SHORT COMMUNICATIONS

WEAK GAMMA RAYS OF ^{75}As

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$^{75}_{34}$Se (127 days) decays by electron capture to several excited states of $^{75}_{33}$As. The gamma transitions of various energies ranging from 15 to 821 keV have been reported earlier[1-3]. However, controversies about the low-energy, weak gammas for 15 keV and 81 keV have appeared in the literature[2]. The decay scheme has been studied using NaI(Tl) counters and Ge(Li) detectors. The γ–γ coincidence and angular correlation techniques have also been attempted[1-3].

In spite of the controversies over the excited levels of ^{75}As, the authors disagree over the values of the intensities of the low-energy gammas[2]. It is thus interesting to investigate the controversial gamma transitions in the spectrum of ^{75}Se. An efficient HP–Ge detector has been used for the study of the low-energy gamma transitions.

Figure 1 shows the gamma spectra of ^{75}Se measured with the HP–Ge detector. The resolution for the 133 keV γ-ray photopeak was estimated to be 2%. The pulse height spectrum ranging from 15 to 81 keV is shown in figure 1. The controversial

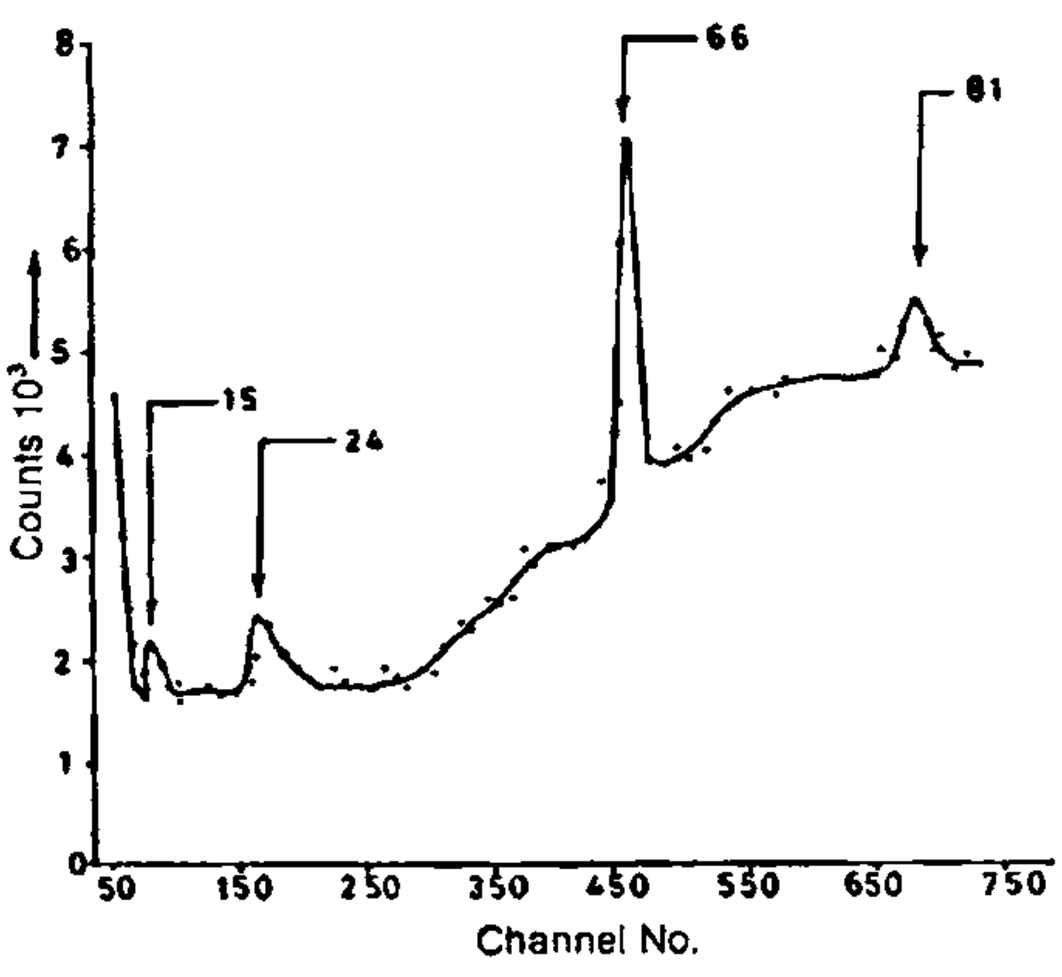

Figure 1. Gamma ray spectrum of ^{75}Se measured with HP–Ge detector (gamma energies are in keV).

Table 1 *Gamma ray intensities relative to $I_\gamma(66)=1$ in spectrum of ^{75}Se*

E_γ(keV)	Present work	Ref. 2
15	0.04 ± 0.020	0.007 ± 0.002
66	1.00	1.00
81	0.1 ± 0.033	0.022 ± 0.004

