

金 鎮 一 教授指導  
碩士學位 請求論文

韓國産 하늘소붙이科 (딱정벌레目:  
거저리上科)의 分類學的 研究

Taxonomy of Korean Oedemeridae  
(Coleoptera: Tenebrionoidea)

2007

誠信女子大學校 大學院  
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# 認 准 書

柳寅性の 碩士學位 論文으로 認准함

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## 論文概要

한국산 하늘소붙이과(딱정벌레목: 거저리상과)를 분류학적으로 검토하였다. 한국산 하늘소붙이과는 Kolbe(1886)에 의해 처음으로 1종이 기록된 이후, 현재까지 각종 문헌을 통해 모두 34종이 보고되었다. 그러나 이 중에는 많은 오동정, 동종이명, 근거가 의심스러운 학명 등이 포함되어 있으며 실제적으로 국내산 하늘소붙이과를 분류하고 분포상을 밝히는데 필요한 검색표와 생물학적 정보가 부재하였다.

이에 따라 각 대학과 연구기관 등에 소장된 하늘소붙이과의 표본 약 2,000여 개체를 재료로 하여 형태적 형질 비교를 통해 각 종명의 타당성 여부를 검토하였다.

연구 결과, 한국산 하늘소붙이과는 총 2아과 4아족 9속에 속하는 26종 3아종으로 정리하였으며 이 가운데 새롭게 한국산으로 추가된 1신종과 2미기록종은 다음과 같다.

*Nacerderdes (Patiala) sp.*

*Ischnomera abdominalis* (Heyden, 1887)

*Ischnomera sp. nov.*

연구 결과를 종합하여 과내의 분류 단계별로 검색표를 작성하였고 종별 형태적 특징, 문헌기록, 채집지와 생물학적 정보 등을 수록하였다.

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## ABSTRACT

## Explanation of Plates

# I . 緒論 (Introduction)

하늘소붙이과(Oedemeridae)는 딱정벌레목(Coleoptera), 거저리상과(Tenebrionoidea)에 속하며, 전 세계적으로 3개 아과에 약 115屬 1,500種을 포함하고 있는 비교적 작은 분류군이다(Kriska, 2002; Švihla, 1986; Vázquez, 2002).

하늘소붙이과가 속해있는 거저리상과는 이절성 부절(heteromerous tarsi)(5-5-4 또는 4-4-4), 음경(aedeagus)의 형태, 전 절과 퇴절간의 비스듬한 관절(oblique trochanterofemoral articulation) 등에 의해 정의되어 진다(Lawrence & Newton, 1982). 하늘소붙이과는 거저리상과 내에서 독립된, 잘 정의된 단계통군(monophyletic group)으로 알려져 있지만, 계통유연관계(phylogenetic relationships)는 불확실하다(Vázquez, 2002). 일부 학자들은 하늘소붙이과와 가장 밀접한 과로서 목대장과[Stenotrachelidae(= Cephaloidae)]를 고려했으며(Arnett, 1951; Crowson, 1955; Rozen, 1960), Lawrence & Newton(1982)은 목대장과 유충과의 유사성, 부절발톱(tarsal claw) 기부에 연모받침(pubesecent pad)의 존재, 칸타리딘(cantharidin)의 존재 등을 근거로 목대장과, 가뢰과(Meloidae)와 더불어 하늘소붙이과를 거저리상과 내에서 별도의 계열(lineage)로 간주하기도 하였다.

하늘소붙이과는 딱정벌레목 내에서 앞쪽으로 넓어진 앞가슴등판, 앞가슴등판 측연의 부재, 전기절와(front coxal cavities)의 개구 그리고 이절성(heteromerous, 5-5-4)의 부절 등과 같은 형질들에 의해 다른 모든 과들과 구별될 수 있다(Kriska, 2002).

하늘소붙이과는 대부분의 그룹에서 성적이형(sexual dimorphism)

이 뚜렷이 나타난다. 가장 일반적인 특징은 배 말단절의 형태이다. 수컷의 7번째 배마디는 종종 넓게 안으로 패여 있으며(emarginate), 8번째 배마디는 매우 강하게 안으로 패여서 두 장의 엽(lobe)과 같은 형태를 이룬다. Švihla(1986)는 이와 같은 형태의 근거로 교미시 배의 높은 가동성을 들었다. 국내에서는 *Ditylus*屬, *Eobia*屬 그리고 *Indasclera*屬을 제외한 모든 屬에서 이러한 특징이 매우 잘 나타난다. 이 밖에도 겹눈의 크기, 더듬이의 마디수 그리고 후퇴절의 형태 등에 있어서 성적이형이 나타난다. 또한 *Anogcodes*屬의 대부분 종들은 성적이색(sexual dichroism)을 보여주기도 한다(Vázquez, 2002).

하늘소붙이과의 유충은 columnar prehypopharynx를 근거로 쉽게 인식되는데(Calopodinae亞科 제외), 이러한 구조는 목대장과의 *Nematoplus*屬을 제외한 다른 어떤 딱정벌레目的 科에서도 발견되지 않는다. 대부분 屬의 유충들은 목식성(xylophagous)이며, 부식이 진행된 상태의 해면질성(spongy)의 축축한 나무를 천공한다. 이들은 일반적으로 협식성(oligophagous) 혹은 광식성(polyphagous)이며, *Ditylus*屬, *Chrysanthia*屬, *Nacerdes* (*Xanthochroa*)屬, *Calopus*屬 그리고 일부 *Anogcodes*屬의 종들은 대개 침엽수(conifers)에서 성장하지만, *Ischnomera*屬과 *Oedemera* (*Oncomera*)屬은 전형적인 활엽수(broadleaved trees)의 천공자(borers)이다. 한편, *Oedemera* (s. str.)屬과 *Stenostoma*屬의 유충들은 특징적으로 초본류(herbaceous plants)의 죽은 줄기에서 성장한다(Vázquez, 2002).

하늘소붙이과의 종들은 생태계 내에서 매우 다양한 역할을 수행한다. *Oedemera*屬은 식물의 수분매개자로서 유명하며, *Ischnomera*屬은 오래된 활엽수림의 지표생물(indicator)로 알려져 있다(Vázquez, 2002). 일부 종은 인공 환경에도 영향을 끼친다. 대표적으로 끝검은

하늘소붙이(*Nacerdes melanura*)는 'wharf borer' 라는 영어 이름에서 알 수 있듯, 부둣가 목조구조물의 해충으로 다양한 피해사례가 보고되어 왔다(Balch, 1937; Morris, 1980; Pitman et al., 1993). 또한 하늘소붙이과는 가뢰과와 더불어 곤충으로부터 알려진 가장 유명한 독인 칸타리딘(cantharidin)을 생성할 수 있는 유일한 곤충이다(Holz et al., 1994). 칸타리딘은 딱정벌레목을 비롯한 다수의 목에 속하는 곤충들에서 방어, 교미(번식) 등의 성패에 매우 중요한 요인으로 작용하는 것으로 알려져 있다. 이처럼 하늘소붙이과는 생태학 및 행동학적 가치뿐 아니라 응용학적 측면에서도 충분히 연구의 대상이 될 수 있는 중요성을 갖고 있다.

그러나 국내에서의 신뢰할만한 연구를 위한 기초로서 하늘소붙이과에 대한 분류학적 연구가 수행되지 못해 왔다. 이에 이번 연구를 통해 기존에 기록된 학명들을 검토하여 많은 오동정과 동종이명을 정리하였고, 야외조사를 통해 새로운 종을 찾아내어 신종으로 추가하고자 했다. 이로서 신뢰할 수 있는 한국산 하늘소붙이과에 관한 새로운 목록과 체계적인 분류학적 정보를 제공하고자 하였다.

## II. 研究史 (Historical review)

한국산 하늘소붙이과의 최초기록은 19세기 말, Kolbe(1886)에 의한 '*Xanthochroa waterhousei* Harold' 이다. 이후, 20세기 초, Schenkling(1915)은 독일에서 출판되던 분류학적 연구서적으로서의 목록집인 '*Coleopterorum Catalogus*'의 65번째 시리즈로 하늘소붙이과 편(Pars 65. Oedemeridae)을 작성하면서 '*Oedemera sieversi* Seidlitz'의 분포에 Korea를 표기한 것이 국내 하늘소붙이과의 두 번째 기록이다.

그 후, 일제강점기 동안에는 일본인 학자들에 의한 연구가 두드러졌다. Okamoto(1924)와 Kôno(1932)는 각각 '*Xanthochroa luteipennis* Marseul'과 '*Nacerda (Anogcodes) coarctata* Germar', '*Nacerda melanura* Linné'의 3종을 국내산으로 추가 기록하였다. Chô(1934)는 4종을 추가 기록하였는데, 이는 국내학자로서는 최초였다. 이 후, Kôno(1937), Chô(1938), Gressitt(1939), Mori and Chô(1940) 등에 의해 광복 전까지 총 6종이 더 알려졌다.

광복 후에도 Cho(1947)가 금강산으로부터 1종, Cho(1957)가 1종, Ju(1969)가 북한의 곤충목록집을 통해 1종, Kim and Kim(1971)이 소금강과 오대산 지역으로부터 3종, Kim and Kim(1972)은 무주 구천동으로부터 2종, Kim et al.(1974)이 비무장지대 인접지역으로부터 1종, Kim and Park(1991)이 1종 등을 꾸준히 추가 기록하였으나, 이의 거의 대다수는 분류학적 연구의 결과라기 보단 단순히 지역생물상 조사 보고서를 통한 것으로서 국내에서 하늘소붙이과의 분류학적 연구는 실질적으론 거의 전무한 실정이다. 더욱이 최근에는 외국 학자에 의해 다수의 종이 새롭게 한국산으로서 인식되었는데, Švihla

and Merkl(1992), Švihla(1999b), Švihla(1999c)를 통한 총 5종의 기록이 있다.

이상 Kolbe(1886)을 시작으로 지금까지 국내에서 알려진 총 34개의 학명을 검토한 결과 26개의 학명만이 유효한 것으로 확인되었으며, 이를 목록화하면 Table 1과 같다.

**Table 1. Historical list of Korean Oedemeridae**

Author (year)	added	survived	Newly recorded name	Current name	note
Kolbe (1886)	1	1	<i>Xanthochroa waterhousei</i>	<b><i>Nacerdes (Xanthochroa) waterhousei</i></b>	C
Schenkling (1915)	1	1	<i>Oedemera sieversi</i>	<b><i>Oedemera</i> (s. str.) <i>lucidicollis flaviventris</i></b>	S, T
Okamoto (1924)	1	1	<i>Xanthochroa luteipennis</i>	<b><i>Nacerdes (Xanthochroa) luteipennis</i></b>	C
Kōno(1932)	2	2	<i>Nacerda (Anonchodes) coarctata</i> <i>Nacerda melanura</i>	<b><i>Anogcodes coarctata croceiventris</i></b> <b><i>Nacerdes</i> (s. str.) <i>melanura</i></b>	C C
Chō(1934)	4	4	<i>Chrysanthia viatica</i> <i>Xanthochroa atriceps</i> <i>Oedemera concolor</i> <i>Oedemera amurensis</i>	<b><i>Chrysanthia geniculata viatica</i></b> <b><i>Nacerdes (Xanthochroa) atriceps</i></b> <b><i>Oedemera</i> (s. str.) <i>concolor</i></b> <b><i>Oedemera (Stenaxis) amurensis</i></b>	T C
Kōno(1937)	1	1	<i>Chrysanthia integricollis</i>	<b><i>Chrysanthia geniculata integricollis</i></b>	T
Chō(1938)	2	1	<i>Ditylus laevis</i> <i>Oedemera lurida</i>	<b><i>Ditylus laevis laevis</i></b>	 D
Gressitt (1939)	2	1	<i>Asclera coreana</i> <i>Oedemera coreana</i>	<b><i>Ischnomera nigrocyanea koreana</i></b> = <i>Oedemera</i> (s. str.) <i>lucidicollis flaviventris</i>	T S
Mori and Chō(1940)	1	0	<i>Oedemera montana</i>	= <i>Oedemera</i> (s. str.) <i>lucidicollis lucidicollis</i>	S
Cho(1947)	1	1	<i>Oedemera lucidicollis</i>	<b><i>Oedemera</i> (s. str.) <i>lucidicollis lucidicollis</i></b>	
Cho(1957)	1	1	<i>Eobia chinereipennis</i>	<b><i>Eobia (Eobia) cinereipennis cinereipennis</i></b>	
Cho(1965)	1	1	<i>Eobia chinensis</i>	<b><i>Eobia (Eobia) chinensis</i></b>	
Ju(1969)	1	1	<i>Oncomella venosa</i>	<b><i>Oedemera (Oncomera) venosa</i></b>	C
Kim and Kim(1971)	3	2	<i>Asclera nigrocyanea</i> <i>Ezonacerda nigripennis</i> <i>Xanthochroa strandi</i>	<b><i>Ischnomera nigrocyanea nigrocyanea</i></b> <b><i>Nacerdes (Xanthochroa) strandi</i></b>	C M C
Kim and Kim(1972)	2	2	<i>Oedemerina subrobusta</i> <i>Oedemerina robusta</i>	<b><i>Oedemera</i> (s. str.) <i>subrobusta</i></b> <b><i>Oedemera</i> (s. str.) <i>robusta</i></b>	C C
Kim et al. (1974)	1	1	<i>Xanthochroa katoi</i>	<b><i>Nacerdes (Xanthochroa) katoi</i></b>	C
Kim and Park(1991)	1	0	<i>Oedemerina testaceithorax</i>	= <i>Oedemera</i> (s. str.) <i>lucidicollis flaviventris</i>	M
Švihla and Merkel (1992)	3	1	<i>Oedemera flaviventris</i> <i>Oedemera laticollis</i> <i>Oedemera parallelepennis</i>	= <i>Oedemera</i> (s. str.) <i>lucidicollis flaviventris</i> = <i>Oedemera</i> (s. str.) <i>subrobusta</i> <b><i>Oedemera</i> (s. str.) <i>parallelepennis</i></b>	S S
Kim et al. (1994)	3	2	<i>Anoncodina sambucea</i> <i>Asclera japonica</i> <i>Xanthochroa hilleri</i>	= <i>Anogcodes coarctata croceiventris</i> <b><i>Indasclera japonica japonica</i></b> <b><i>Nacerdes (Xanthochroa) hilleri hilleri</i></b>	S C C
Švihla (1999b)	1	1	<i>Diasclera sibirica laevithorax</i>	<b><i>Diasclera sibirica laevithorax</i></b>	
Švihla (1999c)	1	1	<i>Oedemera</i> (s. str.) <i>virescens virescens</i>	<b><i>Oedemera</i> (s. str.) <i>virescens virescens</i></b>	
Total	34	26	[=23 species, 3 subspecies]	<b>Bold face: valid name</b>	

Abbreviations. C: combination changed, D: deletion, M: misidentification, S: synonym, T: status changed

### Ⅲ. 材料 및 方法 (Materials and methods)

#### 1. 研究標本の 確保

이 연구에서는 본 대학에 소장된 표본을 토대로, 국내의 여러 대학과 연구기관 그리고 일부 개인수집가로부터 대여 받은 표본에 2003년부터 2006년까지 저자에 의해 채집된 표본을 더하여 총 2,000여 개체의 표본을 연구재료로 이용함으로써 본 연구의 결과가 최대한 지역성을 벗어나 한국산을 대표할 수 있는 자료가 될 수 있도록 노력하였다. 또한 일부의 북한산 표본을 확보함으로써 부족한 북한지역 하늘소붙이에 관한 지식의 보완을 꾀하였다. 이 밖에 외국의 전문가로부터 하늘소붙이과의 증거표본(voucher specimen)을 입수하여 국내 종과 대조하였다(Table 2).

**Table 2. Voucher specimens of Oedemeridae from foreign country**

Species	Number	Determinator
<i>Nacerdes (Xanthochroa) katoi</i> (Kôno, 1932)	1♂ 1♀	H. Akiyama (JAPAN)
<i>Nacerdes (Xanthochroa) strandi</i> (Kôno, 1936)	1♂ 1♀	
<i>Indasclera japonica japonica</i> (Pic, 1910)	1♂	R. Allemand (FRANCE)
<i>Chrysanthia geniculata geniculata</i> (W. Schmidt, 1846)	1♂	
<i>Oedemera (Oedemera) lurida lurida</i> (Marsham, 1802)	1♂	
<i>Oedemera (Oedemera) virescens virescens</i> (Linnaeus, 1767)	1♂	
<b>Total: 6 species, 4 genera</b>	<b>8 exs.</b>	

#### ① 대여

대여한 표본은 경상대학교 생물학과(경남), 고려대학교 부설 한국곤충연구소(서울), 농업과학기술원 농업생물부 유용곤충과(경기), 서울대학교 응용생물화학부(서울), 영남대학교 생물학과(경북) 그리고 일부 개인수집가에 의해 소장된 표본들로서 주로 1920년대 이후부터 현재까지 채집된 표본들이다.

#### ② 채집

대학 또는 연구기관으로부터 대여한 표본들은 대체적으로 일반적인 서식처와 채집방법에 의해 확보된 종들이다. 따라서 특정 서식처에 제한되어 서식하는 종의 표본검토는 대여한 표본들로는 한계가 있었으므로 연구재료의 확보를 위해 일부 종의 채집이 불가피 하였다. 채집방법에 있어서 낮에는 주행성 종류들(*Ischnomera* spp., *Oedemera* (*Stenaxis*) sp. *Oedemera* s. str. spp.)을 대상으로 주로 초본, 관목의 꽃과 잎을 대상으로 보고잡기(visual method), 쓸어잡기(sweeping method) 그리고 털어잡기(beating method) 등의 방법을 이용하였으며, 일부 야행성 종(*Nacardes* (*Xanthochroa*) spp.)을 위해서는 등화채집(light trap)을 시도하였다. 하늘소붙이류는 서식처에 따라, 크게 내륙성(산지성 포함)과 해안성으로 구분될 수 있는데 국내에서의 해안성 종류들은 거의 채집이 전무한 실정이다. 본 연구를 수행하면서 해안성 종으로 알려진 다수의 잿빛하늘소붙이(*Eobia cinereipennis*)를 채집할 수 있었다. 또한 이전에 채집, 보관되었던 표본들을 검토하는 과정에서 해안성 종으로 추측되어지는 약간의 표본을 확인할 수 있었지만 추가적인 표본의 부족으로 본 연구에서는 미해결 상태로 남겨두었다. 앞으로 해안지역에서의 채집활동이 본격적으로 이루어진다면 인접한 일본에서의 상황을 고려해 볼 때, 상당한 종들이 밝혀질 것으로 사료된다.

## 2. 標本의 研究

### ① 표본제작

채집된 표본은 기본적으로 모두 건조표본으로의 제작을 원칙으로 했으며, 개체수가 많은 경우에는 95% ethyl alcohol에 액침 보관하였다. 건조표본은 모두 pinning하였으며 5mm 내외의 미소종은 삼각대

지에 수용성 접착제(water-soluble glue)를 이용하여 부착(double mounting)하였다.

### ② 형질관찰

외부형태 및 생식기의 형질들은 다음과 같은 방법으로 관찰했으며, 본 연구에서 관찰한 주요 형태형질은 Table 3 과 같다.

a. 외부형태(external morphology): 외부형태는 해부현미경(Leica MZ APO, Olympus SZ40)하에서 종과 관찰부위에 따라 8-80배율 내에서 관찰하였으며, 몸의 부위별 측정은 ocular grid를 이용하였다.

b. 배 말단절(terminalia) 및 생식기(genitalia): 배 말단절 및 생식기의 관찰을 위해서는 우선 필요에 따라 연화과정을 거친 후, 배 전체를 분리하였다. 분리된 배는 KOH 용액에 넣어 1-2분간 상온에서 녹인 후, 해부침과 핀셋을 이용해 필요한 부분을 떼어냈다. 암, 수 배 말단절의 경우는 관찰의 용이함과 기동성을 위해 주로 수용성 접착제(water-soluble glue)를 이용하여 대지위에 부착해 표본과 함께 보관하였으며, 수컷 생식기의 경우는 글리세린과 함께 genitalia vial (BioQuip, model no. 1133C)에 담아 보관하였다.

**Table 3. The morphological characters examined in this study**

	Characters
머리	머리 너비/머리 길이 비; 겹눈: 크기, 돌출도; 더듬이: 길이, 모양, 마디수; 작은턱수염 마지막마디 모양; 겹눈간 거리/더듬이간 거리 비; 겹눈간 거리/겹눈 너비 비; 머리 너비/앞가슴 너비 비
가슴	앞가슴 길이/앞가슴 너비 비; 앞가슴등판: sculpture, 연모 길이 및 밀도; 앞가슴배판 형태; 소순판 형태; 딱지날개 맥 수; 전경절개 개수; 후퇴절 팽창 유무; 발톱형태
배	마지막마디(7th): 등판과 배판 모양; aedeagus: basal apodeme 유무 및 형태, 가시 유무; tegmen: basal apodeme 유무, 가시 유무, 연모 유무; paramere: 발달정도, 연모 유무, 가시 유무

### ③ 기타

a. 표본의 측정: 몸의 각 부위의 측정은 ocular grid를 통해 이루어졌

다.

b. 삽화 및 사진: 모든 삽화는 현미경묘화장치(drawing tube)가 장착된 해부현미경하에서 수행되었으며, 도판사진은 디지털카메라(Nikon D70)를 사용하여 촬영하였다.

### 3. 論文의 體制

종의 기재에 있어 1)표본의 측정 방법(종마다 가장 크기차이가 많이 난다고 판단되는 암, 수 각 10개체씩을 선정)과 부위(Figure 1 & Table 4)는 Vázquez(1996)의 방법을 따라 수행하였으며, 2)채색(coloration)은 Paclt(1958)의 color chart를 근거로 기재하였다. 또한 3)형태형질의 기재에 사용한 용어는 기본적으로 Švihla(1986, 1999)와 Vázquez(1996, 2002)의 것을 참고하였으나 생식기(genitalia)의 경우는, 이의 세부구조를 지칭하는 용어에 있어 학자들 간에 다소 차이가 있어 딱정벌레목의 수컷 생식기를 비교 연구한 Sharp & Muir(1912)와 하늘소붙이의 생식기를 자세하게 관찰한 Arnett(1951)의 연구 또한 참고하였다.

관찰표본은 각 도별로 구분하였으며 Figure 2와 같이 약어로 나타내었다. 또한 채집지는 위도순으로 배열하였고, 행정지명의 로마자 표기는 국립국어연구원(2000)의 로마자 표기 용례 사전에 근거하여 작성하였다. 논문에 사용된 우리말 곤충용어는 KSAE & KSE(1998)

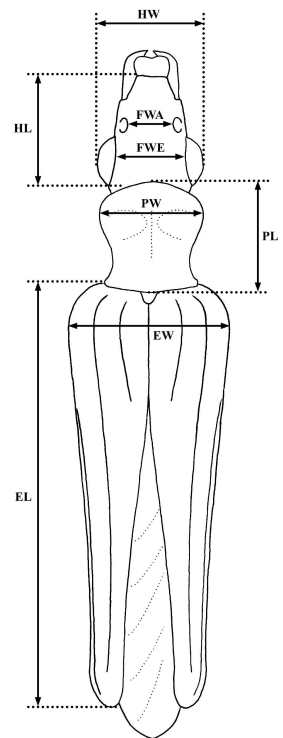


Figure 1. Parts of body adopted in mesurement.

을 따르는 것을 원칙으로 하되, 동일한 용어일지라도 분류군에 따라 지칭하는 부위나 의미에 차이가 있는 등, 일부의 경우에는 해당 용어의 우리말이 본 분류군에서는 적합지 않은 경우가 있었다. 이런 경우 의미의 혼란을 줄이기 위해 우리말 용어로 옮기지 않았다.

**Table 4. Nine parts of body adopted in measurement**

HW	width of head across eyes
HL	length of head from basal margin of eye to basal margin of labrum
FWE	width of frons between eyes (= interocular area)
FWA	width of frons between antennal pits
EYW	dorsal width of eye (HW-FWE)
PL	maximum length of pronotum
PW	maximum width of pronotum
EL	length of elytron
EW	width of elytra across humeri
BL	body length (HL+PL+EL)

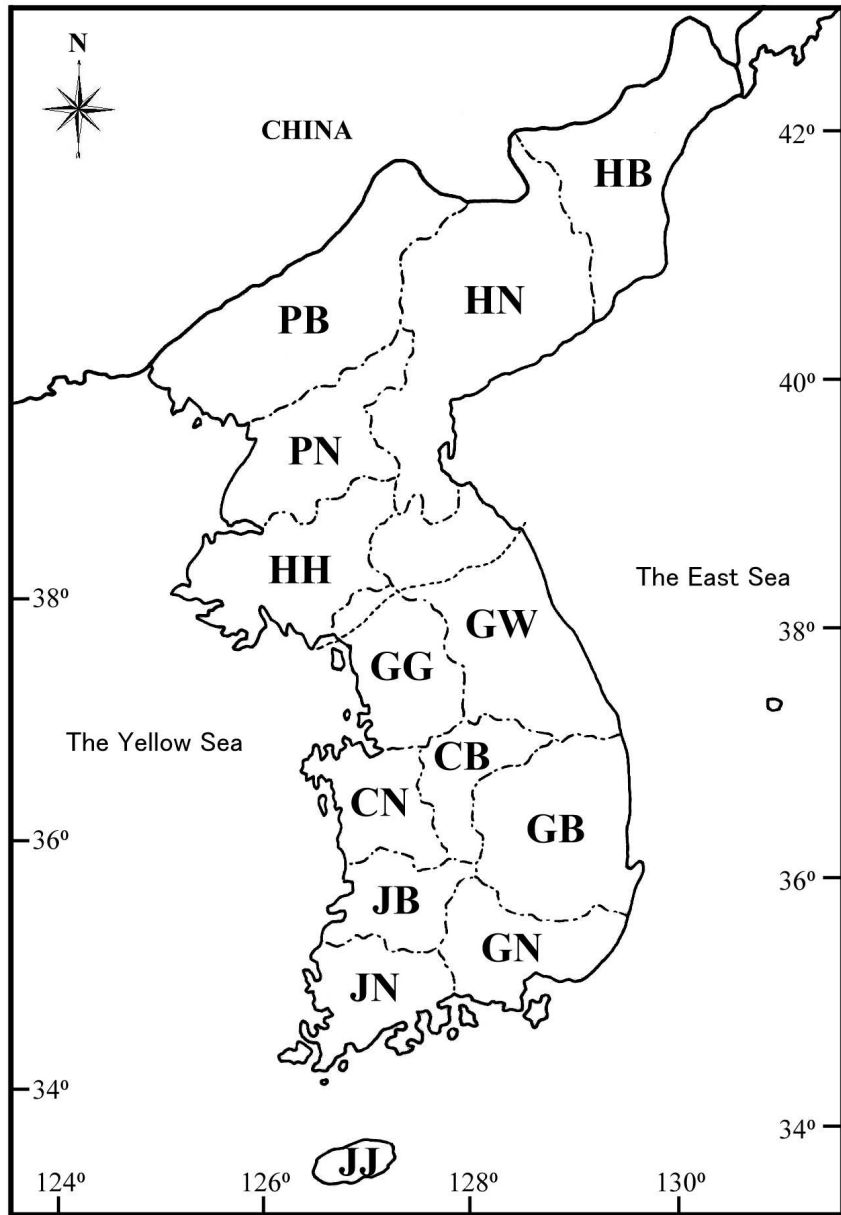


Figure 2. Provincial map of Korean peninsula and provincial abbreviations. **HB** Hamgyeongbuk-do; **HN** Hamgyeongnam-do; **PB** Pyonganbuk-do; **PN** Pyeongannam-do; **HH** Hwanghae-do; **GW** Gangwon-do; **GG** Gyeonggi-do **CB** Chungcheongbuk-do; **CN** Chungcheongnam-do; **GB** Gyeongsangbuk-do; **GN** Gyeongsangnam-do **JB** Jeollabuk-do; **JN** Jeollanam-do **JJ** Jeju-do.

