

FRAGMENTA FAUNISTICA

Fragm. faun.	Warszawa, 30.06.2001	44	1-19
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The invertebrate fauna of Góry Stołowe National Park, its specificity and value

Abstract: Góry Stołowe National Park, situated in the Western Sudeten Mts, has been established mainly to protect interesting rock forms. However, the area also boasts a number of invertebrate species (molluscs, millipedes, isopods, spiders, mites, insects) valuable to the fauna of Poland. These species are mainly associated with multispecies mixed beech-spruce woods with lush ground cover, with beech woods, and with alder-sycamore and ash coppices growing along streams, in peatbogs and in mountain meadows. The sandstone flat-topped hills found there are particularly valuable and unique biotopes in the scale of Poland, a biotope characterised by a specific fauna.

Key words: unique species, invertebrates, mountain national park, Poland

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INTRODUCTION

The Góry Stołowe have the form of a NW-SE-elongated tableland which is 18 km long and 5-8 km wide, and covers 120 km². This is the youngest Sudeten range which was uplifted by orogenetic movements in the Late Tertiary. They are highly interesting from the geological and hydrographic points of view, for they are the only Polish mountains of the platy type, with horizontally alternating layers of sandstone and marl. The Góry Stołowe are situated in the Western Sudeten Subprovince and form an independent Subregion in the Central Sudeten (MATUSZKIEWICZ 1993). This Subregion is considered intermediate between the Western Sudeten proper and the Eastern Sudeten, with the borderline running along the Nysa Kłodzka. Since the river forms a barrier too difficult for most Carpathian species to cross, the western part is faunistically much poorer than the eastern one.

Góry Stołowe National Park, covering ca 63 km², was established in 1993, mainly to provide protection for the rock forms occurring within its area. The most valuable objects include free-standing rock forms found all over the Park as well as rock complexes such as: Błędne Skały, Skalne Grzyby, Białe Ściany, Skalna Furta, Narożnik, Krawędź Radkowska and Szczeliniec Wielki of 919 m (a.s.l.), the highest peak there. Other valuable natural objects in the Park are: Wielkie Torfowisko Batorowskie with the *Pinus uliginosa*, a meadow association with sites with the *Trollius europaeus* and the *Veratrum lobelianum*, the so-called Sawanna Łężycka, Rogowa Kopa with natural fragments of lower prealps Sudeten beech wood (ZGORZELSKI 1999). The protected zone of the Park covers ca 106 km². Three old and popular health resorts: Polanica Zdrój, Duszniki Zdrój and Kudowa Zdrój are situated within the protected zone (Fig. 1).



Fig. 1. Góry Stołowe National Park and its localities in Poland.

The character of the present fauna of the Góry Stołowe has developed under the impact of different abiotic and biotic factors. So, it is the upshot of the following: the configuration of the land, the microclimate and soil, the floristic composition, the stratification of the vegetation and its age and spatial structure, the geographical situation, the history of its formation, and changes to the habitat resulting from human activity. The relatively low height of the Sudeten is a significant factor exerting a great influence on the fauna of the entire range. Since the typical alpine belt is lacking and the poorly developed lower subalpine belt provides a suitable habitat for very few montane species.

Most of the area of the Park is wooded, but the present forest cover hardly meets the requirements of natural habitat. The original mixed (spruce-fir-beech) forests were felled at the turn of the 19th and 20th centu-

ries and the felling areas were replanted with spruce. The sowing material came from various parts of Europe and represented different varieties. The scarce tree stands whose character is similar to the natural ones are limited to a few patches situated mainly within the upper parts of Szczeliniec Wielki and Szczeliniec Mały, within Błędne Skały and Wielkie Torfowisko Batorowskie. Other valuable albeit less natural sites include fertile Sudeten beech forests (*Dentario-enneaphyllidi-Fagetum*) and montane sycamore forests (*Lunario-Aceretum*) in the Pośnia ravine, on the steep slopes of

Rogowa Kopa, near Ostra Góra and in the Czermnica valley (JĘDRYSZCZAK 1999). Non-forest areas occupy merely about 9% of the Park and yet exert a considerable impact on the species richness of the fauna. These areas are covered by formation of vegetation mainly of the classes *Nardo-Callunetea*, *Molinio-Arthenatheretea*, *Scheuzerio-Caricetea fuscae*, *Asplenietea rupestris*, *Montio-Cardaninetea*, *Betulo-Adenostyletea* and *Geranio phaei-Urticetum* (KOZŁOWSKA, SOLON 1999).

Protected areas, national parks and reserves play a fundamental role in protecting the most valuable elements of nature as well as species diversity of plants and animals, first of all due to the fact that the most valuable biocoenoses and ecosystems in the country are found within their boundaries. When the most valuable areas are being selected, the presence of species important from the faunistic and protective point of view, first of all the presence of unique species, is usually the main criterion. Faunistic valorisation is less frequently carried out on the basis of assessment of typical faunas and of their representatives in comparison with that of the region as a whole. The reason is simple: such valorisation must be preceded by long-term and wide-scale faunistic studies.

In the paper first of all we took into consideration unique species recorded from the Park and from the protected zone. This group comprises endangered (E), vulnerable (V) and rare (R) species both in the scale of Poland and of the Silesian province (BUSZKO 1998, GŁOWACIŃSKI 1992, KUBISZ *et al.* 1998)* The group also includes species with a limited geographic range, stenotopic and endemic species, and relicts. Moreover, there have been included species protected in Poland and those new to Poland (therefore important to science), recorded from this area for the first time and hitherto known only from a few locations.

Data found in numerous and different publications and compiled within the framework of the Plan for Protection of Góry Stołowe National Park plus the authors' unpublished data have served as the basis for the present paper. The material was collected from 1995 to 1998 both in the Park and in its protected zone. The studies covered Błędne Skały, Łężyckie Skałki, Wielkie Torfowisko Batorowskie, Rogowa Kopa, the Pośna and Darnkowski Potok valley, the vicinities of Karlów and Kudowa Zdrój.

CHARACTERISTIC AND FAUNISTIC VALORISATION OF THE HABITATS OF GÓRY STOŁOWE NATIONAL PARK AND ITS PROTECTED ZONE

Knowledge of the invertebrate fauna of Góry Stołowe National Park and of its protected zone is far from satisfactory. A poor degree of knowledge about fauna on protected areas is one of the main drawbacks and makes implementation of complex programmes of protection difficult. This is a world-wide problem because knowledge of the invertebrate fauna generally is fragmentary and poor. It covers a small number of taxa and small parts of areas. Even for the poorest ecosystems and for the best-studied protected areas there are no complete lists of species, let alone data on their

* Since the Red Book for the invertebrates of Poland is just being prepared, no new IUCN/WCU categories for endangered and threatened species have been used in this paper.

abundance and distribution. This state of affairs is due to a very poor knowledge of some taxa and, in view of the species richness of these animals, to the fact that the number of specialists is small.

