoxa brunnea* sp. nov. holotype

frontal area deeply sunken. Ratios of antennal segments: 15 : 6 : 32 : 45 : 35 : 20 : 18 : last 2 antennal segments missing. Antenna very long, significantly longer than head and thorax, including propodeum combined. Gena linear, clypeus broadly, roundly emarginated up to half of its median length of clypeus. Pronotum, mesonotum, hind margin of mesoscutellum and mesoscutellar appendage with small, shallow and dense punctures, moderately shiny. Mesoscutellum and meatescutellum with moderately large, moderately deep and moderately dense punctures, shiny. Mesopleuron with moderately deep, dense, small punctures, slightly shiny. Prepectus missing, mesoscutellum flat. First abdominal tergite smooth and shiny, others with fine coriaceous surface sculpture, shiny. Ovipositor (Figs 10 and 11) gradually narrowed and with dark, gently curved hairs in dorsal view. Length of ovipositor : length of hind basitarsus: 21 : 25. Ratios of hind tarsal segments: 60 : 28 : 15 : 5 : 11. Length of inner hind tibial spur: length of basitarsus: 29 : 60. Claws without basal lobe, subapical tooth about as long as apical but slightly wider (Fig. 12). Serrulae restricted to apical third of lancet (Fig. 13). Number of serrulae. 9. Serrulae simple without any micro-tooth even in high magnification. Sawsheath and 3th-5th serrulae in Fig. 16. Length: 11.1 mm.

Etymology: rubro: red, pedis: leg.

The closest relative of the new species is *Mimathlophorus fulvitaris* Wei, 1997 (Wei, 1997c). These species differ in ovipositors. *Mimathlophorus fulvitaris* Wei, 1997 has 23 serrulae distributed throughout of the lancet and the serrulae have minute teeth. In the new species, lancet has 9 serrulae and they are localized in the apical third of lancet. *Mimathlophorus fulvitaris* Wei, 1997 has apical half of hind femur, metascutellum and labrum black while the new species has the whole hind femur black; metascutellum and labrum are white.

***Eusunoxa brunnea* sp. nov.**

(Fig. 17, 20, 31)

Material: Holotype, male (RMNH): C. Vietnam, Ha Tinh, Vu Quang N. P., 120 m, N18°19'37", E105°26'29. 23" ix. 05 x. 2009, Mal. tr., Cees van Achterberg, Rob de Vries.

Male (Fig. 31). Head and antenna black; whitish brown: labrum, mandibles and palpi. Thorax entirely black, only cenchri white. Coxae brown with white apex, trochanters white, fore and middle femora and fore tibia brown above and white below. Middle tibia brown above and whitish brown below. Fore and middle tarsi brown, basal 2 tarsal segments of fore tarsus white below, middle basitarsus whitish brown below. Hind femur, tibia and tarsus black, base of hind femur white. Wings slightly infuscate, costa, subcosta, stigma and venation dark brownish black. Abdomen brown. Head smooth and shiny. Frontal area from eye to eye roughly and deeply punctured with large punctures, in major part without shiny interspaces, in smaller part with shiny interspaces, this shiny interspaces are very narrow, do not exceed 0.3x of diameter of a puncture. OOL : POL : OCL: 6 : 7 : 6. Postocellar furrow slightly divergent-subparallel, reaching hind margin of head. Width : length of postocellar area: 14: 6. Ratios of antennal segments (1-9): 7 : 5 : 15 : 15 : 12 : 10 : 7 : 6 : 7. Clypeus densely, moderately deeply punctured with small punctures. Head strongly contracted behind eyes, temples narrow. Frontal area small, rounded and deeply sunken without carina. Middle supraantennal pit about as large as front ocellus, lateral supraantennal pit somewhat smaller. Gena narrow, about 1/3x diameter of front ocellus. Postgenal carina present but hardly visible reaching up to 1/3 length of eye. Postorbital area narrow. Thorax entirely smooth and shiny. Propodeum smooth and shiny, other tergites with fine coriaceous surface sculpture, shiny. Number of cubital cells: 4, basalis and first recurrent vein parallel, basalis and cubital vein meet at one point