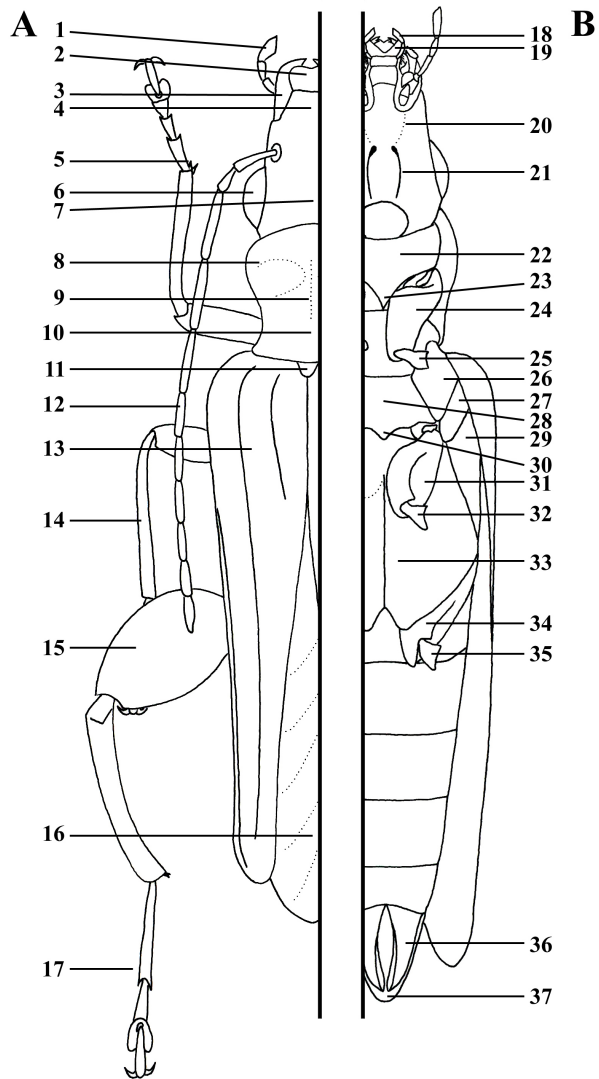


Figure 3. Male external morphology of Oedemeridae (modified from Vázquez, 2002): **A** Oedemerini, dorsal view; **B** Asclerini, ventral view.

1 maxillary palp; 2 labrum; 3 mandible; 4 epistoma; 5 spurs; 6 eye; 7 frons; 8 anterior keel; 9 medial keel; 10 pronotum; 11 scutellum; 12 antenna; 13 elytron; 14 tibia; 15 femur; 16 hind wings; 17 tarsi; 18 labial palp; 19 labium; 20 pregular suture; 21 gular suture; 22 prosternum; 23 intercoxal process of procoxae; 24 procoxa; 25 protrochanter; 26 mesepisternum; 27 mesepimeron; 28 mesosternum; 29 metepisternum; 30 intercoxal process of mesocoxae; 31 mesocoxa; 32 mesotrochanter; 33 metasternum; 34 metacoxa; 35 metatrochanter; 36 last(8th) abdominal sternite; 37 pygidium.

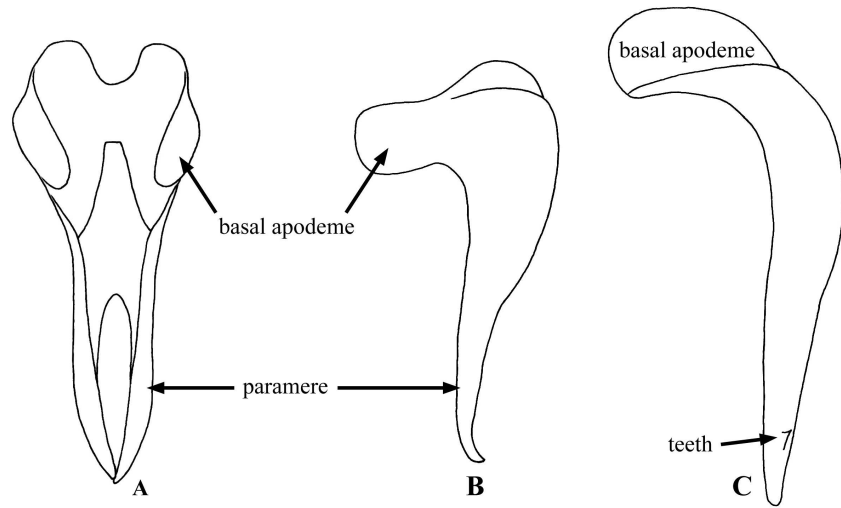


Figure 4. Terminology of male genitalia (*Oedemera virescens*):  
A. tegmen, ventral view; B. tegmen, lateral view; C. aedeagus, lateral view.



12. *Anogcodes coarctata croceiventris* (Motschulsky, 1859)  
     Subfamily Oedemerinae Latreille, 1810  
     Tribe Asclerini Gistel, 1856  
     Genus *Eobia* Semenov, 1894
13. *Eobia (Eobia) chinensis* (Hope, 1842) (-)
14. *Eobia (Eobia) cinereipennis cinereipennis* (Motschulsky, 1866)  
     Genus *Ischnomera* Stephens, 1832
15. *Ischnomera abdominalis* (Heyden, 1887) (\*)
- 16-1. *Ischnomera nigrocyanea nigrocyanea* (Lewis, 1895) (-)
- 16-2. *Ischnomera nigrocyanea koreana* Fleischer, 1919
17. *Ischnomera* sp. (\*\*)  
     Genus *Indasclera* Švihla, 1980
18. *Indasclera japonica japonica* (Pic, 1910) (-)  
     Tribe Oedemerini Latreille, 1810  
     Genus *Oedemera* Olivier, 1789  
     Subgenus *Oncomera* Stephens, 1829
19. *Oedemera (Oncomera) venosa* (Lewis, 1895) (-)  
     Subgenus *Stenaxis* W. Schmidt, 1844
20. *Oedemera (Stenaxis) amurensis* Heyden, 1884  
     Subgenus *Oedemera* Olivier, 1789
- 21-1. *Oedemera* (s. str.) *lucidicollis lucidicollis* Motschulsky, 1866 (-)
- 21-2. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire, 1891
22. *Oedemera* (s. str.) *subrobusta* (Nakane, 1954)
23. *Oedemera* (s. str.) *robusta* Lewis, 1895
24. *Oedemera* (s. str.) *concolor* Lewis, 1895 (-)
25. *Oedemera* (s. str.) *parallelipennis* Seidlitz, 1899
26. *Oedemera* (s. str.) *virescens virescens* (Linnaeus, 1767)

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(\*\*) new species, (\*) new to Korea, (-) unexamined species

2. 韓國産 하늘소붙이科의 分類

**Family Oedemeridae Latreille, 1810**

Oedemérites Latreille, 1810. *Considér. Gén.*: 216.

**Table 6. Comparison of diagnostic characters between two subfamilies**

Subfamilies Characters	Nacerdinae	Oedemerinae
1. Mandibles	i .always bifid at apex, without retinaculum	i .simple or bifid at apex
	i .tegmen and aedeagus without basal apodemes	i .tegmen and aedeagus with basal apodemes
2. Genitalia	ii .aedeagus without supporting sclerite	ii .aedeagus with supporting sclerite
	iii .tegmen non-pubescent in its apical portion	iii .paremeres well developed, sometimes pubescent

**Subfamily Nacerdinae Mulsant, 1858**

Nacerdates Mulsant, 1858. *Hist. Nat. Col. France, Angustipennes*: 40.

**Key to the Korean tribes of subfamily Nacerdinae**

- 1. Protibiae with two terminal spurs ..... *Ditylini*
- Protibiae with single terminal spur ..... *Nacerdini*

**Tribe *Ditylini* Mulsant, 1858**

*Ditylates* Mulsant, 1858. *Hist. Nat. Col. France, Angustipennes*: 36.

**Diagnosis.** Antennae 11-segmented in both sexes. Protibiae with two terminal spurs. Both tegmen and aedeagus without basal apodemes. Parameres glabrous. Spermatheca attached laterally to bursa copulatrix. Three Korean genera: *Ditylus*, *Diasclera* and *Chrysanthia*.

### Key to the Korean genera of tribe Ditylini

- 1. Spongious pubescence of tarsi 4-4-2 ..... *Ditylus*
  - Spongious pubescence of tarsi 1-1-1 ..... 2
- 2. Parameres with apical teeth ..... *Diasclera*
  - Parameres simple ..... *Chrysanthia*

### Genus *Ditylus* Fischer von Waldheim, 1817

*Ditylus* Fischer von Waldheim, 1817. *Mem. Soc. Imp. Moscow*, 5: 469.

Type species: *Helops laevis* Fabricius, 1787

**Remark.** *Ditylus* may be the most primitive genus of the family (Švihla, 1986).

#### 1. *Ditylus laevis laevis* (Fabricius, 1787) 산하늘소붙이

[Plate I . 1, II . 1-3]

*Helops laevis* Fabricius, 1787. *Mant. Ins.*, 1: 213.

**Korean records.** *Ditylus laevis*: Chô, 1938: 45; Doi, 1938: 95;

Mochizuki and Masui, 1939: 63; Mori and Chô, 1939: 719; Cho, 1957: 228; ZSK, 1968: 113; Ju, 1969: 121; Kyushu Univ. and JWRC, 1989: 409; Švihla and Merkl, 1992: 101; Kim et al, 1994: 174; Nikitsky, 1996: 16; Miyatake, 1998: 404; *Ditylus laevis laevis*: Švihla, 1993: 52; Mizota, 1998: 91; Mizota, 1999b: 443; Akiyama, 2000: 3; Vázquez, 2002: 26.

**Korean names.** 산하늘소불이 (ZSK, 1968), 메돌드레번티기 (Ju, 1969).

### **Description.**

Coloration. Body entirely black, antennae sooty.

Male. Length: 15.7–16.6mm. Body robust and dilated posteriorly. Head short to remarkably short (HW/HL: 1.5–1.6), slightly narrower than pronotum (HW/PW: 0.9). Distance between eyes slightly to remarkably wider than antennal pits (FWE/FWA: 1.5–1.6). Interocular area slightly wide (FWE/EYW: 1.6–1.9). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.9–1.0), without lateral margin. Prosternal process sharp. Elytra short (EL/EW: 2.3–2.5), subparallel, broadened apically with faint four costae. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Last abdominal segment not emarginate. Both tegmen and aedeagus without basal apodemes and apical teeth. Aedeagus without supporting sclerite.

Female. Length: 14.9–19.4mm. Eyes smaller, interocular area

wider (FWE/EYW: 2.1-2.8).

**Specimen examined.** [HN] 1ex., "Unsuirei ?annan Chosen, 27 vii 2595, M. Mochizuki" (= correct locality: Unsuryeong). [The sex not determined due to specimen in bad condition]

**Additional specimens examined.** 2♂ 3♀, Mt. Baekdusan Jirin China, 5 vii 2005, T. W. Kim, B. H. Jung, A. Y. Kim and J. G. Lee.

**Biological information.** The larva live in rotten wood, mainly that of coniferous trees, which is often very wet (e.g. bridge supports, dike timbers, etc.); and they live for two years. The adult is found in or on the wood (trunks, stumps) in which the larvae develop, or in its proximity, occasionally on flowering shrubs (Vázquez, 2002).

**Distribution.** Russia (Siberia), NE China, Korea, Japan (Hokkaido, Honshu, Tsushima).

### Genus *Diasclera* Reitter, 1913

*Diasclera* Reitter, 1913. *Deutsch. Ent. Zeitschr.*, 1913: 663.

Type-species: *Diasclera viridescens* Reitter, 1913

#### 2. *Diasclera sibirica laevithorax* (Pic, 1915)

민줄하늘소불이(신칭) [Plate I . 2, II . 4-6]

*Asclera laevithorax* Pic, 1915. *Échange*, 31: 9.

**Korean record.** *Diasclera sibirica laevithorax*: Švihla, 1999: 78-79.

### **Description.**

Coloration. Body entirely bluish greenish black.

Male. Length: 10.1mm. Body robust. Head slightly elongate (HW/HL: 1.3), slightly wider than pronotum (HW/PW: 1.1). Distance between eyes slightly wider than antennal pits (FWE/FWA: 1.3). Interocular area slightly wide (FWE/EYW: 1.3). Eyes small, vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 11-segmented. Pronotum cordiform, as wide as long (PL/PW: 1.0), without lateral margin. Prosternal process sharp. Elytra moderate (EL/EW: 2.8), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes. Parameres with apical teeth. Aedeagus without supporting sclerite.

Female. Length: 8.7mm. Head narrower than pronotum (HW/PW: 0.9). Eyes smaller, interocular area wider (FWE/EYW: 1.8).

**Specimens examined.** [PB] 1 ♂ 1 ♀, Mt. Cheonmasan Cheonma-gun, 5-19 vi 2006, Jingke Li.

**Distribution.** Russia (Primorye, Khabarovsk), China (Heilongjiang), Korea (PB).

### **Genus *Chrysanthia* W. Schmidt, 1844**

*Chrysarthis* W. Schmidt, 1844. *Cat. Col. Eur.*: 46. (incorrect original spelling)

*Chrysanthia* W. Schmidt, 1846. *Linn. Entom.*, 1: 125.

*Chrysarthria* Agassiz, 1846. *Nomencl. Zool., Col.*: 36 (unjustified emendation)

Type species: *Cantharis viridissima* Linnaeus, 1758

**Key to the Korean subspecies of *Chrysanthia geniculata***

1. At least apices of profemora and outer sides of protibiae yellowish, elytra green to golden green ..... *g. integricollis*
- Profemora and tibiae entirely dark, elytra golden green to cupraceous ..... *g. viatica*

**3-1. *Chrysanthia geniculata integricollis* Heyden, 1886**

녹색하늘소붙이

[Plate I . 3, II . 7-9]

*Chrysanthia integricollis* Heyden, 1886. *D. Entomol. Ztschr.*, 30: 275.

**Korean records.** *Chrysanthia integricollis*: Kôno, 1937: 136; Chô, 1938: 45-46; Cho, 1957: 228; ZSK, 1968: 113; Cho, 1969: 323; Kyushu Univ. and JWRC, 1989: 409; Švihla and Merkl, 1992: 101; Kim et al, 1994: 174; Nikitsky, 1996: 18; Kim and Kim, 1998: 172; Mizota, 1998: 91; Park, 1998: 50; Kim et al., 1999: 131; *Chrysarthia* [sic] *integrifollis*: Kim and Chang, 1987: 105; Kim and Kim, 1996: 129; Miyatake, 1998: 405; Kim, 2000: 143; Kim et al., 2002: 121; *Chrysaethia* [sic] *integrifollis*: Kim and Kim, 1996: 48; *Chrysanthia*

*geniculata integricollis*: Švihla, 1999: 81; Akiyama, 2000: 4; Vázquez, 2002: 31-32.

**Korean name.** 녹색하늘소붙이 (ZSK, 1968).

**Description.**

Coloration. Body glaucous grey to dark greenish blue. Legs sooty, partly rusty to olivaceous.

Male. Length: 5.8-7.6mm. Body slender. Head slightly elongate to remarkably short (HW/HL: 1.3-1.6), as wide as or slightly wider than pronotum (HW/PW: 1.0-1.2). Distance between eyes remarkably wider than antennal pits (FWE/FWA: 1.6-2.0). Interocular area moderately to remarkably wide (FWE/EYW: 2.0-3.0). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, as long as or longer than wide (PL/PW: 1.0-1.2), without lateral margin. Prosternal process sharp. Elytra short to elongate (EL/EW: 2.6-3.1). Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes. Apex of aedeagus and parameres simple.

Female. Length: 5.7-8.1mm. Head relatively longer (HW/HL: 1.2-1.4).

**Specimens examined.** [GW] 1 ♂ 1 ♀, Hyangnobong Goseong, 6 vii 1995, J. I. Kim; 1 ♀, Gojindong valley Mt. Geonbongsan Sudong-myeon Goseong, 5 vii 1995, J. I. Kim; 1 ♀, Temple Geonbongsa Naengcheon-ri Geojin-eup Goseong, 12 vi 1992,

Anonymous; 1 ♂, Gachilbong, 23 vii 1981, C. W. Kim; 1 ♀, *ibid.*, 23 vii 1981, S. H. Nam; 1 ♂, *ibid.*, 23 vii 1981, H. Y. Han; 1 ♀, Gachilbong Inje, 24 vii 1997, J. D. Yuh; 1 ♂, Mt. Odaesan, 22 vi 1994, S. Y. Ju; 1 ♀, *ibid.*, 22 vi 1994, T. Y. Kim; 1 ♂, *ibid.*, 24 vi 1994, S. P. Cheon; 1 ♀, *ibid.*, 24. vi 1994, Y. H. Lee; 1 ♀, *ibid.*, 24 vi 1994, M. H. Yang; 2 ♀, *ibid.*, H. J. Sohn; 1 ♀, *ibid.*, 24 vi 1994, S. G. Lee; 1 ♂ 1 ♀, *ibid.*, 25 vi 1994, G. M. Seong; 2 ♂, *ibid.*, 25 vi 1994, J. A. Kim; 1 ♀, *ibid.*, 25 vi 1994, J. Y. Kim; 1 ♀, *ibid.*, 25 vi 1994, S. W. Kim; 1 ♂ 2 ♀, Jingogae Mt. Odaesan Yeongok-myeon Gangneung, 22 vi 2005, T. W. Kim; 1 ♂, Dongsan-ri Jinbu-myeon Pyeongchang, 2 vii 1985, E. Y. Lee; 1 ♂, Temple Bukdaesa Mt. Odaesan Dongsan-ri Jinbu-myeon Pyeongchang, 18 ix 1971, J. I. Kim; 1 ♀, Geomun-ri Jinbu-myeon Pyeongchang, 30 vi 1985, Y. S. Kim; 1 ♂ 1 ♀, Yongsan-ri Doam-myeon Pyeongchang, 2 viii 1985, Y. S. Kim; 1 ♀, *ibid.*, 29 vi 1985, O. G. Lee; 1 ♂ 6 ♀, Mt. Bangtaesan Misan-ri Sangnam-myeon Inje, 25 vi 1996, Yeungnam Univ.; 1 ♀, *ibid.*, 24 vi 1996, J. I. Kim & S. Y. Kim; 1 ♂ 2 ♀, *ibid.*, 25 vi 1996, J. I. Kim & S. Y. Kim; 1 ♂ 3 ♀, Mt. Gyebangsan, 21 vii 1981, S. H. Nam; 1 ♀, *ibid.*, 21 vii 1981, C. W. Kim; 1 ♀, *ibid.*, 21 vii 1981, H. Y. Han; 2 ♀, Mt. Sogyebangsan, 22 vii 1981, S. H. Nam; 1 ♀, *ibid.*, 22 vii 1981, C. W. Kim; 1 ♂ 1 ♀, Sangwangbong Mt. Odaesan Nae-myeon Hongcheon, 11 viii 1997, J. I. Kim et al.; 1 ♂ 2 ♀, Jogyedong valley Mt. Odaesan Nae-myeon Hongcheon, 30 vi 1997, J. I. Kim; 1 ♀, *ibid.*, 30 vi 1997, S. Y. Kim; 1 ♂ 1 ♀, *Kangwon National University*, Hyoja 2(i)-dong, Chuncheon, 10 vii

2003, J. G. Lee; 3 ♀, Jinae-ri Dong-myeon Chuncheon, 2-10 vii  
 2005, G. W. F. E. R. I; 1 ♂ 1 ♀, Gwangha-ri Jeongseon-eup  
 Jeongseon, 27 vi 2001, M. A. Kim; 1 ♀, Mt. Hambaeksan  
 Gohan-eup Jeongseon, 14 viii 1999, T. H. Kang; 1 ♂ 3 ♀, Mt.  
 Geombongsan Nogok 3(sam)-ri Wondeok-eup Samcheok, 18 vi  
 2005, T. W. Kim; 2 ♀, Temple Samhwasa Samhwa-dong Donghae,  
 26 vi 1984, M. I. Lee; 2 ♀, *ibid.*, 27 vi 1984, Y. S. Kim; 1 ♀, *ibid.*,  
 27 vi 1984, Y. J. Lim; 1 ♀, *ibid.*, 27 vi 1984, S. H. Jang; 1 ♀, *ibid.*,  
 27 vi 1984, Y. H. Kim; [GG] 2 ♂, Gwanggyo-dong Jangan-gu  
 Suwon, 18 v 1992, K. S. I; 1 ♀, Mt. Cheonggyesan Ha-myeon  
 Gapyeong, 27 vi 1991, J. I. Kim; 1 ♀, Mt. Yongmunsan  
 Yangpyeong, 29 vi 1975, S. H. Park; 1 ♀, Pyeongtak, 1 viii 1985,  
 M. G. Hwang; 1 ♂, Donam-dong Seongbuk-gu Seoul, 30 viii 1996,  
 H. J. Hong; 1 ♀, Seoul, 28 vi 1990, C. W. Lim; [CB] 1 ♀, Goesan,  
 ? ? 1986, Anonymous; 3 ♂ 3 ♀, Ssanggok valley Mt. Soknisan  
 Ssanggok-ri Chilseong-myeon Goesan, 26-27 vi 2002, J. C. Sohn  
 & M. A. Kim; [CN] 1 ♀, Mt. Mansusan Seongju-myeon  
 Boryeong, 12 vi 1999, T. W. Kim & T. M. Han; [GB] 1 ♂,  
 Andong, 18 vii 1986, J. G. Kim; 1 ♂ 2 ♀, *ibid.*, 18 vii 1986, J. S.  
 Park; 1 ♀, *ibid.*, 18 vii 1986, Y. H. Paik; 1 ♀, *ibid.*, 18 vii 1986, J.  
 I. Kim; 1 ♂ 2 ♀, Bukhu-myeon Andong, 19 vi 2002, H. C. Park; 2  
 ♀, *ibid.*, 19 vi 2002, M. A. Kim; 1 ♀, Mungyeongsaejae  
 Mungyeong, 10 vii 1971, S. J. Jeong; 2 ♂, Mt. Eoraesan  
 Namdae-ri Buseok-myeon Yeongju, 30 vi 1998, J. I. Kim et al.; 1  
 ♂ 1 ♀, Temple Huibangsa Mt. Sobaeksan Sucheol-ri Punggi-eup

