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## **Revision of the Micronoctuidae (Lepidoptera: Noctuoidea) Part 3, Taxonomy of the Tactusinae**

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## Table of contents

Abstract .....	6
Introduction, material and methods .....	6
Systematic part, taxonomy, Part 3 .....	9
family Micronoctuidae Fibiger, 2005.....	9
Subfamily Tactusinae Fibiger, <b>new subfamily</b> .....	11
Tribe Tactusini Fibiger, <b>new tribe</b> .....	13
Genus <i>Tactusa</i> Fibiger, <b>new genus</b> .....	13
Checklist of species of genus <i>Tactusa</i> Fibiger .....	14
<i>T. sumatrensis</i> species-group.....	15
<i>Tactusa major</i> Fibiger, <b>new species</b> .....	15
<i>Tactusa rima</i> Fibiger, <b>new species</b> .....	15
<i>Tactusa sine</i> Fibiger, <b>new species</b> .....	16
<i>Tactusa sumatrensis</i> Fibiger, <b>new species</b> .....	17
<i>Tactusa parasumatrensis</i> Fibiger, <b>new species</b> .....	17
<i>T. trigonifera</i> species-group .....	18
<i>Tactusa schnacki</i> Fibiger, <b>new species</b> .....	18
<i>Tactusa trigonifera</i> (Hampson, 1898), <b>new combination</b> .....	19
<i>Tactusa nilssoni</i> Fibiger, <b>new species</b> .....	20
<i>Tactusa ostium</i> Fibiger, <b>new species</b> .....	21
<i>Tactusa peregovitsi</i> Fibiger, <b>new species</b> .....	22
<i>Tactusa flavoniger</i> Fibiger, <b>new species</b> .....	22
<i>T. nieukerkeni</i> species-group .....	23
<i>Tactusa nieukerkeni</i> Fibiger, <b>new species</b> .....	23
<i>Tactusa topi</i> Fibiger, <b>new species</b> .....	24
<i>Tactusa incognita</i> Fibiger, <b>new species</b> .....	25
<i>Tactusa jeppeseni</i> Fibiger, <b>new species</b> .....	25
<i>Tactusa bechi</i> Fibiger, <b>new species</b> .....	26
<i>Tactusa dohertyi</i> Fibiger, <b>new species</b> .....	27
<i>T. artus</i> species-group .....	27
<i>Tactusa minor</i> Fibiger, <b>new species</b> .....	27
<i>Tactusa tranumi</i> Fibiger, <b>new species</b> .....	28
<i>Tactusa artus</i> a Fibiger, <b>new species</b> .....	29
<i>Tactusa biartus</i> Fibiger, <b>new species</b> .....	29
<i>Tactusa similis</i> Fibiger, <b>new species</b> .....	30
<i>Tactusa constrictor</i> Fibiger, <b>new species</b> .....	31
<i>Tactusa assamia</i> Fibiger, <b>new species</b> .....	32
<i>Tactusa discrepans</i> Fibiger, <b>new species</b> .....	32
<i>Tactusa spadix</i> Fibiger, <b>new species</b> .....	33
<i>Tactusa pars</i> Fibiger, <b>new species</b> .....	34
Genus <i>Conspica</i> Fibiger, <b>new genus</b> .....	35
Checklist of species of genus <i>Conspica</i> Fibiger, <b>new genus</b> .....	36
<i>Conspica inconspicua</i> Fibiger, <b>new species</b> .....	36
<i>Conspica parainconspicua</i> Fibiger, <b>new species</b> .....	37
Genus <i>Tumula</i> Fibiger, <b>new genus</b> .....	38
Checklist of species of genus <i>Tumula</i> Fibiger, <b>new genus</b> .....	38
<i>Tumula flavicollis</i> Fibiger, <b>new species</b> .....	38
Genus <i>Dignus</i> Fibiger, <b>new genus</b> .....	39
Checklist of species of genus <i>Dignus</i> Fibiger, <b>new genus</b> .....	39
<i>Dignus buchsaumi</i> Fibiger, <b>new species</b> .....	39
Genus <i>Vas</i> Fibiger, <b>new genus</b> .....	40
Checklist of species of genus <i>Vas</i> Fibiger, <b>new genus</b> .....	40
<i>Vas owadai</i> Fibiger, <b>new species</b> .....	40