To date, over 900 invertebrate species have been recorded from the Góry Stołowe National Park and from its protected zone (ANDRZEJEWSKI, CHUDZICKA, SKIBIŃSKA 1999). Molluscs (*Mollusca*), bark beetles (*Scolytidae*), spiders (*Aranei*) and mites (*Acari*) have been studied best, at least in respect of their species composition, and there are older and currently published data on them. The main sources of information about these invertebrates occurring in the Góry Stołowe can be found in WIKTOR 1964, MICHALSKI 1957, 1996, BALDY, WOŹNY 1996, SKORUPSKI, GOŁOJUCH 1996a, b, ADAMSKA *et al.* 1978, WOŹNY *et al.* 1983. Information about other taxa is only fragmentary. For instance, the data on ants (*Formicidae*) cover only 12 species, and these species make barely 15% of the Polish myrmecofauna (BANERT, PISARSKI 1972, DLUSSKY, PISARSKI 1971, PISARSKI 1961). Of the order of dipterans (*Diptera*) comprising 6,500 species in Poland, only 41 species have been recorded from the area under discussion; all these are of one family, namely of the family of hoverflies (*Syrphidae*) (BAŃKOWSKA 1964). The beetles (*Coleoptera*) of this area, too, have been studied fragmentarily. The greatest number of data is on ground beetles (*Carabidae*), longhorn beetles (*Cerambycidae*), click beetles (*Elateridae*), weevils (*Curculionionidea*) and leaf beetles (*Chrysomelidae*). Data which have been used here are those published first of all in Catalogues of the Fauna of Poland (BURAKOWSKI *et al.* 1973, 1974, 1976, 1978, 1980a, 1980b, 1980c, 1985, 1986a, 1986b, 1987, 1990, 1991, 1992, 1995, 1997) and a faunistic paper (ŚLIWIŃSKI 1961) and data from studies recently carried out in this area (KNUTELSKI, BILIŃSKI 2000, JANOSZEK – unpubl. data).

The fauna of the Góry Stołowe, just as that in other regions in our climatic zone, has a great proportion of widely-distributed species with Palaearctic, Holarctic and Eurosiberian ranges. Since a large part of the Park is woody, relatively many vertebrate and invertebrate species living there are associated with forest ecosystems. Mixed forests, but especially those with older stands in which trees have holes and the understorey is lush, are of particular worth because the species richness of the fauna living there is high. Moreover, deciduous and mixed forests are habitats in which occur many unique species of insects, molluscs, isopods and spiders. A few mite species new to the fauna of Poland have been recorded from litter in mixed tree stands (MICHERDZIŃSKI 1969, SKORUPSKI, GOŁOJUCH 1996a, b).

Moreover, multispecies mixed forests with lush ground cover and deciduous forests, mainly beech ones, are habitats in that occur most of the unique mollusc species recorded from that area. Such rare species as *Bulgarica cana* (HELD.) or *Clausilia cruciata* STUD. have been found in these habitats (Góra Rogacz and the vicinities of Darnków and Radków) (WIKTOR 1964). Alder-sycamore and ash coppices with a tall lush ground cover growing along streams are, from the malacological point of view, very rich habitats. Snails of these biotopes are very abundant and represented both by species associated with forest habitats and by hygrophilous ones living near water. In these habitats (e.g. in the Darnkowski Potok valley), there have been found such species as *Macrogaster badia* (C. PFEIFFER) – a rare alpine species, *Isognomostoma isognomos-*

toma (SCHROT.) – an alpine one, and *Monachoides vicina* (ROSSM.) – a rare carpathian one (WIKTOR 1964).

The sandstone flat-topped hills in Góry Stołowe National Park are a especially valuable and unique biotope characterised by a specific fauna. This type of habitat is preferred by certain unique species of arachnids and by insects, which utilize crevices and live in litter there, and also inhabit moss growing on rock. Clefts and corridors, partly covered by blocks of rock, are a characteristic feature in the Góry Stołowe; some of these are remains of an old cave system. They have developed their own microclimate and provide suitable conditions for a rather poor in species but very peculiar fauna of invertebrates such as annelids, isopods, millipedes, springtails, spiders, mites and some vertebrates, e.g. bats. Unfortunately, very few studies have been conducted on the fauna of this peculiar habitat characteristic of the Góry Stołowe. With respect to spiders, sandstone buttes (Szczeliniec Wielki and Szczeliniec Mały, Błędne Skały) are the specific habitat for three unique species: *Bathyphanes eumenis* (L. KOCH), *Lepthyphantes pulcher* (KULCZYŃSKI) and *Meta menardi* (LATREILLE). Of the group of very rare species, *Rhaebothorax morulus* (O. P.-CBR.) – an arctic-alpine spider and *Lessertia dentichelis* (SIMON) – a West European spider have been recorded from rock clefts in sandstone buttes (BALDY, WOŹNY 1996). The snail fauna inhabiting exposed rocks is extremely poor and not very characteristic. Most species living there are xerothermic ones, whereas petrophilous species such as *Helicigona lapicida* (L.) are very few (WIKTOR 1964). Of the insects, two boreal-alpine species of springtails (*Collembola*) new to Poland merit attention. They are *Tetracanthella britannica* CAS. and *Folsomia sensibilis* KSEN., both recorded from litter on the bottom of clefts in Szczeliniec Wielki (POMORSKI 1985). Two boreal-alpine species of ants *Myrmica sulcinodis* NYL and *Formica lemami* BONDR. have been recorded from Szczeliniec Wielki and Szczeliniec Mały (the latter species has also been found in Błędne Skały). Another rare alpine ant species, *Manica rubida* (LATR.) has been recorded from Szczeliniec Wielki and Błędne Skały (BANERT, PISARSKI 1972). Szczeliniec Wielki is also the second Polish site of *Lepytusa laevicauda* SCHERP., a beetle of the family *Staphylinidae* which has been collected in moss growing on ledges (BOROWIEC 1995). In forest of Szczeliniec some weevils (*Curculionionidea*) species occur which are connected with mountains e.g. *Otiorhynchus nodosus* (MÜLL.), *Otiorhynchus equestris* (RICHTER), *O. subdentatus* BACH, *Leiosoma cribrum* (GYLL.) and *Plinthus tischeri* GERM. (KNUTELSKI, BILIŃSKI 2000).