Yeongju, 23 vii 1974, S. H. Nam; 1 ♂, *ibid.*, 23 vii 1974, J. I. Kim; 2 ♀, *ibid.*, 23 vii 1974, C. W. Kim; 1 ♀, *Yeungnam University Dae-dong Gyeongsan*, 29 vii 1988, S. A. Lee; 1 ♂, Bonghwa, 25 vii 1986, G. S. Jang; 1 ♀, *Daehyeon-ri Seokpo-myeon Bonghwa*, 25 vii 1986, J. I. Kim; 1 ♂, 3(sam) *falls* Mt. Juwangsan Sangui-ri Budong-myeon Cheongsong, 4 vi 1989, H. G. Choi; 1 ♂, Naewondong Mt. Juwangsan Sangui-ri Budong-myeon Cheongsong, 4 vi 1989, P. C. W; 1 ♀, *ibid.*, 5 vi 1989, KKM; 1 ♂, Uljin, 27 vi 1990, J. G. Ahn; 2 ♂ 1 ♀, Mt. Baegamsan Onjeong-myeon Uljin, 20 vi-12 viii 1999, D. S. Gu; 1 ♂, Buryeong valley Uljin, 24 vi 1990, T. J. Yun; 1 ♂, *ibid.*, 24 vi 1990, J. Y. Han; 1 ♀, *ibid.*, 24 vi 1990, G. W. Park; 1 ♀, *ibid.*, 24 vi 1990, J. H. Park; 1 ♀, *ibid.*, 24 vi 1990, H. G. Jeon; 1 ♀, *ibid.*, 24 vi 1990, J. H. Hwang; 2 ♀, *ibid.*, 24 vi 1990, E. G. Choi; 1 ♀, *ibid.*, 24 vi 1990, M. R. Kim; 1 ♂, *ibid.*, 25 vi 1990, M. W. Kim; 1 ♂ 1 ♀, *ibid.*, 25 vi 1990, B. G. Choi; 1 ♀, *ibid.*, 25 vi 1990, M. R. Kim; 4 ♀, *ibid.*, 25 vi 1990, T. J. Yun; 1 ♀, *ibid.*, 25 vi 1990, B. H. Jeon; 1 ♀, *ibid.*, 25 vi 1990, G. A. Kim; 1 ♀, *ibid.*, 25 vi 1990, M. J. Kim; 1 ♀, *ibid.*, 25 vi 1990, H. G. Jeon; 1 ♀, *ibid.*, 25 vi 1990, G. W. Park; 1 ♂, *ibid.*, 26 vi 1990, I. J. Kim; 2 ♂, *ibid.*, 26 vi 1990, B. J. Park; 1 ♂, *ibid.*, 26 vi 1990, M. R. Kim; 1 ♂, *ibid.*, 26 vi 1990, H. G. Jeon; 1 ♂, *ibid.*, 26 vi 1990, E. G. Choi; 1 ♂, *ibid.*, 26 vi 1990, J. T. Kim; 1 ♂, *ibid.*, 26 vi 1990, J. G. Ahn; 1 ♂ 1 ♀, *ibid.*, 26 vi 1990, B. G. Choi; 1 ♂ 1 ♀, *ibid.*, 26 vi 1990, G. H. Jeong; 1 ♂ 1 ♀, *ibid.*, 26 vi 1990, M. W. Kim; 2 ♀, *ibid.*, 26 vi 1990, J. Y. Park; 1 ♀, *ibid.*, 26

vi 1990, S. W. Song; 2 ♀, *ibid.*, 26 vi 1990, B. H. Jeon; 1 ♀, *ibid.*, 26 vi 1990, C. W. Lim; 3 ♀, *ibid.*, 26 vi 1990, H. D. Kim; 1 ♀, *ibid.*, 26 vi 1990, J. I. Lee; 1 ♀, *ibid.*, 26 vi 1990, J. H. Hwang; 1 ♀, *ibid.*, 26 vi 1990, J. H. Park; 1 ♀, *ibid.*, 26 vi 1990, J. G. Ahn; 1 ♀, *ibid.*, 26 vi 1990, C. Lee; 2 ♀, *ibid.*, 26 vi 1990, H. O. Kang; 1 ♀, *ibid.*, 26 vi 1990, S. H. Choi; 1 ♀, *ibid.*, 26 vi 1990, Y. D. Ji; 1 ♂ 1 ♀, *ibid.*, 27 vi ?, S. Jin; 1 ♂, *ibid.*, 27 vi 1990, S. W. Song; 1 ♀, *ibid.*, 27 vi 1990, Y. D. Ji; 1 ♀, *ibid.*, 27 vi 1990, S. D. Kim; [GN] 1 ♂, Icheon-ri Sangbuk-myeon Ulju-gun Ulsan, 26 vi 1989, J. H. Seo; 1 ♂, *ibid.*, 27 vi 1989, G. S. Lee; 1 ♂, Mt. Baegunsan Baekjeon-myeon Hamyang, 5 vii 1990, D. S. Gu; 1 ♀, Sancheong, 12-13 vii 1990, C. H. Lim; 1 ♀, Mt. Jirisan Honggye-ri Samjang-myeon Sancheong, 4 vii 1990, D. S. Gu; 1 ♂, Mt. Misungsan Wolgwang-ri Yaro-myeon Hapcheon, 1 vii 2000, S. H. Paik; 1 ♂ 3 ♀, *ibid.*, 1 vii 2000, J. S. Jeon; 1 ♀, *ibid.*, 1 vii 2000, J. S. Park; 2 ♀, *ibid.*, 1 vii 2000, S. B. Jeong; 2 ♀, *ibid.*, 1 vii 2000, S. S. Ji; 1 ♀, *ibid.*, 1 vii 2000, S. H. Paik; 1 ♀, Temple Haeinsa Mt. Gayasan Chiin-ri Gaya-myeon Hapcheon, 19 vii 1997, J. S. Jeon; 1 ♀, Mt. Gayasan Jukjeon-ri Gaya-myeon Hapcheon, 10 vii 1999, J. H. Seol; 1 ♀, *ibid.*, 10 vii 1999, J. S. Park; 2 ♀, Danjibong Mt. Gayasan Gaya-myeon Hapcheon, 13 vii 1999, J. S. Jeon; [JN] 1 ♀, Neuraengigol Mt. Jjotbisan Dosa-ri Daap-myeon Gwangyang, 3 vi 2001, J. H. Sohn; 2 ♂ 3 ♀, Mt. Jjotbisan Dosa-ri Daap-myeon Gwangyang, 31 v 2003, J. S. Park, T. H. Ahn, J. H. Kim, G. D. Kim; [JJ] 1 ♂, Geumak Bukjeju, 8 viii 1997, D. W. Oh; 2 ♂ 1 ♀,

Eorimok Jeju, 30 vii 1972, J. I. Kim; 1 ♂, *ibid.*, 15 vii 1990, J. G. Yun; 1 ♀, Eoseungsaeng Haean-dong Jeju, 25 vii 2003, T. H. Ahn; 1 ♂, Wanggwanneung Jeju, 1 viii 1972, J. I. Kim; 1 ♂, Yeongsil, 17 vii 1990, H. C. Park; 1 ♀, Witseoreum, 31 vii 1972, J. I. Kim; 5 ♀, Mansedongsan 31 vii 1972, J. I. Kim; 1 ♀, Sajebidongsan, 31 vii 1972, J. I. Kim; 1 ♀, Mt. Hallasan, 3 viii 1955, C. H. Kim; 1 ♀, Hawon-dong Seogwipo, 25 vii 2003, T. H. Ahn.

**Distribution.** Russia (Khabarovsk, Primorye), Korea, Japan (Tsushima).

**Remarks.** According to Švilha(1999b), two Korean subspecies of *Ch. geniculata* can be only distinguished by color characters showed in the above key.

### 3-2. *Chrysanthia geniculata viatica* Lewis, 1895

#### 줄진 하늘소붙이

*Chrysanthia viatica* Lewis, 1895. *Ann. Mag. Natur. Histor.*, 15: 443 (Japan).

**Korean records.** *Chrysanthis* [sic] *viatica*: Chô, 1934: 81; Ju, 1969: 121; *Chrysanthia viatica*: Chô, 1938: 46; Mori and Chô, 1939: 719; Cho, 1957: 228; ZSK, 1968: 113; Kim et al., 1994: 174; Chejudo Folklore and Natural History Museum, 1995: 404; Mizota, 1998: 91; *Chrysanthia* [sic] *viatica*: Lee et al., 1985: 408; Kim and Chang, 1987: 105; Park, 1998: 50; *Chrysanthia geniculata viatica*: Akiyama, 2000: 4.

**Korean names.** 줄진하늘소붙이 (ZSK, 1968), 띠돌드레번티기 (Ju, 1969).

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Russia (Sakhalin, Kuriles), Korea, Japan (Hokkaido, Honshu).

**Remarks.** This subspecies is recorded for the first time in Korea by Chô (1934). But I was unable to examine any Korean specimen. This subspecies had been recorded as two separate species (*Chrysanthia viatica*, *Chrysanthia integricollis*) with *Ch. g. integricollis*. But according to Švihla(1999b), he dealt with two species as subspecies level under *Chrysanthia geniculata*. However, the specimen of the Korean *Chrysanthia* was unable to clearly distinguish by color characters he suggested. So I think that the Korean *Chrysanthia* needs to reexamine after accumulation of further specimens from diverse regions such as Japan, Russia, etc..

### Tribe Nacerdini Mulsant, 1858

Nacerdates Mulsant, 1858. *Hist. Nat. Col. France, Angustipennes*: 40.

**Diagnosis.** Antennae 12-segmented in males, 11-segmented in females. Protibiae with one terminal spur. Both tegmen and aedeagus without basal apodemes. Parameres reduced.

Spermatheca attached apically to bursa copulatrix. Two Korean genera: *Nacerdes* and *Anogcodes*.

### Key to the Korean genera of tribe Nacerdini

1. Elytra with three costae, third (humeral) obsolete .....  
..... *Nacerdes*
- Elytra with four costae, but the third can be very faint ...  
..... *Anogcodes*

### Genus *Nacerdes* Dejean, 1834

*Nacerdes* Dejean, 1834. *Cat. Col.*, ed. 2, (3): 228.

Type species: *Necydalis notata* Fabricius, 1755

**Remarks.** This genus includes five genera (subgenera *Nacerdes* s. str., *Allagatha*, *Axanthochroa*, *Xanthochroa*, *Patiala*). The Korean species belongs to the subgenera *Nacerdes*, *Xanthochroa* and *Patiala*. The subgenus *Patiala* is recorded for the first time in Korea.

### Key to the Korean subgenera of genus *Nacerdes*

1. Distance between eyes wider than distance between antennal pits ..... subg. *Nacerdes*
- Distance between eyes narrower than distance between antennal pits ..... 2

2. Apex of protibiae and antennal segments normal .....  
 ..... subg. *Xanthochroa*  
 - Apex of protibiae hook-shaped. Antennal segments irregularly  
 developed ..... subg. *Patiala*

4. *Nacerdes* (s. str.) *melanura* (Linnaeus, 1758)

끝검은하늘소붙이

[Plate I . 4, II . 10-11]

*Cantharis melanura* Linnaeus, 1758. *Syst. Nat.*, ed. 10, 1: 403.

**Korean records.** *Nacerda melanura*: Kôno, 1932: 143; Kusanagi, 1936: 311-312; Mochizuki and Tsunekawa, 1937: 82-83; Chô, 1938: 45; Mochizuki and Masui, 1939: 63; Mori and Chô, 1939: 719; Ishii, 1941: 9; Cho, 1957: 228; ZSK, 1968: 113; Cho, 1969: 320-321; Kim and Nam, 1982: 29-30; *Anoncodes melanura*: Walker, 1936: 43; *Necerda* [sic] *malanura* [sic]: Ishii, 1940: 49; Keityu Science group, 1941: 25; *Nacerdes melanura*: Ju, 1969: 122; Kim et al., 1994: 174; Nikitsky, 1996: 13; *Nacerdes* (s. str.) *melanura*: Švihla and Merkl, 1992: 101; Mizota, 1998: 90; Akiyama, 2000: 7-8.

**Korean names.** 끝검은하늘소붙이 (ZSK, 1968), 암검은류리돌드레변티기 (Ju, 1969).

**Description.**

Coloration. Head, antennae, prothorax and elytra honey yellow to terra-cotta. Head, both lateral part of pronotum, tibiae partly sienna. Meso- and metasternum, apex of elytra, femora sepia.

Male. Length: 8.8-12.0mm. Body elongate. Head short to remarkably short (HW/HL: 1.4-1.6), as wide as pronotum (HW/PW: 1.0). Distance between eyes slightly wider than antennal pits (FWE/FWA: 1.3-1.5). Interocular area slightly narrow to slightly wide (FWE/EYW: 0.9-1.3). Eyes small, very slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 12-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.9-1.0), without lateral margin. Prosternal process sharp. Elytra short to elongate (EL/EW: 2.6-3.1), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus with apical teeth in dorsal and lateral view.

Female. Length: 10.3-14.6mm. Eyes smaller, interocular distance wider (FWE/EYW: 1.1-1.6). Antennae 11-segmented.

**Specimens examined.** [GG] 1 ♀, Mt. Cheonmasan Namyangju, 17 vi 1978, Anonymous; 1 ♀, Mt. Wangbangsan Pocheon, 15 vi 1975, S. S. Koh; 1 ♀, Mt. Bukhansan Dobong-gu Seoul, 20 v 1984, Y. L. Lee; [CB] 1 ♀, Goesan, 31 v 1986, Y. H. Lee; 1 ♀, Mt. Sobaeksan Danyang, 25 v 1996, E. S. Park; [GB] 1 ♂, Yeungnam University Dae-dong Gyeongsan, 20 vi 1987, J. H. Kim; 1 ♂, *ibid.*, 19 vi 1993, J. K. Min; 1 ♂, *ibid.*, 27 v 1995, S. H. Yoon; 1 ♂, *ibid.*, 29 v 1998, M. J. Kang; 1 ♂, *ibid.*, 22 v 1999, J. Y. Choi; 1 ♀, *ibid.*, 8 v 1986, M. C. No; 1 ♀, *ibid.*, 5 vi 1991, H. G. Kim; 1 ♀, *ibid.*, 8

vi 1992, U. K. Lee; 1 ♀, *ibid.*, 13 vi 1994, H. D. Yeu; 1 ♀, *ibid.*, 29 v 1995, N. Y. Yun; 1 ♀, *ibid.*, 3 vi 1995, S. S. Yoo; 1 ♀, *ibid.*, 14 vi 1995, H. J. Bang; 1 ♀, *ibid.*, 16 vi 1995, J. H. Kim; 1 ♀, *ibid.*, 16 vi. 1995, J. M. Cho; 1 ♀, *ibid.*, 20 vi 1995, J. H. Song; 1 ♀, *ibid.*, 24 vi 1995, H. J. Choi; 1 ♀, *ibid.*, 8 vi 1998, J. S. Lim; 1 ♀, *ibid.*, 31 v 2000, S. Y. Cho; 1 ♀, *ibid.*, 1 vi 2000, H. J. Kim; 1 ♀, Temple Jikjisa Mt. Hwanghaksan Unsu-ri Daehang-myeon Gimcheon, 4 vi 1978, S. J. Kang; 1 ♀, Mt. Daedeoksan Nam-gu Daegu, 28 v 1984, M. S. Yang; 1 ♂, Mt. Apsan Nam-gu Daegu, 19 vi 1992, Y. M. Kim; 1 ♀, Mt. Duryusan Dalseo-gu Daegu, 12 v 2001, J. S. Park; 1 ♀, Sincheon-dong Dong-gu Daegu, 26 v 1987, H. Y. Jeon; 1 ♀, Mt. Palgongsan Dong-gu Daegu, 18 v 1997, S. A. Choi; 2 ♀, Naedang-dong Seo-gu Daegu, 7 vi 1991, Y. J. Park; 1 ♂, Namsan-dong Jung-gu Daegu, 30 v 1986, H. S. Lee; 1 ♀, Mt. Gayasan Singye-ri Gacheon-myeon Seongju, 29 v 1994, K. J. Chang; 1 ♂, Mt. Juwangsan Budong-myeon Cheongsong, 25 v 1989, H. R. Kim; 1 ♀, Mt. Sotaesan Pohang, 27 v 1995, J. C. Jeong; [GN] 1 ♂, Mt. Jeyaksan Danjang-myeon Miryang, 5 v 1992, G. G. Kwon; 1 ♂, *ibid.*, 14 v 2000, H. J. Hyun; 1 ♀, Temple Pyochungsa Mt. Jeyaksan Danjang-myeon Miryang, 7 VI 1995, S. W. Lee; 1 ♀, Mt. Gajisan Sannae-myeon Miryang, 25 V 2001, S. O. Kang.

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Remarks.** The species that had been reported a number of the

foreign examples of damage in the past has only economic importance in the family. But no example of damage had been reported in Korea, in addition to, specimen is uncommon.

**Distribution.** Cosmopolitan, Korea (GG, CB, GB, GN).

#### Subgenus *Xanthochroa* W. Schmidt, 1844

*Xanthochroa* W. Schmidt, 1844. *Cat. Col. Eur.*: 46.

*Patialomorpha* Nakane, 1954. *Sci. Rep. Saikyo Univ. (Nat. Sci.)*, 1: 174.

#### 5. *Nacerdes (Xanthochroa) atriceps* (Lewis, 1895)

##### 노랑가슴하늘소붙이 [Plate I . 5, II . 12-13]

*Xanthochroa atriceps* Lewis, 1895. *Ann. Mag. Natur. Histor.*, 15: 436 (Japan).

**Korean records.** *Xanthochroa atriceps*: Chô, 1934: 81; Mochizuki and Tsunekawa, 1937: 83; Chô, 1938: 43-44; Nagaoka, 1938: 25; Mori and Chô, 1939: 718; Ishii, 1940: 49; Mori and Chô, 1940: 9; Cho, 1947: 69; Cho, 1957: 227; ZSK, 1968: 113; Ju, 1969: 122; Kim and Kim, 1972: 79; Kim et al., 1994: 174; Park, 1998: 51; *Nacerdes (Xanthochroa) atriceps*: Mizota, 1998: 90; Mizota, 1999b: 444; Akiyama, 2000: 9.

**Korean names.** 목도리긴어리하늘소(Cho, 1947), 노랑가슴하늘소붙이(ZSK, 1968), 노란목파란돌드레번티기(Ju, 1969).

**Description.**

Coloration. Head and elytra sepia with dark slate blue tinge or luster. Maxillary palpi and labial palpi orange to rusty. Prothorax orange. Mandibles, antennae, scutellum, meso- and metasternum, abdomen and legs rusty to sienna.

Male. Length: 9.5–10.1mm. Body elongate, subparallel. Head slightly elongate (HW/HL: 1.2–1.3), slightly to moderately wider than pronotum (HW/PW: 1.2–1.3). Distance between eyes as wide as or slightly narrower than antennal pits (FWE/FWA: 0.8–1.0). Interocular area remarkably narrow (FWE/EYW: 0.4–0.5). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 12-segmented. Pronotum cordiform, longer than wide (PL/PW: 1.1–1.2), without lateral margin. Prosternal process sharp. Elytra very elongate (EL/EW: 3.5–3.8), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus with apical teeth in lateral view.

Female. Length: 9.6mm. Eyes smaller, interocular distance wider (FWE/EYW: 0.6). Antennae 11-segmented.

**Specimens examined.** [GW] 1 ♂, Mt. Seoraksan Buk-myeon Inje, 26 vi 2005, T. W. Kim & T. H. Kang; 1 ♂, Mt. Gombaeryeong Girin-myeon Inje, 30 vii 2003, H. Y. Oh; 1 ♀, Seolpimaetul Girin-myeon Inje, 31 vii 2003, H. Y. Oh.

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Russia (Kuriles, Sakhalin), Korea (GW), Japan (Hokkaido, Honshu, Shikoku, Kyushu).

6. *Nacerderdes (Xanthochroa) hilleri hilleri* (Harold, 1878)

큰노랑하늘소붙이 [Plate I . 6, II . 14-15]

*Xanthochroa hilleri* Harold, 1878. *Deutsche Ent. Zeitschr.*, 22: 81.

**Korean records.** *Xanthochroa hilleri*: Kim et al., 1994: 174; Kim and Kim, 1998: 172; Kim, 2000: 143; *Nacerderdes (Xanthochroa) hilleri hilleri*: Mizota, 1998: 90; Akiyama, 2000: 13-14.

**Korean name.** 큰노랑하늘소붙이 (Kim et al., 1994).

**Description.**

Coloration. Body orange or egg-yolk yellow. Basal part of antennae sepia, femora and tibiae partly sepia.

Male. Length: 12.7-14.8mm. Body elongate, subparallel. Head slightly elongate (HW/HL: 1.1-1.2), slightly wider than pronotum (HW/PW: 1.1-1.2). Distance between eyes slightly to remarkably narrower than antennal pits (FWE/FWA: 0.6-0.9). Interocular area remarkably narrow (FWE/EYW: 0.3-0.4). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 12-segmented. Pronotum cordiform, as long as or longer than wide (PL/PW: 1.0-1.1), without lateral margin. Prosternal process sharp. Elytra elongate to very elongate (EL/EW: 3.2-3.5), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple.

Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus with apical teeth in dorsal view.

Female. Length: 12.4-16.8mm. Eyes smaller, interocular distance wider (FWE/EYW: 0.4-0.7). Antennae 11-segmented.

**Specimens examined.** [GG] 1 ♀, Mt. Cheonggyesan Ha-myeon Gapyeong, 18 vii 1991, S. W. Gwon; 1 ♀, Mt. Chungnyeongsan Sudong-myeon Namyangju, 10 viii 1999, Kim et al.; 1 ♂, Gwangneung Bupyeong-ri Jinjeop-eup Namyangju, 10 vi 1973, S. B. Lee; 1 ♀, Mt. Cheonmasan Namyangju, 15 vii 1968, K. H. Ahn; 1 ♂, Gwanggyo-dong Jangan-gu Suwon, 21 vi 1989, S. J. Song; 1 ♀, Pocheon, 27 vii 1985, K. J. Seong; 1 ♂, Eumhyun-ri Naechon-myeon Pocheon, 27 vi 1991, L. J. H; 1 ♀, Mt. Dobongsan Dobong-gu Seoul, 19 vii 1994, S. H. Kim; [CN] 1 ♂ 1 ♀, Mt. Mansusan Seongju-myeon Boryeong, 12 vi 1999, T. W. Kim & T. M. Han; [GB] 1 ♂, Buryeong valley Uljin, 24 vi 1990, I. J. Kim; 1 ♀, Sogwang-ri Seo-myeon Uljin, 1 viii 1999, J. I. Kim et al.; 1 ♂, Mt. Jeongjoksan Eunhyun-ri Wungchon-myeon Ulju-gun Ulsan, 6-7 vii 2000, J. H. Seol; [GN] 1 ♀, Temple Baekyeonsa Samyang-ri Sannae-myeon Miryang, 18-19 vii 1990, Sim; 1 ♀, Temple Haeinsa Chiin-ri Gaya-myeon Hapcheon, 7-8 viii 1997, J. S. Jeon; [JB] 1 ♂, Ssangam-dong Jeongeup, 19 vii 2005, J. G. Han; [JN] 1 ♀, Piagol valley Toji-myeon Gurye, 22 vii 1973, Anonymous; 3 ♂, ibid., 16-17 vii 1976, Anonymous.

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Korea (GG, CN, GB, GN, JB, JN), Japan (Honshu, Shikoku, Kyushu, Tsushima).

### 7. *Nacerdes (Xanthochroa) katoi* (Kôno, 1932)

#### 넓적꼬리하늘소붙이 [Plate I . 7]

*Xanthochroa katoi* Kôno, 1932. *Insecta Matsumurana*, 6(3): 140.

**Korean records.** *Xanthochroa* [sic] *katoi*: Kim et al., 1974: 222; *Xanthochroa katoi*: Kim et al., 1994: 174; Park, 1998: 51; *Nacerdes (Xanthochroa) katoi*: Mizota, 1998: 90; Akiyama, 2000: 10.

**Korean names.** 넓적꼬리청색하늘소붙이 (Kim et al., 1974), 넓적꼬리하늘소붙이 (Kim et al., 1994).

#### **Description.**

**Coloration.** Head, mouthparts, prothorax, meso- and metasternum, scutellum and legs rusty, antennae darker. *Elytra* greenish grey.

**Male.** Length: 12.1mm. Body elongate, subparallel. Head slightly elongate (HW/HL: 1.2), moderately wider than pronotum (HW/PW: 1.3). Distance between eyes slightly narrower than antennal pits (FWE/FWA: 0.7). Interocular area remarkably narrow (FWE/EYW: 0.4). *Eyes* large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 12-segmented. Pronotum cordiform, longer than wide (PL/PW: 1.1), without lateral margin. Prosternal process sharp. *Elytra* very elongate (EL/EW: 3.8), subparallel.

Protibiae with single terminal spur. Metafemora not expand. Claws simple.

Female. Length: 12.6mm. Head across eyes narrower (HW/PW: 1.1). Eyes smaller, interocular distance wider (FWE/EYW: 0.6). Antennae 11-segmented.

**Additional specimens examined.** 1 ♂ 1 ♀, Futagoyama Zushi-City Kanagawa Pref., 13 vi 1988, H. Akiyama.

**Distribution.** Korean, Japan (Honshu, Shikoku, Kyushu).

**Remarks.** This species was recorded for the first time in Korea by Kim et al. (1974). But I was unable to examine any Korean specimen. I think that the past records has some possibilities to be misidentify by confusion with morphologically similar species, *Nacerdes (Xanthochroa) waterhousei* (Harold). However, this species is survived in the Korean list due to great possibilities to discover in Korea as further research. The description based on the Japanese specimens.

#### 8. *Nacerdes (Xanthochroa) luteipennis* (Marseul, 1876)

노랑하늘소붙이 [Plate I . 8, II . 16-17]

*Xanthochroa luteipennis* Marseul, 1876. *Ann. Soc. Ent. France*, 6: 484.

**Korean records.** *Xanthochroa luteipennis*: Okamoto, 1924: 185; Chô, 1934: 81; Mochizuki and Tsunekawa, 1937: 83; Chô, 1938: 44; Mochizuki and Masui, 1939: 63-64; Mori and Chô, 1939: 718; Mori

and Chô, 1940: 9; Cho, 1947: 69; Cho, 1957: 227-228; Cho, 1963: 208; ZSK, 1968: 113; Cho, 1969: 322-323; Ju, 1969: 122; Seok, 1970: 63-64; Kim et al., 1971: 54; Kim, 1981: 343; Lee and Kwon, 1981: 155; Kim and Nam, 1982: 30; Lee et al., 1985: 408-409; Yoon and Nam, 1985: 159; Kim and Chang, 1987: 105; Kyushu Univ. and JWRC, 1989: 410; Kim and Lee, 1991: 70; Kim et al., 1991: 180; Park and Kim, 1993: 116; Kim et al., 1994: 174; Kim et al., 1994: 112; Kim, 1995a: 141; Kim, 1995b: 175; Chejudo Folklore and Natural History Museum, 1995: 404; Kwon et al., 1996: 479; Kim and Kim, 1996: 129; Kim et al., 1996: 60; Kim and Kim, 1998: 172; Miyatake, 1998: 403; Park, 1998: 51; *Xanthochroa luteipennis* [sic]: Yoshino, 1935: 15; *Xanthochroal* [sic] *luteipennis*: Keityu Science group, 1941: 25; *Xanthochroa (Xanthochroa) luteipennis*: Nikitsky, 1996: 15; *Nacerdes (Xanthochroa) luteipennis*: Švihla and Merkl, 1992: 102; Švihla, 1997: 84; Mizota, 1998: 90; Akiyama, 2000: 14-15.

**Korean names.** 노란긴어리하늘소(Cho, 1947), 노란날개어리하늘소(Cho, 1963), 노랑하늘소붙이(ZSK, 1968), 돌드레번티기(Ju, 1969), 머리하늘소(Seok, 1970), 노랑하늘소부치(Kim and Lee, 1991).

**Description.**

Coloration. Head, mouthparts and antennae black. Prothorax, meso- and metasternum, abdomen and legs honey yellow to black. Elytra honey yellow to terra-cotta.

Male. Length: 9.4-12.1mm. Body elongate, subparallel. Head slightly elongate to short (HW/HL: 1.2-1.5), as wide as or slightly

wider than pronotum (HW/PW: 1.0–1.1). Distance between eyes slightly narrower than antennal pits (FWE/FWA: 0.7–0.9). Interocular area remarkably narrow (FWE/EYW: 0.4–0.5). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 12-segmented. Pronotum cordiform, usually wider than long (PL/PW: 0.9–1.1), without lateral margin. Prosternal process sharp. Elytra moderate to elongate (EL/EW: 2.8–3.1), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus with apical teeth in dorsal and lateral view.

Female. Length: 9.7–13.9mm. Eyes relatively smaller, interocular distance wider (FWE/EYW: 0.5–0.6). Antennae 11-segmented.

