

REPORT OF THE

Held in Algiers, Algeria
27-30 March 1972

**FIRST SESSION
OF THE COMMISSION
FOR CONTROLLING THE
DESERT LOCUST IN
NORTH-WEST AFRICA**



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Meeting Report No
AGP/1972/M/1

REPORT OF THE
FIRST SESSION OF THE COMMISSION
FOR CONTROLLING THE DESERT LOCUST
IN NORTH-WEST AFRICA

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Algiers, Algeria
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Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Rome, 1972

CONTENTS

	<u>Page</u>
INTRODUCTION	1
Officers of the Session	1
Drafting Committee	1
Acknowledgements	1
PARTICIPANTS IN THE SESSION	2
Delegates from Member Nations of FAO	2
Observers	3
FAO Staff	3
AGENDA	4
SUMMARY OF DISCUSSIONS	5
The Desert Locust Situation in North- West Africa and Neighbouring Countries	5
Programme of Work and Budget for 1972	6
Extended Programme of Work and Budget for 1973/77	6
Accounts for the Year ended 31 December 1970	7
Provisional Accounts for the Year ended 31 December 1971	7
Fellowship	7
Special Survey	8
National Survey	9
Technical Matters	9
Executive Committee	9
D.L.I.S.	9
Seat of the Commission	10
Other Business	10
DATE AND PLACE OF NEXT SESSION	10
APPENDIX I	11
APPENDIX II	12
APPENDIX III	13
APPENDIX IV	14
APPENDIX V	15
APPENDIX VI	16
APPENDIX VII	17
APPENDIX VIII	18
MAPS I - II - III	

INTRODUCTION

The Fifth Session of the FAO North-West African Desert Locust Research and Control Coordination Sub-Committee, held in Tunis from 5 to 8 April 1971, recommended that the First Session of the Commission for Controlling the Desert Locust in North-West Africa should be convened in Algiers. Accordingly, the Director-General, on receipt of the invitation from the Government of Algeria, convened the First Session of the Commission in Algiers from 27 to 30 March 1972. He invited the Member Governments of the Commission, namely Algeria, Libyan Arab Republic, Morocco and Tunisia to be represented by delegates, the Government of France, the Organisation Commune de Lutte Antiacridienne et de Lutte Antiaviaire (OCLALAV) and the League of Arab States by observers.

The Session was opened by Mr. Nourredine Boukli, Secretary-General of the Ministry of Agriculture and Agrarian Reform, who welcomed, on behalf of his Government, all the participants to the Session. Mr. Boukli recalled the proposal made at an earlier meeting in 1965 for establishing the Commission. He stated that this proposal had now become a reality and that his Government was very pleased to be the host at its First Session. He emphasized the importance of keeping the Desert Locust under surveillance and of undertaking control operations wherever needed. He believed that this policy, which had been followed during the recent years, had kept the recession in being and thus saved the crops and grasslands of the countries from devastation of this insect. He hoped that the work previously carried out by the Sub-Committee would be further strengthened under the Commission and would help to follow this policy of prevention with increased vigour. He assured his Government's fullest cooperation in the work which the Commission might plan to implement under its programme.

Mr. Hans Ehrenstrale, Resident Representative of UNDP, on behalf of FAO, thanked the Government of Algeria for their kind invitation to convene the Session in Algiers and for providing numerous facilities for the same. He assured Member Governments that FAO would do everything possible to assist the Commission to promote Desert Locust control and research in the region. Dr. A.H. Mansour, FAO Representative, was also present at the opening of the Session.

Officers of the Session

The Commission unanimously elected the following officers:

Chairman: Mr. Djafeur Alloum, Algeria

Vice-Chairman: Mr. Abderrahman Kassa, Morocco

Drafting Committee:

Delegates of Algeria, Morocco, Tunisia and the FAO Secretariat
Mr. Gurdas Singh and Mr. Nazil Mahjoub of the FAO Secretariat
served as Technical Secretaries.

Acknowledgements

The Commission wished to put on record its thanks to the Government of Algeria for the hospitality and the facilities rendered in convening this Session in Algiers. The delegates expressed their appreciation of the most effective and courteous manner in which the Chairman conducted the deliberation of the Session. The participants also thanked the FAO Secretariat for the efficient way in which it had performed its various duties.

PARTICIPANTS IN THE SESSION

The following delegates from Member Nations of the Food and Agriculture Organization of the United Nations, observers and members of the FAO staff participated in the Session and contributed to the discussions summarized in this report.

