

# Sawflies from China and Indonesia (Hymenoptera: Tenthredinidae)

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

**Abstract:** *Pristiphora (Pristiphora) achterbergi* sp. nov. and *Busarbia badagongensis* sp. nov. are described from Hunan Province of China. *Siobla maxima* R.E. Turner, 1920 is new record for China. *Abeleses cyanosulawesiensis* sp. nov. is described from Sulawesi, Indonesia and compared to *Abeleses coeruleus* Rohwer, 1916.

**Keywords:** Hymenoptera; Symphyta; Tenthredinidae; Hunan; China; Indonesia, Sulawesi; New species

## Introduction

The present paper is the 9th contribution of the author to the knowledge of the sawflies of China (HARIS and ROLLER 1998, 1999 a,b, 2007, HARIS 2000, 2007, 2008, 2009) and 6th to the knowledge of those of the Indonesian-Malaysian Islands (HARIS 2000, 2002, 2006, 2007, 2010). The above mentioned Chinese sawflies were described mainly from Yunnan and Gansu provinces. The sawflies of Hunan provinces relatively better studied, due to the activity of the local research group, managed by Professor Meicai Wei, therefore numerous sawflies were described from this province in high number of papers, like WEI and XIAO 2002, HE et al. 2005, WEI and NIU 2001, 2004, HUANG and WEI 2007, ZHANG and WEI 2006, WEI 2004 etc.. The present paper is a small contribution to the knowledge of sawfly biodiversity of the province. From the Indonesian-Malaysian Islands, the number of known sawfly-species is about 110. Although, the identification key for these species was completed in 2006 (HARIS 2006), there are still numerous unrecorded species live there.

## Material and Methods

This small collection was collected by Professor Cees van Achterberg during his visit in Hunan province between 31. v. and 11. vi. 2009. Some further specimens were collected by Dr. X.-Y. Li, local Hymenopterologist, Braconidae specialist. For the identification, I worked with separate papers, due to the lack of handbook or monograph on the Chinese sawflies with identification keys. These papers are WEI and XIAO 2002, HE et al. 2005, WEI and NIU 2001, 2004, HUANG and WEI 2007, ZHANG and WEI 2006, WEI 2004. etc. For the safe identification, genitalia of the proposed type specimens were dissected and figured. For verification of the new record, the checklist of WEI et al. 2006

was consulted. The Indonesian sawflies were collected during the expedition of Professor Achterberg in 1991. It contains 50 specimens of about 20 species, from which 1 is new. The other species will be published separately.

## Descriptions

### *Pristiphora (Pristiphora) achterbergi* sp. nov.

(Fig. 2, 4, 6, 7, 11)