on subcosta. Crossvein of anal cell placed in middle. Hind wing without marginal vein, with one closed middle cell. Anal cell with petiole. Hind femur reach over the end of abdomen. Hind basitarsus widened, length: maximal width: 41 : 11. Inner front tibial spur simple. Subapical tooth of claws narrower and smaller than apical without basal lobe (Fig. 20). Penis valve in Fig. 17. Length: 5.6 mm.

Etymology: brunnea: brown, refers to the color of abdomen.

The new species is related to *Eusunoxa semipunctata* Smith and Saini, 2003. The new species can be distinguished from *E. semipunctata* by several characters. Fore and middle femora in ventral view are white in the new species and black in *E. semipunctata*. Penis valves are also strikingly different (compare Fig. 17 and Fig. 638 in SAINI 2006). The hind margin of penis valve is straight in the new species but distinctly concave in *E. semipunctata*. In *E. semipunctata*, the middle incision of penis valve is deep and large while it is small and shallow in the new species.

***Eurhadinoceraea quyi* sp. nov.**

(Fig. 19, 22)

Material: Holotype (RMNH): male, S. Vietnam, Dong Nai, Cat Tien N. P., 100 m., 19-25. iv. 2007. Mal. traps., Mai Phu Quy and Nguyen Thanh Manh.

Male. Head, thorax, antenna black; grayish white: palpi; white: round spot on hind corner of pronotum, cenchri, narrow apices of coxae, apex of second joint of fore trochanter, second joint of middle trochanter, ventral half of first joint, total second joint of hind trochanter, base of fore and middle tibia; brownish white: outer surface of fore and middle tibia. Abdomen dark blackish brown. Labrum brown, basal half of mandible reddish brown. Apical third of fore wing slightly brown infusate from base of stigma, wings otherwise hyaline. Clypeus truncate. Posgenal and postoccipital carina missing. Head contracted behind eyes. Posoccipital furrow deep and divergent, not reaching hypothetic hind margin of head. Gena linear. Eyes large. Hind orbits narrow. OOL : POL : OCL: 7 : 6 : 10. Ratios of antennal segments: 9 : 7 : 29 : 21 : 19 : 11 : 9 : 8 : 7. Pedicell nearly as wide as long: 9 : 8. Antenna as long as head and thorax combined without propodeum. 4-9 antennal segments gently flattened. Length : width of postocellar area: 10 : 13. Head, clypeus smooth and shiny, inner orbits with sporadic, shallow punctures. Pentagonal frontal area deeply sunken. Middle and lateral supraantennal furrows deep and about as large as front ocellus. Thorax and abdominal tergites entirely smooth and shiny. Prepectus absent. Mesoscutellar appendage small and narrow. Metascutellum well developed. Mesoscutellum flat. Fore wing with 3 cubital cells. Basalis and first recurrent vein parallel. Basalis meets cubitus in one point on subcosta. Radial crossvein meets radial vein in half way between 2nd and 3rd cubital crossvein. Anal cell straight. Hind wing without closed middle cell and marginal vein. Anal cell with petiole. Ratios of hind tarsal segments: 20 : 6 : 6 : 3 : 6. Claws with basal lobe, apical and subapical tooth subequal (Fig. 22). Penis valve in Fig. 19. Length: 5.4 mm.

Etymology: the new species is dedicated to Mr. Mai Phu Quy zoologist from Vietnam.

The new species is closely related to *Eurhadinoceraea amauros* (ZOMBORI 1977) and in the key of Wei (1999), the new species also runs to this species. The differences: Hind wing without closed discoidal cell. The white color of tibiae and trochanter and the rounded spot on pronotum are also differs the new species from *E. amauros*.