Delegates from Member Nations of FAO

Algeria

Djafour Alloum
Director
Plant Production
Ministry of Agriculture and Agrarian Reform
Algiers

Ramdane Kellou
Deputy Director
Plant Production
Ministry of Agriculture and Agrarian Reform
Algiers

Roger Pasquier
Professor of agricultural zoology
National Institute of Agronomy
El Harrach

Libyan Arab Republic

Ali Kaled
Chief
Plant Protection Section
Ministry of Agriculture and Agrarian Reform
Tripoli

Mustafa Souyouty
Desert Locust Expert
Ministry of Agriculture and Agrarian Reform
Tripoli

Morocco

Abderrahman Kassa
Division Chief
Agronomic Research Department
Ministry of Agriculture and Agrarian Reform
Rabat

Tunisia

Mustapha Labiod
Senior Engineer
Head
Plant Protection Division
Agricultural Production Department
Ministry of Agriculture
Tunis

Ridha Tira
Senior Engineer
Plant Protection Division
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Observers

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Chief Agricultural Engineer
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Organisation Commune de lutte antiacridienne et de lutte
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Locust Control and Emergency Operations
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FAO Regional Locust Officer
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AGENDA

1. Opening of the Session
2. Election of the Chairman and Vice-Chairman of the Commission
3. Adoption of the Agenda
4. Election of the Drafting Committee
5. The Desert Locust Situation during 1971/72 and Forecast
6. Programme of Work and Budget for 1972 and 1973
7. (a) Arrangements for Special Surveys to be undertaken in the Region during 1972
(b) Scientific and Technical submissions
8. Future Status and Functioning of the Desert Locust Information Service
9. Establishment of the Executive Committee of the Commission and Election of its Chairman and Vice-Chairman
10. Seat of the Commission
11. Any other Business
12. Date and Place of the next Session
13. Adoption of the Report

SUMMARY OF DISCUSSIONS

The Desert Locust Situation in North-West Africa and Neighbouring Countries

North-West Africa

1. Small numbers of adults were observed during the spring of 1971 in parts of western, central and southern Algeria. Rains in this area had been poor in the spring and early summer of 1971 and most of the adults reported had been immature. However, one small hopper population was found in early June in south-western Tadmaït in central Algeria. A scattered low density population of adults continued to be observed from July onwards in Tassili of the Hoggar, Tidikelt, Tadmaït, Tamesna.
2. In July locust populations reported as two loose immature swarms were found in the interior of south-eastern Morocco near the Algerian border. The smallest was controlled. In August two locusts were reported from the site of the larger, uncontrolled populations and a single locust was observed in Tan Tan in November. No locusts were reported since.
3. For Libya and Tunisia no locust populations were reported.

Neighbouring Countries

West Africa

4. Adult populations were reported in the spring of 1971 at very low densities in northern Mauritania and Mali and western Niger. Scattered mature adults in small numbers were found at several places in southern Mauritania in August. Very few locusts were found in Mali and Niger during the summer.
5. During September and October small numbers of mature adults were observed in Southern Mauritania; in addition locusts of all stages were collected in Mauritania and in two places the hopper density ranged from 300 to 400 per ha (some hoppers were with pigments), but on a small area (1-2 ha). In October low density adult populations scattered over a wide area (300 000 ha), besides new hatchlings were observed in south-eastern Mauritania east of Nema; early instar hoppers were reported in south-central Mauritania in September and from El M'Reyya in October.
6. Small numbers of mature adults were observed in Adrar des Iforas of Mali in September and October of density varying from 400 to 1 000 per ha over a total area of 110 ha. In late October small numbers of early instar hoppers were seen in Tamesna of Mali and in Tamesna of Niger, southern Aïr and the Massif of Termet of Niger. In the south-eastern part of Tamesna of Mali densities ranging from 250 to 1 000 per ha of hypogenetic adults were observed over an area of about 100 ha, in November.

Eastern Africa

7. Numbers have increased steadily in the spring on the Red Sea coastal plain of Ethiopia and the coastal plain of adjoining Sudan, culminating in the production of a number of small swarms in Eritrea in mid-May which were subsequently controlled. No swarms were reported after 24 May and hopper concentrations had disappeared by the end of May. By June the non-swarmling adult population was declining rapidly. Small numbers of adults continued to be found throughout the period in Sudan and Ethiopia.

Near East

8. On the Tihama of Yemen numbers increased in March and control was required in cultivations north of Hodeidah from February to early May. Hopper bands were observed on the coastal plain of the People's Democratic Republic of Yemen against which control was carried out from January to March and again in May and August. Over the rest of the Arabian Peninsula the Desert Locust populations remained at a very low level.

Forecast

9. On the basis of all above information received, we can say that the situation in North-Western Africa is not dangerous for any member country of the Commission.

10. According to the reports received from Eastern Africa, the Arabian Peninsula and South-West Asia, late spring and summer breeding will probably be on a reduced scale.

Programme of Work and Budget for 1972

11. At the fifth Session of the FAO North-West African Research and Control Coordination Sub-Committee, held in Tunis from 5 to 8 April 1971, the Sub-Committee approved the provisional programme of work and budget drawn up for the new Commission for Controlling the Desert Locust in North-West Africa and based on contributions from the Member Governments, to be deposited in Trust Fund 169, formerly the Trust Fund of the Sub-Committee and now that of the Commission. It was agreed that the new scale of contributions would come into effect on 1 January 1972.

12. In accordance with Article IV. 4 (b) of the Agreement for the Establishment of the Commission, the Programme of Work and Budget for 1972 was transmitted to the Director-General of FAO for submission to the Finance Committee of the Organization prior to implementation. The Finance Committee, at its 26th Session, September 1971, noted that the submission of the budget for 1972 was in order but suggested that it would be desirable that the Commission, at its First Session, approve it formally. The Commission endorsed the recommendation of the Fifth Session of the Sub-Committee and approved the programme of work and budget for 1972 (Appendix I).