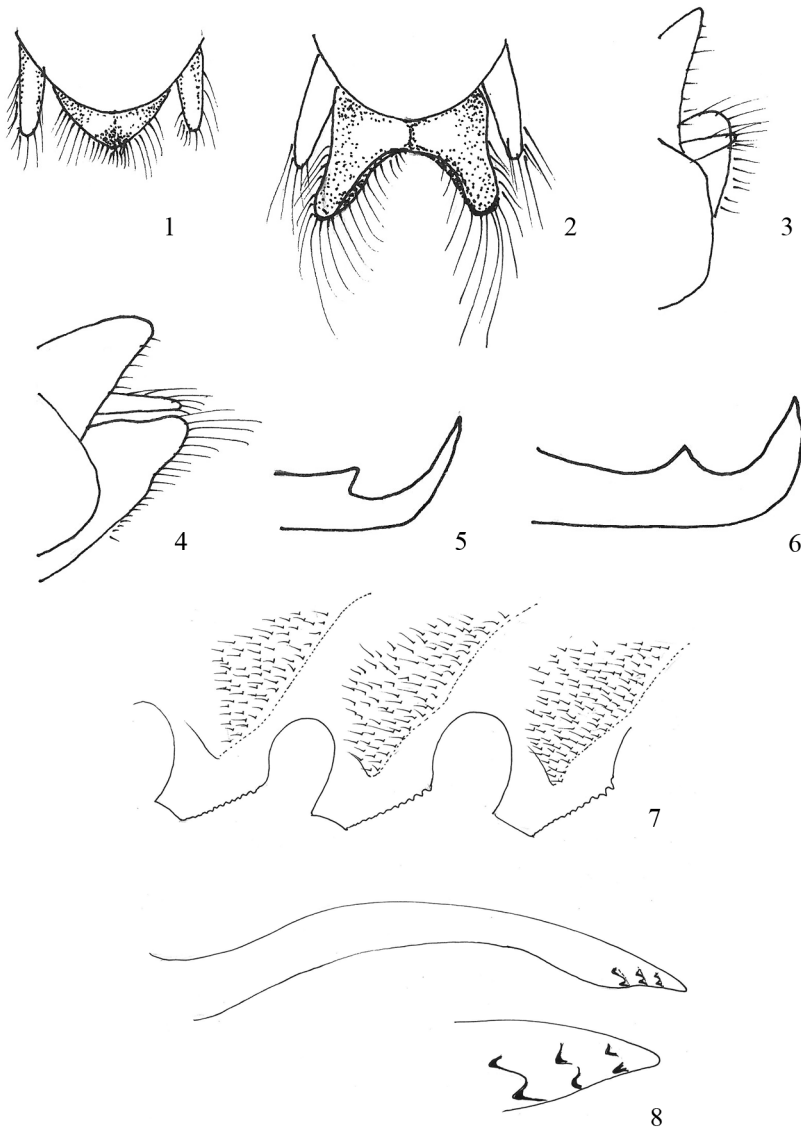
**Material:** Holotype, female (Changsha University): S. China, Hunan, near Zhangjiajie, Badagong Mts., Bamaoxi, 02-03. 06. 2009, 540 m, Cees van Achterberg.

Female (Fig. 11). Head and antenna black, wide apical margin of clypeus, labrum and palpi white. Thorax black, hind margin of pronotum and tegula whitish ocker, parapteron white, cenchri yellowish white. Coxae and trochanters white, femora, tibiae and tarsi yellowish white, apical 2 segments of hind tarsus infusate. First abdominal tergite (propodeum) black, other tergites dark brown with white hind margins. These hind margins of abdominal tergites widened in middle. Sternites white. Ovipositor white, apical half of valvula 3 black. Wings slightly infusate. Stigma, costa, subcosta and venation dark brown. OOL : POL : OCL: 7 : 6 : 4. Length : width of postocellar area: 4 : 13. Ratio of antennal segments 1-9: 5 : 2 : 21 : 20 : 19 : 17 : 15 : 15 : 15. Antenna long, about as long as costa and stigma combined. Length of 3rd antennal segment : maximal length of eye: 21 : 18. Postocellar area short, not longer than diameter of an ocellus. Head contracted behind eyes. Occipital carina missing. Frontal area surrounded by weak carina. Temples moderately densely punctured with small, shallow punctures, shiny. Other parts of head densely punctured with small, moderately deep punctures, shiny. Clypeus slightly and broadly emarginated, clypeal emargination about 0.25x as deep as middle length of clypeus. Gena about as wide as diameter of front ocellus. Thorax smooth and shiny, only pronotum with dense, small and shallow punctures. Claws with small inner tooth, without basal lobe (Fig. 6). Ratio of hind tarsal segments 1-5: 39 : 18 : 10 : 5 : 11. Length of hind basitarsus : length of inner hind tibial spur: 39 : 19. Ovipositor short, shorter than hind femur as 80 : 51. Length of ovipositor : length of hind basitarsus: 51 : 39. Hind margin of sawsheath (Figs. 2 and 4) deeply emarginated in dorsal view. Number of serrulae: 18. Sides of each serrulae with dense setae directed to basal part of sawsheath. 6th-8th serrulae in Fig.7. Middle serrulae each with 10 small teeth. Length: 5.6 mm. Male unknown.

**Etymology:** the new species is dedicated to Prof. Dr. Cees van Achterberg, Braconidae specialist, leader of the expedition.