Torfowisko Batorowskie, from which a great many unique species have been recorded, is one of the most valuable objects in the Park. The species found there include very rare and rare spiders, such as *Centromerus levitarsis* (SIMON), *Drepanotyplus uncatus* (O. P.-CBR.) and *Hilaira excisa* (O. P.-CBR.), moss mites – *Nothrus pratensis* SELLN. and *Heminothrus longisetosus* WILLM., carabids – *Carabus glabratus* (PAYK.) and *C. linnaei* (DUFT.) (BALDY, WOŹNY 1996, OLSZANOWSKI *et al.* 1996, JANOSZEK – unpubl. data).

Various types of open areas within the Park and protected zone are very important from the point of view of the species richness of the fauna. These areas are characterised by a great diversity of plant communities, by local variability in humidity and fertility of habitats and by the different ways they are managed. The vegetation ranges from floristically rich associations of marshy meadows, for instance in the vicinity of

Łężyce and Karlowo, and in the valley of Czerwona Woda, to associations of hay-growing meadows and pastures of the order *Arrhenatheretalia*, and in dry and sunlit places, e.g. in the vicinity of Czerwna, even to small patches of xerothermic vegetation of the class *Festuco-Brometea* (PENDER 1996). A great differentiation of habitats of this type is a prerequisite for a great species diversity of the fauna living there, for it provides conditions for the occurrence of species of different habitat preferences. In open areas of the Góry Stołowe occur hygrophilous species such as the leafhoppers *Jassargus flori* (FLOR) (Sawanna Łężycka) and *Cercopis vulnerata* ILINGER IN ROSSI (meadows near Pasterka) or the carabids *Bembidion rupestre* (L.) and *Anisodactylus binotatus* (FABR.) (meadows in the protected zone, in the vicinity of Kudowa Zdrój). Of xerophilous species in meadows there has been recorded the leafhopper *Xanthodelphax flaveolus* (FLOR) (Sawanna Łężycka), of carabids - *Amara curta* DEJEAN and *A. ovata* (FABR.) (meadows in the vicinity of Kudowa Zdrój). Open areas in the Góry Stołowe are habitats where many unique species occur. For instance, in meadows near Karlów there occurs the rare butterfly *Digitivalva arnicella* HEYDN. and in those near Pasterka there occur five protected in Poland bumble bee species - *Bombus hortorum* (L.), *B. lucorum* (L.), *B. pascuorum* (SCOP.), *B. pratorum* (L.), and *B. ruderarius* (MÜLL.). In meadows near Bukowina Kłodzka, Ostra Góra, Karlów occurs mountain weevil *Donus comatus* (BOH.)

Waters of the Góry Stołowe streams, an interesting albeit difficult object for hydrochemical studies, are rather poor faunistically. This applies especially to the upper acid parts where practically the only invertebrates are larvae of the following insects: caddis flies, stone flies and aquatic beetles. A richer fauna inhabits more alkaline waters, flowing across areas with marls. Apart from insects there are turbellarian worms, crustaceans and molluscs. Only two of the species recorded from the waters of the Park may be included into the group of faunistically important species. These are two rare species of caddis flies, namely *Ryacophila vulgaris* PICT. and *Glossosoma boltoni* (CURT.) (MICHEJDA 1954).

UNIQUE SPECIES

Of the invertebrates hitherto recorded from Park Narodowy Gór Stołowych and from the protected zone, 183 species have been included into the list of unique species. These are: 21 species of molluscs (*Mollusca*), 3 species of millipedes (*Diplopoda*), 2 species of isopodans (*Isopoda*), 32 species of spiders (*Aranei*), 1 species of harvestmen (*Opiliones*), 22 species of mites (*Acari*) and 102 species of insects (*Insecta*).

Of the 90 species of molluscs recorded from the Park and protected zone, 25% have been included into the group of faunistically important species. The majority of these are montane ones. They include both rare species, threatened and endangered ones (Table I). Two Pontic species have also been recorded there, and these are: *Aegopinella minor* (STAB.) and *Daudebardia rufa* (DRAP.). *A. minor* is common here in dry forest biotopes, and *D. rufa* is very abundant on the slopes of Góra Rogacz where it stays deep in detritus and under litter in humid deciduous woods. The latter species inhabits mainly the mountains of Central and South-eastern Europe (WIKTOR 1964).

Table I. The check list of faunistic valours found among molluscs in Stołowe Mountains National Park and its protection zone; (categories of threat R, V after the IUCN Red Data Book)

Taxon	Criterion of chosen	Place
<i>Vertigo substriata</i> (JEFFR.)	boreal-montane species	Karłów, environs of Radków, Kulin
<i>Vertilla angustior</i> JEFFR.	V	Dańczów
<i>Macrogastrea badia</i> (C. PFEIFFER)	R, alpine species	valley Darnkowski Potok
<i>Clausilia cruciata</i> (STUD.)	V, boreal-montane species	Karłów, environs of Radkowa, Darnków, Rogacz, Chocieszów
<i>Bulgarica cana</i> (HELD)	rather rare species	Karłów, Błędne Skały-Czermna, Radków, Rogacz
<i>Paracochlodina orthostoma</i> (MKE.)	rather rare species	Darnków
<i>Discus ruderatus</i> (FER.)	rather rare species	Pasterka, Szczeliniec, Karłów-Radków, Chocieszów
<i>Vitrea diaphana</i> (STUD.)	alpine-carpatian species	Kulin, Darnków, Radków, Karłów, Chocieszów, Szczeliniec Wielki
<i>Nesovitrea petronella</i> (L. PFR.)	boreal-montane species	Karłów
<i>Riedelius depressus</i> (STERKI)	alpine-carpatian species	Darnków, Kudowa Zdrój
<i>Eucobresia diaphana</i> (DRAP.)	R, montane species	Karłów, Pasterka, Szczeliniec, Rogacz, Wapienniki, Kulin-Darnków, Radków, Czermna-Błędne Skały, Kulin, Duszniki-Lewin
<i>Eucobresia nivalis</i> (DUM. et MORT.)	R	Radków-Karłów, Błędne Skały-Czermna, Darnków
<i>Semilimax semilimax</i> (FER.)	R, montane species	Kulin-Darnków, Darnków, Karłów-Radków, Radków, Czermna-Błędne Skały, Czermna, Chocieszów
<i>Semilimax kotulai</i> (WEST.)	V, alpine-carpatian species	Chocieszów
<i>Monachoides vicina</i> (ROSSM.)	rather rare carpatian species	Darnków, valley Darnkowski Potok, Batorów
<i>Plicutera lubomirskii</i> (SŁOS.)	V, western carpatian species	Duszniki-Lewin, Raczyn Mt
<i>Helicigona lapicida</i> (L.)	V	Ostra Góra
<i>Faustina faustinum</i> (ROSSM.)	rather rare carpatian species	foot of the Szczeliniec
<i>Isognomostoma isognomostoma</i> (SCHROT.)	alpine-carpatian species	Darnków, valley Darnkowski Potok, Radków, Rogacz, Chocieszów, Ostra Góra
<i>Causa holosericum</i> (STUD.)	V, alpine species	Ostra Góra, Szczeliniec Wielki, Rogacz, Chocieszów, Darnków, valley Darnkowski Potok, Karłów-Radków
<i>Helix pomatia</i> L.	species protected in Poland	Ostra Góra, Radków, Błędne-Skały-Czermna, valley Darnkowski Potok, Chocieszów