<i>Vas proceus</i> Fibiger, <b>new species</b> .....	41
Genus <i>Nilgerides</i> Fibiger, <b>new genus</b> .....	42
Checklist of species of genus <i>Nilgerides</i> Fibiger, <b>new genus</b> .....	42
<i>Nilgerides trifasciata</i> Fibiger, <b>new species</b> .....	42
Genus <i>Fustis</i> Fibiger, <b>new genus</b> .....	43
Checklist of species of genus <i>Fustis</i> Fibiger, <b>new genus</b> .....	44
<i>Fustis sterlingi</i> Fibiger, <b>new species</b> .....	44
<i>Fustis malaysiensis</i> Fibiger, <b>new species</b> .....	45
<i>Fustis parasensora</i> Fibiger, <b>new species</b> .....	46
<i>Fustis sensora</i> Fibiger, <b>new species</b> .....	46
<i>Fustis biextuta</i> Fibiger, <b>new species</b> .....	47
<i>Fustis extuta</i> Fibiger, <b>new species</b> .....	48
<i>Fustis gregersenii</i> Fibiger, <b>new species</b> .....	49
<i>Fustis s-forma</i> Fibiger, <b>new species</b> .....	50
<i>Fustis papei</i> Fibiger, <b>new species</b> .....	51
Genus <i>Bruma</i> Fibiger, <b>new genus</b> .....	51
Checklist of species of genus <i>Bruma</i> Fibiger, <b>new genus</b> .....	52
<i>Bruma parvus</i> Fibiger, <b>new species</b> .....	52
Genus <i>Costasensora</i> Fibiger, <b>new genus</b> .....	53
Checklist of species of genus <i>Costasensora</i> Fibiger, <b>new genus</b> .....	53
<i>Costasensora honeyi</i> Fibiger, <b>new species</b> .....	53
Genus <i>Longiantrum</i> Fibiger, <b>new genus</b> .....	54
Checklist of species of genus <i>Longiantrum</i> Fibiger, <b>new genus</b> .....	55
<i>Longiantrum coclea</i> Fibiger, <b>new species</b> .....	55
<i>Longiantrum legraini</i> Fibiger, <b>new species</b> .....	56
<i>Longiantrum burmaensis</i> Fibiger, <b>new species</b> .....	56
<i>Longiantrum quadra</i> Fibiger, <b>new species</b> .....	58
Tribe Obscurini Fibiger, <b>new tribe</b> .....	58
Genus <i>Abes</i> Fibiger, <b>new genus</b> .....	59
Checklist of species of genus <i>Abes</i> Fibiger, <b>new genus</b> .....	60
<i>Abes vedi</i> Fibiger, <b>new species</b> .....	60
Genus <i>Asyprocessa</i> Fibiger, <b>new genus</b> .....	60
Checklist of species of genus <i>Asyprocessa</i> Fibiger, <b>new genus</b> .....	62
<i>Asyprocessa wapi</i> Fibiger, <b>new species</b> .....	62
<i>Asyprocessa laevi</i> Fibiger, <b>new species</b> .....	62
<i>Asyprocessa spinus</i> Fibiger, <b>new species</b> .....	63
Genus <i>Tantulius</i> Fibiger, <b>new genus</b> .....	64
Checklist of species of genus <i>Tantulius</i> Fibiger, <b>new genus</b> .....	64
<i>Tantulius belli</i> Fibiger, <b>new species</b> .....	64
Genus <i>Asylemissa</i> Fibiger, <b>new genus</b> .....	65
Checklist of species of genus <i>Asylemissa</i> Fibiger, <b>new genus</b> .....	65
<i>Asylemissa comma</i> Fibiger, <b>new species</b> .....	65
Genus <i>Clarior</i> Fibiger, <b>new genus</b> .....	66
Checklist of species of genus <i>Clarior</i> Fibiger, <b>new genus</b> .....	67
<i>Clarior kitchingi</i> Fibiger, <b>new species</b> .....	67
Genus <i>Obscura</i> Fibiger, <b>new genus</b> .....	67
Checklist of species of genus <i>Obscura</i> Fibiger, <b>new genus</b> .....	68
<i>Obscura lateraprocessa</i> Fibiger, <b>new species</b> .....	69
<i>Obscura clarus</i> Fibiger, <b>new species</b> .....	69
<i>Obscura niasiensis</i> Fibiger, <b>new species</b> .....	70
<i>Obscura fragilis</i> Fibiger, <b>new species</b> .....	71
<i>Obscura davisi</i> Fibiger, <b>new species</b> .....	71
Genus <i>Editum</i> Fibiger, <b>new genus</b> .....	73
Checklist of species of genus <i>Editum</i> Fibiger, <b>new genus</b> .....	74