In the key of HARIS (2006) the new species runs to *Pristiphora (Pristiphora) punctifrons* (Thomson, 1871) having long inner hind tibial spur, apically emarginated sawsheath, entirely pale femora and light sternites. In *P. punctifrons* Thomson tibial apex and hind tarsus dark and clypeus is without wide white anterior margin, costa and stigma are yellow. The new species has wide white anterior margin on clypeus, stigma and costa are dark brown and has white hind tibia and tarsus. The densely covered setae of the lancet on the total surface (except the teeth) also a very specific feature of the new species.

In the recently described Chinese species, the new species similar to *Pristiphora zhejiangensis* Wei, 1995 and *Pristiphora beijingensis* Zhou & Z. Zhang, 1993 having white clypeus but in these species hind femur and apex of hind tibia are extensively black beside the different lancet structure.



Sawsheath in dorsal view Fig. 1: *Busarbia badagongensis* sp. nov., Fig. 2: *Pristiphora (Pristiphora) achterbergi* sp. nov.

Sawsheath in lateral view Fig. 3: *Busarbia badagongensis* sp. nov., Fig. 4: *Pristiphora (Pristiphora) achterbergi* sp. nov.

Claw Fig. 5: *Busarbia badagongensis* spec. nov., Fig. 6: *Pristiphora (Pristiphora) achterbergi* sp. nov.

Fig. 7: Serrulae 6-8 of *Pristiphora (Pristiphora) achterbergi* sp. nov., Fig. 8: Lancet and serrulae 1-3 of *Busarbia badagongensis* spec. nov.

Following the key of SMITH (2011), the new species runs to *Pristiphora inthanoni* Smith, 2011. *Pristiphora inthanoni* Smith, 2011 has tarsal claws with long inner tooth, slightly shorter than apical, clypeus and labrum are entirely brown, apical ring of hind tibia is black and intercostal crossvein interstitial with basal vein. In the new species, inner tooth of tarsal claw is small, apex of hind tibia is not black, labrum is white, clypeus with white anterior margin and intercostal crossvein is not interstitial with basal vein.

In the book of SAINI (2006b) and in the paper of SAINI and CHAMBAL (1996), the new species runs to *Pristiphora ecarinata* M.S. Saini & Chambal, 1996. The differences: middle serrulae (6th-8th) of *P. ecarinata* with 3-4 relatively larger teeth (see fig. 504 in SAINI 2006b). In the new species, these serrulae with 10 (exactly 10) minute but well visible teeth. Apex of serrulae in *P. ecarinata* rounded but it is very sharply cut in the new species. In *P. ecarinata*, cerci is significantly longer than sheath (in dorsal view), in the new species cerci is significantly shorter than sheath. In dorsal view, sheath of *P. ecarinata* is gently emarginated but in the new species, is very deeply excavated. Clypeus is truncate in *P. ecarinata*, however it is clearly emarginated in the new species. Sternites and sides of abdominal segments are auratus in *P. ecarinata*, but in the new species abdomen is clearly black and white without any auratus. Clypeus truncate in *P. ecarinata*, however clearly emarginated in the new species. Sternites and sides of abdominal segments auratus in *P. ecarinata*, but in the new species abdomen clearly black and white without any auratus. Tegula is not yellow in the new species. It is clearly white.

***Busarbia badagongensis* sp. nov.**

(Fig. 1, 3, 5, 8, 9, 10)

*Material*: Holotype, female (Changsha University): S. China, Hunan, near Zhangjiajie, Badagong Mts., Bamaoxi, 02-03. 06. 2009, 540 m, Cees van Achterberg.

