

Sawflies (Hymenoptera: Tenthredinidae) from Indonesia

ATTILA HARIS

H-8142 Úrhida, Petőfi u. 103., Hungary, e-mail: attilaharis@yahoo.com

HARIS, A.: *Sawflies (Hymenoptera: Tenthredinidae) from Indonesia*.

Abstract: Eleven sawfly species are reported from Indonesia. Three new species, namely: *Beleses cyanosumatranus* spec. nov., *Nesoselandria albofrontata* spec. nov. and *Caliroa acehensis* spec. nov. are described and compared to *Beleses metallicus* (Okutani, 1965) and *Caliroa caviserrula* Wei, 1997.

Keywords: Indonesia, Hymenoptera, Tenthredinidae, new species

Introduction

This is my fourth contribution to the knowledge of Tenthredinidae of Indonesia. The first check list of sawflies was published in HARIS 2002. In 2006, it was corrected and completed with keys and further species descriptions (HARIS 2006). Bibliography of Indonesian Tenthredinidae was also published in this paper. With the present three new species, the number of known Tenthredinidae species of the Indo-Malaysian islands (Borneo, Celebes, Java, Sumatra, New Guinea etc.) is 109.

Methods and material

The elaborated material is a part of the expedition series of the National Natural History Museum of Netherlands, Leiden: Naturalis organized by Prof. Cees van Achterberg, Dr. Y. van Nietrop and Mr. Robert de Vries. For identification, I used the key of Haris (HARIS 2006) completed with the original descriptions of the species and other papers published from the Oriental region (South China, India, Vietnam etc.).

Abbreviation: RMNH: Official abbreviation of Nationaal Natuurhistorisch Museum Naturalis, Leiden.

Sawflies from Indonesia

Neopoppia metallica Rohwer, 1930: SE. Sabah, nr. Danum Valley Field C., c. 150 m., 19. iii. – 19. iv. 1988, 1 female.

Neostromboceros celebensis Forsius, 1931: SW. Sulawesi, Ciaker Alam Laiya, c. 15 km S of Camba, c. 400 m, 23 xi. 1991, 1 male, SW. Sulawesi, Gn. Bulusaraung, nr. Camba Mallawa, c. 800 m, 21 ii. – 25. iii. 1997, 1 male.

Neostromboceros congener (Konow, 1901): N. Sumatra, Aceh, Ketmabe, 400 m. iv. 1995, edge of rain forest, 4 females, N. Sumatra, Aceh, Ketmabe, 400 m. x. 1995, edge of rain forest, 2 females, N. Sumatra, Aceh, Ketmabe, 400 m. v. 1995, edge of rain forest, 3 females, 1 male, N. Sumatra, Aceh, Ketmabe, 400 m. viii. 1995, edge of rain forest, 2 females, N. Sumatra, Aceh, Ketmabe, 400 m. ii. 1995, edge of rain forest, 1 female, 2 males, N. Sumatra, Aceh, Ketmabe, 400 m. ii. 1994, edge of rain forest, 1 female, N. Sumatra, Aceh, Gunung Leuser, Nat. Park, Soraya (Bengkung) ix. 1996, 1 female, W. Bali, nr. Negara, rainforest above Batuagung c. 550 m, 12-13. xii. 1991, 3 males, W. Bali, nr. Negara, Batuagung c. 75 m, 13-14. xii. 1991, 1 male.

Neothrinax corvina Malaise, 1944: SE. Sulawesi, nr. Sanggona, Base Camp, Gn. Waltuvila, c. 225 m, 15 x. – 05. xi. 1989. 6 males.

Nesoselandria annulata Malaise, 1944: SW. Sulawesi, Gn. Bulusaraung, nr. Camba Mallawa, c. 800 m, 21 ii. – 25. iii. 1997, 1 female.

Nesoselandria bruneiensis (Haris, 2000): SE. Sabah, nr. Danum Valley Field C., c. 150 m., 20-22. xi. 1987, 1 female, SE. Sabah, nr. Danum Valley Field C., c. 150 m., 02-23. viii. 1987, 1 female,

Nesoselandria jacobsoni (Enslin, 1912): c. Sulawesi, nr. Mamasa, Penannang, c. 1600 m., 09-10. iv. 1991, 1 male.