Extended Programme of Work and Budget for 1973/1977

13. In view of the present comparatively quiet locust situation and the advisability of programming over several years, the Commission proposed to adopt a future programme of work and budget, almost on the basis of that of 1972 for a further period of five years (1973-1977). As the needs might change, however, it should be specified that, within the overall limit of expenditure and the type of activities outlined, the budget should be regarded as flexible in that the amount allocated for a particular purpose might be increased or decreased at the discretion of FAO as might be considered necessary by the Commission to meet the changing locust situation. The Commission, having considered the above factors, approved the programme of work and budget from 1973 to 1977, as contained in Appendix II.

14. While appreciating the assistance provided by the UNDP making funds available amounting to US\$ 37 600 annually for financing the Secretariat of the Commission during 1972, the delegates emphasized the need for continued financial support, which was considered vital for the successful functioning of the Commission. For this purpose it would be necessary for all the member governments to make formal requests through their UNDP Representatives at the appropriate time.

15. The Commission noted that at 31 December 1971, full contributions had been received from all member countries. From 1 January 1972, the new scale of contributions came into effect and member countries were requested to make their contributions as soon as convenient.

Accounts for the Year ended 31 December 1970

16. The Fifth Session of the Sub-Committee approved provisional accounts for the year ended 31 December 1970. Delegates were advised that the figures submitted at the Fifth Session of the Sub-Committee had undergone no change. The Commission adopted the statement of accounts (Appendix III).

Provisional Accounts for the Year ended 31 December 1971

17. Appendix IV gives a provisional statement of accounts for the year ending 31 December 1971. The figures were subject to certification by FAO's external auditors. Main items of expenditure and obligations in 1971 against the approved budget were as follows:

	<u>Expenditure</u>	<u>Obligations</u>
	US\$	US\$
<u>Meeting costs</u>		
(5th Session of Sub-Committee, Tunis, 1971)	1 789.82	-
<u>Travel</u>		
Leader of Algeria/OCLALAV survey, May 1971	267.40	574.60
<u>Fellowships</u>		
Mr. Saïd Zitoune (Algeria)	3 842.03	3 842.03
Mr. Abdul K. Abdullah Izzy (Libya)	2 266.81	7 508.19
	8 166.06	11 924.82
	8 166.06	11 924.82

Fellowship

18. The Commission noted that the annual provision of US\$ 10 000 for fellowships and training in the proposed Budget was likely to be exceeded during the years 1972 and 1973 and that the anticipated expenditure situation would be approximately as below:

	<u>Commitment</u>						
	<u>Foreseen</u>	1970	1971	1972	1973	1974	1975
1. Zitoune (Algeria) 2 years in France	8 520	1 200	3 842	3 478	-	-	-
2. Izzy (Libya) 2 years in U.K. and possible extension to 3 years	9 725 + 8 000	-	2 267	6 000	6 500	3 000	-
3. Hafraoui, A. (Morocco) 2 years in France	9 000	-	-	2 000	5 000	2 000	-
4. (Tunisia) 2 years in France	9 000	-	-	-	2 500	5 000	1 500
		1 200	6 109	11 478	14 000	10 000	1 500
		1 200	6 109	11 478	14 000	10 000	1 500

19. The Commission agreed that, to cover excess expenditure when three fellows were active, the Director-General of FAO might use funds available under other budgetary headings, or draw on the unobligated balance of the Trust Fund. It would be advisable, however, to limit the number of fellows to a maximum of three fellows at one time.

20. The Commission appreciated the facilities provided by the Governments of France and the United Kingdom for training in Desert Locust research and control and expressed the hope that this assistance would be continued.

Special Survey

21. The Commission noted with satisfaction that a special survey was organized by OCLALAV under the guidance of Professor Pasquier who was appointed as FAO Consultant to cover certain areas of Mauritania never hitherto surveyed.

22. Initially, areas between Néma and Oualata and towards the central Mereya were surveyed by air on 5 and 6 October. On the basis of the information gathered on the state of vegetation, ground surveys were initiated.

23. From 7 to 14 October, areas between Néma, El Farfarat, Nbeikat, Lahwach and Aklé region were surveyed covering a total distance of six hundred km during which a number of Desert Locust adults were collected in the day-time as well as during the night. Hoppers were also observed in small numbers in fixed dune areas having green vegetation. In the Aklé region, the predominating vegetation comprised Aristida pungens. It was observed that hoppers were mostly confined to Moltkia ciliata which was in abundance and also in various annuals and perennials especially Parsetia aegyptiaca. The area surveyed received its first rainfall of the season at the end of August continuing to the beginning of September and the second at the end of September, the latter being more widespread. As a result, suitable conditions were prevailing in most of the places for breeding. The areas infested by adults in the above-mentioned places were estimated to be about 300 000 hectares at densities of 1 to 10/hectare with a maximum of 100/hectare.

