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### International cooperation in the field of bird migration research

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The history of international cooperation in bird migration studies is presented. An analysis is made of the factors making the development of cooperation difficult (diverse history, different concepts and working conditions, isolation, lack of logical analysis of problems studied from the viewpoint of selecting the best material collecting methods, psychological barriers). Various areas of cooperation are discussed (information on studies in progress, standardization of material collecting methods, exchange of data) and cooperation in the use of computers for processing the data (exchange of computer programs) is described. A proposal is put forward to create further specialized units of EURING: a computer program library, a standardization centre, a field-data bank.

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Международное сотрудничество в исследованиях по миграциям птиц.

Представили историю международного сотрудничества в исследованиях миграций птиц. Проанализировали факторы, которые утрудняют развитие этого сотрудничества, как: различное историческое развитие, разные концепции и условия работы, изоляция, отсутствие логического анализа изучаемых проблем с точки зрения избрания наиболее соответствующих методов сбора материала и, наконец, психологические преграды. Обсудили различные уровни сотрудничества (информация о проводимых исследованиях, стандартизация методов собирания материала, обмен данными). Обсудили сотрудничество в использовании ЭВМ для обработки материала (обмен программами). Внесли предложение создать дальнейшие специализированные филиалы Еуринага: библиотеки программ для ЭВМ, центр стандартизации, банк данных полевых исследований.

The first ideas of organizing an international collaboration in bird migration research were born in the early thirties at the German stations Helgoland and Rossitten, but they were not fruitful for more than 20 years.

The more real international cooperation in the field of bird migration studies was started over 25 years ago. The International Waterfowl Research Bureau

was founded in 1948 and started with the coordination of waterfowl research, partly devoted to the migration of that special group of birds.

In 1950, during X International Ornithological Congress at Uppsala, an International Coordinating Committee for Bird Ringing was founded. The bird ringing, the most international kind of bird migration studies, started collaboration after about 50 years of its existence. It was surprisingly late!

After that historical fact, the uphill work in the field of collaboration and standardization was started. In 1954, the International Ornithological Bulletin "The Ring" was founded and its first issue presented the proposals about the standardization of ringing reports. The next years were rich in discussions about different aspects of ringing, standardization and cooperation. They were presented on the pages of "The Ring" which was open to all, even very controversial, opinions.

The year 1962 was the time of maturity of the European ringing schemes for the creation of the European Committee for Bird Ringing, which was started at Biarritz Conference 1963 and called EURING. Just after its birth, EURING started enormous standardization work — the elaboration of an international scheme of recoveries handling based on 80-column punch-card system. That was a great step forward: the international collaboration was a fact, not only a discussed idea. However, at that stage of development, the counsellor for punch-cards had extremely hard work to do — the contribution of most of the ringing schemes to the construction of the system was purely symbolic. Most of the people did not have any experience in system construction, and hardly anybody knew the new computer technics. The next years showed that a real collaboration, although based on existing system, is not quite easy. Many ringing schemes have been included in the EURING system of recoveries handling only in recent years in various, seldom full, scope.

The trials of international collaboration in other fields of bird migration studies started much later than in the ringing. This is obvious, because the ways of collecting material by bird stations and by ringing offices are quite different. The bird station observes and/or rings the birds passing through a limited station area and is usually interested in its "own" ringed birds only. That individualistic point of view is especially common in those countries where bird stations are created chiefly by local bird watcher societies. Such genealogy often forces a very narrow path of thinking about migrational studies. It is rather surprising that the above-presented point of view is so common among ornithologists studying bird migration — a phenomenon completely ignoring administrative and political borders, a phenomenon on a continental scale. This obvious fact began to be noticed when the idea of real team work in field studies was born.

In 1955, at the conference of ornithologists of the Soviet Baltic Countries in Tartu, the Baltic Commission for the Study of Bird Migration was founded, which initiated the work of the network of visual observation posts.

The Operation Baltic started in 1961 just as a network of stations working together. The basic idea of the project was: to work on a large territory with the same methods and compare the results. The scientific programme of that project was wider than in the previous network and covered visual observations, ringing and biometry. As a quite natural trend, the Operation Baltic was widened to include other countries of the Baltic basin. This approach towards international cooperation has, like the EURING cooperation, some inconsistencies up till now. The differentiation of work inside the International Operation Baltic is too great. It is a pity, but it is rather understandable, as the last years' trials for a unification of methods and cooperation between stations within some countries goes forward very hard.

The wide seeing of the bird migration problem forces cooperation and standardization on a really continental level, not limited to national or regional frames. Starting from that point of view, in 1968 the Operation Baltic team sent to a number of stations and ringing schemes proposals for the organization of international migrational data exchange network. The proposals were repeated later at the Tring Conference 1971. As we see now, the proposal was rather unrealistic. It was too early.

The Tring Conference was the first step on the way to standardization, although the selection of themes was rather random and the participants were not prepared for such a wide discussion. Some of the solutions agreed in Tring were premature, not preceded by a complex logical analysis. Although such half-backed solutions can stop further complex way to standardization, I see that conference as a good start for new thinking about international cooperation. The only organizational solution — creation of the Standing Committee for Standardization was, however, a fact without any practical value. That body was not connected with any permanent organization, and it has died without any traces of real work.

