

CONTENTS

	Pages
INTRODUCTION	1
REVIEW OF LITERATURE	6
MATERIAL AND METHODS	31
CLASSIFICATION	52
General character of family Tenebrionidae	52
Key to subfamilies Opatrinae and Pedininae	53
Subfamily Opatrinae	56
Key to genera of Subfamily Opatrinae	57
Genus <i>Ammobius</i> Guèrène.....	65
<i>Ammobius rufus</i> Lucas.....	66
Genus <i>Brachyesthes</i> Fairmaire	68
Key to species of genus <i>Brachyesthes</i> Fairmaire.....	69
<i>Brachyesthes gastonis</i> Fairmaire	69
<i>Brachyesthes chrysomelina</i> Costa	70
<i>Brachyesthes pilosella</i> Marseul	73
Genus <i>Caedius</i> Blanchard.....	74
Key to the species of genus <i>Caedius</i> Blanchard.....	76
<i>Caedius aegyptiacus</i> Mulsant	76
<i>Caedius cassidioides</i> Fairmaire	79
Genus <i>Cheirodes</i> Gene.....	79
Key to the species of genus <i>Cheirodes</i> Gene.....	81
<i>Cheirodes asperula</i> (Reitter)	82

<i>Cheirodes brevicollis</i> (Wollaston).....	86
<i>Cheirodes pilosa</i> (Tournier)	89
<i>Cheirodes sardoa</i> (Gene).....	92
<i>Cheirodes submetallica</i> (Raffray).....	95
Genus <i>Clitobius</i> Mulsant and Rey.....	98
Key to the species of genus <i>Clitobius</i> Mulsant and Rey.....	99
<i>Clitobius Oblongiusculus Oblongiusculus</i> Fairmaire	100
<i>Clitobius Oblongiusculus lineicollis</i> Fairmaire	102
<i>Clitobius ovatus</i> Erichson	103
Genus <i>Cnemeplatia</i> Costa.....	106
<i>Cnemeplatia atropos</i> Costa	107
Genus <i>Eurycaulus</i> Fairmaire.....	109
Key to the species of genus <i>Eurycaulus</i> Fairmaire.....	110
<i>Eurycaulus granulatus</i> Reitter	111
<i>Eurycaulus henoni</i> Fairmaire	113
<i>Eurycaulus hirstus hirstus</i> Miller	115
<i>Eurycaulus hirstus heliopolis</i> Koch	117
Genus <i>Gonocephalum</i> Solier.....	119
Key to the species of genus <i>Gonocephalum</i> Solier.....	120
<i>Gonocephalum patrulele</i> Erichson	122
<i>Gonocephalum perplexum</i> Lucas	124
<i>Gonocephalum prolixum</i> Erichson	126
<i>Gonocephalum rusticum</i> Olivier	129
<i>Gonocephalum setulosum</i> Fald.	133
<i>Gonocephalum soricinum</i> Reiche	136

<i>Gonocephalum strigosum</i> Reiche	138
Genus <i>Leichenum</i> Blanch.....	140
Key to the species of genus <i>Leichenum</i> Blanch.....	141
<i>Leichenum mulleri</i> Gridelli	142
<i>Leichenum pulchellum</i> Lucas	144
Genus <i>Lobothorax</i> Gemm.....	147
<i>Lobothorax viberti</i> Reitter	148
Genus <i>Opatroides</i> Brullé.....	150
<i>Opatroides punctulatus</i> Brullé	151
Genus <i>Opatropis</i> Reitter	154
<i>Opatropis hispida</i> Brullé.....	155
Genus <i>Philhammus</i> Fairmaire.....	158
Key to the species of genus <i>Philhammus</i> Fairmaire.....	159
<i>Philhammu andresi</i> Kock	159
<i>Philhammus sericans</i> Fairmaire	159
Genus <i>Platynosum</i> Mulsant and Rey.....	161
<i>Platynosum paulinae</i> Mulsant and Rey	162
Genus <i>Proscheimus</i> Desbrochers.....	164
<i>Proscheimus arabicus</i> Desbrochers	165
Genus <i>Scleron</i> Hope.....	167
Key to the species of genus <i>Scleron</i> Hope.....	168
<i>Scleron armatum</i> Waltl	170
<i>Scleron dubium</i> Gridelli	172
<i>Scleron multistriatum</i> Forskal	175
<i>Scleron orientale</i> Fabricius	177