Nesoselandria rugafrons (Benson, 1935): SE. Sabah, nr. Danum Valley Field C., c. 150 m., 13 ix. – 04. x. 1987, 1 female, N. Sumatra, Aceh, Ketmabe, 400 m. vi. 1995, edge of rain forest, 1 female,

Description of the new species

Beleses cyanosumatranus **spec. nov.**

(Figs.: 1, 2, 5A, 5B, 5C and 5D)

Material.— Holotype, female. (RMNH: "Indonesia, N. Sumatra, Aceh, Ketambe, 400 m, ii. 1996, Mal. Trap, nr edge rainforest, Y. Van Nierop and C. Van Achterberg")

Female. Body elongated. Head and thorax strongly shiny metallic blue with purplish iridescence (Figs.: 1 and 2). Labrum, palpi and cenchri white. Antenna black, apical four antennal segments with elongated, white antennal organs. Maxillar palp extremely long about 40% as long as antenna. Ratio of maxillar palp segments: 3 : 33 : 32 : 34 : 21. Legs brownish black with metallic lustre, ventral side of fore and middle coxae, femora, all coxae entirely, ventral side of fore tibia and tarsus, apex of hind coxa and basal fifth of hind femur white. Wings hyaline, apex of fore wing from the middle of first radial cell slightly but clearly brownish infumate. Basalis and first recurrent vein parallel. Anal cell of fore wing with strongly oblique cross vein. Basal and cubital vein meet in one point on subcosta. Hind wing with opened cubital and closed middle cells. Anal cell of hind wing sessile (even without trace of petiole), nervellus meet apex of anal cell. Abdomen brown with slight purplish metallic lustre, third and fourth sternites and tergite 3, hind margin of last abdominal tergite and that of tergite 4 and cerci creamish white. White band on tergite 3 cover entire tergite on sides but strongly narrowed in middle covering only basal margin. Head uniformly and densely covered with deep punctures all over



Fig. 1: *Beleses cyanosumatranus* spec. nov. holotype in dorsal view (photo: Haris)



Fig. 2: *Beleses cyanosumatranus* spec. nov. holotype in ventral view (photo: Haris)

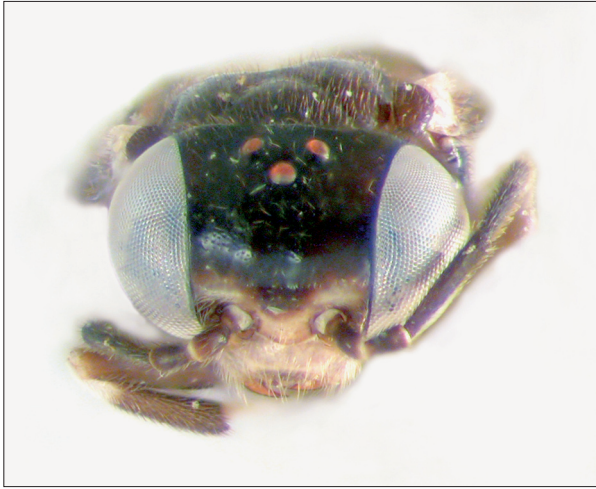


Fig. 3: *Nesoselandria albofrontata* spec. nov. holotype, face (photo: Zoltán György)



Fig. 4: *Caliroa acehensis* spec. nov. holotype (photo: Haris)

(including vertex, temples, frontal area inner and outer orbits, supraclypeal area, clypeus and labrum as well). Anterior margin of clypeus gently and triangularly projected in middle without clypeal emargination. Gena linear. Antenna long, linear, about as long as head, thorax and 1st-4th abdominal segments combined. Frontal area sunken and bluntly emarginated, opened downwards. Supraantennal pits missing but with large oval depression above antenna placed between inner orbit and blunt margin of frontal area. Inner margin of eyes straight, converging gently towards clypeus. Head without occipital carina. Postoccipital furrows deep and reaches hind margin of head. Head behind eyes slightly narrowed. Ratio of antennal segments: 13: 11 : 49: 69: 46: 28: 31: 28 : ? (missing). OOL : POL : OCL: 14 : 7 : 18. Mesonotum, pronotum, tegula, mesoscutellum and mesoscutellar appendage densely and deeply punctured, shiny. Mesopleuron very densely and moderately deeply punctured hardly shiny. Metanotum with few punctures, shiny. Mesoscutellum flat. Head and thorax covered with sparse, whitish pubescence. Abdominal tergites 1-3 nearly smooth and shiny, others with fine coriaceous surface sculpture, shiny. Hind basitarsus extremely long, much longer than other segments combined. Ratio of hind tarsal segments: 71 : 20 : 12 : 8 : 10. Length of hind basitarsus : length of inner hind tibial spur: 71 : 24. Claw with small inner tooth without basal lobe (Fig. 5C). Number of serrulae 34, each serrulae with 1 small tooth (Fig. 5D). Sawsheath in Figs.: 5A and 5B. Length: 12.6 mm.