In Góry Stołowe, the habitats richest in snail species are those in mixed woods with lush ground cover, and in beech woods. In these habitats, there occur a many rare species, including such as the threatened boreal-montane *Clausilia cruciata* (STUD.) and *Bulgarica cana* (HELD) (Table I). Near by streams, in humid woods and in brushwood there

are rare montane species such as *Eucoeresia diaphana* (DUM. ET MORT.) and *Semilimax semilimax* (FER.), the boreal-montane *Nesovitrea petronella* (L. PFR.) or the rather rare Carpathian species *Faustina faustinum* (ROSSM.) (WIKTOR 1964). Others which are faunistically important in the malacofauna of the Góry Stołowe include *Helicigona lapicida* (L.) – a petrophilous species, *Discus ruderatus* (FER.) – a rare, taiga one, *Paracoelodina orthostoma* (MKE.) – a rare one, with a disjunctive geographical range, *Vertigo substriata* (JEFFR.) – a boreal-montane one, occurring in alder woods and in sycamore woods, *Vertilla angustior* JEFFR. recorded from wet meadows, or *Causa holosericum* (STUD.) – an alpine threatened species occurring in coniferous woods (WIKTOR 1964).

Data on the spiders of the Góry Stołowe are incomplete and most of them come from just a few sites (Szczeliniec Wielki, Błędne Skały, Wielkie Torfowisko Batorowskie and the vicinities of Kudowa Zdrój, Duszniki Zdrój and Polanica Zdrój). In spite of the fact that our knowledge on the araneofauna of this area is rather poor 30 unique species have been recorded (Table II). Species belonging to this group are very rare, rare or those with a limited geographic range, in majority they represent the European-montane element. Especially interesting species is *Bathypantes eumenis* (L. KOCH) formerly has been sporadically recorded only from the arctic areas of the Holarctic. In Poland, it was spotted for the first time on sandstone sides in the Góry Stołowe in the 1980s; it has been found on Szczeliniec Wielki and Szczeliniec Mały and on Błędne Skały where the population of this species is particularly rich (WOŻNY, CZAJKA 1985, BALDY, WOŻNY 1996). Another very rare montane species, *Lepthyphantes pulcher* (KULCZ.), occurs together with *B. eumenis* in sandstone flat-topped hills. In Góry Stołowe in crevices and nooks, the arctic-alpine spider *Rhaebothorax morulus* (O. P.-CBR.) and the West European spider *Lessertia denticelis* (SIMON) occur. Both belong to the group of very rare species. Three European species living in moss of high bogs are rarities in the scale of Poland. They are *Centromerus levitarsis* (SIMON), *Drepanotylus uncutus* (O. P.-CBR.) and *Hilaira excisa* (O. P.-CBR.) recorded from Wielkie Torfowisko Batorowskie. The group of very rare species of spiders in Góry Stołowe also comprises *Bathypantes similis* KULCZ. and *Theridion betteni* WIEHLE recorded from the protective zone of the Park (PIŁAWSKI 1970, BALDY, WOŻNY 1996).

Table II. The check list of faunistic valours found among spiders and harvestmen in Stołowe Mountains National Park and its protection zone; (occurrence of spiders in Poland after Starega 1983 – modified)

Taxon	Criterion of choosen	Place
1	2	3
<i>Aranei</i>		
<i>Bathypantes eumenis</i> (L. KOCH)	very rare Arctic species, relict	Szczeliniec, Błędne Skały
<i>Lepthyphantes pulcher</i> (KULCZ.)	very rare montane European species	Szczeliniec, Błędne Skały
<i>Lessertia denticelis</i> (SIMON)	very rare Western-European species	Szczeliniec, Błędne Skały
<i>Hilaira excisa</i> (O. P.-CBR.)	very rare European species	Wielkie Torfowisko Batorowskie
<i>Drepanotylus uncutus</i> (O. P.-CBR.)	very rare European species	Wielkie Torfowisko Batorowskie

Table II. - cont.

1	2	3
<i>Theridion betteni</i> WIEHLE	very rare montane species	environs of Kudowa Zdrój
<i>Centromerus levitarsis</i> (SIMON)	very rare European species	Wielkie Torfowisko Batorowskie
<i>Rhaebothorax morulus</i> (O. P.- CBR.)	very rare Arctic-alpine species	Szczeliniec, Błędne Skały
<i>Bathyphantes similis</i> KULCZ.	very rare montane European species	environs of Duszniki Zdrój, environs of Polanica Zdrój
<i>Agyneta conigera</i> (O. P.-CBR.)	rare montane European species	
<i>Asthenargus helveticus</i> SCHENKEL	rare montane European species	environs of Kudowa Zdrój
<i>Zygiella montana</i> (C. L. KOCH)	rare montane Holarctic species	Szczeliniec, Błędne Skały
<i>Heliophanus patagiatus</i> THORELL	rare Euro-Siberian species	Grzyby Skalne
<i>Diplocephalus helleri</i> (L. KOCH)	rare montane European species	Szczeliniec, Błędne Skały
<i>Robertus scoticus</i> JACKSON	rare Boreal-montane species	Szczeliniec, Błędne Skały
<i>Theonoe minutissima</i> (O. P.- CBR.)	rare species	Wielkie Torfowisko Batorowskie
<i>Tapinocyba affinis</i> (LESSERT)	rather rare montane European species	environs of Kudowa Zdrój
<i>Amaurobius ferox</i> (WALCKENAER)	rather rare Holarctic species	environs of Kudowa Zdrój
<i>Sitticus saxicola</i> (C. L. KOCH)	rather rare Boreal-montane species	
<i>Histopona torpida</i> (C. L. KOCH)	rather rare montane European species	
<i>Harpactea lepida</i> (C. L. KOCH)	rather rare Subpontic species	
<i>Araniella alpica</i> (L. KOCH)	rather rare montane species	
<i>Pirata uliginosus</i> (THORELL)	rather rare European species	Wielkie Torfowisko Batorowskie
<i>Aphileta misera</i> (O. P.-CBR.)	rather rare European species	Wielkie Torfowisko Batorowskie
<i>Lepthyphantes mughi</i> (FICKERT)	infrequent Boreal-montane species	Błędne Skały, Wielkie Torfowisko Batorowskie
<i>Oedothorax agrestis</i> (BLACKWALL)	infrequent European species	
<i>Walckenaeria kochi</i> (O. P.-CBR.)	infrequent European species	Wielkie Torfowisko Batorowskie
<i>Meta menardi</i> (LATR.)	infrequent Holarctic species	
<i>Gibbaranea omoeda</i> (THORELL)	infrequent Euro-Siberian species	
<i>Tegenaria silvestris</i> L. KOCH	infrequent montane European species	Szczeliniec, Błędne Skały
<i>Cryphoea silvicola</i> (C. L. KOCH)	infrequent European species	Szczeliniec, Błędne Skały
<i>Centromerus arcanus</i> (O. P.- CBR.)	infrequent Boreal-montane species, relict	Szczeliniec, Błędne Skały, Wielkie Torfowisko Batorowskie
<i>Opiliones</i>		
<i>Gyas annulatus</i> (OLIV.)	rare montane species	Karlów

