

The Coleopterous Fauna of Our Sea-Slopes.¹⁾

By
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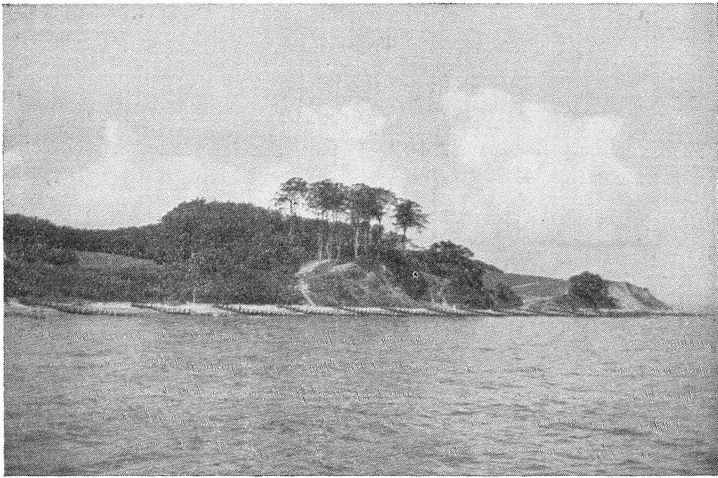
The territories of our extensive sea-shores present much of interest for coleopterologists. On the flat sandy beaches several species occur which are not found elsewhere, for instance *Bembidion (Cillemus) laterale* Sam., *Dichirotrichus pubescens* Payk., *Actinopteryx fucicola* Allib., *Cafius xantholoma* Grav., and *sericeus* Holme, the species of *Diglotta* and *Phytosus*, *Atheta flavipes* Thoms., *puncticeps* Thoms., and *vestita* Grav., *Aleochara grisea* Kr., *algarum* Fauv., and *obscura* Grav., *Pachylopus maritimus* Steph., *Corticarina truncatella* Mann., *Phaleria cadaverina* F., *Psylliodes marcida* Ill., and *Ceutorrhynchus cakilis* Victor Hansen.

The downs have likewise a special fauna, for instance *Calathus mollis* Marsh., *Liodes ciliaris* Schm. and *furva* Er., *Bledius baudii* Fauv., *Psilothrix cyaneus* Ol., *Anthicus bimaculatus* Ill., the species of *Aegialia*, *Otiorrhynchus atroapterus* Deg., and *Lepyrus palustris* Scop. The same will apply to the clayey coasts, especially the marshy territories (for instance *Bledius furcatus* Ol. and *spectabilis* Kr. and *Heterocerus obsoletus* Curt.) and to the saltings (for instance *Anisodactylus pseudoaeneus* Dej. and *Heterocerus aureolus* Schiødte).

Finally our Sea-Slopes are frequently good collecting-localities. They have in the course of time been ex-

¹⁾ Translated by A. West.

empted from cultivation and upon the whole been uninfluenced by the interference of culture and are often comparatively slightly frequented on account of the trouble involved thereby, so they have preserved an impression of primitiveness; they are frequently covered with a dense growth and not seldom present a considerable beauty of scenery. As in Denmark the sea-



The sea-slope of Moesgaard, south of Aarhus.

shore is seldom far away, the coleopterologists have frequently made excursions to the sea-slopes, where moreover the collecting is agreeable on account of the fresh air and the exemption from the trouble of gnats and flies, and where as regards the eastward slopes one is sheltered from the west winds prevailing in Denmark. However, the knowledge of the coleopterous fauna of our sea-slopes is undoubtedly still fairly incomplete.

When young I had for several years during my summer holidays an opportunity of collecting beetles at the sea-slopes of Marselisborg and Moesgaard, south of Aarhus. On these eastward slopes, which present an exces-

sive beauty of scenery, I found gradually, besides several rare species, 5 species, viz. *Lesteva fontinalis* Kies., *Saprinus rugifer* Payk., *Phytonomus viciae* Payk., *Sibinia sodalis* Germ., and *Apion armatum* Gerst., which were hitherto not found in Denmark, and of which *Phytonomus viciae* still only is known from this locality. Excursions made later to others of our sea-slopes also often gave a good result to me.