This strong metallic blue coloration is very rare inside genus *Beleses* Cameron, 1877. *Beleses metallicus* (Okutani, 1965) is the only known species with strong metallic blue luster. In *Beleses metallicus*, palpi are black, in the new species they are entirely white. *B. metallicus* has abdomen entirely black, with metallic bluish luster, but in the new species, third abdominal tergite with white band. Labrum white in the new species but black in *B. metallicus*. Ratio of 3rd and 4th antennal segments in *B. metallicus* is 31: 25 (49: 69 in the new species) furthermore OOL : POL : OCL: 10: 15: 12 (14 : 7 : 18 in the new species). *B. metallicus* is 9 mm in length; the new species is 12.6 mm. In genus *Abeleses* A. Costa, 1911, the strong bluish color is widely distributed, however, in this genus the hind wing without closed middle cell. They are generally smaller, females are between 8 and 9 mm, males are even smaller. According to Dr. Wei, *B. metallicus* probably also an *Abeleses* species (personal communication).

Nesoselandria albofrontata **spec. nov.**

(Fig. 3)

Material.— Holotype, 1 specimen, abdomen missing, uncertain gender (RMNH: "Indonesia, SE. Sulawesi, nr. Sanggona, Base Camp, Gn. Watuwila, Mal. Trap 6, c. 200 m., 15. x. – 5. xi. 1989, C. Van Achterberg")

Head black, white: clypeus, supraclypeal area between antennae (except its u-shaped black upper margin), left and right third of frontal horizontal suture (middle third remains black), mandibles (except brown apex) and palpi (Fig. 3). Labrum and apex of mandible brown. Antenna black. Thorax brown, cenchri brownish white. Basal quarter of all tibiae and basal 2/3 of all basitarsi white. Cenchri slightly infumate (subhyaline), costa, subcosta, stigma and venation brown. Number of cubital cells: 3, basalis join to cubital vein on subcosta close to each other. Basalis and first recurrent vein subparallel. Hind wing with closed cubital and middle cells. Anal cell petiolate, nervellus joins to petiole. Head minutely, shallowly, densely and very finely punctured all over, shiny. Frontal area missing (not sunken, not raised neither carinated, this area is flat and not separated from the other parts of head). Eyes large, temples very narrow, head con-

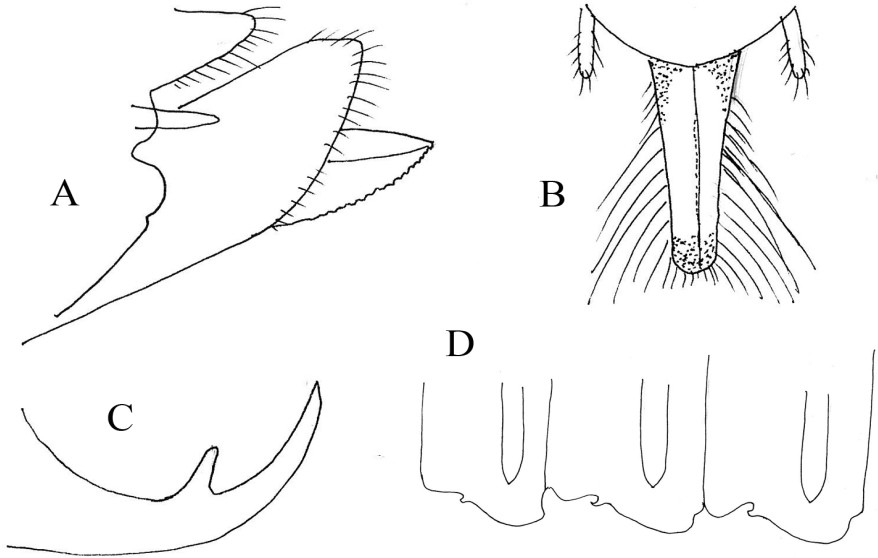


Fig. 5: *Beleses cyanosumatranus* spec. nov. sawsheath in lateral view (A), sawsheath in dorsal view (B), claw (C), serrulae 8-10 (D)