Female (Figs. 9 and 10). Head (Fig. 10) and antenna black; white: clypeus, labrum, mandibles (except narrow reddish brown apex), palpi, rectangular supraclypeal spot, 1-1 small spot above antennae, narrow apex of scape, brown: scape and pedicel. Thorax black, white: hind margin of pronotum, tegula, parapteron, wide transversal band of mesopleuron. Cenchri brownish white. All coxae, trochanters, femora and tibiae white. Tarsi yellowish brown in ventral view and white in dorsal view, last tarsal segment infusate. Abdominal tergites brown. Sternites white, except brown last sternite. Ovipositor brown. Wings moderately and uniformly brown infusate, costa, subcosta, stigma and venation brown. Ratio of antennal segments (1-9): 8 : 5 : 18 : 15 : 13 : 9 : 7 : 6 : 6. OOL : POL : OCL: 9 : 3 : 8. Width : length of postocellar area: 10 : 8. Postocellar furrow deep and divergent, not reaching hind margin of head. Postgenal carina reach up to 2/3 height of eye. Head smooth and shiny, except densely and deeply punctured supraantennal area and lower third of inner orbit. Head strongly contracted behind eyes. Frontal area clearly carinated, *Busarbia* type (as it figured in Malaise, 1944, page 16 fig. 8/c ). Inner margins of eyes parallel. Antenna about as long as head and thorax combined including propodeum. Gena linear. Middle and lateral supraantennal pits large and deep, about 1.5 larger in diameter than front ocellus. Fore wing with 4 cubital cells. Basalis and first recurrent vein convergent. Origin of basalis removed from cubitus, this distance smaller than first cubital crossvein. Anal cell of fore wing without crossvein. Hind wing with 2 closed middle cells. Anal cell with petiole. Prescutum normal without distinct depressed area and middle carina. Mesonotal lobe finely, shallowly moderately densely and uniformly punctured with small punctures, shiny. Mesoscutellum, mesoscutellar append-



Fig. 9: *Busarbia badagongensis* sp. nov. holotype  
photo: H. Gyurkovics



Fig. 10: Face of *Busarbia badagongensis* sp. nov. holotype  
photo: H. Gyurkovics





Fig. 11: *Pristiphora (Pristiphora) achterbergi* sp. nov. holotype  
photo: H. Gyurkovics



Fig. 12: *Abeleses cyanosulawesiensis* sp. nov. holotype  
photo: H. Gyurkovics



Fig. 13: *Abeleses cyanosulawesiensis* sp. nov. holotype, head and thorax in ventral view  
photo: H. Gyurkovics



Fig. 14: *Abeleses coeruleus* Rohwer, 1916, paratype, head and thorax in lateral view,  
photo: D. Smith



age, postscutellum, mesopleuron and metapleuron smooth and shiny. Mesosternum moderately densely punctured with shallow, small punctures, shiny. Prepectus present. First tergite smooth and shiny. Surface sculpture of other tergites extremely fine, hardly visible, nearly smooth and shiny. Ratio of hind tarsal segments: 35 : 14 : 11 : 4 : 8. Length of hind basitarsus : length of hind tibial spur: 35 : 13. Inner hind tibial spur simple. Ovipositor (Fig. 1 and 3) very short, shorter than hind basitarsus. Length of ovipositor : length of hind basitarsus: 26 : 35. Sawsheath in dorsal view with straight and dark hairs. Inner tooth of claws small (Fig. 5). Serrulae restricted to narrow apical part of sawsheath. Each serrulae with 2 larger thorns (Fig. 8). Length: 5.2 mm.

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

In the key of MALAISE (1944), the new species runs to *Busarbia isshikii* (Takeuchi, 1928) but 3rd antennal segment is longer than 4th (*B. isshikii* 3rd and 4th segments are equal, the other *Busarbia* species has 3rd antennal segment shorter than 4th). In the key of SAINI (2006), this species would run to *Busarbia santokhi* Saini and Smith, 2005 (SAINI 2006). But in the new species, the malar space is nearly linear, in *B. santokhi*, it is 0.6x as long as diameter of median ocellus. In *B. santokhi* Saini and Smith metabasitarsus is longer than following tarsal joints combined, in the new species it is shorter as 23:26. Finally, in *B. santokhi* Saini and Smith, the supraclypeal and supraantennal area are black, these parts in the new species are extensively white. In the recently described Chinese species, it is similar to *Busarbia nigroscapa* Wei, 2002 (WEI and NIE 2002), but this species is more related to *B. isshikii* having 3rd antennal segment equal with 4th, body is densely pilose, scape is black and sheath is long and narrow. In the new species, body is sparsely pilose, scape is dominantly white, 3rd antennal segment is longer than 4th and sheath is very short, even shorter than hind basitarsus.