The new species also slightly resembles to *Kompongia cambodgensis* Malaise, 1937 (MALAISE 1937), *K. cambodgensis* has broad and deep interocellar furrow, postocellar furrows are missing, abdomen with bluish or purple luster, wings are strongly infusate,

tibiae and pronotum are white and hind wing with small appendiculate cell. The new species has no intercellular furrow, but broad and deep postocellar furrows, wings are hyaline, only apical third is slightly infuscate, abdomen without bluish or purplish luster, tibiae and pronotum are brownish black (except small dot on pronotum) and hind wing is without appendiculate cell.

Conclusions

Actual number of recorded common sawflies (Tenthredinidae) in Vietnam is 140. It is still low number and only fragment of the real species richness which is estimated to about 500 species in this country. High number of species (51) was firstly described from Vietnam. Numerous species previously known and described from China were recorded in Vietnam as well. In this early phase of research we could not discuss sawfly fauna of Vietnam but this paper together with others are significant contribution to understand the biodiversity of the country.

Sawflies (Tenthredinidae) from Vietnam

Tenthredo (Tenthredella) compressicornuta Taeger & Blank, 1996

(Originally: *Tenthredo (Tenthredella) compressicornis* Cameron, 1899): Hoa Binh, Pa Co Hang Kia Nr., 1330 m, N20°44'37", E104°53'45", 10-24. x. 2009, Mal. trap., 1 female, Achterberg and de Vries.

First record for Vietnam.

Neostromboceros planifrons Wei, 1997

Ninh Binh, Cuc Phuong Np., light trap., 09. x. 2009. leg.: E. Gasso Miracle, 1 female.

First record for Vietnam.

Taxonus formosacola (Rohwer, 1916)

Hoa Binh, Pa Co Hang Kia Nr., 1330 m, N20°44'37", E104°53'45", 10-24. x. 2009, Mal. trap., 1 male.

Taxonus tianmunicus Wei & Nie, 1998

Hoa Binh, Pa Co Hang Kia Nr., 1324 m, N20°44'36", E104°53'44", 10-24. x. 2009, 1 female, Achterberg and de Vries.

First record for Vietnam.

Nesoselandria albotegularissima Haris, 2006

Hoa Binh, Pa Co Hang Kia Nr., 1030 m, N20°44'36", E104°53'46", 10-24. x. 2009, Taiw. trap., Achterberg and de Vries, 1 female; Hoa Binh, Pa Co Hang Kia Nr., 1327 m, N20°44'36", E104°53'46", 10-24. x. 2009, Mal. trap., Achterberg and de Vries, 1 female; Hoa Binh, Pa Co Hang Kia Nr., 1321 m, N20°44'36", E 104°53'44", 10-24. x. 2009, Mal. trap., Achterberg and de Vries, 1 female; Hoa Binh, Pa Co Hang Kia Nr., 1051 m, N20°44'28", E104°53'45", 11-23. x. 2009, Mal. trap., Achterberg and de Vries, 1 male, 1 female; C. Vietnam, Ha Tinh, Vu Quang N. P., 166 m, N18°17'39", E105°25'27", Achterberg and de Vries, 1 female.

Nesoselandria shanica Malaise, 1944

C. Vietnam, Ha Tinh, Vu Quang N. P., 142 m, N18°17'39", E105°25'32", 24. ix. – 05. x. 2009, 1 female, Achterberg and de Vries.

Nesoselandria devriesiana Haris, 2006

C. Vietnam, Ha Tinh, Vu Quang N. P., 139 m, N18°17'41", E105°25'34", 24. ix. – 05. x. 2009, 1 female, Achterberg and de Vries.

Ametastegia (Protemphytus) formosana (Rohwer, 1916)

North Vietnam, Hai Phong Cat Ba Np., 19. x. 2009, 1 female. First record for Vietnam.

Athlophorus kurahashii Togashi, 1979

S. Vietnam, Dong Nai, Cat Tien N. P., 100 m., 14-20. v. 2007., 1 male, Mal. traps., Achterberg and de Vries. First record for Vietnam.