After the Tring Conference the new international initiative was born. The Operation Baltic team presented, in 1973, the system of collecting biometrical data on paper tape (MIDAT-system) and a year later — the proposal of reforming the first EURING coding system. Both proposals were much debated (warm discussions at Tallinn, Moscow and Radolfzell) and they were confronted with similar concepts born in Sweden.

In 1975 the ringing moved forward once more: the EURING meeting at Radolfzell created the first working body of that organization — the EURING Data Bank. In opposition to the Tring Conference's Standing Committee, the EURING Data Bank started to work well, because it is concentrated in one place and it has one person responsible for its activity. There is a great hope for a fruitful activity in the future.

The improvement of cooperation in the field of using recoveries in scientific work and the necessity to have a more complex system of coding of ornithological data were the objectives of the specialised meeting at Stockholm in 1977.

A logical analysis of the very different systems existing in Europe was the basis for my ORNDATA-system presented at Stockholm, where other new ideas were also born.

The above-mentioned working meeting was a prototype for the future standardization conferences. Two weeks of permanent work was, as it now appears, not too much for the solving such a problem as the coding system for recoveries — the system was not agreed finally. A more careful analysis of the work of that conference shows that the first few days were not fruitful in the general theme. Although members of the conference were selected as experts in the problem, the starting discussion was rather chaotic. The solutions began to be more concrete just at the end of the first part of the meeting, when some of the participants had to depart. It was, however, the result of quite different concepts of conference presented by the members. Finally, I think that both stages of the meeting will fruit in the future — the apparently wasted time at the beginning of the meeting cleared some secondary problems and the future discussions will start from a higher level. The final agreement on the New-EU-RING coding format, elaborated at the conference, will be the basis for the next steps of standardization work, which is before us.

Although the progress in standardization and cooperation process is visible quite well, nobody could be over optimistic. One can enumerate some essential obstacles standing on the way. They are:

1. Different histories, different concepts and circumstances of work at the stations, and isolation of teams. The concepts of work are strictly adapted to local conditions and local habits of ringers and bird-watchers. The information about the work of stations is dispersed in different, often local periodicals or it is not accessible at all. Personal contacts are weak and accidental.

2. No logical analysis of problems studied. The methods and forms used are usually the result of evolution of the work at the station. The real reorganization of the station system on the basis of a logical analysis of the problem is a rare case, although such reorganization saves much man-power in the routine work. It is surprising that at so many stations routine work contains completely unpractical and unlogical elements.

3. Localisms and psychological barriers. That kind of obstacles is the hardest problem of cooperation on a national and international scale. In connection with the two preceding points, localisms force the creation of quite unusable systems, completely uncomparable with the existing better ones. One can list cases when the creator of a new local mode of work rejects good solutions known to him. The only objection against the adoption of an unfamiliar method, or even international standard, could be the fact, that "it is a strange method to me, I cannot work with it" without any trials for its practical use. The overthrow of this manner of thinking will be the task for a many years' propaganda, because without changes in the mentality of ornithologists a really wide cooperation and fruitful exchange of data would be a mirage only.

The existence of considerable obstacles cannot, however, stop our trials to go forward in the field of standardization — it is a necessity of the time. As an example of the trends I can say that during the last four years the Operation Baltic team was fifteen times asked for data collected at our stations. The number of papers based on data from different countries starts to be significant. Unfortunately, the incomparability of data limits the conclusions very much.

Let us analyse the logical structure of the information-standardization-exchange problem. The role of its different aspects is much differentiated at the subsequent stages of the work (Fig. 1).

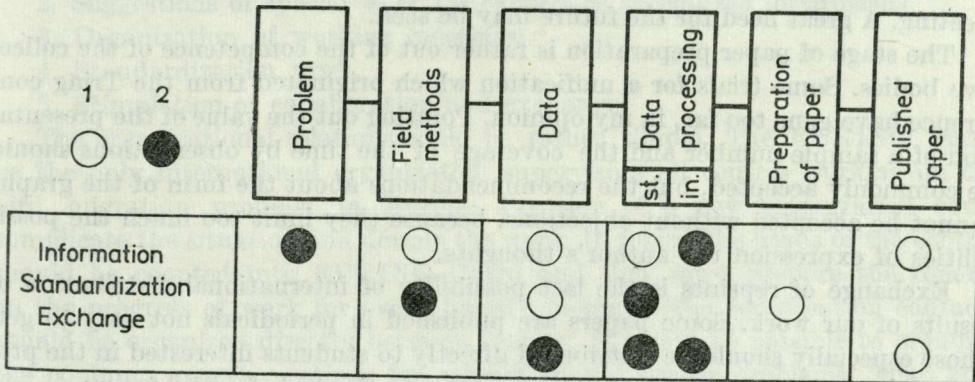


Fig. 1. Scheme of applicability of information-standardization-exchange activity in ornithological work.

st. — standard data processing, in. — individual data processing, 1 — desirable activity, 2 — required activity.