Of the nearly 150 species of mites recorded from the Góry Stołowe, 23 have been included into the group of faunistically important species, and 10 of these belong to the order *Gamasida*, 12 to the order *Oribatida* and 1 to the order *Actinedida* (Table III).

Table III. The check list of faunistic valours found among acari mites in Stolowe Mountains National Park and its protection zone.

Taxon	Criterion of choosen	Place
Gamasida (Mesostigmata)		
<i>Holoparasitus tirolensis</i> (SELLN.)	<i>sp. nov.</i> in fauna of Poland	near by Droga Aleksandra
<i>Lasioseius lawrencei</i> EVANS	<i>sp. nov.</i> in fauna of Poland	slope of Splawa
<i>Leioseius magnanalis</i> (EVANS)	<i>sp. nov.</i> in fauna of Poland	near by Droga Aleksandra
<i>Leptogamasus lobatus</i> (WILLM.)	<i>sp. nov.</i> in fauna of Poland	near by Droga Stu Zakrętów, foot of the Czarna Kopa
<i>Leptogamasus obesus</i> (HOLZ.)	<i>sp. nov.</i> in fauna of Poland	Skalne Grzyby, Błędne Skały, foot of the Ptasia Skała, slope of Splawa, near by Droga Stu Zakrętów, foot of the Czarna Kopa
<i>Paragamasus truncellus</i> (ATHIAS-HENRIOT)	<i>sp. nov.</i> in fauna of Poland	near by Droga Aleksandra
<i>Rhodacarus aequalis</i> KARG	<i>sp. nov.</i> in fauna of Poland	near by Droga Aleksandra
<i>Veigaia mollis</i> KARG	<i>sp. nov.</i> in fauna of Poland	Łężyckie Skałki, Błędne Skały, Rozdroże Pod Lelkową, near by Droga Stu Zakrętów, foot of the Czarna Kopa
<i>Paragamasus insertus</i> (MICHERDZIŃSKI)	<i>sp. nov.</i> in fauna of Poland	Błędne Skały
<i>Uroscius gaieri</i> (SCHWEIZER)	<i>sp. nov.</i> in fauna of Poland	Szczeliniec Wielki
Oribatida (Cryptostigmata)		
<i>Hoplophthiracarus vanderhommenni</i> NIEDBALA	rather rare species	environs of Duszniki Zdrój
<i>Steganacarus spinosus</i> SELLN.	rather rare species	environs of Duszniki Zdrój
<i>Atropacarus clavigerus</i> (BERL.)	rather rare species	environs of Duszniki Zdrój
<i>Nothrus pratensis</i> SELLN.	rather rare species	environs of Duszniki Zdrój, Torfowisko Batorowskie
<i>Camisia solhoeyi</i> COLL.	rather rare species	environs of Duszniki Zdrój
<i>Heminothrus longisetosus</i> WILLM.	rather rare species	Torfowisko Batorowskie
<i>Trhypochthoniellus setosus</i> WILLM.	rather rare species	environs of Duszniki Zdrój
<i>Trimalaconothrus tardus</i> (MICHERDZIŃSKI)	rather rare species	environs of Duszniki Zdrój
<i>Ceratoppia sexpilosa</i> WILLM.	rather rare species	environs of Duszniki Zdrój
<i>Suctobelba cornigera</i> (BERL.)	rather rare species	environs of Duszniki Zdrój
<i>Hydrozetes confervae</i> (SCHRANK)	rather rare species	environs of Duszniki Zdrój
<i>Hydrozetes lacustris</i> (MICHERDZIŃSKI)	rather rare species	environs of Duszniki Zdrój
Actinedida (Prostigmata)		
<i>Podothrombium tymoni</i> HAITLINGER	rare species	Karłów

All the information about the unique species of *Gamasida* (9 new to Poland and 1 new to science) is from the area of the Park, mostly a result of studies conducted in forest habitats by SKORUPSKI and GOŁOJUCH (1996a, b); *Paragamasus insertus* (MICHERDZIŃSKI), a species new to science, has been found in moss in Błędne Skały and described by MICHERDZIŃSKI (1969). Data on the occurrence of 11 fairly rare, unique species of *Oribatida* are from the protected zone, from the vicinity of Duszniki Zdrój (HARNISCH 1926, WILLMANN 1939). Only the information about two species, *Nothrus pratensis* SELLN. and *Heminothrus longisetosus* WILLM., is from within the Park, namely from Torfowisko Batorowskie (ADAMSKA *et al.* 1978, OLSZANOWSKI *et al.* 1996). Of the order *Actinedida* there has been recorded only one rare montane species: *Podothrombium tymoni* HAITLINGER (HAITLINGER 1995).

There are many unique species in the other groups of invertebrates as well. Within millipedes, which have been insufficiently studied in the Góry Stołowe, of the 14 species recorded from the area, 3 species may be defined as faunistically important (BIELAK-OLEKSY, JAŚKIEWICZ 1977). They are: *Orthochordeuma germanicum* (VERHOEFF) – a petrophilous montane species considered as a glacial relict. It has been recorded from the vicinities of Duszniki Zdrój and Wambierzyce; outside Poland, it is known from the Harz Mts. and the Vosges Mts. – *Leptoiulus liptauensis* (VERHOEFF) – a Carpathian element; outside Poland, recorded from the area of the former Czechoslovakia. In the Góry Stołowe, it has been found near Radków, but has also been recorded from the Western Sudeten Mts. – *Glomeris guttata fagivora* VERHOEFF – a millipede representing the alpine element in our fauna; outside Poland, recorded only from Germany and Bohemia. In the Góry Stołowe, it is one of the more numerous millipedes; recorded from the vicinities of Duszniki Zdrój, Polanica Zdrój, Wambierzyce, Karlów, Radków, Darnków.