24. From 15 to 23 October, Néma-Agouenit, Oued-Inité, Oualata and Néma covering 550 km were surveyed. Locust populations, vegetation, soil observations were more or less identical to those observed in the first part of the survey.

25. From 24 to 25 October a survey was undertaken between Néma and Aïoun El Atrous in the Hodh Plain with Sahelian characteristics: No locusts were observed. Details of the survey routes followed are shown in the Map I.

26. Recognizing the importance of special surveys which yielded valuable results in the past, the Commission recommended that special surveys should be organized to cover areas considered important for having direct bearing on the locust developments within the region and areas not so far surveyed. For such surveys joint teams composed of locust officers of various national anti-locust services should be organized under the supervision of a Consultant. Provision should also be made to provide in-service training for the various locust officials of the national services by attaching them to such teams.

National Survey

27. The Commission recognized that general surveys did not allow time for prolonged studies at any one site, and recommended that the results of such surveys would be particularly enhanced in this respect if repeated visits were arranged to the population sites with a view to study on a number of successive occasions during the season the progressive development and changes in the population and the habitat. This would further help in understanding the phenomenon of gregarization and dissociation.

28. The Commission noted with appreciation the detailed information provided by the Algerian delegation on the various aspects of survey work being undertaken in Algeria (Map II, Appendix V-VII). It was hoped that other countries would be able to provide, in future, information on survey and control work in their respective countries possibly on the same line.

29. In order to expand and extend the scope of the present surveys and to enable the survey team to make more detailed observations, the Commission requested the FAO Regional Officer to work out a detailed programme of survey in consultation with the governments concerned and would also prepare lists of necessary survey equipments and vehicles to be purchased from the funds available from other budgetary headings of the budget for 1972 or from the accumulated balance of the Trust Fund 9169.

Technical Matters

30. The Commission emphasized the need for discussing relevant technical and scientific matters at the Session of the Executive Committee which in turn would prepare recommendations for submission to the Commission for consideration and appropriate decision.

31. The delegates heard with great interest the views of Prof. Pasquier on various aspects of the biology of the Desert Locust and in particular gregarization. (Map III).

32. It was proposed that it would be of great value if a small handbook could be produced for guidance of field Locust Officers and surveyors. This handbook could be based on the detailed study undertaken by OCLALAV in collaboration with Prof. Pasquier. This new document will be outlined by Prof. Pasquier and prepared by the FAO Regional Locust Officer and submitted to the Executive Committee in due time.

Executive Committee

33. In accordance with Article VIII of the agreement, the Commission decided to appoint the Executive Committee composed of one representative (preferably a Locust specialist) from each of the four members of the Commission. In addition to the functions as listed in Article IX, the Executive Committee should prepare and coordinate the Research Programme, survey and training activities within the region. The representatives of Tunisia and Libya were elected Chairman and Vice-Chairman respectively for the year 1972/73.

34. The Commission further decided that the session of the Executive Committee should normally precede the annual session of the Commission allowing at least two days in between the sessions to enable the delegates to study the report.

D.L.I.S.

35. The Commission noted that during the recent years there had been considerable changes in the national, regional and international outlook of the desert locust survey and control. As a practical proposition it became apparent that it was appropriate to group all the countries into a series of regions each of them considered as a single entity for better administration. There were now five regional organizations in existence, three of which were associated with FAO and the remaining two, while working independently, had cooperation and liaison with FAO in all matters related to Desert Locust survey, control and research.

Apart from this important development, during recent years facilities for rapid communication of information through the establishment of national radio networks had considerably improved the speed of exchange of information on the Desert Locust.

36. One of the main functions of the regional organizations/commissions is to collect information on the locust situation and to prepare a monthly locust situation summary and forecast for dissemination to all interested. The Commission was of the view that with the existence of such bodies covering the entire invasion area and with the improved radio communications, the present DLIS summary was now a mere duplication of the exchange of information which regional organizations were already doing.

37. The Commission nominated Mr. Labiod, Chairman of the Executive Committee to participate in the DLIS Review Mission.

Seat of the Commission

38. The Commission, after having noted the renewed offers made by the delegates of Algeria and Morocco and in the light of the opinion expressed by the delegates of Libya and Tunisia, decided to establish its seat at Algiers, Algeria.

Other Business

39. While appreciating the assistance provided by UNDP to the Organization Commune de Lutte Antiacridienne et de Lutte Antiaviaire (OCLALAV) in the past, the Commission recommended that further assistance was essential to supplement its resources in order to deal adequately with the locust situation over such a vast area, which could have dangerous consequences for North-West African countries.

40. The Commission appreciated the invitation extended by the Director-General of OCLALAV for the Commission's representation at the annual session of the Administrative Council of OCLALAV and agreed that appropriate action will be taken in this regard on receipt of a formal invitation from OCLALAV.

DATE AND PLACE OF NEXT SESSION

41. The delegates welcomed the invitation extended by Libya to convene the next session of the Commission in March/April 1973, to be preceded by the first session of the Executive Committee, in Tripoli and requested the Director-General of FAO to convene these sessions at a date to be decided by him in consultation with the Host Government.