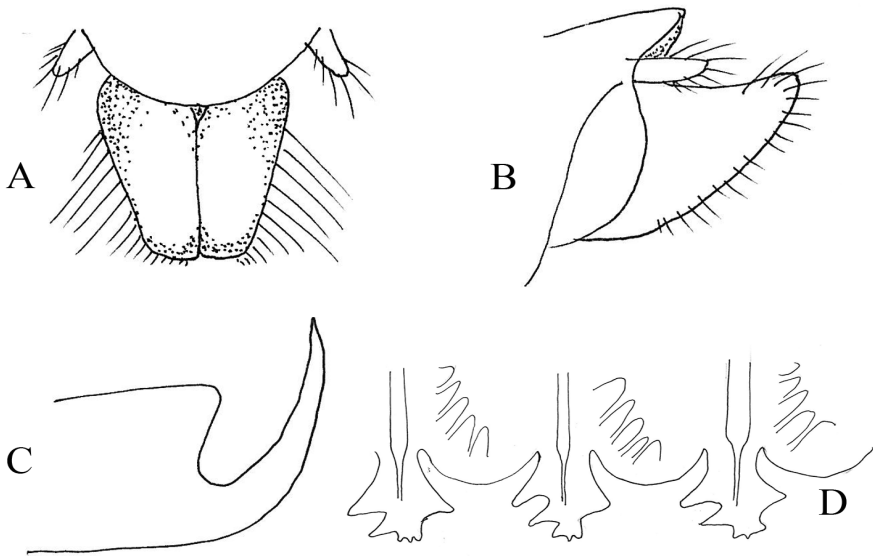


Fig. 6: *Caliroa acehensis* spec. nov. sawsheath in dorsal view (A), sawsheath in lateral view (B), claw (C), serrulae 8-10 (D)

tracted behind eyes. Ratio of antennal segments: 5 : 5 : 14 : 12 : 9 : 7 : 5 : 5 : 4. Scape and pedicel longer than wide. OOL : POL : OCL: 1 : 1 : 1. Gena linear. Eyes slightly convergent, inner margins of eyes straight. Clypeus truncate. Postoccipital carina missing. Postocellar furrows short, puncture-like. Temples without groove or pseudocarina. Mesonotum with sporadic punctures, nearly smooth and shiny. Mesoscutellum, mesoscutellar appendage, metascutellum, mesopleuron and metapleuron smooth and shiny. Mesoscutellum flat. Epicnemium (prepectus) distinct with a vestigial and flat epicnemial suture. Ratio of hind tarsal segments: 24 : 9 : 6 : 4 : 11. Length of hind basitarsus : length of inner hind tibial spur: 4 : 1. Claw with small inner tooth, without basal lobe. Length: 3.8 mm (estimated on the length of fore wing, which is equal in length with the body length in this genus).

The characteristic white face-pattern (Fig. 3) differentiates the new species from all relatives in the genus. Although the abdomen is missing from the type specimen, I decided to describe this species since the capture of sawflies from the Indo-Malaysian islands are very rare and random, we know only approximately 100 Tenthredinid sawflies from this region.

Caliroa acehensis **spec. nov.**
(Figs. 4, 6A, 6B, 6C and 6D)

Material.— Holotype, female. (RMNH: "Indonesia, N. Sumatra, Aceh, Ketambe, 400 m, v. 1995, Mal. Trap, nr edge rainforest, Y. Van Nierop and C. Van Achterberg")