Of the 10 species of isopodans recorded from the Park and its protected zone, two have been included into the group of faunistically important species. One is *Trachelipus ratzeburgi* (BRANDT), an alpine element found in the vicinities of Ostra Góra, Karlów, Szczytna, Duszniki Zdrój and Polanica Zdrój. The other is *Armadillidium pictum* BRANDT, a fairly rare European species living in deciduous and mixed forests and recorded from the vicinities of Karlów and Wilcza Kopa (DOMINIAK 1970).

Insects constitute the greatest proportion of species in the group of unique ones occurring in the Góry Stołowe (Table IV). Since many families inhabiting this area have never been studied, the number of insects must be much higher. The list of unique species comprises hardly any lepidopterans, but there are 60 species of beetles. Of the latter, 17 species are on the Polish Red List of threatened species, including two endangered ones and these are *Rosalia alpina* (L.) (*Cerambycidae*) which is endangered all over Europe and *Lacon fasciatus* (L.) (*Elateridae*) which is an endangered species (category E) throughout the country. The former is extinct in some regions of Poland (among others in Sudeten). *L. fasciatus* (a boreal-montane element) has been found in a quarry at Radków and environs of Karlów. Two vulnerable species (category V) have been recorded from the area, and these are: *Ropalopus ungaricus* (HERBST) (*Cerambycidae*) found near Kudowa Zdrój and the montane *Pterostichus cordatus* (LETZN.) (*Carabidae*) caught into pitfall traps in Błędne Skały in 1995.

Table IV. The check list of faunistic valours found among insects in Stolowe Mountains National Park and its protection zone; (categories of threat E, R, V after the IUCN Red Data Book)

Taxon	Criterion of choosen	Place
1	2	3
COLLEMBOLA		
<i>Isotomidae</i>		
<i>Folsomia sensibilis</i> KSEN.	boreal-montane, <i>sp. nov.</i> in fauna of Poland	Szczeliniec Wielki
<i>Tetracanthella britannica</i> CAS.	boreal-montane, <i>sp. nov.</i> in fauna of Poland	Szczeliniec Wielki
HOMOPTERA		
<i>Coccoidea</i>		
<i>Phenacoccus interruptus</i> GREEN	rather rare species	Szczeliniec
TRICHOPTERA		
<i>Rhyacophilidae</i>		
<i>Glossosoma boltoni</i> (CURT.)	R	
<i>Rhyacophila vulgaris</i> PICT.	R	Kudowski Potok, Czermnica, Pasterski Potok, Trnkława, Cedron
LEPIDOPTERA		
<i>Papilionidae</i>		
<i>Papilio machaon</i> L.	species protected in Poland	Kudowa Zdrój
<i>Elachistidae</i>		
<i>Elachista quadripunctella</i> (HÜBNER)	rather rare Boreal-montane species	environs of Duszniki Zdrój
<i>Douglasiidae</i>		
<i>Digitalivalva arnicella</i> HEYD.	rare species	Karłów
HYMENOPTERA		
<i>Symphya</i>		
<i>Pamphiliidae</i>		
<i>Cephalcia alashanica</i> (GUSS.)	rare species	Karłów
<i>Apocrita</i>		
<i>Apoidea</i>		
<i>Bombus hortorum</i> (L.)	species protected in Poland	environs of Pasterka
<i>Bombus lucorum</i> (L.)	species protected in Poland	environs of Pasterka
<i>Bombus pascuorum</i> (SCOP.)	species protected in Poland	environs of Pasterka
<i>Bombus pratorum</i> (L.)	species protected in Poland	environs of Pasterka
<i>Bombus ruderarius</i> (MÜLL.)	species protected in Poland	environs of Pasterka
<i>Formicidae</i>		
<i>Formica lemání</i> BONDR.	montane species, relict	Szczeliniec Wielki, Szczeliniec Mały, Błędne Skały, environs of Polanica Zdrój
<i>Formica polyctena</i> FOERST.	species protected in Poland (nests)	
<i>Manica rubida</i> (LATR.)	rare alpine species	Szczeliniec Wielki, Błędne Skały
<i>Myrmica sulcinodis</i> NYL.	very rare Boreal-montane species	Szczeliniec Wielki, Szczeliniec Mały

Table IV - cont.

1	2	3
DIPTERA		
<i>Syrphidae</i>		
<i>Arctophila mussitans</i> (FABR.)	rather rare species	environs of Kudowa Zdrój
<i>Cheilosia canicularis</i> (PANZ.)	rather rare montane species	Karłów
<i>Cheilosia curvinervis</i> BECK.	endemit (?)	environs of Duszniki Zdrój
<i>Cheilosia illustrata</i> (HARR.)	rare Boreal-montane species	Karłów, environs of Duszniki Zdrój
<i>Chrysotoxum fasciolatum</i> (DEG.)	rather rare species	Szczeliniec
<i>Eriozona erratica</i> (L.)	rather rare species	Karłów, Szczeliniec
<i>Eriozona syrphoides</i> (FALL.)	rather rare species	environs of Duszniki Zdrój
<i>Ischyrosyrphus laterarius</i> (MÜLL.)	rare species	environs of Duszniki Zdrój
<i>Melagyna quadrimaculata</i> (VERR.)	very rare species	environs of Polanica Zdrój
<i>Melangyna compositarum</i> VERR.	rare species	Karłów, environs of Duszniki Zdrój
<i>Melangyna labiatarum</i> VERR.	rare species	environs of Duszniki Zdrój
<i>Parasyrphus macularis</i> (ZETT.)	rather rare species	environs of Polanica Zdrój
<i>Platychirus immarginatus</i> (ZETT.)	rare species	Szczeliniec, environs of Kudowa Zdrój
COLEOPTERA		
<i>Carabidae</i>		
<i>Amara curta</i> DEJEAN	rather rare species	
<i>Amara nitida</i> STURM	rather rare species	environs of Kudowa Zdrój
<i>Calosoma inquisitor</i> (L.)	species protected in Poland	
<i>Carabus arcensis</i> (HERBST)	species protected in Poland	Błędne Skały
<i>Carabus auronitens</i> (FABR.)	montane species protected in Poland	Łężyckie Skałki, Rogowa Kopa, valley Pośna, Karłów
<i>Carabus cancellatus</i> (ILL.)	species protected in Poland	Łężyckie Skałki
<i>Carabus glabratus</i> (PAYK.)	species protected in Poland	Rogowa Kopa, Pośna, Torfowisko Batorowskie
<i>Carabus granulatus</i> (L.)	species protected in Poland	Łężyckie Skałki, Jeleniów
<i>Carabus hortensis</i> (L.)	species protected in Poland	valley Pośna, Karłów, Batorów
<i>Carabus intricatus</i> (L.)	R, species protected in Poland	valley Pośna
<i>Carabus linnaei</i> (DUFT.)	montane species protected in Poland	Błędne Skały, Rogowa Kopa, valley Pośna, Torfowisko Batorowskie, Łężyckie Skałki
<i>Carabus nemoralis</i> (MÜLL.)	species protected in Poland	Łężyckie Skałki, Rogowa Kopa, Karłów
<i>Carabus scheidleri</i> (PANZ.)	R, species protected in Poland	Rogowa Kopa
<i>Carabus ulrichii</i> (GERM.)	species protected in Poland	Łężyckie Skałki, environs of Kudowa Zdrój
<i>Carabus violaceus</i> (L.)	species protected in Poland	Rogowa Kopa, valley Pośna
<i>Carabus coriaceus</i> (L.)	rare species protected in Poland	Łężyckie Skałki, Rogowa Kopa, valley Pośna
<i>Carabus variolosus</i> FABR.	species protected in Poland	Jeleniów
<i>Harpalus obscurus</i> (FABR.)	R	Błędne Skały, Kudowa Zdrój
<i>Pterostichus cordatus</i> (LETZN.)	V, montane species	Błędne Skały