<i>Editum editoides</i> Fibiger, <b>new species</b> .....	74
<i>Editum editum</i> Fibiger, <b>new species</b> .....	75
Genus <i>Asytegumen</i> Fibiger, <b>new genus</b> .....	76
Checklist of species of genus <i>Asytegumen</i> Fibiger, <b>new genus</b> .....	76
<i>Asytegumen absurdus</i> Fibiger, <b>new species</b> .....	76
ADDITIONS and CORRECTIONS to Revision of Micronoctuidae, part 1 and part 2 (Fibiger 2007; 2008), subfamily Pollexinae, Belluliinae, and Parachrostiinae .....	78
Additions to Fibiger 2007: .....	78
Subfamily Pollexinae Fibiger, 2007, genus <i>Tolpia</i> Walker, 1863. ....	78
<i>T. odor</i> species-group, page 10. ....	78
<i>Tolpia fyani</i> Fibiger, 2007 .....	78
<i>T. unguis</i> species-group, page 12. ....	78
<i>Tolpia hainanensis</i> Fibiger, <b>new species</b> .....	78
<i>Tolpia paraunguis</i> Fibiger, <b>new species</b> .....	79
<i>Tolpia mons</i> Fibiger, <b>new species</b> .....	80
Genus <i>Disca</i> Fibiger, 2007, page 32. ....	81
<i>Disca anser</i> Fibiger, <b>new species</b> . ....	81
Additions to part 2 of Revision (Fibiger 2008a) .....	82
Subfamily Belluliinae, page 9. ....	82
<i>Bellulia kendricki</i> Fibiger, <b>new species</b> .....	82
<i>Bellulia basalia</i> Fibiger, <b>new species</b> .....	83
<i>Bellulia postea</i> Fibiger, <b>new species</b> .....	84
Subfamily Parachrostiinae, tribe Duplexini (Fibiger, 2008), page 73. ....	84
Checklist of species of genus <i>Duplex</i> Fibiger, 2008 .....	85
<i>Duplex weintraubi</i> Fibiger, <b>new species</b> .....	85
<i>Duplex horakae</i> Fibiger, <b>new species</b> .....	86
<i>Duplex edwardsi</i> Fibiger, <b>new species</b> .....	87
<i>Duplex pullata</i> Fibiger, <b>new species</b> .....	88
<i>Duplex cockingi</i> Fibiger, <b>new species</b> .....	89
Genus <i>Sinochrostia</i> Fibiger, new genus .....	89
<i>Sinochrostia sichuanensis</i> Fibiger, <b>new species</b> .....	90
Genus <i>Mimachrostia</i> Sugi, 1982, <i>M. fasciata</i> Sugi, 1982, page 101. ....	91
<i>Mimachrostia fasciata</i> Sugi, 1982 .....	91
<i>Mimachrostia fasciata minimus</i> Fibiger, <b>new subspecies</b> .....	91
<i>Mimachrostia novofasciata</i> Fibiger, <b>new species</b> .....	92
Corrections to Fibiger 2008. ....	92
Acknowledgments .....	92
References .....	93

