5 mm to 2.0 cm. The average length is around 1.5 cm while the width varies between 3 mm and 5 mm.

Since these markings are made by a marine worm, their presence along with the sedimentary structures indicate shallow water shelf conditions of deposition of the rocks of Shilong Group.

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THE URANI-FEROUS BIOTITE-SERICITE SCHIST OF KASTURI GATTU HILLOCK, NORTH-EAST OF SOMASILA, NELLORE DISTRICT, ANDHRA PRADESH

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SOMASILA is a village about 90 km, West of Nellore, situated on the Madras–Vijayawada railway line. Somasila is located on the northern bank of North Pennar River, just at the point where the river, flowing east, emerges from the Velikonda Range of hills in the Eastern Ghats (in the South-Western corner of Toposheet No. 57 N/6).

The hillock of Kasturi Gattu is approximately 70 m high (from the ground level) and is located about 5 km NNE of Somasila, and about 2 km north of the village of Khambampadu. There are a number of quarries on this hillock, where the fairly hard rock is quarried and used in the construction of the Somasila dam, now being built across the River Pennar.

The base of Kasturi Gattu hillock on the western side, is composed of lower Proterozoic amphibole–biotite–quartz rock, quartz–biotite–muscovite–chlorite schist, Quartz–Chlorite schist etc.

In the northern part of Kasturi Gattu hillock, dark coloured biotite–chlorite schist is present, and as one proceeds to the south, the schist is silicified and feldspathised, partly obliteratoring the schistosity. It is observed that bands of silicified and feldspathised schist are separated by non-silicified biotite-schist bands. Four bands of the silicified schist were observed in the quarries, in the southern part of Kasturi Gattu hillock.

The unsilicified biotite-chlorite schist in the northern part of the hillock, is not radioactive, but the silicified and feldspathised schist seen further to the south, is weakly to moderately radioactive assaying 0.01 to 0.02% U₂O₅.

The schist, traversed by a Joint/fracture plane trending N30° East, shows higher radioactivity, and assays up to 0.1% U₂O₅. In all these radioactive schistose rocks, the contents of ThO₂ is less than 0.01%.

The lowest lithological member of the Middle Proterozoic formation—the regolith, represented by quartz-sericite phyllite is moderately radioactive and contains up to 0.012% U₂O₅, with practically no thorium. This unit is overlain by a moderately radioactive oligomict quartz-Pebble conglomerate, assaying up to 0.013% U₂O₅ and 0.06% ThO₂. The topmost bed is a white quartzite, which is a marker horizon and can be traced for one kilometer, in a NW-SE direction.

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SISTER CHROMATID EXCHANGES IN VIRUS-INFECTED CHINESE HAMSTER OVARY CELLS

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MONITORING the frequency of sister chromatid exchanges (SCEs) has become a sensitive indicator of subtle alterations in the genetic material. It is known that SCE frequencies can be elevated by a host of chemical and physical agents; however, relatively few reports have been published on SCEs induced by viruses. Here we report the results of studies on SCEs in Chinese Hamster Ovary (CHO) cells experimentally infected with 4 DNA viruses belonging to 3 groups, viz Poxvirus (Vaccinia), Herpesvirus (Herpes Simplex
types 1 and 2, HSV-1 and HSV-2) and Papovavirus
(Simian Virus 40, SV-40).

CHO cells were grown in the dark in presence of 5-
brmooedoxoyuridine (1 μg/ml) for 2 cell cycles during
logarithmic phase. One set of cultures was inoculated
by adsorption method with 3 dex TCID₅₀/ml of each
of the following viruses: Vaccinia (671061), HSV-1
(753166), HSV-2 (753167) and SV-40 (776), and the
cultures were incubated for about 10 hr thereafter.
Mock-infected and uninfected cultures were used as
controls. c-Metaphase chromosome preparations were
made with a 2 hr colchicine (0.05 μg/ml) treatment. The
slides were coded for temporarily masking their identity.
Sister chromatid differential staining was performed
following the fluorescence-plus-Giemsa technique¹ with minor modifications. Thirty well-spread
metaphase plates, each containing 21 chromosomes,
were scored from each slide. The slides were then
decoded and the results were analyzed.

The average SCE increase, obtained from 3 identical
experiments, in Vaccinia-, HSV-1-, HSV-2- and SV-40-
infected cultures was about 2.77, 3.0, 3.85 and 2.76
exchanges per cell over the control base levels, respecti-
vely (Student’s t-test, p < 0.01). There was no signifi-
cant difference between uninfection control and mock-
infected control cultures. Other chromosome abnor-
malities were not observed in any of these cultures.

Brown and Crossen² reported elevation in the SCE
frequencies but not chromosome aberrations in a
mouse embryo cell line (JLS-V16) infected with
Rauscher leukemia virus; on the other hand, Kato and
Sandberg³ have shown that infection of human diploid
fibroblasts with HSV-1 and HSV-2 viruses induces
chromosome aberrations but not SCEs. The present
observations therefore agree with the view that the
mechanisms leading to SCEs and to chromosome aberra-
tions are distinct.⁴

It is interesting to note that the induction of SCEs in
CHO cultures was observed with all the viruses tested,
irrespective of the differences among their nature,
replication mechanisms and lytic/transformations cy-
cles: Vaccinia virus multiplies in cytoplasm while HSV-
1 and HSV-2 multiply in nucleus; CHO cells are non-
permissive to SV-40 virus multiplication, but can be
transformed by this virus. It is therefore apparent that
some as yet unidentified virus-specific event(s),
common to all these viruses, may play an important
role in the induction of SCEs in CHO cells. Attempts to
resolve this issue will be described elsewhere.

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   156.
   103, 418.
   109, 433.

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**XYLANOLYTIC ACTIVITY OF**
**ASPERGILLUS OCHRACEUS-42**

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Many studies have been carried out concerning the
industrial use of amylase and cellulase. However, only
a few reports are available on xylanase which degrades
xylan to xylose. Xylan is a polymer of xylose containing
β-1, 4-xylidosic linkages and is widely distributed in
plant cell walls and forms a primary part of the
hemicellulose portion. In some higher plants and
agricultural wastes, xylan is 20–40% of dry weight.¹
Because of its natural abundance, xylan, like cellulose,
is potentially a good fermentation substrate for pro-
duction of feedstock ².

In recent years, interest has increased in the use of
microbial xylanase for the economical production of
xylose, a sweetening and anti-diabetic agent, for clarifi-
cation of fruit juices. It is also used as digestive aid in
pharmaceutical industry. Various microorganisms
such as *Aspergillus niger*³,⁴, *Chaetomium trilatratelle³*,
*Streptomyces xylophagus⁶*, *Cryptococcus albidus⁷*,
*Irpex lacteus⁸*, *Bacillus* sp⁹, *Bacillus subtilis¹⁰*,
have been reported to be sources of xylanases. *Aspergillus
ochraceus-42* has outstanding ability to produce suffi-
cient xylanolytic enzymes in xylan medium. But it has
not been reported earlier. Therefore the present paper
deals for the first time with the xylanolytic activity of *A.
ochraceus-42*.

The strain was isolated during a screening pro-
gramme for xylanase producing microorganisms from
soils of W. Bengal. It possesses appreciable xylan
decomposing activity. Colonies on CD-medium attain
a diameter of 2–3 cm in 6 days at 28°C, usually plane or
slightly furrowed, less zonate, characterized by a tough
basal mycelium that is submerged. Conidial structures
are crowded. It appears as brownish yellow. Conidial