**Specimens examined.** [PB] 1 ♂, Mt. Cheonmasan Cheonma-gun, 5–19 vi 2006, Jingke Li; [GW] 2 ♀, Mt. Odaesan, 20 vii 1981, C. H. Kim; 1 ♀, *ibid.*, 16 viii 1990, M. S. Lee; 1 ♀, Daemyeong condo Toseong-myeon Goseong, 14–15 vii 2002, S. Y. Kim; 1 ♀, Biseondae Mt. Seoraksan Seorak-dong Sokcho, 23 vi 2002, A. Y. Kim; 1 ♀, Gachilbong Girin-myeon Inje, 23 vii 1981, C. W. Kim; 1 ♀, Jogyeongdong valley Girin-myeon Inje, 24–26 vii 2000, S. Y. Kim & A. Y. Kim; 3 ♀, Mt. Bangtaesan Bangdong-ri Girin-myeon Inje, 15 viii 1995, J. I. Kim; 1 ♀, Mt. Bangtaesan Sangnam-ri Sangnam-myeon Inje, 23 vi 1996, J. I. Kim; 1 ♀, Hwacheondong Imgye-myeon Jeongseon, 21 v 2002, J. C. Sohn; 1 ♂, Gangchon-ri

Namsan-myeon Chuncheon, 18 vi 1983, S. H. Park; 3 ♀, Sodo-dong Taebaek, 23 vii 1986, G. S. Chang; 3 ♀, Sambongyaksu Nae-myeon Hongcheon, 10 viii 1997, J. I. Kim et al.; 1 ♀, *ibid.*, 11 viii 1997, J. I. Kim et al.; 1 ♀, Mt. Sogyebangsan Nae-myeon Hongcheon, 22 vii 1981, S. H. Nam; **[GG]** 1 ♀, Mt. Manisan Hwado-myeon Ganghwa-gun Incheon, 17 viii 1996, P. S. Kim; 1 ♀, Mt. Munhaksan Munhak-dong Nam-gu Incheon, 5 vi 2003, Y. J. Lee; 1 ♀, Mt. Dobongsan, 8 vi 1996, J. S. Lee; 1 ♀, Cheongpyeong-myeon, Gapyeong, 18 vi 1983, S. H. Park; 1 ♀, Mt. Cheonggyesan Munwon-dong Gwacheon, 14 vii 1996, J. E. Yoo; 1 ♀, Taesan *park* Haseong-myeon Gimpo, 11 vi 2005, B. A. Yun; 1 ♀, Gwangneung Jinjeop-eup Namyangju, 13 vii 1981, J. E. Lee; 1 ♂, Mt. Cheonmasan Namyangju, 18 vi 1961, J. H. Chang(?); 1 ♀, *ibid.*, 25 vi 1996, M. T. Kim; 1 ♀, Mt. Cheonmasan Pyeongnae-dong Namyangju, 2 vi 1984, S. S. Lee; 1 ♂, Seodun-dong Gwonseon-gu Suwon, 4 vi 2001, T. W. Kim; 1 ♂, *ibid.*, 7 v 2002, J. C. Sohn; 1 ♀, Bisan-dong Dongan-gu Anyang, 6 vi 1992, H. J. Kim; 1 ♀, Wanggok-dong Uiwang, 6 v 1996, E. Y. Kim; 1 ♀, Temple Bogwangsa Yeongjang-ri Gwangtan-myeon Paju, 18 vii 1998, T. W. Kim; 1 ♀, Yeongpyeong-ri Yeongjung-myeon Pocheon, 20 vii 1996, J. I. Kim et al.; 1 ♀, Mt. Baegunsan Idong-myeon Pocheon, 10 v 1997, H. G. Hong; 1 ♀, Mt. Chilbosan Maesong-myeon Hwaseong, 7 vii 1995, E. J. Lee; 1 ♂, Yeoksam-dong Gangnam-gu Seoul, 11 vi 1999, J. H. Lee; 1 ♀, Mt. Daemosan Irwon-dong Gangnam-gu Seoul, 1 vi 1996, H. S.

Kim; 3 ♀, Mt. Ahasan Gwangjin-gu Seoul, 26 vi 1998, T. M. Han & T. H. Kang; 1 ♀, Mt. Suraksan Nowon-gu Seoul, 20 vii 1977, S. Y. Nam; 1 ♀, *ibid.*, 10 vi 1986, Y. G. Hwang; 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 26 v 2003, S. H. Choi; 1 ♂, Seongbuk-gu Seoul, 24 vi 1997, Y. G. Lim; 1 ♀, Donam-dong Seongbuk-gu Seoul, 19 vi 1996, S. R. Kim; 1 ♂, Dongseon-dong Seongbuk-gu Seoul, 27 v 1996, G. H. Cho; 1 ♀, Anam-dong Seongbuk-gu Seoul, 13 vi ?, S. G. Lee; 1 ♂, Bulgwang-dong Eunpyeong-gu Seoul, 19 v 1998, J. H. Kang; 1 ♀, Mt. Bukhansan Bulgwang-dong Eunpyeong-gu Seoul, 24 v 1998, T. W. Kim; [CB] 1 ♀, Mt. Songnisan, 23 vi 1989, Dept. of Biology; [CN] 1 ♀, Mt. Gyeryongsan Gongju, 10 vii 1995, H. Lee; 1 ♀, Mt. Mansusan Oesan-myeon Buyeo, 19 vii 1999, J. I. Kim et al.), 1 ♀, Hyudae-ri Baebang-myeon Asan, 25. vii 1992, H. J. Kim; 1 ♀, Mt. Gwangdeoksan Gwangdeok-myeon Cheonan, 16-18 vi 1994, S. Y. Kim; 1 ♀, Baramarae *beach* Gonam-myeon Taean, 10 vii 2005, T. W. Kim et al.; [GB] 1 ♀, Mt. Sinbulsan Sangbuk-myeon Ulju-gun Ulsan, 21 vi 2003, J. Y. Jeon & A. Y. Kim; 1 ♀, Is. Ulleungdo Ulleung, 1. viii 1981, J. S. Park; [GN] 1 ♂ 1 ♀, Jinju, 29 vi 1984, T. S. Oh; 1 ♀, Gajwa-dong Jinju, 2 vii 1996, H. J. Jeong; 1 ♀, Hachon-ri Daepyeong-myeon Jinju, 3-4 vii 1992, J. S. Park; 1 ♂, Mt. Bibongsan Sangbongseo-dong Jinju, 13 vii 1984, T. S. Oh; 1 ♀, Balsan-ri Ibanseong-myeon Jinju, 18-19 vi 1999, J. S. Park; 1 ♀, Temple Maesa Mt. Bangeosan Harim-ri Gunbuk-myeon Haman, 12-13 vi 1999, G. H. Kang; 1 ♀, Cheonjebong Ugeo-ri

Beopsu-myeon Haman, 19-20 vi 1999, S. H. Kang; 2 ♀, *ibid.*, 19-20 vi 1999, J. S. Jeon; 1 ♀, *ibid.*, 19-20 vi 1999, D. H. Jeong; 1 ♂, Hansin *valley* Mt. Jirisan Macheon-myeon Hamyang, 7 vi 2002, S. Y. Kim et al.; [JB] 1 ♂ 1 ♀, Baemsagol *valley* Waun-ri Sannae-myeon Namwon, 24 vi 1986, Anonymous; 1 ♀, Byeonsan peninsula Buan, 24 vi 1991, S. J. Yun; 1 ♀, *ibid.*, 25 vi 1991, H. J. Gu; 1 ♀, Gunmakdong Byeonsan-myeon Buan, 17 vii 1998, C. H. Lee; 1 ♂ 2 ♀, Byeonsan *beach* Byeonsan-myeon Buan, 9 vii 1998, S. M. RYU; 1 ♂, Mt. Naejangsan Jeongeup, 4 vii 1985, D. J. Jeon; [JN] 1 ♀, Mt. Baegunsan Donggok-ri Ongnyong-myeon Gwangyang, 21-22 vii 1999, G. R. Han; 1 ♀, *ibid.*, 21-22 vii 1999, J. S. Park; 1 ♀, Temple Hwaeomsa Masan-myeon Gurye, 22 vi 1987, H. G. Lee; 1 ♂, Temple Beomhyesa Sanghwangbong Samdu-ri Gunoe-myeon Wando, 15 vii 2003, T. W. Kim; 2 ♀, Mt. Duryunsan Samsan-myeon Haenam, 23 vi 1993, B. J. E.; 1 ♀, *ibid.*, 23 vi 1993, P. K. Y.; 1 ♀, *ibid.*, 23 vi 1993, P. C. B.; 1 ♀, *ibid.*, 23 vi 1993, J. S. H.; 1 ♀, *ibid.*, 22 vi 1993, K. I. H.; 1 ♀, *ibid.*, 6(?) ? 1993, MCK; 1 ♀, *ibid.*, 23 vi 1993, G. B. Kim.

**Distribution.** Russia (Kuriles, Sakhalin), Korea (GW, GG, CB, CN, GB, GN, JB, JN), Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yakushima I.).

### 9. *Nacertes (Xanthochroa) strandi* (Kôno, 1936)

회갈색하늘소붙이 [Plate I . 9]

*Xanthochroa strandi* Kôno, 1936. *Festschr. 60. Geburt. Prof. Dr.*

*E. Strand*: 518.

**Korean records.** *Xanthochroa strandi*: Kim and Kim, 1971: 157; Kim et al., 1994: 174; Kim and Kim, 1998: 172; Park, 1998: 51; *Nacerdes (Xanthochroa) strandi*: Mizota, 1998: 91; Akiyama, 2000: 18.

**Korean name.** 회갈색하늘소붙이 (Kim et al., 1994).

**Description.**

Coloration. Body entirely chestnut, antennae darker basally.

Male. Length: 13.8mm. Body elongate, subparallel. Head slightly elongate (HW/HL: 1.2), slightly wider than pronotum (HW/PW: 1.2). Distance between eyes slightly narrower than antennal pits (FWE/FWA: 0.7). Interocular area remarkably narrow (FWE/EYW: 0.3). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 12-segmented. Pronotum cordiform, longer than wide (PL/PW: 1.1), without lateral margin. Prosternal process sharp. Elytra elongate (EL/EW: 3.3), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple.

**Additional specimens examined.** 1 ♂, Mt. Mikasayama Ootaki-mura Kiso-gun Nagano Pref. Japan, 29 vii 1984, H. Akiyama.

**Distribution.** Korea, Japan (Hokkaido, Honshu, Shikoku).

**Remarks.** This species was recorded for the first time in Korea by Kim and Kim (1971). But I was unable to examine any

Korean specimen. However, this species is survived in the Korean list due to great possibilities to discover in Korea as further research. The description based on the Japanese specimens.

10. *Nacerdes (Xanthochroa) waterhousei* (Harold, 1875)

청색하늘소불이 [Plate I . 10, II . 18-19]

*Xanthochroa waterhousei* Harold, 1875. *Col. Hefte*, 14: 93.

**Korean records.** *Xanthochroa waterhousei*: Kolbe, 1886: 211-212; Schenkling, 1915: 10; Okamoto, 1924: 186; Kôno, 1932: 139; Wu, 1936: 406; Chô, 1938: 44; Gressitt, 1939: 227; Ishii, 1941: 9; Cho, 1947: 69; Cho, 1963: 208; Cho, 1969: 322; Ju, 1969: 122; Seok, 1970: 64; Kim and Kim, 1972: 79; Kim and Nam, 1982: 30; Kyushu Univ. and JWRC, 1989: 411; Kim and Lee, 1991: 70; Park and Kim, 116; Kim et al., 1994: 174; Kim and Lee and Kim, 1994: 148; Kim, 1995b: 175; Chejudo Folklore and Natural History Museum, 1995: 404; Kim and Kim, 1996: 129; Kim et al., 1998: 248; Miyatake, 1998: 402; Park, 1998: 51; Kim, 2000: 143; *Xanthochroa waterhousei* [sic]: Mochizuki and Tsunekawa, 1937: 83; Mochizuki and Masui, 1939: 63; Keityu Science group, 1941: 25; *Xanthochroa waerhousei* [sic]: Cho, 1957: 228; ZSK, 1968: 113; *Xathochroa* [sic] *waterhousei*: Kim et al., 1974: 222; *Xanthochroa waterhouse* [sic]: Lee et al., 1985: 409; *Xanthochroa (Xanthochroa) waterhousei*: Nikitsky, 1996: 15; *Nacerdes (Xanthochroa) waterhousei*: Mizota, 1998: 90; Akiyama, 2000: 12-13, Mizota, 2001: 187.

**Korean names.** 긴어리하늘소(Cho, 1947), 풀색어리하늘소(Cho, 1963), 청색하늘소붙이(ZSK, 1968), 파란돌드레번티기(Ju, 1969), 긴머리하늘소(Seok, 1970), 청색하늘소부치(Kim and Lee, 1991).

**Description.**

Coloration. Head, mouthparts, antennae, thorax, abdomen and legs saffron yellow to terra-cotta; antennae, tibiae and tarsi partly or entirely chestnut. *Elytra* bluish greenish grey or greenish bluish grey.

Male. Length: 10.0-14.0mm. Body elongate. Head slightly elongate to short (HW/HL: 1.2-1.4), slightly to moderately wider than pronotum (HW/PW: 1.2-1.3). Distance between eyes slightly to remarkably narrower than antennal pits (FWE/FWA: 0.6-0.9). Interocular area remarkably narrow (FWE/EYW: 0.3-0.5). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 12-segmented. Pronotum cordiform, as long as or longer than wide (PL/PW: 1.0-1.1), without lateral margin. Prosternal process sharp. *Elytra* elongate to very elongate (EL/EW: 3.2-3.5), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus with apical teeth in dorsal and lateral view.

Female. Length: 11.2-15.7mm. Eyes smaller, interocular distance wider (FWE/EYW: 0.5-0.6). Antennae 11-segmented.

**Specimens examined.** [GW] 2♀, Micheongol Seo-myeon

Yangyang, 14 viii 2004, H. Y. Oh; 1 ♀, Mt. Odaesan, 20 vii 1981, S. H. Nam; 2 ♀, Jogyeongdong *valley* Mt. Bangtaesan Girin-myeon Inje, 16-17 viii 1995, J. I. Kim; 1 ♀, Mt. Bangtaesan Sangnam-ri Sangnam-myeon Inje, 23 vi 1996, J. I. Kim; 4 ♂ 1 ♀, Imgye *bridge* Songgye-ri Imgye-myeon Jeongseon, 26 vi 2001, H. A. Lee; 9 ♀, Byeoktangyo Yongtan-ri Jeongseon-eup Jeongseon, 27 vi 2001, H. A. Lee; 1 ♂, Hwacheon, 6 vi 1967, J. I. Kim; [GG] 1 ♂, Mt. Myeongjisan Gapyeong, 29 v 1993, S. H. Jeong; 1 ♀, Mt. Cheonmasan Namyangju, 5 vi 1961, H. C. Jeong; 1 ♀, *ibid.*, 18 vi 1961, J. S. Lee; 1 ♀, *ibid.*, 18 vi 1961, Han(?); 1 ♀, *ibid.*, 26 v 1962, B. K. Han; 1 ♀, Ttukseom Seoul, 27 vi 1960, H. R. Lee; 1 ♀, Seoul, ? ? 1961, Anonymous; [CB] 1 ♀, Mt. Sobaeksan Danyang, 13 viii 1992, J. H. Kang; 1 ♀, Mt. Geumsusan Jecheon, 18-19 vii 1996, J. S. Park; [CN] 2 ♂, Mt. Mansusan Seongju-myeon Boryeong, 12 vi 1999, T. W. Kim & T. M. Han; 1 ♀, Mt. Mansusan Oesan-myeon Buyeo, 19 vii 1999, J. I. Kim et al.; [GB] 1 ♀, Sogwang-ri Seo-myeon Uljin, 31 vii-1 viii 1999, J. I. Kim et al.; 1 ♂, Buryeong *valley* Uljin-eup Uljin, 25 vi 1990, Y. R. Kang; 1 ♀, *ibid.*, 24 vi 1990, J. H. Hwang; [GN] 1 ♀, Upo Changnyeong, 28 v 2003, M. G. Ahn.

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Korea (GW, GG, CB, CN, GB, GN), Japan (Hokkaido, Honshu, Shikoku, Kyushu).

**Subgenus *Patiala* Lewis, 1895**

*Patiala* Lewis, 1895. *Ann. Mag. Nat. Hist.*, 15: 434.

**11. *Nacerdes* (*Patiala*) sp.**

**[Plate I . 11, II . 20-21]**

**Description.**

Coloration. Body mostly honey yellow; body partly sienna to sepia tinge; ventral part of body sepia; antennae excluding apical part sepia. apex of femora, tibiae chestnut to sepia.

Male. Length: 11.3mm. Body elongate. Head slightly elongate (HW/HL: 1.1), slightly wider than pronotum (HW/PW: 1.2). Distance between eyes remarkably narrower than antennal pits (FWE/FWA: 0.5). Interocular area remarkably narrow (FWE/EYW: 0.3). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 12-segmented. Pronotum cordiform, longer than wide (PL/PW: 1.1), without lateral margin. Prosternal process sharp. Elytra very elongate (EL/EW: 3.6), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex of aedeagus without apical teeth.

Female. Length: 13.3-14.9mm. Eyes smaller, interocular distance wider (FWE/EYW: 0.4-0.5). Antennae 11-segmented.

**Specimens examined** [1 ♂ 2 ♀]. <GW> 1 ♀, Sambongyaksu

Gwangwon-ri Nae-myeon Hongcheon, 11 viii 1997, J. I. Kim et al.; <GB> 1 ♂, Huibang valley Mt. Sobaeksan Punggi-eup Yeongju, 14 vii 1997, D. K. Chung; 1 ♀, Sogwang-ri Seo-myeon Uljin, 31 vii-1 viii 1999, J. I. Kim et al..

**Distribution.** Korea (GW, GB).

**Remarks.** I was unable to confirm exact species due to specimen in incomplete condition. This subgenus is recorded for the first time in Korea.

### Genus *Anogcodes* Dejean, 1834

*Anogcodes* Dejean, 1834. *Cat. Col.*, ed. 2, (3): 228.

Type species: *Necydalis melanura* Fabricius, 1787

**Remark.** The genus shown sexual dichroism in many species (Vázquez, 2002).

#### 12. *Anogcodes coarctata croceiventris* (Motschulsky, 1859)

유리하늘소붙이 [Plate I . 12, II . 22-23]

*Nacerda coarctata* var. *croceiventris* Motschulsky, 1859. *Bull. Moscou*, 32: 493.

**Korean records.** *Nacerda coarctata*: Kôno, 1932: 143; Kôno, 1934: 27; Chô, 1938: 44-45; Gressitt, 1939: 227; Mori and Chô, 1939: 718-719; Cho, 1947: 69; ZSK, 1968: 113; Cho, 1969: 321-322; *Nacerda cearctata* [sic]: Cho, 1957: 228; *Nacerdes coarctata*: Chô,

1934: 81; Ju, 1969: 122; *Anogcodes coarctata*: Švihla and Merkl, 1992: 102; Nikitsky, 1996: 13; Mizota, 1998: 90; Mizota and Yamauchi, 2001: 61; Kim, 2002a: 249; *Anoncodina sambucea*: Kim et al., 1994: 174; Kim et al., 1998: 248; *Anogcodes coarctata croceiventris*: Švihla, 1999a: 382; *Anogcodes coarctatus croceiventris*: Vázquez, 2002: 46-47.

**Korean names.** 목도리어리하늘소(Cho, 1947), 루리하늘소불이(ZSK, 1968), 유리하늘소불이(Cho, 1969), 류리돌드레번티기(Ju, 1969).

**Description.**

Coloration. Body mostly sooty to black. Maxillary palpi egg-yolk yellow. Pronotum bluish greenish black, pronotum and abdomen orange in female. Elytra bluish greenish black to slate blue.

Male. Length: 8.9-9.9mm. Body elongate, subparallel. Head short (HW/HL: 1.4-1.5), as wide as or slightly wider than pronotum (HW/PW: 1.0-1.1). Distance between eyes slightly to remarkably wider than antennal pits (FWE/FWA: 1.3-1.6). Interocular area slightly narrow to slightly wide (FWE/EYW: 0.8-1.0). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 12-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.9-1.0), without lateral margin. Prosternal process sharp. Elytra short (EL/EW: 2.4-2.6), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple. Both tegmen and aedeagus without basal apodemes, parameres reduced. Apex

of aedeagus with apical teeth in dorsal and lateral view.

Female. Length: 9.3–9.4mm. Head relatively longer (HW/HL: 1.2–1.3). Eyes smaller, interocular distance wider (FWE/EYW: 1.1–1.3). Antennae 11-segmented.

**Specimens examined.** [GW] 1 ♂, Mt. Gyebangsan, 21 vii 1981, M. R. Kim; 2 ♀, Mt. Odaesan, 27 vii 1958, Anonymous; 2 ♂, Mt. Odaesan Pyeongchang, 17 viii 1976, S. M. Lee; 1 ♂, Mt. Daeamsan Yanggu, 28 vii 1997, J. I. Kim; 2 ♂, Mt. Chiaksan Wonju, 29 vii 1975, J. I. Kim; 1 ♂, Seongnam-ri Sillim-myeon Wonju, 31 vii 1975, C. W. Kim.

**Biological information.** Adults occur on flowers in clearings and margins of larch (*Larix*) and birch (*Betula*) forest (data from *A. c. croceiventris*, Korea) (Vázquez, 2002).

**Distribution.** Russia (Siberia), Korea (GW), Japan (Hokkaido, Honshu).

### Subfamily Oedemerinae Latreille, 1810

Oedemérites Latreille, 1810. *Considér. Gén.*: 216.

Type genus: *Oedemera* Olivier, 1789

### Key to the Korean tribes of subfamily Oedemerinae

1. Prosternum with sharp intercoxal process and inner lateral wall  
..... Asclerini
- Prosternum with smooth intercoxal process and inner lateral

wall ..... Oedemerini

### Tribe Asclerini Gistel, 1856

Ascleridae Gistel, 1856. *Myster. Europ. Insect.*: 384.

Type genus: *Ischnomera* Stephens, 1832

= *Asclera* Dejean, 1834

**Diagnosis.** Mandibles simple or bifid without retinaculum. Last segment of maxillary palpi securiform to cultriform, widest well below apex. Second antennomere about half as long as third. Procoxal cavities with sharp anterolateral angles. Prosternum with narrow intercoxal process. *Elytra* neither shortened nor narrowed. Legs simple in both sexes. Claws simple or toothed. Vagina not denticulate. Three Korean genera: *Eobia*, *Ischnomera* and *Indasclera*.

**Remarks.** According to Švihla(1986), large number of genera of this tribe can be subdivided fourteen groups on the basis of characters of the male genitalia and other morphological characters. The Korean genera belongs to *Ascleropsis* group, *Eobia* group and *Sessinia* group.

### Key to the Korean genera of tribe Asclerini

1. Parameres pubescent ..... 2
- Parameres non-pubescent ..... *Indasclera*

- 2. Basal apodeme of aedeagus strongly dilated at its apex ...  
 ..... *Ischnomera*
- Basal apodeme of aedeagus gradually towards its apex ...  
 ..... *Eobia*

**Genus *Eobia* Semenov, 1894**

*Eobia* Semenov, 1894. *Hor. Soc. Ent. Ross.*, 28: 455

Type-species: *Asclera cinereipennis* Motschulsky, 1866

**Remarks.** The genus includes three subgenera (*Eobia*, *Falsosessinia* and *Pareobia*). All the Korean species belongs to the subgenus *Eobia*.

**Key to the Korean species of genus *Eobia***

- 1. Pronotum and elytra concolorus ..... *chinensis*
- Pronotum and elytra bicolorus ..... *cinereipennis*

**13. *Eobia (Eobia) chinensis* (Hope, 1842) 밀검은하늘소불이**  
*Sessinia chinensis* Hope, 1842. *Proc. Ent. Soc. Lond.*: 61.

**Korean records.** *Eobia chinensis ambusta*: Cho, 1965: 34; *Eobia chinensis*: Lee and Kwon, 1981: 155; Kim et al., 1994: 174; Kwon et al., 1996: 479; *Eobia chinensis chinensis*: Mizota, 1998: 91-92.

**Korean name.** 밀검은하늘소불이 (Cho, 1965).

**Biological information.** This species has the report on the

dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** China, Taiwan, Korea (GB: Ulleungdo Is.), Japan.

**Remarks.** This species is recorded for the first time in Korea by Cho (1965). Also Cho (1965) clearly noted collecting locality as 'Do-dong' in Is. Ulleungdo. But I was unable to examine any Korean specimen. This species is survived in the Korean list due to some possibilities to discover in Is. Ulleungdo as further research.

14. *Eobia (Eobia) cinereipennis cinereipennis* (Motschulsky, 1866) 잣빛하늘소붙이 [Plate I . 13, II . 24-26]

*Asclera cinereipennis* Motschulsky, 1866. *Bull. Moscou*, 39: 173.

**Korean records.** *Eobia chinereipennis* [sic]: Cho, 1957: 229; ZSK, 1968: 113; Yoon and Nam, 1985: 159; *Eobia cinereipennis*: Cho, 1969: 324; Ju, 1969: 121; Nikitsky, 1996: 20; Miyatake, 1998: 406; Kim and Chang, 1987: 105; Mizota, 2001: 192; Kim et al., 2004: 118; *Eobia cinereipennis cinereipennis*: Kyushu Univ. and JWRC, 1989: 409; Kim et al., 1994: 174; Mizota, 1998: 91; Park, 1998: 50; Akiyama, 2000: 31-32.

**Korean names.** 잣빛하늘소붙이 (ZSK, 1968), 회색돌드레번티기 (Ju, 1969).

**Description.**

Coloration. Head, meso- and metasternum chestnut to sepia. Mouthparts, antennae, prothorax and legs saffron yellow to rusty.

Elytra and abdomen greenish olivaceous to dark greenish olivaceous.

Male. Length: 8.7–10.1mm. Body elongate, subparallel. Head slightly elongate to short (HW/HL: 1.2–1.5), slightly narrower to slightly wider than pronotum (HW/PW: 0.9–1.1). Distance between eyes slightly wider than antennal pits (FWE/FWA: 1.2–1.3). Interocular area slightly narrow (FWE/EYW: 0.7–0.9). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, longer than wide (PL/PW: 1.1–1.3), without lateral margin. Prosternal process sharp. Elytra short to moderate (EL/EW: 2.6–2.9), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres pubescent. Apex of aedeagus simple.

Female. Length: 9.8–11.7mm.

**Specimens examined.** [GG] 3♀, Is. Yongyudo Nambuk-dong Jung-gu Incheon, 16 vii 2003, H. Y. Oh; 2♂ 4♀, *ibid.*, 24 vii 2005, I. S. Yoo; [JJ] 2♂, Is. Sangchujado Chuja-myeon Bukjeju, 9 viii 1969, J. S. Park; 1♂, *ibid.*, 9 viii 1969, Y. T. Noh.

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Korea (GG, JJ), Japan (Hokkaido, Honshu, Shikoku, Kyushu).

**Genus *Ischnomera* Stephens, 1832**

*Ischnomera* Stephens, 1832. *Illustr. Brit. Entom. (Mand.)*, 5: 53.