Female (Fig. 4). Head, including mouthparts, antenna, thorax black. Cenchri rounded, whitish brown. Abdomen brown. Legs entirely brown. Wings subhyaline, slightly infumate. Costa, subcosta, stigma and veins brown. Basalis and first recurrent vein convergent. Costa strongly widened before stigma. Basalis meet close to cubitus on subcosta. Hind wing with closed cubital and opened middle cell. Anal cell sessile. Hind wing without marginal vein. Head very minutely, moderately densely, shallowly and finely punctured all over, shiny. Frontal area not indicated. Supraantennal pits simple, rounded and large, larger than front ocellus. Between supraantennal pits one central drop-like pit placed. Inner margins of eyes straight and parallel, gena missing. Clypeus truncate. Head behind eyes contracted. Temples extremely narrow, postocellar furrows deep, puncture-like. Postoccipital carina missing. OOL : POL : OCL: 5 : 8 : 3. Width and length of postocellar area: 10 : 3. Antenna about as long as head and thorax combined without propodeum. Ratio of antennal segments: 7 : 6 : 22 : 12 : 11 : 9 : 6 : 6 : 7. Scape and pedicel longer than wide. Middle and lateral lobes of mesoscutellum and mesopleuron with sporadic, minute, shallow punctures, shiny. Mesoscutellum, mesoscutellar appendage and metascutellum smooth and shiny. Head and thorax covered with short, sparse, whitish pubescence. Abdomen shiny, tergites 1 and 2 smooth other tergites with very fine shallow undefined surface sculpture. Ratio of hind tarsal segments: 23 : 7 : 4 : 3 : 9. Length of hind basitarsus : length of inner hind tibial spur: 23 : 8. Length of ovipositor : length of hind tibia: 1.0 : 1.0. Ovipositor basally wide, gradually narrowed and bluntly truncated in dorsal view (Fig. 5A). In lateral view subacute (Fig. 5B). Sawsheath with whitish straight setae. Serrulae as in Fig. 5D. Claw in Fig. 5C. Length: 3.9 mm.

The closest relative is *Caliroa caviserrula* Wei, 1997. There are only slight differences between the South Chinese and Indonesian species. *C. caviserrula* has serrulae wider than long, the new species has serrulae elongated. *C. caviserrula* has "each ser-

cula shallow with large lobe like subbasal teeth, three on posterior margin two on anterior margin". In opposite of this, the serrulae of the new species has 3 large lobe-like teeth, 2 of them are directed towards the base of the lancet and one towards the apex and there are additional 3 small central teeth directed downwards. *C. caviserrula* has infuscate wings with slightly paler apex. The wing of the new species is subhyaline. In *C. caviserrula*, the hind basitarsus largely pale brown with black apex and other parts of legs are blackish brown or black. The new species has legs entirely brown. *Caliroa feri* Vasu, 1998 also has numerous teeth on the *serrulae* (SAINI 2006, VASU 1998) however these teeth are small and subequal.

Acknowledgement

I express my grateful thank to Prof. Dr. Cees van Achterberg for loaning the studied material and to Prof. Dr. Meicai Wei for his comments and corrections.

References

- HARIS A. 2002: Sawflies from the Indomalay Islands. - *Folia Entomologica Hungarica* 63: 87-103.
- HARIS A. 2006: New sawflies (Hymenoptera: Symphyta, Tenthredinidae from Indonesia, Papua New Guinea, Malaysia and Vietnam, with keys to genera and species. - *Zoologische Mededelingen*, Leiden 80 (2006) (1): 37-111
- HARIS A. 2007: Sawflies (Hymenoptera: Symphyta, Tenthredinidae) from Indonesia, Malaysia and Vietnam. - *Zoologische Mededelingen*, Leiden 81 (8): 149-159.
- OKUTANI T. 1965: Sawflies and hornails from the Ryukyus. - *Kontyû*, Tokyo 33 (1): 73-84.
- SAINI M. S. 2006: Indian Sawflies Biodiversity Keys, Catalogue and Illustrations Vol. 5. Subfamilies Blennocampinae, Heterarthrinae and Nematinae Bishen Singh Mahendra Pal Singh 23-A, New Connaught Place DehraDun-248 001 (India) 182 pp.
- VASU V. 1998: First records and new species of *Caliroa* Costa (Hymenoptera: Tenthredinidae : Heterarthrinae) from India. - *Entomotaxonomia*, Wugong, 20(4) : 285-290.
- WEI M. 1997: Revision of the Genus *Caliroa* O. Costa (Hymenoptera: Heterarthridae) from China – *Entomotaxonomia*. *La Revue de Systematika Entomologio*, Wugong 19, Suppl.: 51-59.

Submitted: 25. 04. 2010

Accepted: 15. 05. 2010

Published: 30. 09. 2010