The coleopterous fauna of the sea-slopes is not sharply defined from that of the sea-shore. Where a species of plant as for instance *Melilotus* is growing as well on the sea-shore as on the slopes or at any rate on the lower part of the latter, those species of Coleoptera which are attached to the plant — as regards *Melilotus* the species of *Tychius* may for instance be mentioned —, may most frequently be found at both places. Where a spring is running down the slope and continues through the sea-shore, those beetles living here, for instance *Bembidion nitidulum* Marsh. and *stephensi* Crotch., may as a rule occur not only on the slope but also — although less numerously — on the sea-shore. Of course there are some species which only occur on the sea-shore, for instance those species at first mentioned in this paper, and which are found under sea-weed, as also some other species, which — except by the merest chance — do not spread from the slopes to the sea-shore, because the conditions required by them as regards the growth of plants or the character of the soil are not present on the sea-shore.

The fauna of the slopes is even less sharply defined from that of the inland. Firstly there are some — chiefly common — species which are not fairly particular and which therefore are equally satisfied with localities in the inland and on the sea-slopes, if only for instance their food-plant is present. Of course such species cannot in any way be said to contribute to characterize the fauna of

the sea-slopes. Where for instance on a sea-slope aspen (*Populus tremula*) is growing, the species of *Zeugophora* will generally be found on the plant, although they do by no means prefer sea-slopes to other localities. Moreover it must be taken into consideration, that in the inland sometimes localities occur, which present characters similar to those of the sea-slopes, especially as regards the character of the soil and the growth of plants. So some of the species which occur at moist places of sandy, gravelly or clayey sea-slopes — such as species of *Bembidion*, *Dyschirius* and *Bledius* — can also be found at places of a similar character in sand-, gravel- or clay-pits or in the brinks of lakes and rivulets, and as regards the growth of plants the fact is no doubt, that certain species of plants, for instance *Potentilla incana* and *Libanotis montana*, in our country are exclusively or chiefly found on sea-slopes¹⁾, but as far as I know, we have in Denmark no species of Coleoptera which exclusively are attached to those plants and which for that reason would unlikely be found elsewhere.

Still there are some species which decidedly seem to prefer sea-slopes and which, although now and then they may be found in similar localities in the inland, most frequently and most numerous are found on the sea-slopes and therefore are characteristic of their fauna. There are also some few species which — at any rate in Denmark — hitherto exclusively were found on or near sea-slopes. This will apply to the following species: *Tachys bistriatus* Dft., *Bledius defensus* Fauv., *dissimilis* Er., and *tibialis* Heer, *Saprinus rugifer* Payk., *Rhyssemus germanus* L., *Tychius femoralis* Bris., and *Sibinia sodalis* Germ. and *phalerata* Stev. As, however, all these species

1) Cf. T. W. Bøcher: Om Betydningen af en Fredning af danske Skrænter (On the importance of a preservation of Danish slopes) in Dansk Naturfredningsforenings Aarskrift 1940—41, p. 75—79.

are very rare in our country, one cannot from the single findings with certainty conclude that in Denmark they only occur on sea-slopes, the more so as according to literature such a confinement does not seem to apply to their occurrence abroad.

As indicated before the species belonging to the actual fauna of the sea-slopes comprise chiefly two main groups, one of which contains the species attached to the soil and the other those, that are either herbivorous or otherwise attached to the growth of plants on the slopes. But yet there is also reason just to mention, that not seldom one may meet chance comers, that properly are residents behind the slope; on swarming or on account of storm or rain these happen to drop on the slope and settle, mostly at the base of the same. Especially at such spots, where in the ground at the top of the slopes there are burrows or nests of animals, for instance of moles or mice, one may sometimes at the base of the slope find good species, that live in the burrows or nests and only seldom are met with out in the open. A similar fact may otherwise be experienced in gravel- or sand-pits. Carcasses or manure found on sea-slopes will not seldom give a good result; still in our country only a single species of those attached to these matters has exclusively been met with on or near sea-slopes, viz. *Saprinus rugifer* Payk.¹⁾ Finally it should be mentioned, that on the sea-slopes one may also sometimes find beetles belonging to the family *Liodidae*. Thus on the sea-slope of Marselisborg I swept *Hydnobius multistriatus* Gyll.