Type-species: *Cantharis coerulea* Linnaeus, 1758

**Key to the Korean species of genus *Ischnomera***

1. Pronotum and elytra concolorous; pronotum black or green ..... 2
- Pronotum and elytra bicolorous; pronotum red ..... *Ischnomera* sp.
2. Body mostly black without lustre ..... 3
- Body mostly green with lustre ..... *abdominalis*
3. Female: anterior margin of pronotum concolorous with its remainder; vertex and pronotum between punctures microshagreened ..... *n. nigrocyanea*
- Female: anterior margin of pronotum dark brown; vertex and pronotum without microshaggrination, semi-lustrous ..... *n. koreana*

**15. *Ischnomera abdominalis* (Heyden, 1887)**

[Plate I . 14, II . 27-29]

*Asclera abdominalis* Heyden, 1887. *Dtsch. Entomol. Z.*, 1887: 304  
(Russia).

**Description.**

Coloration. Head, Pronotum and elytra greenish bluish grey.

Mouthparts, first two segments of antennae, legs excluding tarsi, terminalia(whole abdomen in female) yellow to egg-yolk yellow. Antennae excluding first two segments sooty, tarsi often sooty. Pro-, meso-, metasternum and abdomen excluding terminalia black in male.

Male. Length: 6.5-8.2mm. Body robust, subparallel. Head remarkably to very remarkably short (HW/HL: 1.6-1.8), as broad as or slightly narrower than pronotum (HW/PW: 0.9-1.0). Distance between eyes slightly to remarkably wider than antennal pits (FWE/FWA: 1.2-1.6). Interocular area slightly wide (FWE/EYW: 1.0-1.3). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 11-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.9-1.0), without lateral margin. Prosternal process sharp. Elytra moderate (EL/EW: 2.9-3.0), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws toothed at base. Both tegmen and aedeagus with basal apodemes, parameres pubescent. Aedeagus with apical tooth.

Female. 7.9-9.3mm. Eyes relatively smaller, interocular distance wider (FWE/EYW: 1.2-1.6).

**Specimens examined.** [GW] ♂, Heul-ri Ganseong-eup Goseong, 26 v 1986, G. S. Jang; [GG] 1♀, Temple Yongmunsa Mt. Yongmunsan Sinjeom-ri Yongmun-myeon Yangpyeong, 3 v 1998, J. S. Yi; 1♂, Mt. Gwangdeoksan Idong-myeon Pocheon, 21 v

2003, J. G. Lee; [CB] 1 ♂, Daegang River, Danyang, 5 v 1984, I. S. Hyun; [GB] 1 ♀, Yeungnam University Dae-dong Gyeongsan, 23 v 2003, Anonymous; 1 ♂, Mt. Mirimsan Bonghwa, 4 v 1997, S. S. Lee; 1 ♀, Temple Huibangsa Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 7 vi 1974, J. H. Park; 1 ♀, Huibang valley Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 28 v 1999, M. H. Kim; [JB] 1 ♀, Mt. Deogyusan, 25 v 1993, S. Y. Kim; 1 ♀, Daebul-ri Seolcheon-myeon Muju, 26 v 1993, Y. J. Bang.

**Distribution.** Russia (Ussuri region, Sakhalin), NE China, Korea (GW, GG, CB, GB, JB), Japan (Honshu).

**Remark.** This species is recorded for the first time in Korea.

#### 16-1. *Ischnomera nigrocyanea nigrocyanea* (Lewis, 1895)

##### 검은하늘소불이

*Asclera nigrocyanea* Lewis, 1895. *Ann. Mag. Nat. Hist.*, 15: 440 (Japan).

**Korean records.** *Asclera nigrocyanea*: Kim and Kim, 1971: 157; Kim et als., 1994: 174; Kim and Kim, 1998: 172; Park, 1998: 50; *Ischnomera nigrocyanea*: Nikitsky, 1996: 18; *Ischnomera nigrocyanea nigrocyanea*: Mizota, 1998: 91.

**Korean name.** 검은하늘소불이 (Kim et al., 1994).

**Distribution.** Russia (Kurile Is.), Korea, Japan (Hokkaido, Honshu, Kyushu).

**Remarks.** In the meantime, the Korean *Ischnomera* species has

been reported as the genus *Asclera*. But according to Švihla (1992), this species belong to the genus *Ischnomera*. This subspecies is recorded for the first time in Korea by Kim and Kim (1971). However I was unable to examine any Korean specimen.

**16-2. *Ischnomera nigrocyanea koreana* Fleischer, 1919**

[Plate I . 15]

*Ischnomera (Asclera) koreana* Fleischer, 1919. *Entomol. Blätter*, 15: 168 (Korea).

**Korean records.** *Asclera coreana*: Gressitt, 1939: 229; *Asclera koreana*: Cho, 1969: 323; Kim et al., 1994: 174; Kim, 2002b: 286; *Ischnomera nigrocyanea koreana*: Švihla, 1992: 37; *Ischnomera nigrocyanea coreana*: Švihla, 1997: 85.

**Korean name.** 고려하늘소붙이 (Kim et al., 1994).

**Description.**

Coloration. Body entirely dark slate blue. Ventral part of first two antennal segments chestnut.

Female. Length: 8.0mm. Body robust, subparallel. Head short (HW/HL: 1.4), slightly narrower than pronotum (HW/PW: 0.9). Distance between eyes slightly wider than antennal pits (FWE/FWA: 1.3). Interocular area slightly wide (FWE/EYW: 1.6). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform,

11-segmented. Pronotum cordiform, wider than long (PL/PW: 0.9), without lateral margin. Prosternal process sharp. *Elytra* moderate (EL/EW: 2.7), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws toothed at base.

**Specimen examined.** [GG] 1♀, Mt. Bukhansan Hyojadong Deogyang-gu Goyang, 5 v 2004, I. S. Yoo.

**Distribution.** Russia (Primorye), Korea (Seoul and GG).

**Remarks.** According to Švihla(1992), only this subspecies can be distinguished from nominotypical subspecies by characters showed in the above key. Because he only examined the female, I think that this subspecies need to examine the additional specimens for treatment in subspecies level.

### 17. *Ischnomera* sp. nov.

[Plate I . 16, II . 30-32]

#### **Description.**

Coloration. Body bluish greenish black to slate blue; prothorax terra-cotta to rusty; ventral part of first three antennal segments and mouthparts chestnut; meso-, metasternum, abdomen and legs black.

Male. Length: 5.3-7.5mm. Body robust. Head remarkably to very remarkably short (HW/HL: 1.6-1.9), as wide as or slightly narrower than pronotum (HW/PW: 0.9-1.0). Distance between eyes slightly to remarkably wider than antennal pits (FWE/FWA:

1.2-1.8). Interocular area slightly wide (FWE/EYW: 1.0-1.8). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, wider than long (PL/PW: 0.8-0.9), without lateral margin. Prosternal process sharp. Elytra moderate (EL/EW: 2.7-3.0), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws toothed at base. Both tegmen and aedeagus with basal apodemes, parameres pubescent. Apex of aedeagus with apical teeth.

Female. Length: 6.8-8.5mm. Eyes smaller, interocular distance wider (FWE/EYW: 1.6-2.0).

**Type series. Holotype:** 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 28 iv 2006, J. G. Lee; **Paratype:** [GW] 1 ♀, Deokduwon-ri Seo-myeon Chuncheon, 25 iv 2001, T. W. Kim; [GG] 1 ♂, Temple Seungcheonsa Mt. Myeongjisan Dodae-ri Buk-myeon Gapyeong, 26 iv 2001, H. C. Park; 1 ♀, Gwaneum-ri Toechon-myeon Gwangju, 21 v 2005, H. J. Kang; 1 ♀, Mt. Surisan Gunpo, 5 v 2003, J. C. Sohn; 1 ♀, Gwangneung Bopyeong-ri Jinjeop-eup Namyangju, 20 v 1990, S. J. Oh; 1 ♂, Mt. Cheonmasan Namyangju, 8 v 1984, D. W. Na; 1 ♂, Suwon, ? v 1957, Paik; 1 ♀, Suwon, 13 vi 1986, I. L. Jung; 1 ♂, Seodun-dong Gwonseon-gu Suwon, 27 v 1992, B. G. Kim; 1 ♂, *ibid.*, 12 v 1995, H. R. Yi; 1 ♀, *ibid.*, 3 v 1990, LSH; 1 ♀, *ibid.*, 14 v 2001, H. A. Lee; 1 ♀, *ibid.*, 28 iv 2004, H. C. Park; 2 ♂, Mirinae Anseong, 3 v 1996, H. S. Lee & J. W. Kim; 1 ♀, Anyang, 21 v 1988, Y. J. Y.; 1 ♂ 1 ♀, Mt.

Achasan Gwangjin-gu Seoul, 5 v 1999, H. J. Kim; 1 ♀, Mt. Suraksan Nowon-gu Seoul, 17 v 1984, S. E. Lee; 1 ♀, *ibid.*, 15 iv 1989, M. H. Cha; 1 ♀, Chang-dong Dobong-gu Seoul, 12 v 1990, H. J. Lee; 1 ♂, Heoninneung Naegok-dong Seocho-gu Seoul, 20 iv 1985, O. J. Lee; 1 ♀, *ibid.*, 31 v 1988, N. Y. Jeon; 1 ♂, Mt. Umyeonsan Seocho-dong Seocho-gu Seoul, 10 v 1997, M. J. Park; 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 26 iv 1992, S. M. Lee; 1 ♀, Yetgol Mt. Cheonggyesan Seocho-gu Seoul, 28 iv 2006, J. G. Lee; [CB] 2 ♂ 2 ♀, *Daegang River Danyang*, 5 v 1984, I. S. Hyun & S. G. Kim; 1 ♀, Gaesin-dong Heungdeok-gu Cheongju, 29 iv 2005, H. G. Park, S. B. Kim, S. Y. Kim, J. H. Song and Y. H. Gwon.

**Type depository.** All the type specimens are deposited in the insect collection of Laboratory of Systematic Zoology, Sungshin Women's University.

**Biological information.** This species is collected on flower of *Spiraea* sp. in the end of April.

**Distribution.** Korea (GW, GG, CB).

**Remarks.** The genus *Ischnomera* has been reported five species and one subspecies (*I. abdominalis*, *I. girardi*, *I. taiwana*, *I. nigrocyanea nigrocyanea*, *I. n. koreana*, *I. okushima*) from east palaearctic region (Švihla, 1992, 1997). This species can be easily distinguished from relatively similar two species (*I. girardi*, *I. taiwana*) by comparison of color characters (Table 7). Body coloration of the remainder (*I. nigrocyanea nigrocyanea*, *I. n.*

*koreana*, *I. okushima*) entirely black.

**Table 7. Comparison of color characters with similar species in the east palaeartic fauna**

species characters	<i>I. sp. nov.</i> (both sexes)	<i>I. girardi</i> (Švihla, 1992) (female, male unknown)	<i>I. taiwana</i> (Švihla, 1992) (female, male unknown)
Head	bluish greenish black to slate blue	black with very slight blue tinge	bluish green
Prothorax	terra-cotta to rusty	orange	sulphuric yellow
Elytra	bluish greenish black to slate blue	black with very slight blue tinge	green with slight golden tinge
Abdomen	black	entirely dark blue with metallic tinge	green

### Genus *Indasclera* Švihla, 1980

*Indasclera* Švihla, 1980. *Entomologica Basiliensia*, 5: 48.

Type-species: *Asclera indica* Fairmaire, 1894

#### 18. *Indasclera japonica japonica* (Pic, 1910) 일본하늘소불이

[Plate I . 17]

*Asclera japonica* Pic, 1910. *Echange*, 26: 95.

**Korean records.** *Asclera japonica*: Kim et al., 1994: 174;  
*Indasclera japonica japonica*: Mizota, 1998: 91; Mizota, 1999a: 91;  
Akiyama, 2000: 30-31.

**Korean name.** 일본하늘소불이 (Kim et al., 1994).

#### **Description.**

Coloration. Head, base part of elytra and legs black. Dorsal part of antennae and elytra sepia, ventral part of antennae rusty. Prothorax colcothar.

Male. Length: 8.3mm. Body robust. Head short (HW/HL: 1.5), slightly narrower than pronotum (HW/PW: 0.9). Distance between

eyes slightly wider than antennal pits (FWE/FWA: 1.3). Interocular area slightly wide (FWE/EYW: 1.1). Eyes large, strongly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 12-segmented. Pronotum cordiform, as wide as long (PL/PW: 1.0), without lateral margin. Prosternal process sharp. Elytra short (EL/EW: 2.6), subparallel. Protibiae with single terminal spur. Metafemora not expand. Claws simple.

**Additional specimens examined.** 1 ♂, Is. Yaku-shima Miyamoura Japan, 26 vii 1974, T. Mikage.

**Distribution.** Korea, Japan (Honshu, Kyushu).

**Remarks.** This species is recorded for the first time in Korea by Kim et al. (1994). But I was unable to examine any Korean specimen. However, this species is survived in the Korean list due to great possibilities to discover in Korea as further research. The description based on the Japanese specimens.

### **Tribe Oedemerini Latreille, 1810**

Oedemérites Latreille, 1810. *Considér. Gén.*: 216.

**Diagnosis.** Mandibles bifid with retinaculum. Last segment of maxillary palpi subcylindrical, widest near. Third antennomere 2.5–6 times as long as second one. Procoxal cavities with rounded anterolateral angles. Prosternum without intercoxal process. Elytra often shortened or narrowed. Metafemora of males

often enlarged. Claws simple. Vagina denticulate. A single Korean genus: *Oedemera*.

**Genus *Oedemera* Olivier, 1789**

*Oedemera* Olivier, 1789. *Encycl. Méthod.*, 4(1): 31.

Type-species: *Necydalis caerulea* Linnaeus, 1767

= *Oedemera nobilis* (Scopoli, 1763).

**Key to the Korean subgenera of genus *Oedemera***

1. Eyes large, frons between eyes as wide as or narrower than between bases of first antennomeres ..... ***Oncomera***
  - Eyes smaller, frons between eyes distinctly wider than between bases of first antennomeres ..... 2
2. Lateral wall of tegmen ending before its middle in lateral view ..... ***Stenaxis***
  - Lateral wall of tegmen continuous apically in lateral view ..... ***Oedemera***

**Subgenus *Oncomera* Stephens, 1829**

*Oncomera* Stephens, 1829. *Nom. Brit. Ins.*: 20.

**19. *Oedemera (Oncomera) venosa* (Lewis, 1895)**

*Oncomera venosa* Lewis, 1895. *Ann. Mag. Natur. Histor.*, 15: 441 (Japan).

**Korean record.** *Oncomella venosa*: Ju, 1969: 122.

**Korean name.** 알락돌드레번티기 (Ju, 1969).

**Description.** Original description of Lewis (1895) is as follows:

"Elongate, dull pale brown; the head, eyes prominent, forehead and area between the eyes dusky, neck sometimes flavous; the thorax darkish brown, with a median longitudinal space, which widens out before and behind, pale; the elytra have a close leather-like sculpture, with dusky-coloured costae, outer costa complete and joined to the second over the metasternum by a diffused coloration on a somewhat raised patch in the interstice, behind this patch the inner costa is usually interrupted and bent towards the suture, it reappears over the hind coxae and again before the apex; outside the long outer costa is a dark line, which towards the apex breaks up into dusky points (but this is a variable character), the lateral rim of the elytra is also dusky; the antennae dusky brown, with the two basal joints paler; the legs pale, with the apices of the femora dusky; male, posterior thighs largely swollen, and the hind tibiae much shorter and thicker than those of female. The colour and form of the elytral costae are somewhat variable; sometimes the costae join three times. "

Accurate description of this species can be found in Švihla (1993).

**Biological information.** This species has the report on the dermatitis caused by cantharidin (Mizota, 2001).

**Distribution.** Russia (Kurile Is., Siberia), North Korea, Japan (Hokkaido, Honshu, Shikoku).

**Remarks.** This species was recorded for the first time in Korea by Ju (1969). But I was unable to examine any Korean specimen. However, this species is survived in the Korean list due to great possibilities to discover in Korea as further research.

**Subgenus *Stenaxis* W. Schmidt, 1844**

*Stenaxis* W. Schmidt, 1844. *Cat. Col. Eur.*: 46.

Type-species: *Oedemera annulata* Germar, 1824.

**20. *Oedemera (Stenaxis) amurensis* Heyden, 1884**

**아무르하늘소불이 [Plate I . 18, II . 33-35]**

*Oedemera amurensis* Heyden, 1884. *D. Entomol. Ztschr.*, 28: 295  
(Russia).

**Korean records.** *Oedemera amurensis*: Chô, 1934: 81; Kôno, 1934: 30; Chô, 1938: 46, 48; Gressitt, 1939: 230; Mori and Chô, 1939: 719; Mori and Chô, 1940: 10; Cho, 1947: 69; Cho, 1957: 228; ZSK, 1968: 113; Cho, 1969: 324-325; Ju, 1969: 122; Švihla and Merkl, 1992: 102; Kim et al., 1994: 174; Kim and Kim, 1996: 129; Nikitsky, 1996: 23; *Oedemera (Stenaxis) amurensis*: Švihla, 1999c: 8-9; Mizota and Yamauchi, 2001: 61.

**Korean names.** 아물어리하늘소(Cho, 1947), 아무르하늘소불이 (ZSK, 1968), 아무르돌드레번티기(Ju, 1969).

**Description.**

Coloration. Head black, mouthparts and antennae honey yellow,

antennae becoming darker to sepia terminally. Prothorax varying from honey yellow with pair of sooty centrolateral spots to entirely sooty. Legs honey yellow, femora mostly more or less sepia infusate before knees, *Elytra* dark olivaceous or olivaceous grey with golden tinge and with more or less large, honey yellow sutural stripe on each elytron (suture remaining olivaceous) of sometimes completely dark. Meso- and metathorax and abdomen olivaceous, last abdominal segment more or less honey yellow to sepia.

Male. Length: 6.0–8.4mm. Body elongate. Head slightly elongate (HW/HL: 1.2–1.3), slightly wider than pronotum (HW/PW: 1.1–1.2). Distance between eyes remarkably to very remarkably wider than antennal pits (FWE/FWA: 1.8–2.3). Interocular area slightly wide (FWE/EYW: 1.2–1.8). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, as long as or longer than wide (PL/PW: 1.0–1.2), without lateral margin. Prosternal process smooth. *Elytra* moderate to very elongate (EL/EW: 2.8–3.6), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Apex of aedeagus with subapical teeth.

Female. Length: 6.5–9.5mm.

**Specimens examined.** [PB] 58 ♂ 91 ♀, Mt. Cheonmasan Cheonma-gun, 5–19 vi 2006, Jingke Li. [GW] 1 ♂, Hyangnobong

Goseong, 6 vii 1995, J. I. Kim; 1 ♂, Gojindong valley Mt. Geonbongsan Sudong-myeon Goseong, 5 vii 1995, J. I. Kim; 1 ♀, Temple Geonbongsan Naengcheon-ri Geojin-eup Goseong, 22 v 1992, H. C. Park; 1 ♂, Temple Hwaamsa Sinpyeong-ri Toseong-myeon Goseong, 17 v 2002, E. G. Shin; 1 ♂, Jinbu-ri Ganseong-eup Goseong, 12 vi 1992, Anonymous; 2 ♂, Dutayeon Bangsan-myeon Yanggu, 8 vii 1995, J. I. Kim; 1 ♂, Yongneup Mt. Daeamsan Yanggu, 7 vii 1995, J. I. Kim; 3 ♂, Mt. Daeusan Dong-myeon Yanggu, 10 vii 2003, T. W. Kim; 1 ♂, Mt. Seoraksan, 24 v 1968, J. G. Oh; 1 ♂, Seorak-dong Sokcho, 11 vi 1992, Anonymous; 1 ♂, Nohak-dong Sokcho, 11 vi 1992, Anonymous; 1 ♂, Buk-myeon Inje, 12 vi 1992, Anonymous; 1 ♂, Yongdae-ri Buk-myeon Inje, 26 v 1983, J. I. Kim; 1 ♂, Temple Baekdamsa Mt. Seoraksan Yongdae 2(i)-ri Buk-myeon Inje, 4 vi 1979, B. H. Choi; 3 ♂ 1 ♀, Gachilbong, 23 vii 1981, S. H. Nam; 3 ♂, ibid., 23 vii 1981, C. W. Kim; 4 ♂, ibid., 23 vii 1981, M. R. Kim; 1 ♂ 1 ♀, ibid., 23 vii 1981, H. Y. Han; 1 ♂, Gachilbong Inje, 24 vii 1997, J. D. Yuh; 4 ♂, Mt. Bangtaesan Inje, 26 vi 1996, Yeungnam Univ.; 1 ♂, ibid., 4-6 vi 1999, J. H. Park; 1 ♂, ibid., 4-6 vi 1999, K. O. Joo; 1 ♂, ibid., 4-6 vi 1999, E. S. Hong; 1 ♂, ibid., 12 vi 2004, J. W. Yoo; 2 ♂, Mt. Bangtaesan Hanam-ri Sangnam-myeon Inje, 26 vi 1996, J. I. Kim & S. Y. Kim; 1 ♂, Mt. Bangtaesan Misan-ri Sangnam-myeon Inje, 25 vi 1996, J. I. Kim & S. Y. Kim; 1 ♂, Jogyeongdong valley Mt. Bangtaesan Girin-myeon Inje, 26 vii 2002, A. Y. Kim; 1 ♂, Mt. Bangtaesan Bangdong-ri

Girin-myeon Inje, 15 viii 1995, J. I. Kim; 1 ♀, Mt. Odaesan, 20 vii 1981, M. R. Kim; 1 ♂, Daehwa-myeon Pyeongchang, 1 vii 1985, Y. S. Kim; 1 ♂, *ibid.*, 1 vii 1985, H. J. Gwon; 1 ♂, *ibid.*, 1 vii 1985, G. S. Jang; 1 ♂, Geomun-ri Jinbu-myeon Pyeongchang, 30 vi 1985, Y. S. Kim; 1 ♂, Yongsan-ri Doam-myeon Pyeongchang, 29 vi 1985, O. G. Lee; 1 ♂, Hoeryeongbong Deokgeo-ri Bongpyeong-myeon Pyeongchang, 23 vii 1998, S. Y. Kim; 4 ♂, Hwacheon-eup Hwacheon, 13 vi 1992, Anonymous; 2 ♂, Damok-ri Sangseo-myeon Hwacheon, 13 vi 1992, Anonymous; 1 ♂, *Kangwon National University Hyoja 2(i)-dong Chuncheon*, 10 vii 2003, J. G. Lee; 2 ♂, Sillim-myeon Wonju, 13-14 vii 1996, J. S. Park; 1 ♂, *ibid.*, 13-14 vii 1996, Y. A. Kim; 1 ♂, Hongcheon, 17 vi 1993, J. I. Kim; 1 ♂, *ibid.*, 17 vi 1993, S. Y. Kim; 4 ♂, Mt. Gyebangsan, 21 vii 1981, M. R. Kim; 4 ♂, *ibid.*, 21 vii 1981, S. H. Nam; 2 ♂, Gachilbong Hongcheon, 21 vi 1984, M. J. Seo; 1 ♂, *ibid.*, 21 vi 1984, S. H. Park; 1 ♂, *ibid.*, 23 vi 1984, G. J. Hwang; 1 ♂, *ibid.*, 21-23 vi 1984, E. Y. Kim; 1 ♂, *ibid.*, 21-24 vi 1984, H. N. Kim; 1 ♂, *ibid.*, 21-23 vi 1984, Y. N. Cho; ; 1 ♂, Mt. Sogyebangsan Hongcheon, 22 vii 1981, C. W. Kim; 1 ♂, *ibid.*, 22 vii 1981, M. R. Kim; 2 ♂, *ibid.*, 22 vii 1981, H. Y. Han; 2 ♂ 1 ♀, *ibid.*, 22 vii 1981, S. H. Nam; 5 ♂, Mt. Palbongsan Seo-myeon Hongcheon, 28 v 2005, J. G. Lee; 1 ♂, Temple Samhwasa Samhwa-dong Donghae, 27 vi 1984, M. W. Gwon; 1 ♂, *ibid.*, 27 vi 1984, M. I. Lee; [GG] 1 ♀, Mt. Wangbangsan, 5 vi 1977, Y. E. Gwon; 1 ♀, Temple Bogwangsa Yeongjang-ri Gwangtan-myeon Paju, 5 v 1997, E. Y.