APPENDIX I

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN NORTH WEST AFRICA

TRUST FUND N° 9169

Budget for 1972

	Salaries	Travel	Contract.	Supplies	Equipment	Fellowsh.	Total
			services	& mater.		& Grants	
Survey and control	3,000	18,000	4,000	1,000	2,000	-	28,000
Research	1,000	2,000	2,000	-	1,000	11,000	17,000
Regional coordination & Sessions	2,000	4,000	2,000	-	-	-	8,000
	6,000	24,000	8,000	1,000	3,000	11,000	53,000
Project Servicing Costs							<u>7,420</u>
Unallocated							<u>60,420</u>
							<u>580</u>
							<u>61,000</u>
						Total Annual Budget	

The above budget assumes that all the four countries will have joined the Commission and will have pledged contributions to Trust Fund N° 9169. To the extent that any countries have not done so, it will be necessary to scale down expenditure allocations proportionately.

Subject to the total commitments at any given time not exceeding the total contributions pledged and received at that time, the Director General shall have discretionary powers to vary the allocations between one expenditure heading and another as may be necessary to meet the changing locust situation. All such variations shall be reported and justified when submitting annual accounts to the Commission.

APPENDIX II

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN NORTH WEST AFRICA

TRUST FUND N° 9169

Budget for the Five-Year Period 1973-1977 expressed
according to FAO Expenditure Codes

<u>Code</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>
00	<u>Salaries</u>					
	Short-term experts, interpreters and assistance					
	6,000	6,000	6,000	6,000	6,000	30,000
20	<u>Travel</u>					
	Delegates, teams, FAO staff to Sessions, regional coordination, consultants					
	23,000	23,000	23,000	23,000	23,000	115,000
30	<u>Contractual services and general operating expenses</u>					
	Printing, reports, miscellaneous					
	7,000	7,000	7,000	7,000	7,000	35,000
55	<u>Supplies and materials</u>					
	For field surveys, POL, vehicle maintenance					
	3,000	3,000	3,000	3,000	3,000	15,000
67	<u>Equipment</u>					
	For field projects					
	4,000	4,000	4,000	4,000	4,000	20,000
80	<u>Fellowships and grants</u>					
	Individual and group training					
	10,000	10,000	10,000	10,000	10,000	50,000
	<u>53,000</u>	<u>53,000</u>	<u>53,000</u>	<u>53,000</u>	<u>53,000</u>	<u>265,000</u>
92	<u>Project Servicing Cost (14 %)</u>					
	7,420	7,420	7,420	7,420	7,420	37,100
	60,420	60,420	60,420	60,420	60,420	302,100
	580	580	580	580	580	2,900
	<u>61,000</u>	<u>61,000</u>	<u>61,000</u>	<u>61,000</u>	<u>61,000</u>	<u>305,000</u>

Subject to the total commitments at any given time not exceeding the total contributions pledged and received at that time, the Director-General shall have discretionary powers to vary the allocations between one expenditure heading and another as may be considered necessary to meet the changing locust situation. All such variations shall be reported and justified when submitting annual accounts to the Commission.

APPENDIX III

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN NORTH WEST AFRICA

TRUST FUND N° 9169

Statement of Account - 1970
(expressed in US dollar equivalents)

Balance as at 1 January 1970		88,070
Receipts: ^{a/}		
Government of Morocco (1969 and 1970)	18,676	
Government of Tunisia (1970)	6,321	
Interest credited 1970	<u>3,352</u>	<u>28,349</u>
		116,419
<u>Cash expenditure</u>		
Personal services	3,076	
Travel	2,487	
Contractual services	220	
Grants and subsidies	<u>1,200</u>	
	6,984	
Project Servicing Costs 14 %	978	<u>7,962</u>
Balance as at 31 December 1970		<u>108,457</u> =====

^{a/} The Government of Algeria and Libya paid their 1970 contributions in 1971

APPENDIX IV

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN NORTH WEST AFRICA

TRUST FUND N° 9162

Provisional Statement of Account for 1971
(expressed in US dollar equivalents)

Balance as at 1 January 1971		108,457
<u>Receipts:</u>		
Government of Algeria (1970 and 1971)	16,800	
Government of Libya (1970 and 1971)	12,000	
Government of Morocco (1971)	9,184	
Government of Tunisia (1971)	6,320	
Interest credited 1971	<u>4,134</u>	<u>48,438</u>
		156,895
<u>Cash expenditure</u>		
Personal Services	823	
Travel	1,513	
Contractual services	10	
Grants and subsidies	<u>6,109</u>	
	8,455	
Project Servicing Costs 14 %	<u>1,183</u>	<u>9,638</u>
Balance as at 31 December 1971		<u>147,257</u> =====

APPENDIX V

ALGERIA 1971

Schistocerca gregaria

Distances covered by the survey teams (in km per team of two vehicles)