The species of the first of the two main groups, in which the species of the sea-slopes may be divided, viz. the animals of the ground, are especially to be looked

¹⁾ *Necrodes litoralis* L. does not markedly prefer sea-shores, so its specific name is a misnomer as is also the case in several other species of Coleoptera.

for at places, where springs are running down the slope, and at other places, where the ground is humid and its surface therefore appears a little darker than the remaining surface. The great majority of these species belong to the families of the Carabidae and Staphylinidae.

Amongst the Carabidae must be mentioned: *Nebria livida* L. and *salina* Fairm., *Dyschirius intermedius* Putz. and *angustatus* Ahr., *Asaphidion pallipes* Duft. and *flavipes* L., *Bembidion nitidulum* Marsh., *stephensi* Crotch., *andreae* F. subsp. *polonicum* J. Müller, *saxatile* Gyll., and *genei* Küster subsp. *illigeri* Netol., *Tachys bistriatus* Duft., *Trechus micros* Hbst., and *Chlaenius nitidulus* Schrank. *Tachys bistriatus* Duft. is the only one of these species which in this country was exclusively found at sea-slopes (at the base of the slope of Trappeskov in Ærø and at the base of Ristinge Klint in Langeland in crevices in the clay and under sea-weed), whereas abroad it is stated not to have a special attachment to sea-slopes, so the possibility of finding the species here in the inland, too, is not excluded. *Bembidion andreae* F. subsp. *polonicum* J. Müller and *saxatile* Gyll. are in Denmark only found at sea-shores, and here they no doubt prefer springs on clayey slopes; however, they are, indeed, also sometimes found on sea-shores, where there were no slopes. Of the other aforesaid species, all of which may be found in the inland, *Nebria livida* L., and *Bembidion stephensi* Crotch. likewise prefer clayey sea-slopes with springs. *Dyschirius intermedius* Putz. and *angustatus* Ahr., too, are especially fond of sea-slopes, where they occur together with species of *Bledius*. On the sea-slope of Marselisborg I found both species together on half-humid ground composed of clay, sand, and gravel in company with *Bledius pallipes* Grav., *longulus* Er., and *erraticus* Er. They often run out in the sunshine, but are found best by sifting the upper layer of the ground at those spots where the Bledii are living, and which

may be discerned by the burrows of these (see below). *Trechus micros* Hbst. is undoubtedly attached to the nests and burrows of the mole or the water-vole and is most frequently found on humid ground in the inland; however, once on the sea-slope of Gedser I found the species under stones in a spring so numerously as to appear improbable that its occurrence here should merely have been casual. The remaining of the said species can hardly be said to prefer sea-slopes to other localities, which fulfil the conditions they require. Of *Chlaenius nitidulus* Schrank only 2 specimens were found in our country one of which at Sose Odde in Bornholm on a clayey sea-slope with scattered vegetation, and the other at Maribo, the particulars of the latter finding being unknown, it will therefore not yet be possible to decide whether this species should in our country prefer sea-slopes; in Germany it is found numerously in clay-pits and on clayey slopes in the inland. Finally I want to mention, that of the genus *Ophonus* I took the species *melleti* Heer, *seladon* Schaub., and *azureus* F. on sea-slopes (the latter at Sose Odde in Bornholm); none of these species, however, are especially attached to sea-slopes. As known *O. azureus* is in Denmark found most numerously on high, open, chalky ground at Høje Møen.