Table IV – cont.

1	2	3
<i>Cerambycidae</i>		
<i>Agapanthia violacea</i> (FABR.)	R	Kudowa Zdrój, Jeleniów, Jakubowice
<i>Exocentrus adspersus</i> MULS.	rather rare species	environs of Kudowa Zdrój
<i>Judolia sexmaculata</i> (L.)	rather rare species	Karłów, Pasterka, environs of Duszniki Zdrój, Jeleniów
<i>Ropalopus macropus</i> (GERM.)	rather rare species	environs of Kudowa Zdrój
<i>Ropalopus ungaricus</i> (HERBST)	V	environs of Kudowa Zdrój
<i>Ropalopus femoratus</i> (L.)	infrequent species	environs of Polanica Zdrój
<i>Ropalopus clavipes</i> (FABR.)	R	Kudowa Zdrój
<i>Rosalia alpina</i> (L.)	E, species protected in Poland	environs of Duszniki Zdrój
<i>Saphanus piceus</i> (LAICH.)	rare species	valley Pośna, Kudowa Zdrój, Rogowa Kopa
<i>Elateridae</i>		
<i>Agriotes pilosellus</i> (SCHÖNHERR)	rather rare species	environs of Kudowa Zdrój
<i>Ampedus aethiops</i> (LACORD)	rather rare species	Szczeliniec Wielki, Karłów
<i>Ampedus rufipennis</i> (STEPHENS)	R	Wambierzyce, environs of Duszniki Zdrój
<i>Aplotarsus incanus</i> (GYLL.)	rather rare species	Szczeliniec Wielki, Jeleniów, Radków
<i>Ctenicera cuprea</i> (FABR.)	rather rare species	Karłów
<i>Lacon fasciatus</i> (L.)	E, boreal-montane species	Radków, environs of Karłów
<i>Liotrichus affinis</i> (PAYK.)	boreal-montane species	Szczeliniec Wielki
<i>Melanotus castanipes</i> (PAYK.)	rather rare species	environs of Polanica Zdrój
<i>Selatosomus impressus</i> (FABR.)	rather rare species	environs of Kudowa Zdrój
<i>Stenagostus rufus</i> (DE GEER)	R	environs of Polanica Zdrój
<i>Chrysomelidae</i>		
<i>Apteropeda globosa</i> (ILL.)	R	Radków
<i>Chrysolina lapidaria</i> BECH.	rather rare montane species	environs of Duszniki Zdrój
<i>Chrysolina purpurascens</i> (GERM.)	rare montane species	environs of Duszniki Zdrój
<i>Cryptocephalus parvulus</i> (O.F. MÜLL.)	rather rare species	environs of Kudowa Zdrój
<i>Cryptocephalus punctiger</i> PAYK.	rather rare species	environs of Kudowa Zdrój
<i>Cryptocephalus saliceti</i> G. ZEBE	rare species	environs of Kudowa Zdrój
<i>Smaragdina aurita</i> (L.)	rather rare species	environs of Kudowa Zdrój
<i>Smaragdina salicina</i> (SCOP.)	rather rare species	environs of Duszniki Zdrój
<i>Nitidulidae</i>		
<i>Epuraea castanea</i> (DUFTS.)	rather rare species	
<i>Lathridiidae</i>		
<i>Enicmus brevicornis</i> (MANNERHEIM)	very rare species	environs of Duszniki Zdrój
<i>Ciidae</i>		
<i>Hadreule elongatula</i> (GYLL.)	very rare species	Wambierzyce
<i>Tetatomidae</i>		
<i>Tetratoma ancora</i> FABR.	rare species	environs of Duszniki Zdrój
<i>Aderidae</i>		
<i>Aderus nigrinus</i> (GERM.)	rather rare species	Wambierzyce

Table IV - cont.

1	2	3
Oedemeridae		
<i>Chrysanthia geniculata</i> HEYDEN	rather rare species	Szczeliniec Mały
<i>Ischnomera sanguinicollis</i> (FABR.)	rather rare species	environs of Duszniki Zdrój
Staphylinidae		
<i>Atemeles pubicollis</i> (BRISOUT)	rare species	Wambierzyce
<i>Leptusa laevicauda</i> SCHEERPELTZ.	rare species	Szczeliniec Wielki
<i>Oxypoda exoleta</i> ERICHSON	sp. nov. in fauna of Poland	environs of Kudowa Zdrój
<i>Phymatura brevicollis</i> (KRAATZ)	sp. nov. in fauna of Poland	Wambierzyce
Byrrhidae		
<i>Simplocaria maculosa</i> ERICHSON	R	Wambierzyce
Brentidae		
<i>Cyanapion afer</i> (GYLL.)	rare, montane species	Pstrązna, Ostra Góra, Szczeliniec
Curculionidae		
<i>Donus comatus</i> (BOH.)	montane species	Bukowina Kłodzka, Ostra Góra-Karłów, Szczeliniec
<i>Donus ovalis</i> (BOH.)	montane species	Bukowina Kłodzka, Ostra Góra-Karłów, Szczeliniec, Pstrązna
<i>Leiosoma cribrum</i> (GYLL.)	rare, montane species	Szczeliniec
<i>Liophloeus lentus</i> GERM.	montane species	Bukowina Kłodzka, Lisi Grzbiet-Błędne Skały, Szczeliniec, Pstrązna
<i>Liparus germanus</i> (L.)	R, montane species	Ostra Góra-Karłów, Bukowina Kłodzka, Szczeliniec, Błędne Skały
<i>Liparus glabriorostris</i> (KÜSTER)	montane species	Ostra Góra, Szczeliniec
<i>Notaris aterrimus</i> (HAMPE)	R	Błędne Skały, Karłów
<i>Otiorhynchus equestris</i> (RICHTER)	montane species	Szczeliniec
<i>Otiorhynchus nodosus</i> (MÜLL.)	boreal-montane species	Szczeliniec, Narożnik, Błędne Skały
<i>Otiorhynchus subdentatus</i> BACH	montane species	Szczeliniec
<i>Plinthus tischeri</i> GERM.	montane species	Narożnik, Szczeliniec
<i>Tropiphorus terricola</i> (NEWMAN)	R, montane species	

