

Leaf blight of lemon grass.—Symptom develops as purplish linear lesions on the margins or tips of the leaves which gradually advance inwards blighting the tissues. An interesting observation was made that both the length and breadth of conidia were significantly reduced (at 1% level) on PDA-length, on leaf 35.5–56.4 μ and on PDA 24.9–48.1 μ (Student $t = 7.15$); breadth, on leaf 14.9–21.6 μ and on PDA 11.6–19.9 μ (Student $t = 3.79$).

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CYTOTOXICITY OF SERUM AND CEREBRO- SPINAL FLUID FROM CASES OF ACUTE ENCEPHALOPATHY

DURING last five years we have done virological, bacteriological, serological and haematological studies in 156 cases of acute encephalopathy to establish their etiology. These cases have been occurring in children with high mortality in epidemic proportions. Their cerebrospinal fluid

(CSF) presented no abnormal finding. The only positive finding was the presence of one or more pathogenic bacteria in throat, stool and blood. On the basis of clinical manifestations and presence of pathogenic bacteria at one or the other site in the body (Table I), it was concluded that involvement of brain occurs through toxins produced by the bacteria in 40% of the cases^{1,2}.

During attempts to isolate virus (if any) in monkey kidney tissue culture from CSF and serum samples, toxic granules were observed with some of the specimens, indicating presence of some toxic substance. We have observed that chick embryo tissue culture is highly sensitive to bacterial toxins³. Therefore, serum and CSF obtained from 36 patients were inoculated in primary chick embryo tissue cultures (CEC). For controls, cases who were not suffering from fever, encephalopathy or any infectious disease were also included. Sera from 20 and CSF from 12 of such control cases were investigated. The culture tubes were incubated at 37° C and watched for cytotoxicity at 30 minutes interval upto 4 hours. The grading of cytotoxic damage was done as reported earlier³. Cytotoxic damage to the cell sheet was observed with serum alone from 15 patients, serum and CSF both, in another five patients (Table II). Some of the specimens were cytotoxic upto a dilution of 1:16. The cytotoxic effect was not observed on subsequent passage in tissue culture. None of the sera or CSF obtained from control cases was found to be cytotoxic.

TABLE I
Bacteriological findings (156 cases)

	Throat swab			Rectal swab		Blood			CSF
	SA	Pn	Ps	Salm	<i>F. coll</i> 0:26	Sh	SA	Salm	
Total No.	29	7	17	3	2	1	15	16	..
%	18.3	4.5	10.9	1.9	1.2	0.6	9.6	10.2	..

CSF=Cerebrospinal fluid, Pn=pneumococcus, Ps=*Pseudomonas, Pyocyaneus*, SA=*Staphylococcus aureus*, Salm=*Salmonella typhi* and *paratyphi*, Sh=*Shigella dysenteriae*.

TABLE II
Cytotoxicity in chick embryo tissue culture

Group	Cytotoxicity								
	Serum			CSF			Serum + CSF		
	No.	+ve	%+ve	No.	+ve	%+ve	No.	+ve	%+ve
Acute encephalopathy	36	15	41.4	36	0	0	36	5	13.8
Control	20	0	0	12	0	0	12	0	0

Thus, demonstration of cytotoxic damage by the samples from 20 out of 36 patients (55.5%) shows presence of toxic substances in serum or CSF. This further supports our view that in some of the cases, brain involvement is due to toxins^{1,2}. The nature of toxins is being investigated.

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OCCURRENCE OF *ACETES AUSTRALIS* *COLEFAX* AND *ACETES VULGARIS* HANSEN IN COASTAL WATERS OF INDIA

DURING a detailed study of the systematics of the genus *Acetes* H. Milne-Edwards, occurring in different parts of the West coast of India, a few specimens of *Acetes australis* Colefax and *Acetes vulgaris* Hansen² including both males and females were obtained. The present account, as far as the author is aware, records their occurrence for the first time in the Indian coastal waters.

Acetes australis Colefax :

Males : 2—17.1 mm and 16.3 mm in total length, collected off Cochin on 26-3-1973.

Females : 4—16.0 mm to 20.7 mm in total length, collected off Cochin on 26-3-1973.

Specimens were found in a plankton collection along with *A. erythraeus*³ and *A. cochinchensis*⁴. All the specimens were adults showing the specific characters of *A. australis* reported from the Australian waters by Colefax¹, the similarities to which are listed below.

Lower antennular flagellum of male with 11 segments carrying a single clasping spine and accessory spines; segment anterior to the one carrying the clasping spine bearing 3 spines and projection; 4 spines on the segment opposing the tip of clasping spine endopodite of 2nd maxilla bearing short setae on its distal inner margin and a small conical projection with short bristles at its tip; exopodite of 1st maxilliped carrying bristles at its distal outer margin and short spiny projection on its inner margin; procurved spine on the sternum between the 1st pair of pleopods absent; blunt projection on the basis of 3rd pair of legs; coxae of 3rd pair of legs carrying tooth in males and

females; modified endopodite of 2nd pleopod of male carrying a lamella with 4 spines at its tip; petasma having pars externa, pars astringens and pars media; single falcate spine on capitulum and a few small spines at the tip; tip of processes ventralis pointed; 3rd thoracic sternite of female carrying 2 pairs of protuberances, one at the anterior margin and the other behind in contact with coxal expansion and a wide shallow groove running to the anterior margin of 4th sternite.

From the original description of the species some minor difference noticed in the present material are mentioned below.

The segments of the antennular peduncle in the proportion 21 : 7 : 14 instead of 22 : 7 : 16; lower antennular flagellum of female 22-segmented as against 24; 3rd leg unlike in the typical one reaching behind the antennal scale; abdomen 2.9 times the length of cephalothorax and segments in the proportion 9 : 8 : 10 : 11 : 18 : 17 and not 2.7 and 9 : 8 : 9 : 11 : 9 : 19 respectively.

Acetes vulgaris Hansen

Males : 3—15.3 mm to 18.9 mm in total length, from Goa coast collected on 24-1-1974.

Females : 7—16.8 mm to 17.6 mm in total length, from Goa coast collected on 24-1-1974.

A. vulgaris has been first reported by Hansen² from Surabaya, Cheribon, Malakka and Kob Kobdat during the Siboga Expedition. The present specimens were found along with a closely allied species, *A. sibogae* Hansen recorded from Travancore coast by Nataraj⁵. *A. vulgaris* collected by the author resembles the typical species in the following features.

3rd segment of antennular peduncle of male almost equalling in length to that of female; 16-20 segmented antennular flagellum in female; single clasping spine on the lower antennular flagellum in male; 4-5 spines on the segment opposing the tip of clasping spine; procurved tooth on the sternum between the first pair of pleopods absent; basis of 3rd pair of legs without tooth; coxal tooth on the 3rd pair of legs both in males and females; well developed pars externa pars astringens and pars media of petasma; 2 large hooks and few minute spines on capitulum; a pair of rounded protuberances on the 3rd thoracic sternite of female and a deep transverse furrow.

Some minor differences, met with in the specimens examined from the Goa region but not shown by Hansen in his figures and description relating to this species, are listed below.

Lower antennular flagellum of male 12-segmented bearing small triangular teeth in the median shallow groove of the clasping spine (Fig. 1); modified