Lee; 1 ♀, *ibid.*, 21 vi 1997, Y. Lee; 1 ♂, Songchu *valley* Mt. Bukhansan Uldae-ri Jangheung-myeon Yangju, 9 vi 2001, A. Y. Kim; 1 ♂, Mt. Cheonmasan Namyangju, 9 vi 1978, J. Y. Song; 1 ♀, *ibid.*, 2 vi 1984, I. H. Kim; 1 ♀, Gwangneung Bupyeong-ri Jinjeop-eup Namyangju, 18 iv 1976, J. W. Lee; 1 ♂, Yangsu-ri Yangseo-myeon Yangpyeong, 6 vi 2004, S. I. Kim; 6 ♂, Mt. Surisan Sangnok-gu Ansan, 4 vi 2005, J. G. Lee; 1 ♂, Namhansanseong, 6 vi 1996, J. H. Lee; 1 ♂, Namhansanseong Sanseong-ri Jungbu-myeon Gwangju, 31 v 2005, B. H. Jung; 2 ♂, Mt. Namhansan Hadaewon-dong Seongnam, 5 v 1998, T. H. Kang; 1 ♂, Mt. Geomdansan Hanam, 15 v 2001, J. Y. Lee; 1 ♂, Seodun-dong Gwonseon-gu Suwon, 16 v 1999, Y. J. Lee; 1 ♂, Cheonho-dong Gangdong-gu Seoul, 20 vi 1981, H. E. Lee; 1 ♂, Wonji-dong Seocho-gu Seoul, 1 vi 1985, S. O. Han; 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 4 vi 1989, Y. J. Oh ;1 ♂, *ibid.*, 21 v 2002, H. S. Choi; 2 ♂, *ibid.*, 23 v 2004, Y. R. Kim; 1 ♂, *ibid.*, 23 v 2004, S. M. Lee; 1 ♂, *ibid.*, 23 v 2004, J. Y. Han; 1 ♂, *ibid.*, 23 v 2004, J. H. Kim; 1 ♂, *ibid.*, 23 v 2004, I. S. Yoo; **[CB]** 3 ♂, Mt. Woraksan, 29 v 1987, E. Y. Kim; 1 ♂, *ibid.*, 29 v 1987, J. I. Lee; 1 ♂, *ibid.*, 30 v 1987, S. W. Jung; 1 ♂ 1 ♀, Mt. Woraksan Jecheon, 27 v 1996, Dept. of Biology; 1 ♂, Hwayang-ri Cheongcheon-myeon Goesan, 25 v 1996, T. H. Gu; 3 ♂, Mt. Minjujisan Yeongdong, 4 vi 2000, S. C. Park; 1 ♀, Saseok-ri Jincheop-eup Jincheon, 15 vi 1992, Anonymous; 1 ♀, Mt. Songnisan Naesongni-myeon Boeun, 12 v 1989, E. G. Kim; **[CN]** 1 ♂, Temple Gapsa Woram-ri

Gyeryong-myeon Gongju, 26 v 1974, D. H. Hwang; 1 ♀, Gyeryong-myeon Gongju, 5-7 vi 1997, E. J. Kim; 3 ♂, Mt. Mansusan Boryeong, 12 vi 1999, T. W. Kim & T. M. Han; [GB] 1 ♀, Sangcho-ri Mungyeong-eup Mungyeong, 25 v 1997, J. E. Kim; 1 ♂, Temple Huibangsa Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 7 vi 1974, C. H. Shin; 1 ♂, *ibid.*, 23 vii 1974, J. I. Kim; 1 ♂, *ibid.*, 23 vii 1974, S. H. Nam; 1 ♂, *ibid.*, 23 vii 1974, C. W. Kim; 1 ♀, *ibid.*, 22 vii 1974, J. I. Kim; 1 ♀, *ibid.*, 24 vii 1974, C. W. Kim; 1 ♂, *ibid.*, 6 vi 1981, Y. J. Shin; 1 ♂, Huibang valley Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 28 v 1999, S. H. Woo; 1 ♂, Daehyeon-ri Seokpo-myeon Bonghwa, 24 vii 1986, G. S. Jang; 1 ♂ 1 ♀, *ibid.*, 25 vii 1986, G. S. Jang; 1 ♂ 1 ♀, Ojeonyaksu Ojeon-ri Murya-myeon Bonghwa, 20 v 1998, J. I. Kim; 1 ♂, Mt. Juwangsan Budong-myeon Cheongsong, 23 iv 1982, J. H. Shim; 1 ♀, Mt. Baegamsan Onjeong-myeon Uljin, 28-29 v 1999, S. J. Song; 1 ♂, Icheon-ri Sangbuk-myeon Ulju-gun Ulsan, 23 vi 1987, Anonymous; 1 ♂, *ibid.*, 27-30 vi 1988, S. H. Hong; 1 ♂, *ibid.*, 27-30 vi 1988, J. Y. Park; 4 ♂, *ibid.*, 6 vi 1989, Anonymous; [GN] 2 ♂, Naewon-ri Samjang-myeon Sancheong, 30 v 1999, J. S. Park; 1 ♀, *ibid.*, 30 v 1999, T. H. Ahn; 1 ♂, Temple Ssanggyesa Mt. Jirisan Unsu-ri Hwagae-myeon Hadong, 5 vi 1977, G. A. Kim; 1 ♀, Danjibong Mt. Gayasan Chiin-ri Gaya-myeon Hapcheon, 13 vii 1999, J. S. Jeon; 1 ♀, Unsan-ri Baekjeon-myeon Hamyang, 25-26 v 1990, Anonymous; 1 ♀, Temple Baegyeonsa Samyang-ri Sannae-myeon Miryang, 23-24 v 1990, Anonymous; 1 ♀, Osilgol

Mt. Yeohangsan Yeoyang-ri Jinjeon-myeon Hapcho-gu Masan, 12 vi 1999, J. S. Park; **[JB]** 1 ♂, Mt. Naejangsan Naejang-dong Jeongeup, 26 v 1994, J. M. Park; 1 ♂, *ibid.*, 26 v 1994, M. J. Shin; 1 ♂, *ibid.*, 26 v 1994, H. E. Kim; 1 ♀, *ibid.*, 26 v 1994, J. I. Kim; 1 ♂, Gucheondong Muju, 22 v 1983, J. S. Choi; 1 ♀, *ibid.*, 21 v 1983, Y. J. Hong; 1 ♂, Chiryeon *falls* Mt. Deogyusan Anseong-myeon Muju, 24 vii 1999, J. S. Jeon; 1 ♂, *ibid.*, 24 vii 1999, E. S. Kang; 1 ♀, *ibid.*, 24 vii 1999, G. H. Kang; 1 ♂, Junggye-ri Byeonsan-myeon Buan, 21 v 1992, J. G. Park; 1 ♀, *ibid.*, 21 v 1992, S. J. Choi; 1 ♂, Mt. Seonunsan Gochang, 27 vi 1990, O. J. Lee; 1 ♂ 1 ♀, *ibid.*, 21 v 1992, Y. H. Kim; **[JN]** 2 ♂, Temple Cheoneunsa Mt. Jirisan Banggwang-ri Gwangui-myeon Gurye, 23 v 1987, S. R. Lee; 1 ♂, Piagol *valley* Mt. Jirisan Toji-myeon Gurye, 23 vi 1987, S. Y. Kim; 1 ♂, *ibid.*, 23 vi 1987, S. Y. Choi; 1 ♂, Temple Baegyangsa Mt. Naejangsan Yaksu-ri Bukha-myeon Jangseong, 23 v 1994, J. Y. Kim; 1 ♂, *ibid.*, 24 v 1994, Y. J. Gwon; 1 ♀, Temple Hwaeomsa Hwangjeon-ri Masan-myeon Gurye, 28 v 1987, Y. A. Jang; 1 ♂, Temple Daeheungsa Gurim-ri Samsan-myeon Haenam, 13 vii 1986, Anonymous; 1 ♀, Temple Seonamsa Mt. Jogyesan Jukhak-ri Seungju-eup Suncheon, 22 vi 1987, S. Y. Kim.

**Distribution.** Russia (Amur, Khabarovsk, Primorye, Sakhalin), Korea (PB, GW, GG, CB, CN, GB, GN, JB, JN), China (Heilongjiang).

Subgenus *Oedemera* Olivier, 1789

Key to the Korean species and subspecies of subgenus  
*Oedemera* s. str.

1. Subhumeral nerve not confluent with lateral margin of elytron apically ..... 2
  - Subhumeral nerve confluent with lateral margin of elytron apically ..... 3
2. Pronotum red only in its middle portion .....  
..... *lucidicollis lucidicollis*
  - Pronotum entirely yellow or orange .....  
..... *lucidicollis flaviventris*
3. Metafemora not thickened ..... 4
  - Metafemora distinctly thickened ..... 6
4. Both tegmen and aedeagus very robust ..... *concolor*
  - Both tegmen and aedeagus slender ..... 5
5. Subapical aedeagal teeth situated very near to apex, apical portion of paramere strongly curved in lateral view .....  
..... *subrobusta*
  - Subapical aedeagal teeth situated far from apex, apical portion of paramere less or not curved in lateral view ..... *robusta*
6. Head and pronotum more roughly sculptured ..... *virescens*
  - Head and pronotum finely sculptured ..... *parallelipennis*

21-1. *Oedemera* (s. str.) *lucidicollis lucidicollis* Motschulsky,

1866 알통다리하늘소붙이

*Oedemera lucidicollis* Motschulsky, 1866. *Bull. Soc. Imp. Natur. Moscou*, 39: 174.

**Korean records.** *Oedemera lucidicollis*: Cho, 1947: 69; *Oedemeronia lucidicollis*: Kim et al., 1991: 181; Kim et al., 1994: 174; *Oedemerina lucidicollis*: Kim and Kim, 1996: 48; Kim and Kim, 1998: 172; Kim et al., 2002: 121: *Oedemera (Oedemera) lucidicollis*: Mizota, 1998: 92.

**Korean names.** 수둥다리어리하늘소(Cho, 1947), 알통다리하늘소붙이(Kim et al., 1994).

**Distribution.** Russia (Kuriles), Japan (Hokkaido, Honshu, Shikoku, Kyushu).

**Remarks.** I was unable to find any specimen of this species in collection preserved through past faunistic survey. All the examined specimens in those collection was a morphologically similar other species. Therefore, I think that the previous records was incorrect records by misidentification. Accurate description of this species can be found in Švihla (1999).

21-2. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire,  
1891 [Plate I . 19, II . 36-38]

*Oedemera flaviventris* Fairmaire, 1891. *Bull. Soc. Entomol. Belgique*, 1891: 219.

**Korean records.** *Oedemera sieversi*: Schenkling, 1915: 68; Chô, 1938: 48; Gressitt, 1939: 231; ZSK, 1968: 113; Kim and Yoo, 1987: 507 [Synonymized by Švihla(1999)]; *Oedemera siebersi* [sic]: Cho, 1957: 228–229; *Oedemera sieversii* [sic]: Cho, 1969: 325; Kim et al., 1974: 222; Kim et al., 1994: 174; Park, 1998: 51; Kim 2002b: 286; *Oedemera coreana*: Cho, 1969: 325 [Synonymized by Švihla(1999)]; *Oedemera flaviventris*: Švihla and Merkl, 1992: 102; Kim, 2002a: 249; *Oedemera koreana*: Nikitsky, 1996: 23; *Oedemera* (s. str.) *lucidicollis flaviventris*: Švihla, 1999c: 13–14, 79, 85; *Oedemerina testaceithorax*: Kim and Park, 1991: 223; *Oedemeronia testaceithorax*: Kim, 1995a: 141; Kim, 1996: 13; Kim, 2000: 143; Kim, 2002a: 249; Kim et al., 2004: 118 [Misidentification]; *Oedemmernia* [sic] *testaceithorax*: Kim and Kim, 1996: 48.

**Korean name.** 시베르스하늘소불이 (ZSK, 1968).

**Description.**

Coloration. Slate blue, rarely greenish black, mouthparts, antennae and tarsi chestnut brown to sooty. Pronotum orange in both sexes, last two sternites or entire ventral part of abdomen orange in the female.

Male. Length: 4.8–6.9mm. Body elongate. Head slightly elongate to short (HW/HL: 1.1–1.4), slightly wider than pronotum (HW/PW: 1.1–1.2). Distance between eyes remarkably to very remarkably wider than antennal pits (FWE/FWA: 2.0–2.7). Interocular area slightly to moderately wide (FWE/EYW: 1.2–2.0).

Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 11-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.9-1.0), without lateral margin. Prosternal process smooth. Elytra moderate to elongate (EL/EW: 2.8-3.1), subparallel. Protibiae with two terminal spurs. Metafemora strongly expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Aedeagus with subapical teeth.

Female. Length: 6.3-7.6mm. Metafemora not expand.

**Specimens examined.** [GW] 3 ♂, Temple Geonbongsa Naengcheon-ri Geojin-eup Goseong, 22 v 1992, H. C. Park; 1 ♂ 3 ♀, Heul-ri Ganseong-eup Goseong, 26 v 1986, G. S. Jang; 1 ♀, Myeongho-ri Hyeonnae-myeon Goseong, 10 vii 1990, H. C. Park; 1 ♀, Temple Hwaamsa Sinpyeong-ri Toseong-myeon Goseong, 17 v 2002, E. G. Shin; 1 ♀, Mt. Daeamsan Yanggu, 13 vi 1990, J. I. Kim; 1 ♀, Gachilbong Inje, 12 vi 1997, H. J. Shin; 2 ♀, *ibid.*, 12-13 vi 1997, J. I. Kim and S. Y. Kim; 1 ♀, Mt. Bangtaesan Inje, 12 vi 2004, J. W. Yoo; 1 ♂, Temple Baekdamsa Mt. Seoraksan Yongdae 2(i)-ri Buk-myeon Inje, 5 vi 1979, C. S. Kang; 1 ♀, *ibid.*, 4 vi 1979, H. M. Lee; 1 ♀, Mt. Seoraksan, 6 v 1989, J. Y. Chu; 4 ♀, Yongsan-ri Doam-myeon Pyeongchang, 29 vi 1985, E. Y. Lee; 2 ♀, *ibid.*, 29 vi 1985, Y. S. Kim; 1 ♀, Mapyeong-ri Jinbu-myeon Pyeongchang, 30 vi 1985, Y. S. Kim; 1 ♀, Mt. Seokbyeongsan Sangye-ri Okgye-myeon Gangneung, 19 v 2002, J. I. Kim et al.; 1 ♀, *ibid.*, 19 v 2002, J. E. Kang; 1 ♀, Gangchon-ri Namsan-myeon

Chuncheon, 22 v 1977, S. J. Jung; 1 ♀, *ibid.*, 22 v 1977, G. O. Lee; 1 ♀, Mt. Chiaksan, 6 vi 1974, Y. M. Ahn; 1 ♀, Gugok *falls* Namsan-myeon Chuncheon, 15 v 2001, J. C. Sohn; 1 ♀, Imgye-ri Imgye-myeon Jeongseon, 6-7 v 1984, S. H. Nam; [GG] 1 ♂, Mt. Dobongsan Dobong-gu Seoul, 11 v 1980, G. S. Jang; 1 ♂, *ibid.*, 11 v 1980, H. G. Park; 1 ♂, *ibid.*, 24 iv 1982, M. S. Jeon; 1 ♀, *ibid.*, 15 v 1982, Y. Kim; 1 ♀, *ibid.*, 19 v 1990, H. G. Gwon; 1 ♀, *ibid.*, 30 v 1992, E. H. Ahn; 1 ♂ 1 ♀, Mt. Bukhansan Dobong-gu Seoul, 27 v 1990, S. Y. Sohn; 1 ♂, Mt. Suraksan Nowon-gu Seoul, 15 iv 1989, H. S. Bae; 1 ♀, Mt. Suraksan Sanggye-dong Nowon-gu Seoul, 10 v 1990, H. J. Lee; 1 ♀, Ui-dong Seongbuk-gu Seoul, 11 v 1986, H. M. Park; 1 ♀, Mt. Bukhansan Ui-dong Seongbuk-gu Seoul, 25 iv 1998, T. H. Kang; 1 ♂ 1 ♀, Eunpyeong-gu Seoul, 6 iv 1990, I. Y. Han; 1 ♀, Susaek-dong Eunpyeong-gu Seoul, 6 vi 1974, J. H. Gwon; 1 ♂, Galhyeon-dong Eunpyeong-gu Seoul, 15 v 1988, E. J. Park; 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 5 v 1988, E. J. Park; 1 ♂, *ibid.*, 5 v 1988, M. Y. Lee; 2 ♂ 1 ♀, *ibid.*, 5 v 1988, Y. S. Lee; 1 ♂, *ibid.*, 12 v 1988, H. Y. Kim; 1 ♂ 1 ♀, *ibid.*, 12 v 1988, H. J. Sim; 1 ♀, *ibid.*, 24 v 1986, E. Y. Choi; 1 ♀, *ibid.*, 10 v 1987, D. H. Lee; 2 ♀, *ibid.*, 24 v 1987, M. A. Song; 1 ♀, *ibid.*, 12 v 1988, M. H. Jung; 1 ♀, *ibid.*, 20 v 1990, I. Y. Han; 1 ♀, *ibid.*, 26 v 1990, N. Y. Kim; 1 ♀, *ibid.*, 26 v 1990, S. J. Kim; 1 ♀, *ibid.*, 31 v 1992, S. Y. Kim; 1 ♀, *ibid.*, 31 v 1992, H. R. Sohn; 1 ♀, *ibid.*, 13 vi 1999, K. O. Joo; 1 ♀, Yetgol Mt. Cheonggyesan Seocho-gu Seoul, 28 iv 2006, J. G. Lee; 1 ♀, Wonji-dong Seocho-gu Seoul, 1

vi 1985, S. Y. Cho; 1 ♀, *ibid.*, 1 vi 1985, N. H. Cho; 1 ♀, *ibid.*, 7 vi 1986, S. R. Choi; 1 ♂, Mt. Cheonggyesan Wonji-dong Seocho-gu Seoul, 1 vi 1985, Y. H. Choi; 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 1 vi 1992, M. J. Yeom; 1 ♂, Mt. Umyeonsan Seocho-dong Seocho-gu Seoul, 10 v 1997, J. Y. Kim; 1 ♀, *ibid.*, 18 v 1994, I. P. Sohn; 1 ♀, *ibid.*, 25 v 1997, H. Y. Yeom; 1 ♂, Heoninneung Naegok-dong Seocho-gu Seoul, 24 iv 1983, H. M. Lee; 1 ♂, *ibid.*, 21 iv 1984, S. E. Lee; 1 ♂, *ibid.*, 6 v 1989, M. Y. Choi; 1 ♀, *ibid.*, 20 iv 1985, J. S. Kim; 1 ♀, *ibid.*, 20 iv 1985, J. H. Lee; 1 ♀, *ibid.*, 20 iv 1985, O. G. Lee; 1 ♀, *ibid.*, 20 iv 1985, J. S. Huh; 1 ♀, *ibid.*, 20 iv 1985, G. H. Shin; 2 ♀, *ibid.*, 15 v 1988, H. Y. Kim; 1 ♀, *ibid.*, 15 v 1988, M. H. Jung; 2 ♂ 1 ♀, Gildong *Ecological Park* Gil-dong Gangdong-gu Seoul, 26 iv 2005, B. H. Jung; 1 ♀, Onsu-ri Gilsang-myeon Ganghwa-gun Incheon, 29 v 1983, M. S. Kim; 2 ♀, Samsan-myeon Ganghwa-gun Incheon, 22 vi 1992, H. C. Park; 1 ♂, Gapyeong, 23 iv 1994, J. M. Park; 1 ♂, Mt. Myeongjisan Gapyeong, 14 v 1992, J. H. Kang; 1 ♀, *ibid.*, 3 v 1987, E. Y. Kim; 1 ♀, *ibid.*, 4 vi 1991, P. M. S; 1 ♀, *ibid.*, 23 iv 1994, J. I. Kim; 1 ♀, *ibid.*, 23 iv 1994, J. M. Park; 1 ♀, *ibid.*, 7 v 1995, S. Y. Jung; 1 ♀, *ibid.*, 10 v 1996, E. J. Lee; 1 ♀, *ibid.*, 29 iv 1997, J. I. Kim; 1 ♂, Temple Seungcheonsa Mt. Myeongjisan Dodae-ri Buk-myeon Gapyeong, 5 v 2001, A. Y. Kim; 1 ♀, Hyeon-ri Ha-myeon Gapyeong, 6 v 1984, Y. S. Kim; 1 ♂, Mt. Wangbangsan, 23 v 1976, J. W. Lee; 1 ♂ 1 ♀, *ibid.*, 16 v 1982, M. L. Kim; 1 ♀, *ibid.*, 15 vi 1975, J. I. Kim; 1 ♀, *ibid.*, 28 vi 1975, Y.

S. Choi; 1 ♀, *ibid.*, 23 v 1976, J. H. Ryu; 1 ♀, *ibid.*, 5 vi 1977, Y. E. Gwon; 1 ♀, *ibid.*, 5 vi 1977, W. H. Lee; 1 ♀, *ibid.*, 6 vi 1977, J. W. Byeon; 1 ♀, *ibid.*, 6 vi 1977, S. S. Park; 1 ♂ 4 ♀, Mt. Wangbangsan Pocheon, 3 v 1984, G. S. Jang; 1 ♀, *ibid.*, 23 v 1976, S. B. Paik; 1 ♀, Mt. Wangbangsan Simgok-ri Sinbuk-myeon Pocheon, 15 vi 1975, E. H. Lee; 2 ♂ 1 ♀, Mt. Myeongseongsan Pocheon, 4 vi 1999, J. I. Kim et al.; 3 ♂ 3 ♀, Gangsibong Ildong-myeon Pocheon, 2 v 1997, J. I. Kim; 1 ♂, *ibid.*, 2 v 1997, E. J. Im; 1 ♀, *Korea National Arboretum Gikdong-ri Soheul-eup Pocheon*, 19 v 1990, S. Y. Choi; 1 ♀, Mt. Soyosan, 28 v 1977, I. S. Yuh; 2 ♀, *ibid.*, 6 vi 1977, Y. R. Park; 1 ♀, *ibid.*, 18 vi 1984, S. R. Oh; 1 ♀, *ibid.*, 18 vi 1984, J. H. Yuh; 1 ♀, Mt. Geumdansan, 14 v 1977, I. S. Kim; 1 ♀, *ibid.*, 12 vi 1977, G. Jung; 1 ♀, *ibid.*, 12 vi 1977, H. G. Lee; 1 ♀, *ibid.*, 31 v 1981, C. G. Kim; 1 ♀, Uijeongbu, 24 v 1992, H. R. Sohn; 1 ♀, Mt. Goryeongsan Gwangtan-myeon Paju, 7 v 2005, D. G. Hwang; 1 ♀, Temple Bogwangsa Yeongjang-ri Gwangtan-myeon Paju, 9 v 1976, C. Y. Y.; 1 ♀, *ibid.*, 11 vi 1977, S. H. Lee; 1 ♀, *ibid.*, 11 vi 1977, C. G. Song; 1 ♀, *ibid.*, 12 vi 1977, J. H. Kim; 1 ♀, *ibid.*, 18 vi 1977, Y. H. Kim; 1 ♀, *ibid.*, 28 v 1978, S. H. Nam; 1 ♀, *ibid.*, 13 v 1979, S. H. Jung; 1 ♀, Aengmubong Gwangtan-myeon Paju, 16 vi 1974, O. J. Lee; 1 ♀, *ibid.*, 9 v 1976, S. H. Nam; 2 ♀, *ibid.*, 12 vi 1977, B. G. Jung; 2 ♀, *ibid.*, 12 vi 1977, E. W. Seo; 1 ♀, *ibid.*, 12 vi 1977, S. J. Oh; 1 ♀, *ibid.*, 18 vi 1977, S. M. Yuh; 1 ♀, Mt. Jeongbalsan Madu-dong Ilsandong-gu Goyang, 1 vi 1996, S. R. Kim; 1 ♂, Jichuk-dong

Deogyang-gu Goyang, 15 v 1992, G. M. Ham; 1 ♀, *ibid.*, 12 v 1992, G. M. Ham; 1 ♀, Mt. Bukhansan Hyoja-dong Deogyang-gu Goyang, 5 v 2004, S. M. Lee; 1 ♀, Mt. Gwanaksan Bisan-dong Dongan-gu Anyang, 10 vi 1984, S. M. Kang; 1 ♀, Mt. Surisan Anyang-dong Manan-gu Anyang, 31 v 1992, H. J. Kim; 1 ♀, Mt. Yongmunsan Yangpyeong, 18 iv 1998, T. M. Han; 1 ♀, *ibid.*, 22 v 1999, H. J. Oh; 1 ♀, Temple Yongmunsa Damun 3(sam)-ri Yongmun-myeon Yangpyeong, 28 v 1982, H. H. Shin; 1 ♀, Yangsu-ri Yangseo-myeon Yangpyeong, 28 iv 1991, L. S. J.; 1 ♂ 1 ♀, Mt. Cheonmasan Namyangju, 30 iv 1972, C. H. Kim; 1 ♂, *ibid.*, 17 iv 1977, S. J. Paik; 1 ♀, *ibid.*, 30 iv 1972, J. I. Kim; 1 ♀, *ibid.*, 18 iv 1981, D. R. Lee; 2 ♀, *ibid.*, 15 v 1982, H. G. Kim; 1 ♀, *ibid.*, 6 vi 1982, S. H. Seok; 1 ♀, *ibid.*, 12 v 1991, L. S. J.; 1 ♀, Mt. Cheonmasan Pyeongnae-dong Namyangju, 2 vi 1984, H. G. Park; 1 ♀, *ibid.*, 2 vi 1984, H. W. Lim; 1 ♀, *ibid.*, 2 vi 1984, S. M. Kim; 2 ♂, Mt. Chungnyeongsan Sudong-myeon Namyangju, 24 iv 1993, E. H. Kim; 1 ♀, *ibid.*, 16 v 1980, G. S. Jang; 1 ♀, *ibid.*, 4 vi 1999, J. I. Kim et al.; 1 ♂, Gwangneung Bupyeong-ri Jinjeop-eup Namyangju, 3 v 1992, Y. G. Gwak; 1 ♀, *ibid.*, 20 v 1983, H. Y. Choi; 1 ♀, *ibid.*, 5 v 1988, G. Mun; 3 ♂ 1 ♀, Pallya-ri Jinjeop-eup Namyangju, 3 v 1986, S. R. Choi; 1 ♂ 1 ♀, *ibid.*, 3 v 1986, G. S. Jang; 1 ♂ 1 ♀, *ibid.*, 3 v 1986, E. J. Lee; 1 ♂ 2 ♀, *ibid.*, 3 v 1986, J. H. Lee; 1 ♂ 1 ♀, *ibid.*, 3 v 1986, H. M. Park; 2 ♀, *ibid.*, 3 v 1986, Y. S. Kim; 2 ♀, *ibid.*, 3 v 1986, U. O. Jung; 1 ♀, *ibid.*, 3 v 1986, H. W. Yoo; 1 ♀, *ibid.*, 3 v 1986, E. Y. Choi; 1 ♀, *ibid.*, 3 v 1986, J.