## Abstract

This is the third part of a series of papers on the recently described family Micronoctuidae Fibiger, 2005. Part 3 includes the description of one new subfamily: Tactusinae, with two new tribes: Tactusini and Obscurini; and 18 new genera: *Tactusia*, *Conspica*, *Tumula*, *Dignus*, *Vas*, *Nigerides*, *Fustis*, *Bruma*, *Costasensora*, *Longiantrum*, *Abes*, *Asyprocessa*, *Tantulus*, *Asylemissa*, *Clarior*, *Obscura*, *Editum*, and *Asytegumen*. A total of 77 species and one subspecies are described, of which 76 species are new. One new combination is given. As additions to previously published parts 1 and 2 of the revision, one new genus, *Sinochrostia* in the subfamily Parachrostiinae, is described. Three new species of Pollexinae Fibiger, 2007, are described; three new species of subfamily Belluliinae are described; and six new species of Parachrostiinae are described, five in the genus *Duplex*, and one new species and one new subspecies in the genus *Mimachrostia*. All taxa inhabit eastern, southern, or south-eastern Asia, Indonesia, or Australia in tropical, subtropical, and temperate climatic zones.

**Key words:** Micronoctuidae, taxonomy, new subfamily, new tribe, new genus, new species, new combination, South-East Asia, Indonesia, Australia

## Introduction, material and methods

This paper deals with one new subfamily: Tactusinae; 2 new tribes: Tactusini and Obscurini; 19 genera, all new: *Tactusia*, *Conspica*, *Tumula*, *Dignus*, *Vas*, *Nigerides*, *Fustis*, *Bruma*, *Costasensora*, *Longiantrum*, *Abes*, *Asyprocessa*, *Tantulus*, *Asylemissa*, *Pseudobscura*, *Clarior*, *Obscura*, *Editum*, and *Asytegumen*; and 64 species, 63 new, 1 species is previously described by Hampson (1898). As additions 1 new genus, *Sinochrostia*, 13 new species and 1 new subspecies are described, in the subfamilies Pollexinae Fibiger, 2007, Belluliinae, and Parachrostiinae Fibiger, 2008.

Compared with the species treated in the two previous Micronoctuidae papers (Fibiger 2007; 2008) the diversity of those dealt with here are externally very different and relatively quite small, and the male and female genitalia of Tactusinae are even astonishingly different, differing also from those in the subfamilies treated in the first two parts of the revision. An alarmingly large proportion of the species were collected in areas which to a great extent are inaccessible for foreign entomologists without an expensive and/or difficult to obtain permit. Often one has to be accompanied by a professional biologist; further, holotypes of new species are required to be deposited in a local museum, and these species can often only be described with a local biologist as co-author, in most cases a person without knowledge of the group. Thus, knowledge of the moths, which are splendid indicators of environmental changes, global warming and pollution do not become readily accessible for various uses.

Most of the Micronoctuidae in the present series of revisions were found in museum collections, but their biology remains to be discovered, and will only be known through specialised, still untried, methods. The lepidopterists and the museums from which the material was borrowed are listed below and their names or museum codens are given in the lists of the type material and under material examined. Concerning special techniques used in dissecting the male and female, I refer to part 1 of the Revision of the Micronoctuidae (Fibiger 2007). All the genitalia preparations were made by the author. Generally, no species of Micronoctuidae can be correctly determined without careful genitalia preparation. In contrast to the (on average) larger species of the four previously treated subfamilies, the members of the Tactusinae are much smaller and more difficult to handle, set and examine their genitalia. They are in this respect more like Microlepidoptera. A few genera, placed here as the most derived in the tribe Obscurini, have prominently transformed genitalia structures that exceed what can be found among all other groups of Lepidoptera. They are nevertheless treated as true members of the tribe, though generically isolated. Many adult Tactusinae resemble species of very small Nolinae, very small Arctiinae, perhaps Tortricidae, or some Gelechiidae. As a consequence more than 95% of the present species were detected among unsorted material of Microlepidoptera in museums.