To the great family of the *Staphylinidae* belong several species, which preferably or at any rate most frequently occur on sea-slopes. First and foremost there is every reason to mention the genus *Bledius*. The *Bledii* occur at humid spots, where the ground is not too compact and hard. Some of the species prefer a more sandy, others a more clayey ground. They most often live in colonies and dig burrows beneath the surface of the ground. In some species the burrows are rather deep, but in those, that are of interest in connection with the sea-slopes, they are as a rule close to the surface. The colonies are discernible by the tiny hillocks, which

by the digging of the animals are made on the surface, and which on account of their being quickly dried out are brighter than the surroundings. As a rule the species do not come out until towards evening and may best be found by sifting the upper layer of the ground. In company with the *Bledii* one will often find the species of *Dyschirius*¹⁾, which are hunting the *Bledii* and their larvae. Some of the species of *Bledius* live on flat ground and are therefore of no interest as regard sea-slopes, but others mostly occur on slopes or vertical flats, and of these several do in this country decidedly prefer sea-slopes (first group), whereas others appear equally to occur on sea-slopes and at places in the inland, where similar conditions are present, such as on the slopes of sand-, gravel- and clay-pits or in the brinks of rivulets and lakes (second group). To the first group belong: *Bl. defensus* Fauv., *tibialis* Heer, *atricapillus* Germ., *nanus* Er., *dissimilis* Er., *erraticus* Er., and *pusillus* Er.; to the second group belong: *Bl. pallipes* Grav., *longulus* Er., *opacus* Block, *fracticornis* Payk., and *crassicollis* Boisd. Frequently different species occur in company with each other. *Bl. defensus* was in Denmark only found on Møens Klint, at a single place just northward of the Sandskredsfald. Here it lives on half humid, ochraceous ground composed of sand, gravel and clay in company with *Bl. pallipes*, *longulus*, and *crassicollis*, *Trogophloeus despectus* Baudi and *Tachyusa scitula* Er. Of *Bl. tibialis* only a few specimens were hitherto found in Denmark on a clayey sea-slope at Hasle in Bornholm in company with many *Bl. nanus*.

As mentioned above *Trogophloeus despectus* Baudi sometimes occur in company with *Bledii*, especially where the ground partly consists of clay. Of *Tr. subtilis* Er., which in Denmark is very rare, I once found one spe-

¹⁾ The species of *Heterocerus*, too, are digging tunnels and often occur together with the *Bledii*; none of our species, however, seem to prefer sea-slopes.

cimen associated with Bledii (*Bledius atricapillus* Germ.) on the sea-slope of Lynæs; this species, however, cannot be said to have a special attachment to sea-slopes, as I found it, too, in a sandpit at Lundtofte and in Malmmosen (the Malm bog) near Holte in a considerable number on gravelly ground. Of *Tr. nitidus* Baudi there is only one Danish specimen, which I found at the base of Møens Klint; anything certain cannot therefore be said about its life-habit by us; abroad it is no doubt not considered a species of the sea-shore.

In similar localities one may also sometimes find species of *Scopaeus*, especially *Sc. sulcicollis* Steph. On the sea-slope of Gedser, at the base of the slope and under humid sea-weed mixed with clay, I found *Achenium humile* Nicol. numerously.

At places, where springs run down a sea-slope, one may frequently make good findings, not only — as mentioned above — of Carabidae but of Staphylinidae, too. At sunny spots several species of *Stenus* are often met with running out hunting. As species especially often met with on sea-slopes may be mentioned our four red-flecked ones, viz. *St. biguttatus* L., *bipunctatus* Er., *guttula* Müll., and *bimaculatus* Gyll.; furthermore should be mentioned *St. fossulatus* Er. and several of the more common species such as *juno* F., *canaliculatus* Gyll., *nitens* Steph. But apart from *St. fossulatus* and perhaps also *guttula* none of these species can be said to prefer sea-slopes.

At similar places one may also find *Lathrobium multipunctum* Grav., species of *Tachyusa*, *Ocalea* and the rare *Chilopora rubicunda* Er. Especially the latter species, which does not conspicuously prefer sunny places, as do the species of *Stenus* and *Tachyusa*, is best found by sifting the upper layer of the ground; none of the species just mentioned, *Lathrobium multipunctum* perhaps excepted, can be said to prefer sea-slopes.