S. Ahn; 1 ♀, *ibid.*, 3 v 1986, S. M. Park; 1 ♀, *ibid.*, 3 v 1986, S. Y. Park; 1 ♀, *ibid.*, 3 v 1986, H. S. Lee; 1 ex., *ibid.*, 3 v 1986, S. H. Jeon; 2 ♀, Mt. Buramsan Byeollae-myeon Namyangju, 14 vi 1992, J. I. Kim; 1 ♀, *ibid.*, 20 v 1993, N. R. Kim; 1 ♀, Banwol *Subway Station* Geongeong-dong Sangnok-gu Ansan, 5 v 1998, E. H. Lee; 2 ♀, Anseong *TG* Gongdo-eup Anseong, 24 v 1986, G. H. Jung; 1 ♂, Gwangju, 22 iv 1984, M. C. Kim; 1 ♀, *ibid.*, 13 vi 1992, M. J. Shin; 2 ♀, Gogol Gwangju, 20 vi 1975, B. U. Oh; 1 ♂, Mt. Cheonggyesan Sangjeok-dong Sujeong-gu Seongnam, 28 iv 2006, J. H. Lee; 1 ♂ 1 ♀, Mt. Namhansan Hadaewon-dong Seongnam, 28 iv 1998, T. H. Kang; 1 ♂, *ibid.*, 3 v 1998, T. H. Kang; 1 ♀, *ibid.*, 5 v 1998, T. M. Han; 1 ♀, Unjung-dong Seongnam, 2 v 1984, M. C. Kim; 1 ♂, Namhansanseong, 14 v 1980, G. H. Jin; 1 ♀, *ibid.*, 19 vi 1974, O. J. Lee; 1 ♀, Suwon, 20 v 1989, H. N. Sim; 1 ♀, Cheongyo-ri Bibong-myeon Hwaseong, 21 v 1991, J. Y. Na; 1 ♂, Paldang, ? ? ?, Anonymous; 1 ♀, Gogol Hanam, 23 v 1995, Y. J. Paik; 1 ♀, Yongin, 6 vi 1998, H. J. Kim; 1 ♀, Yangji-myeon Cheoin-gu Yongin, 13 v 1988, M. S. Oh; **[CB]** 2 ♂ 6 ♀, Sojeong-ri Gunbuk-myeon Okcheon, 29 v 1991, J. I. Kim; 1 ♂, *ibid.*, 29 v 1991, S. H. Jeon; 1 ♀, *ibid.*, 29 v 1991, H. C. Park; 1 ♂, Mt. Gayeopsan Yongsan-ri Eumseong-eup Eumseong, 28 iv 1989, H. R. Noh; 1 ♀, Mt. Woraksan, 29 v 1987, E. Y. Kim; 2 ♀, *ibid.*, 30 v 1987, S. J. Kim; 1 ♀, *ibid.*, 30 v 1987, S. J. Won; 1 ♀, *ibid.*, 30 v 1987, J. H. Yeom; 1 ♀, *ibid.*, 1 vi 1987, C. G. Jang; 1 ♂, Mt. Woraksan Jecheon, 27 v 1996, M. R. Yun; 1 ♂ 1 ♀, *ibid.*, 27 v 1996,

Anonymous; 1 ♀, *ibid.*, 27 v 1996, T. H. Gu; 1 ♀, Goesan, 31 v 1986, Y. H. Lee; 1 ♂, Hwayang-ri Cheongcheon-myeon Goesan, 25 v 1996, J. I. Kim; 2 ♀, *ibid.*, 25 v 1996, T. H. Gu; 1 ♀, *ibid.*, 25 v 1996, Anonymous; 1 ♂, Mt. Minjujisan Yeongdong, 4 vi 2000, S. C. Park; 1 ♀, Mt. Songnisan Naesongni-myeon Boeun, 13 v 1989, E. G. Kim; 1 ♀, Yonggokmaeul Mt. Gyemyeongsan Yongtan-dong Chungju, 17 vi 2003, G. D. Han and T. W. Kim; [CN] 1 ♀, Mt. Gwangdeoksan Gwangdeok-ri Gwangdeok-myeon Cheonan, 11 v 1991, O. J. Lee; 1 ♀, Mt. Baekhwasan Taean-eup Taean, 26 v 2001, S. Y. Kim; 1 ♀, *ibid.*, 3 vi 2001, A. Y. Kim; 3 ♀, Is. Gaudio Gaudio-ri Geunheung-myeon Taean, 14 v 2005, T. W. Kim et al.; [GB] 1 ♀, Daegu, 6 vi 1987, S. J. Choi; 1 ♀, Mungyeongsaejae Mungyeong, 26 v 1996, H. Y. Lee; 1 ♂, Mt. Sobaeksan Yeongju, 28 v 1999, J. H. Park; 1 ♀, Temple Huibangsa Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 7 vi 1974, C. H. Shin; 1 ♀, Samcheonji *Yeungnam University Dae-dong* Gyeongsan, 23 v 1998, J. W. Lee; 1 ♀, *Yeungnam University Dae-dong* Gyeongsan, 3 vi 1997; 1 ♀, *Dalgi falls* Mt. Taehaengsan Woloe-ri Cheongsong-eup Cheongsong, 24 vi 1988, H. J. Kim; 1 ♀, Ijeondong Mt. Juwangsan Budong-myeon Cheongsong, 5 vi 1989, LSR; 1 ♀, Naewondongmaeul Mt. Juwangsan Sangui-ri Budong-myeon Cheongsong, 4 vi 1989, P. Y. I; 1 ♀, *ibid.*, 5 vi 1989, M. S. Y; 1 ♀, Temple *Daejeonsa* Mt. Juwangsan Sangui-ri Budong-myeon Cheongsong, 6 vi 1989, M. S. Y; 1 ♂, Ojeonyaksu Ojeon-ri Murya-myeon Bonghwa, 20 v 1998, J. I. Kim; 1 ♀, Mt.

Baegamsan Onjeong-myeon Uljin, 29 v 1999, S. H. Wu; 1 ♀, *ibid.*, 29 v 1999, H. H. Lee; 1 ♀, *ibid.*, 29 v 1999, J. U. Jang; 1 ♀, *ibid.*, 29 v 1999, T. M. Han; **[GN]** 1 ♂, Mt. Geumosan Goryong-ri Jingyo-myeon Hadong, 26 iv 2003, J. S. Park; 1 ♂, *ibid.*, 26 iv 2003, T. H. Ahn; 1 ♂, *ibid.*, 26 iv 2003, H. J. Lim; 1 ♀, Mt. Imyeongsan Jikjeon-ri Bukcheon-myeon Hadong, 31 v 2003, J. S. Park; 1 ♀, *ibid.*, 31 v 2003, J. H. Kim; 1 ♂ 1 ♀, Temple Naewonsa Daepo-ri Samjang-myeon Sancheong, 16 iv 1987, Anonymous; 1 ♀, Temple Gogyeonsa Suwol-ri Gajo-myeon Geochang, 6 v 2000, J. S. Jeon; 1 ♀, Chilseonggol Mt. Jirisan Macheon-myeon Hamyang, 8 vi 2002, S. Y. Kim et al.; 1 ♀, Mt. Gayasan Gaya-myeon Hapcheon, 17 v 1997, W. D. Lee; 1 ♀, Panmun-dong Jinju, 28 iv 1984, G. S. Jang; **[JB]** 1 ♂, Tongmungyo Mupung-myeon Muju, 13 v 2005, J. G. Lee; 1 ♂, Daebul-ri Seolcheon-myeon Muju, 26 v 1993, Y. M. Choi; 1 ♂, *ibid.*, 26 v 1993, J. M. Park; 1 ♀, *ibid.*, 26 v 1993, M. A. Jang; 1 ♀, *ibid.*, 26 v 1993, M. H. Cho; G. H. Gwon; 1 ♀, Gucheondong Muju, 10 vi 1972, C. H. Kim; 1 ♀, Mt. Deogyusan, 21 v 1983, K. D. Park; 1 ♂, Mt. Deogyusan Muju, 25 v 1993, G. A. Lee; 1 ♂, Mt. Minjujisan Muju, 26 v 1993, G. A. Lee; 1 ♀, Buan, 20 v 1992, H. A. Lee; 1 ♀, *ibid.*, 20 v 1992, S. Y. Kim; 1 ♀, Mt. Naesosan Buan, 22 v 1992, J. H. Bae; 1 ♀, Junggye-ri Byeonsan-myeon Buan, 21 v 1992, G. I. Lee; 1 ♂, Temple Naesosa Seokpo-ri Jinseo-myeon Buan, 26 vi 1990, M. Y. Jung; 1 ♂, *ibid.*, 22 v 1992, J. H. Bae; 1 ♂ 2 ♀, Mt. Naejangsan Naejang-dong Jeongeup, 26 v 1994, J. I. Kim; 1 ♀,

ibid., 26 v 1994, H. G. Kim; [JN] 2♀, Beolgyo-eup Boseong, 30 iv 1984, Y. S. Kim; 1♀, Mt. Jirisan Gurye, 4 vi 1998, K. W. Park; 2♀, Temple Baegyangsa Mt. Naejangsan Yaksu-ri Bukha-myeon Jangseong, 24 v 1994, S. J. Cho.

**Distribution.** China (Sichuan, Shaanxi, Guizhou, Hunan, Heilongjiang), Korea.

**Remarks.** This subspecies is recorded for the first time in Korea by Schenkling (1915) as '*Oedemera sieversi*'. However, according to Švihla (1999), *Oedemera sieversi* was treated as synonym of *Oedemera flaviventris*. In addition, *Oedemera flaviventris* was dealt with a subspecies under *Oedemera lucidicollis* in Švihla (1999). Also, in result of study, I was confirmed that *O. testaceithorax* was reported by Kim and Park (1991), etc. was a misidentification of this subspecies.

## 22. *Oedemera* (s. str.) *subrobusta* (Nakane, 1954)

[Plate I . 20, II . 39-41]

*Oedemerina subrobusta* Nakane, 1954. *Sci. Rep. Saikyo Univ.* (*Nat. Sci.*), 1: 180 (Japan).

**Korean records.** *Oedemerina subrobusta*: Kim and Kim, 1972: 79; Lee et al., 1985: 408; Kim and Park, 1991: 223; Kim et al., 1994a: 174; Chejudo Folklore and Natural History Museum, 1995: 404; Kim and Kim, 1996: 48; *Oedermerina* [sic] *subrobusta*: Kim et al., 1994b: 148; *Oedemera* (s. str.) *subrobusta*: Mizota, 1998: 92;

Švihla, 1999c: 38-39; Akiyama, 2000: 45-46; Vázquez, 2002: 94-95.

**Korean names.** 하늘소붙이 (Lee et al., 1985), 주름살하늘소부치 (Kim and Park, 1991), 주름살하늘소붙이 (Kim et al., 1994).

**Description.**

Coloration. Body dark greenish olivaceous to greenish bluish grey, tarsi and mouthparts sooty.

Male. Length: 7.0-8.7mm. Body elongate. Head slightly elongate (HW/HL: 1.2-1.3), as wide as or slightly wider than pronotum (HW/PW: 1.0-1.2). Distance between eyes remarkably to very remarkably wider than antennal pits (FWE/FWA: 2.0-2.7). Interocular area slightly to moderately wide (FWE/EYW: 1.2-2.0). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.8-1.0), without lateral margin. Prosternal process smooth. Elytra elongate to very elongate (EL/EW: 3.2-3.6), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Aedeagus with subapical teeth.

Female. Length: 7.7-10.0mm.

**Specimens examined.** [GW] 2♂, Mt. Daeamsan Yanggu, 13 vi 1990, J. I. Kim; 1♂, Yongneup Mt. Daeamsan Yanggu, 7 vii 1995, J. I. Kim; 8♂ 3♀, Mt. Daeamsan Dong-myeon Yanggu, 7-8 vii 2003, J. G. Kim and T. W. Kim; 1♀, Mt. Dosolsan Mandae-ri

Haean-myeon Yanggu, 7 vii 1995, J. I. Kim; [GG] 1 ♂, Ui-dong Gangbuk-gu Seoul, 8 vi 1974, H. R. Lee; [JJ] 2 ♂, Yeongsil, 2 v 1990, H. C. Park; 2 ♂, *ibid.*, 2 v 1990, J. G. Kim; 3 ♀, *ibid.*, 2 v 1990, D. J. Jeon; 1 ♀, *ibid.*, 2 v 1990, G. D. Han; 5 ♂ 2 ♀, Wanggwanneung Jeju, 1 viii 1972, J. I. Kim; 4 ♂ 1 ♀, Mansedongsan, 31 vii 1972, J. I. Kim; 1 ♂, Seongpanak, 1 viii 1972, J. I. Kim; 2 ♂, Sajebidongsan, 31 vii 1972, J. I. Kim; 1 ♂, Yongjŏngak, 1 viii 1972, J. I. Kim; 1 ♂, Eorimok Jeju, 27 v 1992, S. M. Ryu; 5 ♂, Baengnokdam Mt. Hallasan, 31 vii 1972, J. I. Kim; 7 ♂ 5 ♀, *ibid.*, 1 viii 1972, J. I. Kim; 3 ♂ 2 ♀, *ibid.*, 1 viii 1974, J. I. Kim; 1 ♂, *ibid.*, 28 vii 1978, S. H. Nam; 1 ♂, Andeok-myeon Namjeju, 5 v 1990, J. G. Kim.

**Biological information.** In northern Korea, they have been collected on flowers of *Sambucus*, *Sorbus* and *Syringa* (Vázquez, 2002).

**Distribution.** France, Switzerland, Sweden, Poland, Slovakia, Hungary, Romania, Georgia, Armenia, N Turkey, Russia (Komi AR, Moscow, Kursk, N Caucasus, Altay Mts., Irkutsk, Chita, Yakutia, Prymorye, Khabarovsk, Sakhalin), Mongolia, Korea (GW, JJ), Japan (Honshu), China (Qinghai, Gansu, Sichuan, Shaanxi, Hubei).

### 23. *Oedemera* (s. str.) *robusta* Lewis, 1895 남색하늘소붙이

[Plate I . 21, II . 42-44]

*Oedemera robusta* Lewis, 1895. *Ann. Mag. Natur. Histor.*, 15: 443

(Japan).

**Korean records.** *Oedemerina robusta*: Kim and Kim, 1972: 79; Kim et al., 1994a: 174; *Oedemera* (s. str.) *robusta*: Mizota, 1998: 92; Švihla, 1999c: 39–40, 80, 86; Akiyama, 2000: 45; Mizota and Yamauchi, 2001: 61.

**Korean name.** 남색하늘소불이 (Kim et al., 1994).

**Description.**

Coloration. Body dark greenish to slate blue, mouthparts and tarsi partly sooty.

Male. Length: 5.1–7.5mm. Body elongate. Head slightly elongate to short (HW/HL: 1.3–1.4), slightly to moderately wider than pronotum (HW/PW: 1.1–1.3). Distance between eyes remarkably to very remarkably wider than antennal pits (FWE/FWA: 1.8–2.3). Interocular area slightly wide (FWE/EYW: 1.2–1.5). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filiform, 11-segmented. Pronotum cordiform, as wide as or wider than long (PL/PW: 0.8–1.0), without lateral margin. Prosternal process smooth. Elytra elongate to very elongate (EL/EW: 3.1–3.5), subparallel. Protibiae with two terminal spurs. Metafemora not expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Aedeagus with subapical teeth.

Female. Length: 5.4–9.1mm.

**Specimens examined.** [GW] 1 ♂, Mt. Geonbongsan Sudong-myeon Goseong, 22 v 1992, H. C. Park; 3 ♂, Temple Geonbongsa Naengcheon-ri Geojin-eup Goseong, 22 v 1992, H. C. Park; 1 ♂, Dutayeon Bangsan-myeon Yanggu, 30 v 1992, H. C. Park; 1 ♂ 1 ♀, Mt. Seoraksan (Course: Osaek to Daecheongbong) Oga-ri Seo-myeon Yangyang, 25 v 2002, J. D. Yuh; 2 ♂, Temple Baekdamsa Mt. Seoraksan Yongdae 2(i)-ri Buk-myeon Inje, 5 vi 1979, B. W. Choi; 1 ♂ 1 ♀, Mt. Hanseoksan Inje, 18 vi 1997, H. C. Park; 1 ♂ 1 ♀, Balsan 2(i)-ri Nam-myeon Chuncheon, 17 iv 1998, H. C. Park; 1 ♀, *ibid.*, 17 v 1998, H. C. Park; 2 ♂, Gangchon-ri Namsan-myeon Chuncheon, 22 v 1977, H. G. Lee; 1 ♂, *ibid.*, 22 v 1977, H. Y. Han; 1 ♂ 1 ♀, Mt. Seokbyeongsan Imgye-ri Imgye-myeon Jeongseon, 22 v 2002, J. D. Yuh; 1 ♂ 1 ♀, *ibid.*, 22 v 2002, Y. B. Lee; 2 ♂ 2 ♀, Temple Gwaneumsa Mt. Baekdeoksan Suju-myeon Yeongwol, 14 v 2001, T. W. Kim; 4 ♂, Temple Bongjeongsa Mt. Taehwasan Palgoe-ri Yeongwol-eup Yeongwol, 14 v 2001, T. W. Kim; 2 ♀, *ibid.*, 14 v 2001, H. C. Park; 1 ♂, Cheoram-dong Taebaek, 17 v 1991, O. S. Kwan; 1 ♂, *ibid.*, 5 vi 1991, K. H. Choi; [GG] 1 ♂, Mt. Cheonggyesan Seocho-gu Seoul, 24 v 1987, S. Y. Oh; 1 ♂, Mt. Cheonggyesan Wonji-dong Seocho-gu Seoul, 12 v 1988, S. B. Kim; 1 ♂, Gildong *Ecological Park* Gil-dong Gangdong-gu Seoul, 10 v 2004, B. H. Jung; 1 ♂, Mt. Wangbangsan, 15 vi 1975, J. I. Kim; 4 ♂, *ibid.*, 16 v 1982, M. L. Kim; 1 ♂, Mt. Wangbangsan Pocheon, 23 v 1976, H. S. Sim; 1 ♂, *ibid.*, 23 v 1976, S. B. Paik; 1 ♂, *Korea National Arboretum*

Jikdong-ri Soheul-eup Pocheon, 28 iv 1995, H. S. Mun; 1 ♀, Mt. Jugeumsan Eumhyeon-ri Naechon-myeon Pocheon, 20 v 1993, J. C. Sohn; 1 ♂, Temple Seungcheonsa Mt. Myeongjisan Dodae-ri Buk-myeon Gapyeong, 5 v 2001, E. S. Kim et al.; 2 ♀, ibid., M. A. Kim; 1 ♀, ibid., H. C. Park; 1 ♀, Mt. Myeongjisan Baekdun-ri Buk-myeon Gapyeong, 26 iv 2001, H. C. Park; 1 ♂, Mt. Myeongjisan Gapyeong, 5 vi 1994, H. E. Kim; 1 ♂, Temple Hyeondeungsa Mt. Unaksan Hapan-ri Ha-myeon Gapyeong, 11 v 2002, S. I. Shin; 1 ♂, Hyeon-ri Ha-myeon Gapyeong, 6 v 1984, Y. S. Kim; 1 ♂, Jeokseong-myeon Paju, 22 v 1999, T. W. Kim; 1 ♂, Nam-myeon Yangju, 5 v 1997, H. J. Lee; 1 ♂, Gwangneung Bupyeong-ri Jinjeop-eup Namyangju, 19 v 1974, Anonymous; 1 ♂, Mt. Cheonmasan Namyangju, 14 v 1981, H. G. Park; 1 ♂, Pallya-ri Jinjeop-eup Namyangju, 3 v 1986, Y. S. Kim; 1 ♂, ibid., 3 v 1986, G. S. Jang; 1 ♂, Mt. Jungmisan Sinbok-ri Okcheon-myeon Yangpyeong, ? vi 2005, B. H. Jung; 1 ♀, Jonam-dong Siheung, 16 v 2001, H. A. Lee; 1 ♂, Mt. Namhansan Hadaewon-dong Seongnam, 5 v 1998, T. H. Kang; 2 ♂, Eommi-ri Jungbu-myeon Gwangju, 23 v 1981, J. I. Kim; 1 ♂ 1 ♀, Mt. Surisan Gunpo, 5 v 2002, J. C. Sohn; 1 ♂, Mt. Cheonggyesan Uiwang, 2 vi 1996, E. G. Park; 1 ♂, Eungogae, 17 v 1981, G. S. Jang; 1 ♀, Seodun-dong Gwonseon-gu Suwon, 28 iv 2001, T. W. Kim; 1 ♂, Yongin, 20 iv 1998, H. J. Kim; 1 ♂, Hantaek *Botanical Garden* Oksan-ri Baegam-myeon Yongin, 8 iv 2002, J. C. Sohn; [CB] 2 ♂, Mt. Woraksan, 29 v 1987, S. Y. Lee; 1 ♂, ibid., 30 v 1987, S. Y. Lee;

1 ♂, Mt. Woraksan Jecheon, 27 v 1996, Y. E. Kim; 1 ♂, Mt. Daemisan Chungju, 19 v 1997, H. C. Park; 1 ♂, Mt. Songnisan Naesongni-myeon Boeun, 13 v 1989, J. Y. Jang; [CN] 2 ♂, Guseong-ri Yeongin-myeon Asan, 19 v 2000, H. B. Kim; 1 ♂, Mt. Gwangdeoksan Gwangdeok-ri Gwangdeok-myeon Cheonan, 11 v 1991, O. J. Lee; [GB] 1 ♂, *Yeungnam University Dae-dong Gyeongsan*, 15 v 1991, I. W. Jung; 1 ♂, Mt. Mirimsan Bonghwa, 4 v ?, H. G. Park; 1 ♂, Buryeong *valley* Uljin, 9 v 1991, J. H. Jang; 1 ♂, *ibid.*, 9 v 1991, Y. A. Kim; 1 ♂, *ibid.*, 9 v 1991, Y. J. Hwang; 1 ♂, *ibid.*, 10 v 1991, J. H. Jang; [GN] 1 ♂, Temple Ssanggyesa Mt. Jirisan Unsu-ri Hwagae-myeon Hadong, 5 vi 1977, G. A. Kim; [JB] 1 ♂, Naebukdong Mt. Minjujisan Daebul-ri Seolcheon-myeon Muju, 21 v 2000, T. H. Ahn; 1 ♂, Jangsu, 10 v 1997, J. G. Kim; [JN] 1 ♂ 1 ♀, Temple Baegyangsa Mt. Naejangsan Yaksu-ri Bukha-myeon Jangseong, 7 v 2000, H. C. Park; 1 ♀, Mt. Baegyasun Hwasun, S. J. Jang.

**Distribution.** Russia (Amur, Khabarovsk, Primorye), China (Heilongjiang), Korea, Japan (Honshu).

24. *Oedemera* (s. str.) *concolor* Lewis, 1895 흑청색하늘소붙이  
*Oedemera concolor* Lewis, 1895. *Ann. Mag. Natur. Histor.*, 15:  
 442 (Japan).

**Korean records.** *Oedemera concolor*: Chô, 1934: 81; Mochizuki and Tsunekawa, 1937: 83; Chô, 1938: 46; Doi, 1938: 95; Mochizuki

and Masui, 1939: 63; Cho, 1947: 69; Cho, 1957: 228; ZSK, 1968: 113; Ju, 1969: 122; *Oedemerina concolor*: Kim and Kim, 1971: 157; Kim et al., 1994a: 174; Kim and Kim, 1998: 172; Park, 1998: 51; *Oedemera (Oedemera) concolor*: Mizota, 1998: 92.

**Korean names.** 어리하늘소(Cho, 1947), 흑청색하늘소붙이(ZSK, 1968), 검푸른돌드레번티기(Ju, 1969).

**Distribution.** Russia (Sakhalin, Kuriles), Korea, Japan (Hokkaido, Honshu, Tsushima).

**Remarks.** This species was recorded for the first time in Korea by Chô (1934). But I was unable to examine any Korean specimen. However, this species is survived in the Korean list due to great possibilities to discover in Korea as further research. Accurate description of this species can be found in Švihla (1999).

## 25. *Oedemera* (s. str.) *parallelipennis* Seidlitz, 1899

[Plate I . 22, II . 45-47]

*Oedemera (Oedemerina) pallelipennis* Seidlitz, 1899. *Naturgeschichte der Insekten Deutschlands*: 919.

**Korean records.** *Oedemera parallelipennis*: Švihla and Merkl, 1992: 102; Nikitsky, 1996: 25; Kim, 2002a: 249; *Oedemera (Oedemera) parallelipennis*: Švihla, 1999c: 47, 80, 86.

### **Description.**

Coloration. Body dark slate blue, mouthparts, antennae and tarsi partly sooty.

Male. Length: 7.9–9.7mm. Body elongate. Head slightly elongate (HW/HL: 1.2–1.3), as wide as or slightly wider than pronotum (HW/PW: 1.0–1.2). Distance between eyes remarkably to very remarkably wider than antennal pits (FWE/FWA: 2.0–2.7). Interocular area slightly to moderately wide (FWE/EYW: 1.3–2.0). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 11-segmented. Pronotum cordiform, usually as wide as long (PL/PW: 0.9–1.1), without lateral margin. Prosternal process smooth. Elytra elongate to very elongate (EL/EW: 3.4–3.7), subparallel. Protibiae with two terminal spurs. Metafemora very strongly expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Aedeagus with subapical teeth.

Female. Length: 8.6–10.7mm. Metafemora not expand.

**Specimens examined.** [GW] 1 ♂ 1 ♀, Hyangnobong, 28 v 1968, J. G. Oh; 1 ♂, *ibid.*, 16 vi 1968, J. G. Oh; 1 ♂, *ibid.*, 16 vi 1968, J. I. Kim; 1 ♀, *ibid.*, 27 v 1968, J. I. Kim; 1 ♂, *ibid.*, 13 vi 1992, S. M. Ryu; 4 ♂, *ibid.*, 13 vi 1992, H. C. Park; 5 ♀, *ibid.*, 18 vi 1967, J. I. Kim; 1 ♀, *ibid.*, 16 vi 1968, J. G. Oh; 1 ♀, *ibid.*, 16 vi 1968, J. I. Kim; 7 ♂, Mt. Daeusan Dong-myeon Yanggu, 24 v 2003, T. W. Kim; 1 ♀, *ibid.*, 23 v 2003, T. W. Kim; 1 ♂, Yongneup Mt. Daeamsan Yanggu, 7 vii 1995, J. I. Kim; 1 ♂, Mt. Daeamsan Yanggu, 13 vi 1990, J. I. Kim; 1 ♀, Mt. Bangtaesan Inje, 4–6 vi 1999, J. H. Park; 1 ♂, Mt. Gyebangsan Yongpyeong-myeon

Pyeongchang, 16 vi 1993, J. I. Kim; 1 ♂, *ibid.*, 16 vi 1993, S. Y. Kim; 1 ♂, Mt. Taebaeksan, 13 v 1992, K. H. Lee; 1 ♂, *ibid.*, 13 v 1992, M. G. Lee; 1 ♂, *ibid.*, 14 v 1992, M. G. Lee; 1 ♂, Mt. Taebaeksan Taebaek, 30 v 1999, T. H. Kang; 1 ♂, Mt. Chiaksan Socho-myeon Wonju, 5 vi 1992, K. H. J; [GG] 1 ♂, Mt. Hwaaksan Buk-myeon Gapyeong, 29 v 1998, S. Y. Kim; 1 ♂, Mt. Chungnyeongsan Sudong-myeon Namyangju, 23 v 1996, J. E. Yoo; [GB] 1 ♂, Goryeong, 31 viii 1997, Anonymous; 1 ♂, Yeongju, 25 v 1996, E. H. Paik; 1 ♂, Temple Huibangsa Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 8 vi 1974, S. H. Nam; 2 ♂, *ibid.*, 6 vi 1981, Y. J. Shin; [JN] 1 ♂, Mt. Jirisan Gurye, 5 vi 1998, C. W. Park; 1 ♂, Nogodan Mt. Jirisan Gurye, 23 v 1999, T. M. Han.

**Distribution.** Russia (Khabarovsk, Primorye), Korea (GW, GB).

26. *Oedemera* (s. str.) *virescens virescens* (Linnaeus, 1767)

[Plate I . 23, II . 48-50]

*Cantharis virescens* Linnaeus, 1767. *Systema Naturae*, I(2): 650.