<i>Scleron sudanicum</i> Koch	180
<i>Scleron sulcatum saharensense</i> Peyerimhoff	182
Genus <i>Scleropatrum</i> Reitter.....	184
<i>Scleropatrum hirtulum</i> Baudi	184
Subfamily Pedininae.....	185
Key to genera of subfamily Pedininae	186
Genus <i>Cabirutus</i> Mulsant and Rey.....	189
Key to species of Genus <i>Cabirutus</i> Mulsant and Rey.....	190
<i>Cabirutus cyrenaicus</i> Gridelli	190
<i>Cabirutus rotundicollis</i> Miller.....	192
<i>Cabirutus simonis</i> Reitter.....	194
Genus <i>Dendarus</i> Latreille.....	195
Key to the species of Genus <i>Dendarus</i> Latreille.....	196
<i>Dendarus calcaroides</i> (Peyerimhoff)	197
<i>Dendarus piceus</i> (Olivier)	199
<i>Dendarus syriacus</i> (Reiche)	201
Genus <i>Dilamus</i> Jacquelin du val	203
Key to the species of the Genus <i>Dilamus</i> Jacquelin du val.....	204
<i>Dilamus bohmi</i> Seitter	205
<i>Dilamus ferrantei</i> Reitter	207
<i>Dilamus pictus</i> Baudi	209
<i>Dilamus planicollis</i> Fairmaire	211
Genus <i>Mesomorphus</i> Miedel.....	213
<i>Mesomorphus setosus</i> Mulsant and Rey	214
Genus <i>Pachypterus</i> Lucas.....	216

<i>Pachypterus niloticus</i> Miller.....	217
Genus <i>Pidinus</i> Latreille.....	219
<i>Pidinus olivieri</i> Mulsant	220
Genus <i>Zidalus</i> Mulsant and Rey.....	221
Key to the Species of the genns <i>Zidalus</i> Mulsant and Rey.	222
<i>Zidalus corvinus</i> (Mulsant and Rey)	223
<i>Zidalus niloticus</i> Mulsant	225
DISCUSSION	227
SUMMARY	236
REFERENCES	239
ARABIC SUMMARY	

SUMMARY

The present work dealt with survey and classification of subfamilies Opatrinae and Pedininae (Tenebrionidae – Coleoptera) in Egypt.

The present taxonomic study started with through review of pertinent investigations on the family Tenebrionidae in general and the two subfamilies, within the scope of the work, in particular. The gathered information indicated that the tenebrionids have received very little attention allover the world and some taxonomic studies in Egypt, and the situation of some tenebrionid taxa is vague and in need of investigation. This group of beetles is universally considered as minor harm species to agriculture. However, the root-feeding larvae of some tenebrionids can also be agricultural pests especially of young plants and during dry conditions. Also, young seedlings can be damaged by adult tenebrionids, especially by species of *Gonocephalum* Chevrolat, *Opatrum* Fabricius and related genera.

Recently, a great part of family Tenebrionidae has been covered taxonomically in Egypt. The present work is planned to deal with two subfamilies of the remaining part, i.e. classification and determination of the recent taxonomic status

of the available species attributed to subfamilies Opatrinae and Pedininae for the first time in Egypt, depending on coleopterous specialists in Egypt and in the world, as well as the available recent taxonomic investigations and identification keys.

Different sources of information, specially Alfieri (1976) in his monograph about the Coleoptera of Egypt, indicated the existence of 71 species within the two subfamilies in Egypt. Representatives of 48 Species were available at hand whether obtained from the field collection during this work and/or at the insect collections. Some tenebrionid species, which have never been obtained were introduced in the work according to the original description or the diagnostic features adopted by certain investigators. Some other tenebrionids were not included in the present work, and left at the time being. According to the recent investigations, this group of insects, under investigation, was subjected to some nomenclatorial changes, whether in the generic name or specific name or in both.

The recognition characters, with some illustrations, for all higher or supraspecific taxa are recorded. Illustrated diagnostic feature are submitted for all tenebrionid species under investigation. Also, identification keys are constructed wherever needed and found to be useful, i.e. in cases where any

category includes more than one taxon of inferior rank: key to separate the two subfamilies within the scope of the present work, key to the genera in each subfamily and key to the species in each genus.

In addition, synonyms of the genera and species, local and world distribution and distributional maps for the species under investigation are provided. Also, distribution of all species included in the two subfamilies and represented in Egypt, in the main geographical zones as indicated in the Egyptian Insect Collections and more recently in author collection was given.