When water-moss is found in springs this ought to be examined thoroughly by spreading it on a sifting-cloth for water. Here frequently species of *Lesteva* and *Myllaena* occur. In moss in the Varna rivulet, where it runs out in the sea-slope of Marselisborg, I found *Lesteva punctata* Er., *longelytrata* Goeze, *fontinalis* Kies., and *pubescens* Mann., *Myllaena kraatzi* Sharp., and *brevicornis* Matth., *Quedius suturalis* Kies. and *maurorufus* Grav., and *Dianous coerulescens* Gyll. None of these species are exclusively attached to water-moss on sea-slopes but may also be found in the inland under similar conditions. As, however, springs are rather often met with on sea-slopes, there is a reason why they should be mentioned as species which contribute to characterize the fauna of the sea-slopes.

Even at such places on the sea-slopes, where no spring or aquiferous layer causes humid spots, some humidity will remain from the rain-water at the root of the growth of plants of the slopes, especially where such species of plants are growing, that cover the surrounding ground. Here there will often be some animal life, and sifting at such spots of the earth and old foliage etc. round the roots of the plants will not seldom give a result, though the species occurring here have no special attachment to sea-slopes. Several of these species are of course animals attached to the plant, for instance because they are attracted by its flowers or bred in its stems or roots, and therefore, if anything, belong to the other main group of the fauna of the sea-slopes, the herbivorous species. But there will also be some other species, which occur here either on account of the humidity, to go hunting, or which are attached to mould or growing there, or mouse-burrows. As such species may be mentioned several Carabidae (*Trechus quadristriatus* Schrank. and *obtusus* Er., *Epaphius secalis* Panz., species of *Ophonus*), Scydmaenidae and Staphy-

linidae, amongst the latter for instance *Astenus filiformis* Latr. and *longelytratus* Palm, *Medon brunneus* Er. (in mouse-burrows), *Mycetoporus splendens* Marsh., *Hypocyptus seminulum* Er. and *punctum* Motsch., *Falagria thoracica* Curt. and *nigra* Grav.; furthermore Scarabaeidae such as *Psammobius sulcicollis* Heer, *Diastictus vulneratus* Sturm, which in this country, indeed, prefers sea-slopes, *Rhyssemus germanus* L., which in Denmark was only found at the sea-slope of Trappeskov in Ærø, and *Maladera holosericea* Scop., which apart from a single, perhaps only casual find, was only found in Denmark on sea-slopes, consisting of sand and gravel, especially at the root of *Artemisia*.

On sea-slopes, that are without growth of plants and surface-humidity, for instance on hard, dry clayey slopes, there will as a rule not be any life of Coleoptera except those animals, that casually settle at the base of the slopes under storm and rain, cf. above page 136¹).

The other main group of the coleopterous fauna of the sea-slopes, comprising the herbivorous species, especially include some weevils, that are attached to the herbaceous vegetation of the slopes. On slopes with growth of trees one will, indeed, as a rule meet with the same more common species which in the inland, too, are found under similar conditions, for instance animals living in dead branches and stems, under bark, in fungus or on the leaves. However, none of the species belonging to this category appear in Denmark to prefer sea-slopes; upon the whole it may no doubt be said, that that part of a woodland, which extends down a sea-slope

1) *Otiorrhynchus uncinatus* Germ., which in Denmark was only found at Høje Møen, is sometimes found on the seashore at the base of the steep chalk cliffs; this is, however, merely casually. Fresh hatched specimens were found by me abundantly by sifting moss and leaves round stumps of trees in the grove of oaks at Jydelejet.

will seldom present better hunting-places than the rest of the forest. It is the herbaceous vegetation, which just often on sea-slopes attains to a considerable abundance and luxuriance, that in the present connection is of the closest interest, and especially plants belonging to the Papilionaceae, Compositae and Caryophyllaceae.