**Korean record.** *Oedemera* (s. str.) *virescens virescens*: Švihla, 1999c: 76, 80, 86.

**Description.**

Coloration. Body dark greenish olivaceous to greenish bluish grey, mouthparts, antennae and tarsi partly sooty.

Male. Length: 6.7-9.3mm. Body elongate. Head slightly elongate to short (HW/HL: 1.3-1.5), slightly to moderately wider than

pronotum (HW/PW: 1.1-1.3). Distance between eyes slightly to very remarkably wider than antennal pits (FWE/FWA: 1.5-2.3). Interocular area slightly narrow to slightly wide (FWE/EYW: 0.9-1.5). Eyes small, slightly vaulted, emarginate. Mandibles bifid at apex. Last segment of maxillary palpi securiform. Antennae filliform, 11-segmented. Pronotum cordiform, usually wider than long (PL/PW: 0.9-1.1), without lateral margin. Prosternal process smooth. Elytra moderate to elongate (EL/EW: 2.8-3.4), subparallel. Protibiae with two terminal spurs. Metafemora strongly expand. Claws simple. Both tegmen and aedeagus with basal apodemes, parameres non-pubescent. Aedeagus with subapical teeth.

Female. Length: 8.8mm. Metafemora not expand.

**Specimens examined.** [GW] 1 ♂, Mt. Geonbongsan Sudong-myeon Goseong, 22 v 1992, H. C. Park; 1 ♀, Yongsan-ri Doam-myeon Pyeongchang, 29 vi 1985, G. H. Shin; [GG] 1 ♂, Temple Seungcheonsa Mt. Myeongjisan Dodae-ri Buk-myeon Gapyeong, 5 v 2001, J. H. Yoo; 1 ♂, Mt. Myeongjisan Gapyeong, 23 iv 1994, I. P. Sohn; 1 ♂, Mt. Wangbangsan, 23 v 1976, J. H. Ryu; 1 ♂, Mt. Yongmunsan Yangpyeong, 18 iv 1998, T. M. Han; 1 ♂, Makgye-dong Gwacheon, 5 vi 1993, J. Y. Lim; [GB] 1 ♂, Mt. Gayasan Singye-ri Gacheon-myeon Seongju, 29 v 1999, G. M. Jang; [JB] 1 ♂, Muju, 24 v 1993, M. N. Sohn; 1 ♂, Gucheondong Muju, 21 v 1983, C. G. Im; 1 ♂, *ibid.*, 21 v 1983, H. S. Jung; 1 ♂, *ibid.*, 21 v 1983, J. S. Yoon; 1 ♂, *ibid.*, 21 v 1983, H. S. Park; 1 ♂, *ibid.*, 22 v 1983, O. M. Kim; 1 ♂, Mt. Deogyusan Muju, 21 v 1983,

K. C. Choi; 1 ♂, *ibid.*, 21 v 1983, J. Y. Park; 1 ♂, *ibid.*, 21 v 1983, Y. G. Min; 1 ♂, *ibid.*, 21 v 1983, D. E. Lee; 1 ♂, *ibid.*, 25 v 1995, Y. E. Lee; 1 ♂, Tongmungyo Mupung-myeon Muju, 13 v 2005, J. G. Lee; 4 ♂, Naebukdong Mt. Minjuisan Daebul-ri Seolcheon-myeon Muju, 21 v 2000, J. H. Sohn; 2 ♂, *ibid.*, 21 v 2000, J. S. Park; 6 ♂, *ibid.*, 21 v 2000, T. H. Ahn; 2 ♂, Buldae Mt. Minjuisan Socheon-ri Seolcheon-myeon Muju, 21 v 2000, T. H. Ahn.

**Biological information.** The larvae have been recorded from decaying stems of *Aconitum*, *Eupatorium*, *Helianthus*, *Senecio* and *Typha*. The adults have been recorded from May to August at flowers of *Achillea*, *Brassica*, *Geranium*, *Leontodon*, *Melandrium*, *Poa*, *Potentilla*, *Ranunculus* and Apiaceae (Vázquez, 2002).

**Distribution.** This species is common in most of Europe (Vázquez, 2002). Russia (Karelia, Moscow, Komi AR, Kursk, Chelyabinsk, S Ural Mts., Novosibirsk, Altay Mts., Tuva, Irkutsk, Buryatia, Chita, Yakutia, Magadan, Amur, Khabarovsk, Primorye, Sakhalin), China (Shanxi, Heilongjiang), Mongolia, Korea, Japan (Honsu).

### 3. 考察

본 연구 결과, 한국산 하늘소붙이科 각 종의 고찰에 대한 중요사항을 요약하면 다음과 같다.

■ 한국산으로 새롭게 인식된 종

1) 1신종. *Ischnomera* sp. nov.

2) 2미기록종. *Nacerdes (Patiala)* sp., *Ischnomera abdominalis* (Heyden, 1887)

■ 국내에서 알려지지 않았으나 외국문헌상에는 이미 한국분포가 알려졌던 종

*Diasclera sibirica laevithorax* (Pic, 1915), *Oedemera parallelipennis* Seidlitz, 1899, *Oedemera virescens virescens* (Linnaeus, 1767). 이상 3종은 각각 Švihla(1999b), Švihla and Merkl(1992) 그리고 Švihla(1999c) 등의 문헌에서 북한표본 등을 근거로 한국에서의 분포가 이미 알려진 종이지만, 국내에서는 국내분포종으로서의 인식이 전혀 없던 종들이다.

■ 표본 미확인 종

1) 분포가능성이 있는 종들: *Nacerdes (X.) katoi*, *Nacerdes (X.) strandi*, *Eobia* (s. str.) *chinensis*, *Indasclera japonica*, *Oedemera (S.) venosa*, *Oedemera* (s. str.) *concolor*. 이상 6종은 이번 연구에서 한국기록의 근거표본을 확인하지 못한 종들이다. 하지만, 이들 종은 국외분포로 보아 추후, 국내에서 새로이 표본이 채집되거나 표본조사가 더 이루어지면 발견될 가능성이 충분하다고 사료된다.

2) 아종 처리의 문제:

*Chrysanthia geniculata viatica*: 본 아종은 국내에선 *Chrysanthia g. integricollis* 와 더불어 각각 *Chrysanthia viatica*, *Chrysanthia integricollis*로서 별개의 2종으로 기록되던 종이다. 하지만, Švihla(1999b)는 2종을 *Chrysanthia geniculata*의 아종으로서 다루었으며, 그가 제안한 2아종의 차이점은 단지 다리의 색깔 차이뿐이었는데 국내의 *Chrysanthia*屬의 종들을 관찰한 결과 그가 제시한 형질로는 명확히 grouping이 되지 않는다는 것을 확인하였다. 또한 2아종의 분포를 보면 *Chrysanthia g. viatica*는 일본, 쿠릴열도를 따라 분포하며, *Chrysanthia g. integricollis*는 한국을 포함한 러시아 또는 중국 등의 대륙에 분포하는 종이다. 본인은 2종을 아종으로 구분할지 혹은 별개의 종으로 분리할지의 여부를 앞으로 각 지역으로부터의 충분한 표본이 확보된 후, 다시 검토가 이루어져야 할 것으로 사료된다.

*Ischnomera nigrocyanea nigrocyanea* & *Oedemera* (s. str.) *lucidicollis lucidicollis*: 이 두 아종들은 먼저 언급한 *Ch. g. viatica* 와 마찬가지로 분류학적 처리에 있어 동일한 문제점을 가지고 있다. 따라서 *Ch. g. viatica*와 더불어 한국을 포함한 러시아, 중국 등의 대륙지역과 일본, 쿠릴열도 등의 섬지역으로부터의 충분한 표본을 확보하여 면밀히 검토해야 할 것으로 사료된다.

#### ■ 삭제종

*Oedemera lurida*. 본 종은 Chô(1938)에 의해 처음 국내에 기록된 이래, 수차례 여러 문헌을 통해 기록되어 왔으나, 표본을 전혀 확인할 수 없었다. *Oedemera*屬은 구북구지역에만 분포하는 屬으로 하늘소붙이과내에서 단일 屬으로서 가장 종다양성이 크며, 중간 형태적

유사성 또한 매우 큰 그룹이다. 이러한 이유로 국내에 하늘소붙이과에 대한 전문분류학자가 없는 상황에서 국내 분포하는 *Oedemera*屬의 다른 종들과의 혼란으로 인하여 오동정되었을 가능성이 매우 크다고 사료된다. 또한 본 종은 결정적으로 유럽에 흔하게 분포하는 종으로 극동지역에서는 어떠한 분포기록도 확인 할 수 없었다. 따라서 본 종의 분포상황을 고려해 볼 때, 앞으로도 국내에서는 본 종이 발견된 확률이 매우 희박하다는 결론하에 한국산 목록에서의 삭제를 제안한다.

## V. 結論 (Conclusions)

본 연구는 이전까지 국내에서의 신뢰할만한 연구 결과가 부재하였던 한국산 하늘소붙이科(딱정벌레目: 거저리上科)의 분류학적인 검토이다. 본 연구의 주안점은 한국산으로 기존의 혼동되어 온 많은 오동정과 동물이명을 근거 표본 연구를 통해 정리하고, 새로이 종 목록을 작성하여 이들 중에 대한 접근하기 쉬운 국내 정보를 구축하는데 초점을 두어 최대한 신뢰할 수 있고 올바른 한국산 하늘소붙이科에 대한 분류학적 견지를 제공하기 위해 노력하였다. 이를 통해 국내 곤충상 연구에서 올바른 학명의 적용과 함께 학술적으로 새로운 분류학적 지견을 제공함으로써 연구자들과 일반인들에게 하늘소붙이科에 대한 인식과 관심을 제고시키고자 하였다.

한국산 하늘소붙이科는 Kolbe(1886)에 의해 처음 1종이 기록된 이후, 현재까지 각종 문헌을 통해 모두 34종의 학명이 보고되어왔다. 그러나 이중에는 많은 오동정, 동종이명, 근거가 의심스러운 학명 등이 포함되어 있다. 각 대학과 연구기관 등에 소장된 과거로부터 현재까지의 표본 약 2,000여 개체에 대한 형태적 형질 분석을 통해 각 종명의 타당성 여부를 검토한 결과, 2006년 이전까지 한국산으로 적합한 학명은 모두 23종, 3아종이었으며 이번 연구 과정에서 새롭게 추가된 1신종 후보와 2미기록종은 아래와 같다.

*Nacerdes (Patiala) sp.*

*Ischnomera abdominalis* (Heyden, 1887)

*Ischnomera sp. nov.*

결과적으로 한국산 하늘소붙이과는 총 2아과 4족 9속에 속하는 26종 3아종으로 정리되었다. 연구 결과에 따라 각 분류군에 대한 검색표와 형태 기재, 문헌, 채집지, 생물학적 정보 등을 제시하였다.

본 연구는 제한된 시간과 다소 한정된 연구재료 그리고 연구자의 짧은 지식과 능력으로 말미암아 분류학적으로 재고되어야 할 미흡한 부분들이 존재하므로 추후 더 명확히 처리되어야 하리라 본다. 연구재료 면에서 보면 해안성 하늘소붙이류는 과거 해안지역에서의 야외 조사활동이 거의 없었던 이유로 연구과정 중 극히 소수의 표본만을 확인 할 수 있었다. 해안성 하늘소붙이의 전문적인 야외조사가 이루어진다면 이웃한 일본에서의 상황을 고려해 볼 때, 상당수의 종들이 추가 확인될 것으로 사료된다.

또한 본 연구결과 기초로 하여 다양한 응용학적 측면의 연구에서 활용되어 추가적인 연구의 시발점이 될 수도 있으리라 기대한다. 끝검은하늘소붙이(*Nacerdes melanura*)는 외국의 여러 나라에서 부딪가 목재구조물에 피해를 주는 해충으로 인식되어왔다. 그리고 *Oedemera*屬의 종류들은 식물의 수분매개자로, *Ischnomera*屬의 종류들은 오래된 활엽수림의 지표곤충(indicator)으로 알려져 있다. 또한 하늘소붙이과의 일부 종들은 가뢰과와 더불어 칸타리딘(cantharidin)을 생산할 수 있는 유일한 곤충이다. 칸타리딘은 인간의 피부에 닿으면 수포를 유발하지만, 딱정벌레목(Coleoptera)을 비롯한 다양한 목(order)에 속하는 곤충들에게는 방어 및 교미 활동(번식)에 있어 매우 중요한 요인으로 작용하는 것이 알려진 물질이다. 하늘소붙이과는 작은 크기와 불품없는 모양새 그리고 어떠한 경제적인 중요성도 갖지 못한다는 이유로 인류사회에선 관심 받지 못하는 곤충이지만, 이렇듯 생태계에서는 다양한 역할을 수행하고 있는 자연의 구성원임에

틀림이 없다. 앞으로 하늘소붙이科에 관한 순수 분류학적 연구뿐만 아니라 응용학적 측면에서도 다양한 활용 및 연구방안을 모색해 볼 수 있으리라 기대한다.

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# ABSTRACT

## Taxonomy of Korean Oedemeridae (Coleoptera: Oedemeridae)

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To clarify taxonomy of the family Oedemeridae (Coleoptera: Tenebrionoidea) in Korea, this study was conducted.

Thirty four species have been recorded in Korean oedemerid fauna, since Kolbe(1886) reported 1 species (*Nacertes waterhousei*) of Korean Oedemeridae for the first time. But researches of Korean Oedemeridae not only have many problems included such as misidentifications, synonyms, and dubious names, but also information of distribution and identification are rare.

As a result of this investigation, twenty three species and three subspecies were confirmed, and one new species and two new recorded species were described or redescribed by comparison

of morphological characters. A new and two newly recorded species to Korean fauna are as follows: *Nacerdes (Patiala)* sp.; *Ischnomera* sp. nov.; *Ischnomera abdominalis* (Heyden, 1887).

Consequently, it is reported that Korean Oedemeridae is consisted of twenty six species including three subspecies belong to nine genera under two subfamilies. The descriptions, illustrations, localities and biological informations of each species are provided.

# Explanation of Plates

## Plate I . Shape of body

1. *Ditylus laevis laevis* (Fabricius), male
2. *Diasclera sibirica laevithorax* (Pic), male
3. *Chrysanthia geniculata integricollis* Heyden, male
4. *Nacerdes* (s. str.) *melanura* (Linnaeus), male
5. *Nacerdes* (*Xanthochroa*) *atriceps* (Lewis), male
6. *Nacerdes* (*Xanthochroa*) *hilleri hilleri* (Harold), male
7. *Nacerdes* (*Xanthochroa*) *katoi* (Kôno, 1932), male (specimen from Japan)
8. *Nacerdes* (*Xanthochroa*) *luteipennis* (Marseul), male
9. *Nacerdes* (*Xanthochroa*) *waterhousei* (Harold), male
10. *Nacerdes* (*Xanthochroa*) *strandii* (Kôno, 1936), male (specimen from Japan)
11. *Nacerdes* (*Patiala*) sp., male
- 12-1. *Anogcodes coarctata croceiventris* (Motschulsky), male
- 12-2. *Anogcodes coarctata croceiventris* (Motschulsky), female
13. *Eobia cinereipennis cinereipennis* (Motschulsky), male
14. *Ischnomera abdominalis* (Heyden), male
15. *Ischnomera nigrocyanea koreana* Fleischer, female
16. *Ischnomera* sp., male
17. *Indasclera japonica japonica* (Pic, 1910) (specimen from Japan)
18. *Oedemera* (*Stenaxis*) *amurensis* Heyden, male
19. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire, male
20. *Oedemera* (s. str.) *subrobusta* (Nakane), male
21. *Oedemera* (s. str.) *robusta* Lewis, male
22. *Oedemera* (s. str.) *parallelipennis* Seidlitz, male
23. *Oedemera* (s. str.) *virescens virescens* (Linnaeus), male

## Plate II – III. Male genitalia

1. *Ditylus laevis laevis* (Fabricius), ventral view
2. *Ditylus laevis laevis* (Fabricius), dorsal view
3. *Ditylus laevis laevis* (Fabricius), lateral view
4. *Diasclera sibirica laevithorax* (Pic), ventral view
5. *Diasclera sibirica laevithorax* (Pic), dorsal view
6. *Diasclera sibirica laevithorax* (Pic), lateral view
7. *Chrysanthia geniculata integricollis* Heyden, ventral view
8. *Chrysanthia geniculata integricollis* Heyden, dorsal view
9. *Chrysanthia geniculata integricollis* Heyden, lateral view
10. *Nacerdes* (s. str.) *melanura* (Linnaeus), dorsal view
11. *Nacerdes* (s. str.) *melanura* (Linnaeus), lateral view
12. *Nacerdes* (*Xanthochroa*) *atriceps* (Lewis), dorsal view
13. *Nacerdes* (*Xanthochroa*) *atriceps* (Lewis), lateral view
14. *Nacerdes* (*Xanthochroa*) *hilleri hilleri* (Harold), dorsal view
15. *Nacerdes* (*Xanthochroa*) *hilleri hilleri* (Harold), lateral view
16. *Nacerdes* (*Xanthochroa*) *luteipennis* (Marseul), dorsal view
17. *Nacerdes* (*Xanthochroa*) *luteipennis* (Marseul), lateral view
18. *Nacerdes* (*Xanthochroa*) *waterhousei* (Harold), dorsal view
19. *Nacerdes* (*Xanthochroa*) *waterhousei* (Harold), lateral view
20. *Nacerdes* (*Patiala*) sp., dorsal view
21. *Nacerdes* (*Patiala*) sp., lateral view
22. *Anogcodes coarctata croceiventris* (Motschulsky), dorsal view
23. *Anogcodes coarctata croceiventris* (Motschulsky), lateral view
24. *Eobia cinereipennis cinereipennis* (Motschulsky), tegmen, ventral view
25. *Eobia cinereipennis cinereipennis* (Motschulsky), tegmen, lateral view
26. *Eobia cinereipennis cinereipennis* (Motschulsky), aedeagus, lateral view

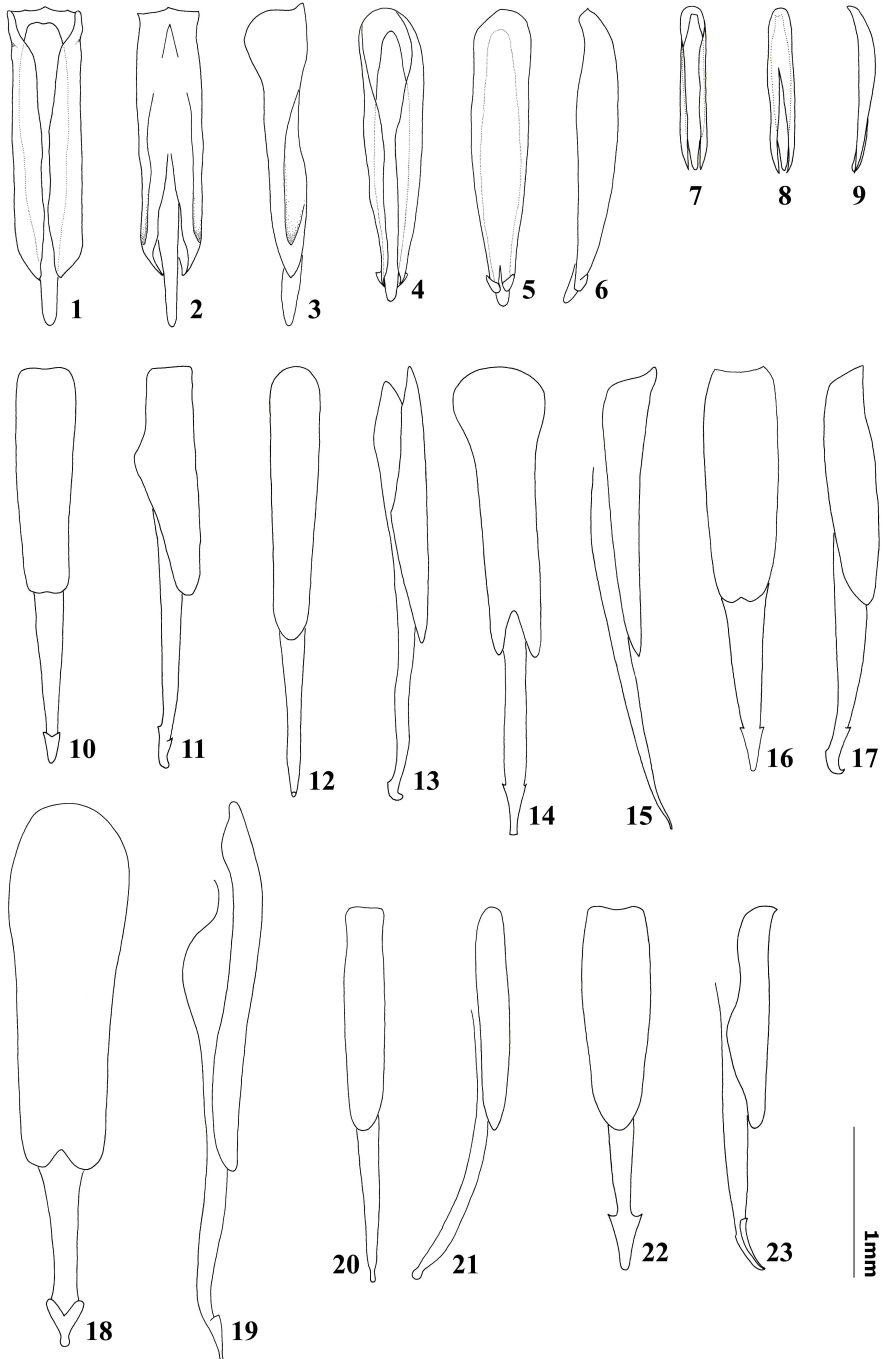
27. *Ischnomera abdominalis* (Heyden), tegmen, ventral view
28. *Ischnomera abdominalis* (Heyden), tegmen, lateral view
29. *Ischnomera abdominalis* (Heyden), aedeagus, lateral view
30. *Ischnomera* sp., tegmen, ventral view
31. *Ischnomera* sp., tegmen, lateral view
32. *Ischnomera* sp., aedeagus, lateral view
33. *Oedemera (Stenaxis) amurensis* Heyden, tegmen, ventral view
34. *Oedemera (Stenaxis) amurensis* Heyden, tegmen, lateral view
35. *Oedemera (Stenaxis) amurensis* Heyden, aedeagus, lateral view
36. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire, tegmen, ventral view
37. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire, tegmen, lateral view
38. *Oedemera* (s. str.) *lucidicollis flaviventris* Fairmaire, aedeagus, lateral view
39. *Oedemera* (s. str.) *subrobusta* (Nakane), tegmen, ventral view
40. *Oedemera* (s. str.) *subrobusta* (Nakane), tegmen, lateral view
41. *Oedemera* (s. str.) *subrobusta* (Nakane), aedeagus, lateral view
42. *Oedemera* (s. str.) *robusta* Lewis, tegmen, ventral view
43. *Oedemera* (s. str.) *robusta* Lewis, tegmen, lateral view
44. *Oedemera* (s. str.) *robusta* Lewis, aedeagus, lateral view
45. *Oedemera* (s. str.) *parallelipennis* Seidlitz, tegmen, ventral view
46. *Oedemera* (s. str.) *parallelipennis* Seidlitz, tegmen, lateral view
47. *Oedemera* (s. str.) *parallelipennis* Seidlitz, aedeagus, lateral view
48. *Oedemera* (s. str.) *virescens virescens* (Linnaeus), tegmen, ventral view
49. *Oedemera* (s. str.) *virescens virescens* (Linnaeus), tegmen, lateral view
50. *Oedemera* (s. str.) *virescens virescens* (Linnaeus), aedeagus, lateral view

## 감사의 글

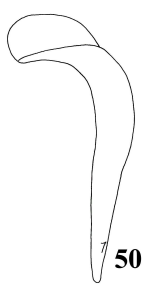
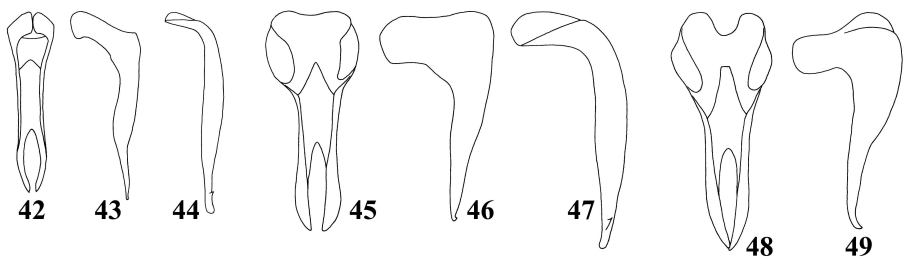
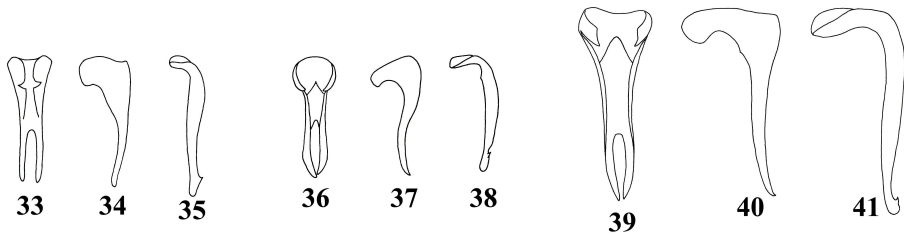
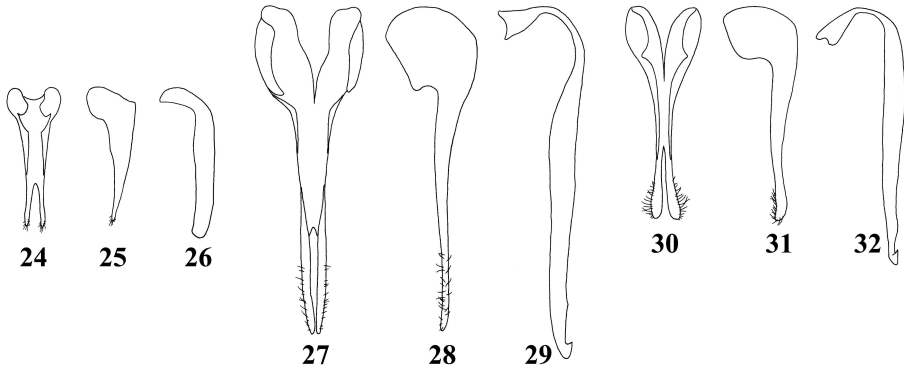
# Plate I



# Plate II



# Plate III



1mm