Teams	De- cade	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
														De- Year cade
WEST	1	1005	800	1370	1450	1690	1404	—	—	922	1052	600	1350	
	2	1000	847	898	1711	1140	—	—	1765	1043	700	670	1034	
	3	1050	810	1220	1400	1196	—	—	2020	1040	1270	—	954	
	T	3055	2457	3488	4561	4026	1404	—	—	3785	3005	3022	1270	3338
CENTRE	1	1500	1200	400	1600	2500	1000	1400	1500	1400	—	1500	1300	
	2	2000	2500	2200	1400	2000	1500	800	1000	—	2200	2100	1300	
	3	1700	—	1700	2000	1300	900	—	2000	—	1700	1700	2100	
	T	5200	3700	4300	5000	5800	3400	2200	4500	1400	3900	5300	4700	49400
EAST CENTRE	1	—	—	—	600	400	—	—	—	—	—	700	1400	
	2	—	—	900	500	200	—	—	—	—	—	700	700	
	3	—	—	400	1200	—	—	—	—	—	—	1000	1600	
	T	—	—	1300	2300	600	—	—	—	—	—	2400	3700	10300
SOUTH	1	1300	700	1300	1500	1400	250	1400	—	1500	700	—	1600	
	2	1400	800	900	1600	—	100	1800	1100	1000	1500	—	—	
	3	1600	1300	2400	1700	1100	2000	2300	1900	1100	950	600	—	
	T	4300	2800	4600	4800	2500	2350	5500	3000	3600	3150	600	1600	38800
MAIN SURVEY TEAM	1	790	753	1491	1486	1119	—	—	—	—	—	733	—	
	2	1555	2180	1288	1278	129	—	—	—	—	—	2223	—	
	3	1661	252	2711	964	—	—	1660	—	—	1380	436	—	
	T	4006	3185	5490	3728	1248	—	1660	—	—	1380	3392	—	24098
MONTHLY TOTALS (All Teams)		16501	12142	19178	20389	14174	7154	9360	11285	8005	11452	12962	13338	156009

APPENDIX VI

ALGERIA 1971

Schistocerca gregaria

Observations reported by the survey teams

Month 1971	Number of Observations Reported			Major Breeding Activity (2)			Major Formation			Gregarizations		
	Total	per team		W	C	S	W	S	C			
	W	C	S(1)									
January	16	3	10	3	0	M	0	Sing- le	Sing- le	Sparse	-	
February	8	3	2	3	0	0	-	Sing- le	Sing- le	Sparse	-	
March	7	2	-	5	0	-	-	Sing- le	-	Single	-	
April	14	2	9	5	0	-	-	Sing- le	Spar- se	Single	-	
May	4	-	3	1	-	M	0	-	Sing- le	Single	-	
June	7	-	7	-	-	M	-	-	Spar- se	-	-	
July	1	X	-	1	X	-	0	X	-	Single	-	
August	3	2	-	1	0	-	0	Sing- le	-	Single	-	
September	3	-	-	3	-	-	0	-	-	Single	-	
October	5	-	3	2	-	0	0	-	Sing- le	Single	-	
November	7	-	6	1	-	0	0	-	Sing- le	Single	-	
December	3	3	-	-	0	-	-	Sing- le	-	-	-	
Total for year	78	15	39	23				Single	6	5	8	Total 19 83%
Frequencies		6/12	7/12	10/12				Sparse	-	2	2	4 17% 23 100%

- (1) Teams W = West; C = Centre; S = South...Saharian
 - No observation of S. gregaria population during the month
 X The team did not go out during the month

- (2) In ascending order: O = immature; M = mature; A = coupling; C = copulation;
 P = egg-laying (the state where the most "advanced" process observed during the month is alone indicated)

APPENDIX VII

ALGERIAN SAHARA 1966 - 1970

Schistocerca gregaria

Gregarious manifestations and operations of the destruction teams

Places	Coordinates	Dates	Object	Destruction
Oued Djanat (Maader Tirarhrat)	0227E-2427N	November 1965 January 1966	Hoppers; sub- gregarization	No
Oued Arak (Maader)	0341E-2515N	April-May 1967	Fledgelings; hoppers; gregarizations	Yes
Oued Tin Allen - Tin Hallous	0315E-2404N	May-June 1967	Fledgelings; hoppers; dense formations	Yes
Oued Arak (aviation and Tadjmout)	0343E-2517N	June 1967	Sub-gregarious fledgelings	Yes
Tahihahout (Maader)	0612E-2627N	April-May 1968	Hoppers; gregarizations	Yes
Mali border Timiaouine	0148E-2026N	July 1968	Allochtonous neo- gregarious fledgelings	No
Assouf Mellene	0311E-2442N	October 1968	Allochtonous gre- garious fledgelings	No
Reggane	0010E-2643N	October-Nov- ember 1968	Allochtonous gre- garious fledgelings	Yes
Arak (Upper Valley)	0408E-2503N	November 1968	Allochtonous gre- garious fledgelings	Yes
Tindouf	0811E-2641N	November 1968	Allochtonous gre- garious fledgelings	Yes
Oued Ameded and Volcan	0434E-2259N	December 1968	Hoppers; gregariz- ations	Yes
Oued Ouallen	0118E-2434N	March-May 1970	Hoppers; gregariz- ations	Yes
Oued Ilafer	0125E-2150N	April 1970	Hoppers; gregariz- ations	Yes
Oued Tamanrasset	0325E-221N	July-September 1970	Hoppers; gregariz- ations	Yes