Amongst the weevils there is first and foremost a reason to mention the group Tychiini. Of the 15 Danish species of this group, amongst which only a single one (*Miccotrogus picirostris* F.) is quite common, 10 were found on or by sea-slopes, viz. *Tychius lineatulus* Steph., *schneideri* Hbst., *flavicollis* Steph., *femoralis* Bris., *junceus* Reich., *meliloti* Steph., and *tomentosus* Hbst., *Miccotrogus picirostris* F., and *Sibinia sodalis* Germ. and *phalerata* Stev. and of these the following 3 species were in Denmark not found on other kinds of localities, viz. *Tychius femoralis* and *Sibinia sodalis* and *phalerata*. All of our species of *Tychius* and *Miccotrogus picirostris* are attached to species of Papilionaceae, whereas the species of *Sibinia* especially live on species of Caryophyllaceae (*S. sodalis*, however, on *Armeria vulgaris*). On the slopes of Marselisborg and Moesgaard I have taken no less than 7 species, viz. besides the common *Miccotrogus picirostris* (on *Trifolium*), *Tychius lineatulus* (on *Trifolium pratense*), *schneideri* (on *Anthyllis vulneraria*), *flavicollis* (on *Lotus corniculatus*), *meliloti* (on *Melilotus officinalis*), and *tomentosus* (on *Trifolium pratense*), and *Sibinia sodalis* (on *Armeria vulgaris*). The Tychiini are best found in July and August, when the fresh hatched specimens are out. These fresh specimens are exceedingly beautiful, because their cover of scales, which is easily being rubbed off, is as yet well preserved. Of course they may as a rule be swept, but the best method in finding at any rate those species, that live on low plants, as for instance *Lotus corniculatus*, is cautiously to raise the plant across the sweeping-net or another white underlayer. By using this method on the

sea-slope of Kalø I found one of our most beautiful and rarest species, *Sibinia phalerata*, which here was living on quite low (about 5 to 8 cm high), half-dead *Arenaria serpyllifolia*, and which no doubt would have dropped outside the sweeping-net by sweeping on the slope in an ordinary way. The three aforesaid species, which in Denmark hitherto were only found on or near sea-slopes, are in this country so rare (*T. femoralis* was only found at Vemmingbund, *S. sodalis* only on the slope of Moesgaard and on Ristinge Klint, and *S. phalerata* only on the slope of Kalø, on Ristinge Klint, Møens Klint, and on the slopes at Refsnæs), that one cannot from their finding-places conclude for certain, that these species do in Denmark only occur on sea-slopes, although it is a remarkable fact, that *S. sodalis* in Denmark hitherto never was found on the flat ground near sea-shores, where *Armeria vulgaris* is often growing very abundantly. The remaining species can hardly be said to prefer sea-slopes; nevertheless it seems as if our sea-slopes present especially good chances for collecting these animals, and there is hardly any other of our localities besides the slopes of Marselisborg and Moesgaard, where 7 species of Tychiini were found.

Certain species of *Apion*, too, although not bound to sea-slopes, still often seem on these to find good or even especially good conditions of life. This for instance applies to *A. sedi* Germ. (on *Sedum telephium*), *armatum* Gerst. (on *Centaurea*), *tenue* Kirby (on *Papilionaceae*), and *ononicola* (on *Ononis*). Of other weevils there is a reason to mention *Phytonomus viciae* Gyll., which hitherto in Denmark was only found on the slope of Marselisborg (on *Vicia sylvatica*) and *Ceutorrhynchus millefolii* Schultze, which amongst others was found numerously on the slope at Vemmingbund (on *Tanacetum vulgare*).

Of Chrysomelidae of course not seldom several species are found on sea-slopes, but of species, that seem to prefer sea-slopes, we have in our country hardly any

other species than *Hispidella atra* L., which was found on several of our sea-slopes, amongst others abundantly in July on the sea-slope of Lynæs, where its larva was observed mining in the leaves of *Phleum boehmeri*.