Athlophorus assamensis Malaise, 1947

Hoa Binh, Pa Co Hang Kia Nr., 1030 m, N20°44'35", E104°53'22", 9-23. x. 2009, Mal. trap., 1 female, Achterberg and de Vries.

First record for Vietnam.

Athlophorus perplexus ssp. *perplexus* (Konow, 1898)

N. Vietnam, Ninh Binh, Cuc Phuong NP., near centre, c. 225 m, 15 iii – 14. iv. 2000, 1 female, 1 male, May Phu Quy.

Athlophorus maculiventris (Cameron, 1899)

Hoa Binh, Pa Co Hang Kia Nr., 1030 m, N20°44'37", E104°53'45", 10-24. x. 2009, Mal. trap., 1 male, Achterberg and de Vries.

First record for Vietnam.

Parallantus maculipennis Wei & Nie, 1998

Hoa Binh, Pa Co Hang Kia Nr., 1030 m, N20°44'35", E104°53'22", 9-23. x. 2009, Mal. trap., 1 female, Achterberg and de Vries.; Hoa Binh, Pa Co Hang Kia Nr., 1046 m, N20°44'37", E104°53'20", 9-23. x. 2009, Mal. trap., 2 females, Achterberg and de Vries; Hoa Binh, Pa Co Hang Kia Nr., 1381 m, N20°44'43", E104°53'35", 10-24. x. 2009, Mal. trap., 1 male, Achterberg and de Vries; Hoa Binh, Pa Co Hang Kia Nr., 1045 m, N20°44'37", E104°53'20", 9-23. x. 2009, Mal. trap., 1 male, Achterberg and de Vries.

First record for Vietnam.

Empria litturata (Gmelin, 1790)

C. Vietnam, Ha Tinh, Vu Quang N. P., 53 m, N 18° 21' 02", E 104° 55' 43", 22 ix. – 06. x. 2007, 1 female, Achterberg and de Vries.

Insect pest, probably introduced. In this region, there are extensive strawberry fields are placed. First record for Vietnam.

Oralia fulva Wei & Nie, 1998

Hoa Binh, Pa Co Hang Kia Nr., 1327 m, N20°44'36", E104°53'46", 10-24. x. 2009, 1 female, Achterberg and de Vries.

Metallus compressicornis Malaise, 1964

Hoa Binh, Pa Co Hang Kia Nr., 1072 m, N20°44'27", E104°55'43", 11-23. x. 2009, Mal. trap., 1 male, Achterberg and de Vries; Vinh Phuc, Tsam Dao, 1050-1175 m, 14-17. vi. 2007, Mal. trap., 1 male, Achterberg and de Vries.

Caliroa bilobatina Wei, 2002

Hoa Binh, Pa Co Hang Kia Nr., 1327 m, N20°44'36", E104°55'46", 10-24. x. 2009, Mal. trap., 1 male, Achterberg and de Vries; C. Vietnam, Ha Tinh, Vu Quang N. P., 57 m, N18°20'46", E105°26'39", 22 ix. – 06. x. 2009, 1 male, Achterberg and de Vries.

First record for Vietnam.

Neostromboceros chalybeus (Konow, 1908)

Hoa Binh, Pa Co Hang Kia Nr., 1030 m, N20°44'35", E104°53'22", 09-23. x. 2009, 1 female, Achterberg and de Vries.

First record for Vietnam.

Nepala incerta (Cameron, 1876)

Ninh Binh, Cuc Phuong Np., close to park centre, 08. x. 2009, 1 female leg.: E. Gasso Miracle.

Formosempria crassicornis Wei & Nie, 2002

N. Vietnam, Ninh Binh, Cuc Phuong NP., near centre, c. 225 m, 20 xii. 1999 – 10. ii. 2000, 1 female, May Phu Quy.

First record for Vietnam.

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