APPENDIX VIII

LIST OF WORKING PAPERS

- AGP:DL/NWA/72/1 : The Desert Locust Situation in North-West Africa and Neighbouring Countries
- AGP:DL/NWA/72/2 : Programme of Work and Budget for 1972-1977

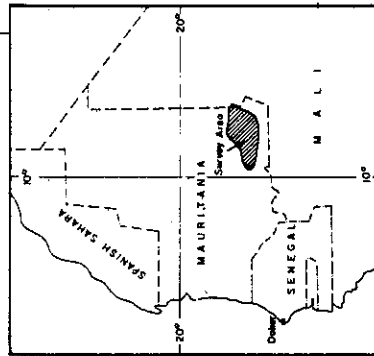
Map. 1

LEGEND

SURVEY S.E. MAURITANIA
5 - 26 Oct 1971

- - - Aerial itinerary
- - - Ground itinerary
- ▲ - Night stop - Light trap
- - Date of passage
- 131 - N° of Kms run per day
- 16°15.00'25" - Coordinates of unknown locality

Scale: 1:1000000

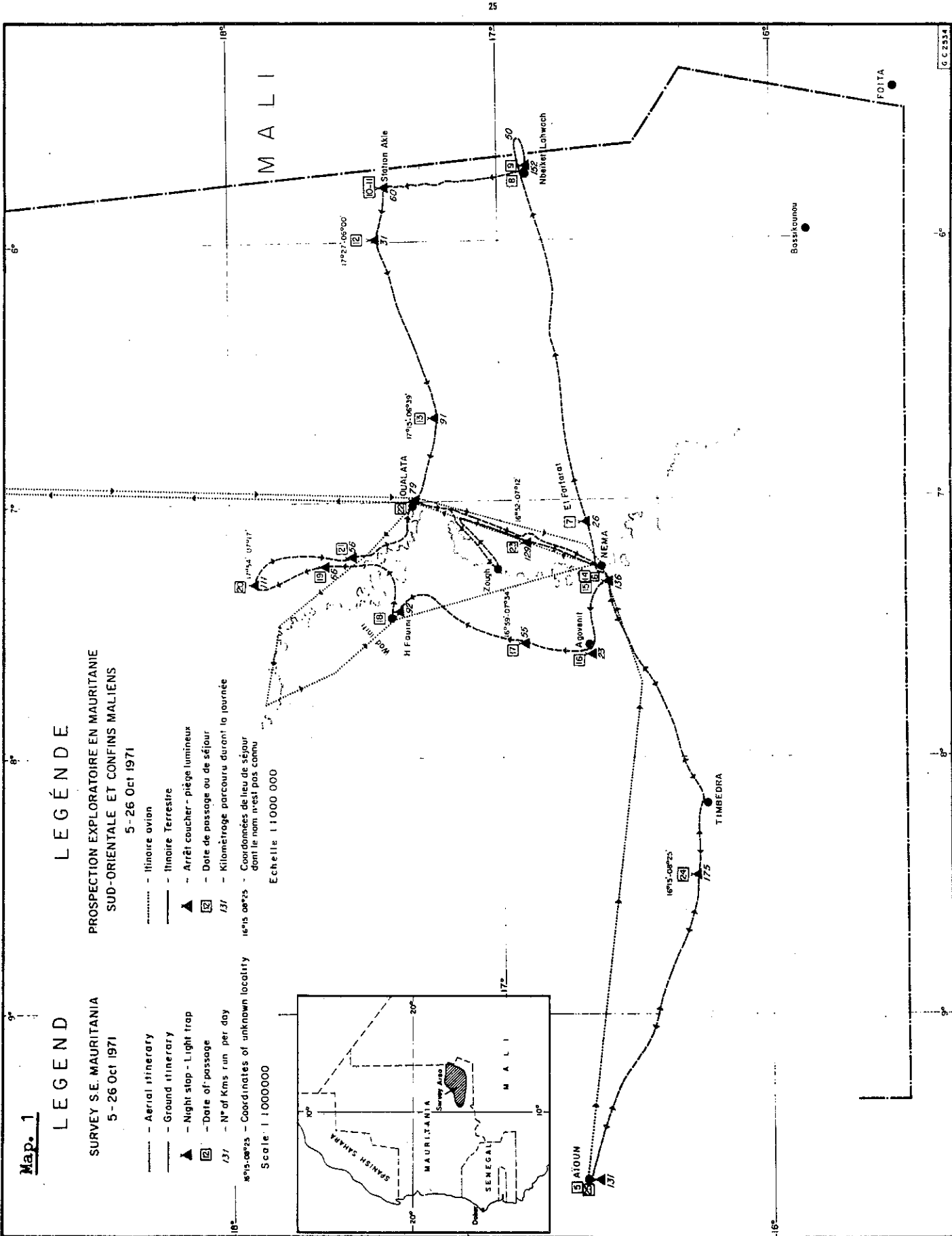


LEGÈNDE

PROSPECTION EXPLORATOIRE EN MAURITANIE
SUD-ORIENTALE ET CONFINS MALIENS
5 - 26 Oct 1971

- - - Itineraire avion
- - - Itineraire Terrestre
- ▲ - Arrêt coucher - piège lumineux
- - Date de passage ou de séjour
- 131 - Kilométrage parcouru durant la journée
- 16°15.00'25" - Coordonnées de lieu de séjour dont le nom n'est pas connu