The group of species on the Polish Red List of Threatened Species in the category of rare ones (R) is represented, within the Park and protected zone, by one species of ants and 10 species of beetles (Table IV). Of the unique species, worthy of mention because of being faunistically interesting, are two species of springtails (*Collembola*) new to Poland. They are boreal-alpine species *Tetracanthella britannica* CAS. and *Folsomia sensibilis* KSEN., found in litter on the bottom of crevices of Szczeliniec Wielki. In Góry Stołowe it possible to indicate such unique species as *Elachista quadripunctella* (HÜBNER) – an boreal-alpine species of lepidopteran, *Formica lemani* BONDR. – a relict ant species recorded from Szczeliniec Wielki, Szczeliniec Mały and Błędne Skały, *Cheilosia illustrata* (HARR.) – a boreal-alpine dipteran species of the family of hoverflies (*Syrphidae*) and *Liotrichus affinis* (PAYK.) – a boreal-alpine species of click beetles (*Elateridae*) recorded from Szczeliniec Wielki. Moreover one species new to the fauna of Poland has been recorded from this area. It was representative of the family of rove

beetles (*Staphylinidae*) - *Oxypoda exoleta* ERICHSON. And for another rove beetles *Leptusa laevicauda* SCHEERPELTZ Szczeliniec Wielki is the second confirmed site at which the species occurs in Poland (BOROWIEC 1995).

Twenty-two of the species recorded from the Park and protected zone are under protection in Poland: 14 of them belong to genus *Carabus*, 1 - to *Calosoma*, 1 - to *Rosalia*, 1 - to *Papilio* and 5 species belong to genus *Bombus*; nests of *Formica polyctena* FOERST. are under protection also (Table IV).

The check list of faunistically valuable species (recorded from the Góry Stołowe National Park and its protected zone) which enhance the value of this area is vastly incomplete. Yet even such incomplete list shows that the Park is very important in preserving the wealth of nature not only in the scale of the region but also in the scale of the country or even the European continent. Of the species on the Polish Red List which occur in the Góry Stołowe, most represent category R (rare). Species that deserve particular attention are those that find, in Poland, their only refuge here and those for whom this area is one of a few in which they can occur in Poland.

It follows from an analysis of the localities (areas) inhabited by unique species of invertebrates recorded from Park Narodowy Gór Stołowych that the faunistically most valuable and worthy of protection are the following: Szczeliniec Wielki, Szczeliniec Mały, Błędne Skały, Rogowa Kopa, the vicinity of Pasterka, Wielkie Torfowisko Batorowskie, and Darnkowski Potok and Pośna valleys. Different types of open areas in the Park and protected zone also merit preservation. They significantly increase the faunistic value of this area by influencing species diversity and richness. Moreover, there unique species of different taxonomic groups occur. The above mentioned areas do not make a complete list of places important from the point of view of assessing the faunistic value of the Park - in the future, other areas, now "blanks" on the map of the Park, may be recognised as equally valuable.

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STRESZCZENIE

[Tytuł: Fauna bezkręgowców Parku Narodowego Gór Stołowych, jej specyfika i walory]

Góry Stołowe leżące w Podkrajnie Sudetów Zachodnich są niezmiernie interesujące z punktu widzenia geologicznego i hydrograficznego. Są to jedyne w Polsce góry typu płytowego, z naprzemiennie, poziomo ułożonymi warstwami piaskowców i margli. Na ich obszarze znajduje się Park Narodowy Gór Stołowych zajmujący obszar ok. 63 km². Mimo, że został on powołany przede wszystkim dla ochrony występujących na jego terytorium unikalnych form skalnych, to jest on również miejscem występowania szeregu gatunków cennych dla fauny Polski.

W niniejszej pracy wykorzystane zostały dane z piśmiennictwa, rozproszone w wielu publikacjach oraz niepublikowane dane własne pochodzące z lat 1995-1998 zbierane głównie na potrzeby przygotowywanego dla Parku Planu Ochrony.

Fauna bezkręgowców Parku Narodowego Gór Stołowych i jego otuliny jest dość słabo zbadana; dotychczas z tego obszaru nie wykazano nawet 1000 gatunków. Niemniej jednak prawie 1/5 z nich (ponad 180) można określić jako unikatowe, cenne z faunistycznego i ochroniarskiego punktu widzenia. Są to gatunki znajdujące się na

listach gatunków ginących i zagrożonych (Czerwona Lista Zwierząt Ginących i Zagrożonych w Polsce, Czerwona Lista Chrząszczy (*Coleoptera*) Górnego Śląska, Czerwona Lista Motyli Dziennych (*Rhopalocera*) Górnego Śląska), gatunki endemiczne i reliktowe, gatunki o ograniczonym zasięgu geograficznym. W opracowaniu tym do grupy gatunków unikatowych zaliczono również gatunki objęte w Polsce ochroną prawną a także te, które wykazano po raz pierwszy z Gór Stołowych (nowe dla fauny Polski). W skład grupy gatunków unikatowych wykazanych z obszaru Parku i otuliny wchodzi: 23 gatunki mięczaków (*Mollusca*), trzy gatunki krocionogów (*Diplopoda*), dwa - równonogów (*Isopoda*), 32 gatunki pajaków (*Aranei*), jeden gatunek kosarza (*Opiliones*), 22 gatunki roztoczy (*Acari*) oraz 102 gatunki owadów (*Insecta*).

Lista wykazanych z terenu PNGS i otuliny gatunków cennych faunistycznie stanowiących o jego walorach jest mocno niekompletna, jako że szereg grup taksonomicznych nie było tu w ogóle badanych, a informacje o wielu są fragmentaryczne. Niemniej jednak nawet te niepełne listy świadczą o dużym znaczeniu Parku dla zachowania wartości przyrodniczych nie tylko w skali regionu, ale również w skali kraju czy kontynentu. Za szczególnie cenne i warte ochrony należy uznać: Szczeliniec Wielki, Szczeliniec Mały, Błędne Skały, Rogową Kopę, okolice Pasterki, Wielkie Torfowisko Batorowskie oraz doliny potoków takich jak: Darnkowski Potok i Pośna. Niewątpliwie warte zachowania są również występujące na obszarze Parku i jego otuliny różnego typu tereny otwarte takie jak np. Sawanna Łężycka, łąki w okolicach Pasterki czy Karlowa.