The solving of a new scientific problem would be much easier if the information about similar programmes were accessible. It would make it possible to start cooperation without doubling work. This kind of information service does not exist now.

Cooperation requires comparability of the field methods. We must know what methods are in use. We should select the best methods as a standard. We ought to use them in our work, or if we adjust them to our special conditions, we must care for comparability with the standards. This is the basis for all collaboration trials. Some of the standards are agreed now, but the practical use of them should be propagated.

Data collected with the standard or comparable methods should be exchangeable. This is the next necessity. The way in this direction goes through current information on existing formats, trials for standardization of exchange formats and organization of exchange services. Local formats must be transferable into international exchange format. The first steps for preparing exchange formats have been made, but there is much more to do, than has been done so

far. The first exchange service — the EURING Data Bank has been started with information work.

International collaboration in data processing would cover two kinds of processes. One of them is the standard processing, as the mapping of recoveries, basic biometrical calculations, statistical analysis and so on. Those processes, common in use, could be standardized as computer programs and distributed by exchange, saving much time and money. Before standardization and exchange, some wide information about the existing programs is necessary. The second kind of processing methods comprises more individual ones. In this case, the information and exchange are of the great importance. The first step in the collaboration at the data processing level was done at the Stockholm meeting. A great need for the future may be seen.

The stage of paper preparation is rather out of the competence of the collective bodies. Some trials for a unification which originated from the Tring conference have gone too far, in my opinion. Pointing out the value of the presentation of a sample number and the coverage of the time by observations should be commonly accepted, but the recommendations about the form of the graphs cannot be accepted without objections, because they limit too much the possibilities of expression the author's thoughts.

Exchange of reprints is the last possibility of international distribution of results of our work. Some papers are published in periodicals not easy to get. Those especially should be distributed directly to students interested in the problem. The information and exchange service is the task for the future.

The most urgent needs may be listed as follows:

1. Standardization of the field methods (visual observations of passage, censuses in migration period, catching methods in quantitative aspect, biometrical methods).

2. International exchange format system.

3. Organization of exchange of data processing methods and programmes.

The general direction of activity should go towards the elimination of substantial methodical differences between stations. The wide information at national and international level, more intensive personal contacts and psychological work eliminating the localisms could be the main tools. Everybody should understand that the cooperation will give profits also to him, although at the beginning it may require some changes in the routine work. Carefully prepared standards, based on great experience and logical analysis of the work structure, are usually much more effective and they really save time and man-power. Many of the barriers could be surmounted if the unification was flexible. The essential problem lies in the comparability of data, which does not automatically mean identity of data format and data set.

The realization of personal contacts and psychological work are the tasks for every ringing scheme, for every institution working on bird migration and for everybody interested in collaboration. It is a very important part of the

work. The information, standardization and exchange activity are, however, the task for more specialized bodies. The current work should be, in my opinion, concentrated in specialized EURING centres, such as the Recovery Data Bank, a computer program library and a standardization centre. At later stages of international cooperation a field data bank could be organized. Such working bodies are the condition of a real progress of cooperation. The particular centre could be created in case of an intensive engagement in such a work by a concrete institution. There must be personal responsibility for current work and sufficient possibilities for it.

As the main jobs for the centres I see:

1. Distribution of current information.
2. Suggestions of special work for experts or specialized institutions.
3. Organization of working meetings.
4. Standardization work.
5. Stimulation of collaboration and exchange.

The organizational relations could be rather simple. The EURING would be the only international organization supervising all centres working on the bird migration problem in Europe. Creation of a new organization could complicate the situation and double the work. In future the heads of the centres should be coopted into EURING Board and they must prepare the reports on the progress of work for every board's meeting. The coordination contacts should be organized directly between centres. It would be possible to organize the common expert meetings for solving special border problems. That kind of meetings would be the essential form for the standardization work. Recommendations prepared at the meetings should be presented and accepted at plenary EURING sessions.

This way of work seems to be the most realistic and promising the best effects of international collaboration in the field of ornithology.

#### STRESZCZENIE

[Międzynarodowa współpraca w badaniach wędrówek ptaków]

Przedstawiono historię międzynarodowej współpracy w badaniach wędrówek ptaków. Zanalizowano czynniki utrudniające rozwój współpracy (rozmaity rozwój historyczny, różne koncepcje i warunki pracy, izolacja, brak logicznej analizy studiowanych problemów pod kątem doboru najbardziej właściwych metod zbierania materiału, bariery psychologiczne). Omówiono różne poziomy współpracy (informacja o prowadzonych badaniach, standaryzacja metod zbierania materiałów, wymiana danych, współpraca przy opracowywaniu materia-

łów, np. wymiana programów maszyn cyfrowych, wymiana nadbitek, zwłaszcza prac publikowanych w mało znanych lokalnych czasopismach i nieregularnych wydawnictwach). Zaproponowano utworzenie dalszych wyspecjalizowanych agend Euringu: biblioteki programów komputerowych, centrum standaryzacyjnego, banku danych zbieranych w terenie.

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