*Siobla maxima* R.E. Turner, 1920: Hunan, Shaoyang, near Suining Huangsang NR. 12-13. vi. 2009, 1 female, C. v. Achterberg. New record for Vietnam. (WEI et. al., 2006).

### *Abeleses cyanosulawesiensis* sp. n.

(Fig. 12 and 13.)

*Material*: Holotype: male (Naturalis, Leiden), Indonesia: Sulawesi, near Mamasa Ponannang, 1620 m., Mal. trap., 09-22- iv. 1991, C. V. Achterberg.

Head and thorax black with strong dark bluish metallic reflection. Labrum, apex of mandible, palpi brown. Antenna black. Ventral side of apical four antennal segment and ventral apex of 5th antennal segment with white antennal organs. Legs black; whitish brown: middle tibia, middle tarsus, fore tibia and fore tarsus, white: narrow basal ring of all tibiae. Abdomen brown. Wings hyaline, fore wing from base of stigma brown infuscate. Costa, subcosta, stigma and veins dark brown. Anal cell of fore wing with strongly oblique crossvein. Basalis and first recurrent vein parallel. Number of cubital cells four. Basalis meet cubitus on subcosta at one point. Hind wing with complete marginal vein. Ratio of antennal segments: 11 : 9 : 39 : 32 : 24 : 17 : 13 : 12 : 13. Antenna about as long as head and thorax combined including propodeum. OOL : POL : OCL: 18 : 9 : 16. Frontal and supraantennal area deeply and densely punctured with large punctures, shiny. Vertex and temples moderately densely punctured with shallow, large punctures, shiny. Clypeus moderately densely, deeply punctured with moderately large punctures. Supraclypeal area smooth and shiny. Hind orbits moderately densely, deeply punctured with moderately large punctures, shiny. Inner margins of eyes convergent towards clypeus. Clypeus gently and roundly convex. Gena linear. Head behind eyes contracted.



Postocellar and postgenal carina missing. Mesonotal middle lobes nearly smooth and shiny, with minute, sporadic punctures. Mesoscutellum and mesoscutellar area smooth and shiny, with sporadic, minute punctures on hind margins. Metascutellum smooth and shiny. Upper half of mesopleuron densely punctured with small and deep punctures, lower half, mesosternum and katepimeron smooth and shiny. Abdomen and propodeum smooth and shiny. Head and mesonotum covered with moderately dense black hairs about as long as diameter of front ocellus. Mesopleuron covered with white hairs about same length. Hind coxa strongly lengthened. Hind tarsus and tibia densely covered with short black pubescence. Length of inner hind tibial spur : length of hind basitarsus: 17 : 39. Subapical tooth of claw shorter than apical. Length: 6.5 mm.

The new species is similar to *Abeleses coeruleus* Rohwer, 1916 (Fig. 14). However, *A. coeruleus* Rohwer is covered with white pubescence on top of thorax and head, the new species has black hairs there. Hairs are longer on the new species than in *A. coeruleus* Rohwer. Mesopleuron with large and deep punctures in the new species, these punctures are not visible in *A. coeruleus* Rohwer. Also the legs of the 2 species have different color.

## Conclusions

Due to the intensive research of the latest 2 decades, the sawfly fauna of Hunan province is well known. Most of the collected species: 64%, were described locally. Other species were described from the neighboring territories, mainly from the former Indochina, Burma and Taiwan. Because of the high number of recently described species, further intensive research is required to clarify the hostplants, distribution and life history of the species. The sawfly fauna of the islands of Indonesia and Malaysia needs further intensive research with special focus on the high number of small islands which may even hold many endemic species. Per moment, the real species richness of these islands can not be estimated.

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