Nor amongst the remaining families are there many species, attached to plants, which characterize the fauna of the sea-slopes. However, there is a reason to mention, that *Ebaeus pedicularius* F. in Denmark was only found on the slope along Als Sønderskov (and on the ground overhead the slope and near the same) on flowers, especially of thistle in June-July, that *Hymenalia rufipes* F. in Denmark was only known from the slope Ristinge Klint (beaten from trees and bushes or found under *Artemisia* from July 8th to 15th) and from Bornholm (probably on the sea-slope of Arnager), that *Olibrus bauderi* Flach, which lives on *Artemisia campestris*, seems to be fond of sea-slopes and that *Rhizobius litura* F., too, in Denmark perhaps prefers sea-slopes.

As mentioned before I had during some years an opportunity to make several excursions to the sea-slopes of Marselisborg and Moesgaard, south of Aarhus, and these slopes may perhaps be said to be the Danish sea-slopes whose coleopterous fauna is best known. Also some of the remaining Danish sea-slopes, the coleopterous fauna of which has been investigated, are mentioned before, viz. the slopes at Kalø, Halk, Als Sønderskov, Vemmingbund (all in Jutland), Ristinge Klint in Langeland, Trappeskov in Ærø, Møens Klint, Gedser in Falster, those of Lynæs and Refsnæs in Sealand and that of Arnager in Bornholm¹). About all these slopes it may no doubt be

1) It would be obvious for each of these sea-slopes to give a list of the more rare species, which are found on them, but the space will not allow of it. By looking over, what is stated in the list of beetles of West (1940—41) about each of the species, mentioned in the present paper, one will, however, easily be able to obtain the necessary survey in that respect.

said, that they are not sufficiently investigated, and that a continuation of excursions, especially of course at different seasons of the year, might give further and interesting results.

Moreover there are undoubtedly several of our sea-slopes, which have not or only in a slight degree been visited by our Coleopterologists, and the closer investigation of which is very desirable and no doubt will be payable. Especially there may be a reason to point out, that most of the sea-slopes investigated are those turned southward or eastward. The investigations of the flora on our sea-slopes show¹⁾, that the north-, south-, east- and westward slopes exhibit a considerable difference respecting this subject. There is a reason to suppose, that a similar fact, although perhaps in a less degree, will turn out to apply to the coleopterous fauna. On account of our present deficient experiences nothing certain can, however, be said about the subject. This is a field, which it would be of interest to get cultivated.

Therefore I am in the hopes, that this paper may be able to rouse in our coleopterologists a fancy to study the fauna of our sea-slopes. If furthermore a work towards preserving the most beautiful and most interesting of the slopes would be successful and thus secure the esthetic value of the slopes and their value in respect to natural science it would of course be especially satisfactory. A preservation of that kind was recently pleaded for on the part of the botanists²⁾, and with this plead the coleopterologist will fully be able to associate themselves.

Dansk Oversigt.

Omraaderne ved vore vidtstrakte Havkyster frembyder betydelig coleopterologisk Interesse. Dette gælder ikke blot de flade

1) cf. Bøcher l. c.

2) cf. Bøcher l. c.

Sandstrande, de lerede Kyster og Syltengene men ogsaa Havskrænterne. Havskrænternes Billefauna er ikke skarpt adskilt fra Strandbreddens og endnu mindre fra Indlandets. Det er kun enkelte Arter, der her hjemme udelukkende er fundet paa Havskrænter, men adskillige andre Arter foretrækker Havskrænterne og bidrager derved til at karakterisere disses Fauna. Arterne falder i to Grupper, dels de, der er knyttet til fugtige Steder i Jordbunden, f. Eks. *Bledius*-Arterne, dels de, der er knyttet til Skrænternes Plantevækst, især den urteagtige, f. Eks. Tychiinerne. Hertil kommer endelig de tilfældige Gæster, der f. Eks. paa Grund af Storm og Regn slaas ned paa Skrænterne. De danske Havskrænters Billefauna er kun ufuldstændig kendt, og en mere indgaaende Undersøgelse af dem, saaledes at baade øst-, vest- og nordvendte Skrænter undersøges til forskellige Aarstider, vilde være særdeles interessant og sikkert lønnende. En Fredning af vore Havskrænter vilde baade ud fra botaniske, zoologiske og æstetiske Synspunkter være overordentlig ønskelig.