Echelle: 1:1000 000

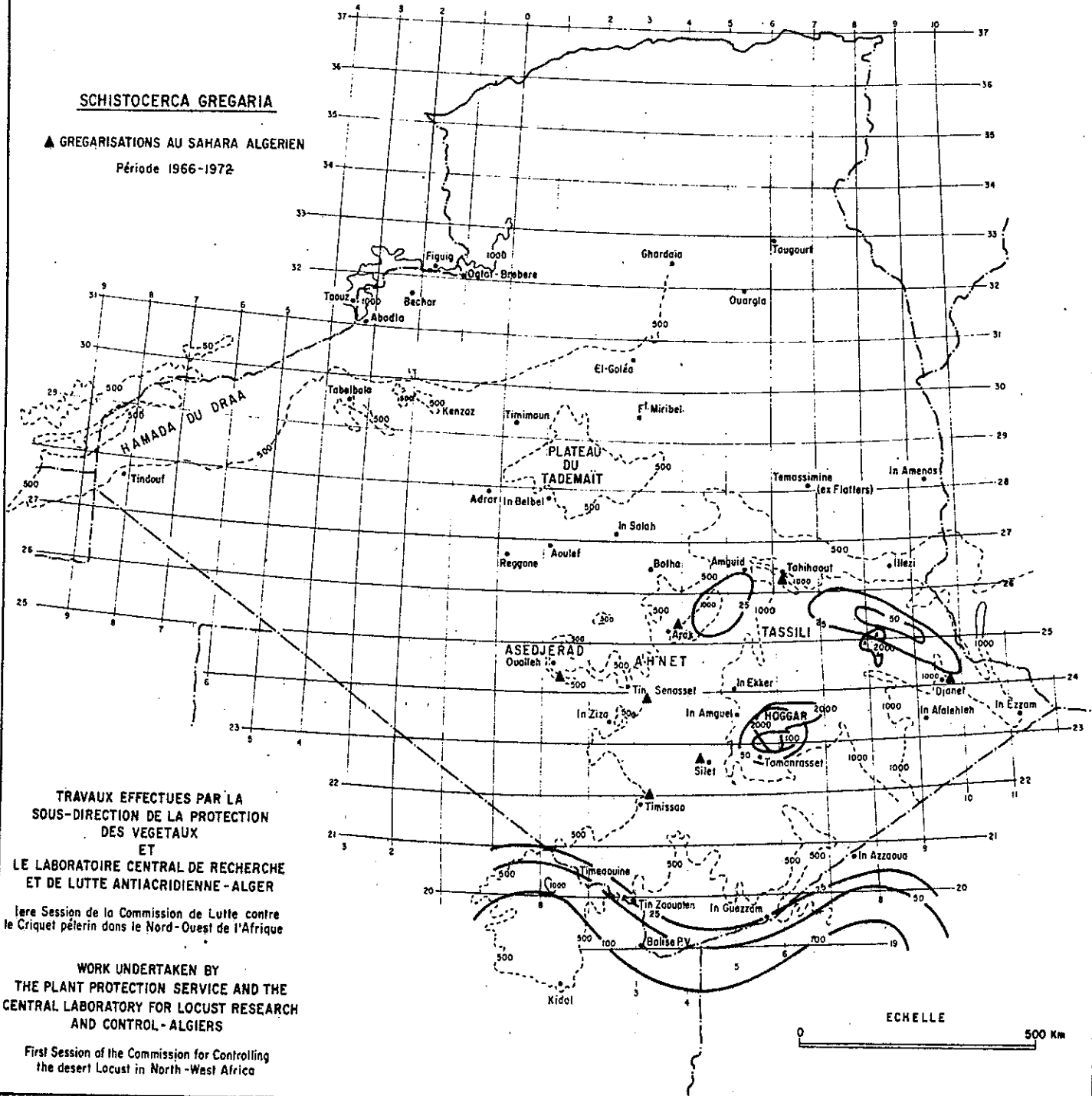


Carte III
Map III

ALGERIE

SCHISTOCERCA GREGARIA

▲ GREGARISATIONS AU SAHARA ALGERIEN
Période 1966-1972



TRAVAUX EFFECTUES PAR LA
SOUS-DIRECTION DE LA PROTECTION
DES VEGETAUX
ET
LE LABORATOIRE CENTRAL DE RECHERCHE
ET DE LUTTE ANTIACRIDIEENNE - ALGER

1ere Session de la Commission de Lutte contre
le Criquet pèlerin dans le Nord-Ouest de l'Afrique

WORK UNDERTAKEN BY
THE PLANT PROTECTION SERVICE AND THE
CENTRAL LABORATORY FOR LOCUST RESEARCH
AND CONTROL - ALGIERS

First Session of the Commission for Controlling
the desert Locust in North-West Africa