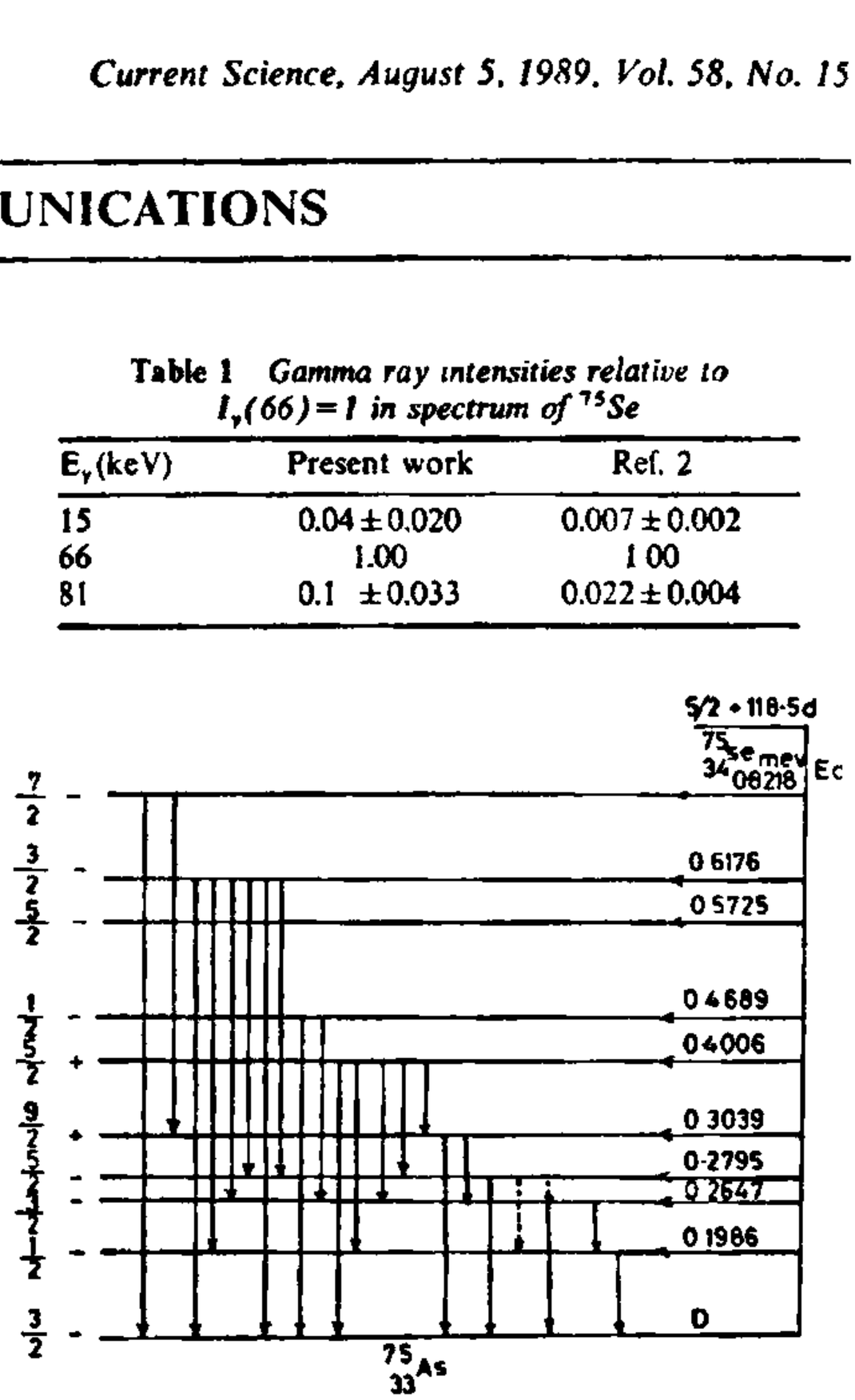

Figure 2. Decay scheme of $^{75}_{34}$Se. (Dotted lines show the disputed gamma transitions).

transitions of 15 keV and 81 keV do appear in the spectrum. A least-square fit was applied for the calibration of the spectrometer and necessary corrections for the efficiency of the detector were made to calculate the relative intensities of gammas. The relative intensities of gammas were estimated with respect to the intensity of the 66 keV gamma, which was normalized to 1 (table 1). Table 1 also gives the relative intensities found by others[2], with the intensity $I_\gamma(66)$ normalized to 1 for comparison.

The HP–Ge detector yields better results compared to others[2]. Figure 2 shows the decay scheme of ^{75}Se with the disputed gamma transitions[4].

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TWO UNDESCRIBED FUNGI ON ORCHIDS

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DURING a study of fungal diseases of ornamental plants, an unusual leaf spot disease was noted on two beautiful orchids, *Cymbidium* sp. and *Dendrobium* sp., incited by two coelomycetous fungi, species of *Haplosporella* Speg. and *Phomopsis* Sacc. A detailed study revealed that these two fungi are undescribed from the above two hosts or others in the family Orchidaceae so far[1–4]. Hence, these are being described here as new taxa on the basis of comparative morphology and host relationship[5].

Haplosporella cymbidii sp. nov. (figure 1)

Area necroticae irregulares, in strias longus depositae, laevis margo, hypophyllae, bulbalinus in medio et marginibus, stromurimus, coalitus. Pycnidia dispersis, punctiformae, fuscabrunnoea vel nigris, sub-erumpentia, 191–245.5 μm diam., paraphysoides inter-mixtus; pycnidiosporae brunneae, incrassatus, elliptica vel obovata, laevia, magnit 18–23 × 10–13 μm.

Pycnidia scattered, hypophyllous, punctiform, dark brown to black, sub-erumpent, wall composed of few layers, inner wall lined with narrow elongated sterile threads, measure 191–245.5 μm; pycnidiospores pale brown, thick-walled, oval to obovate with truncate base, measure 18–23 × 10–13 μm.

On living leaves of *Cymbidium* sp. Leg. B.R.D.Y., June 1977, at Pune, AMH-4135 (holotype).

Phomopsis dendrobii sp. nov. (figure 2)

Area necroticae, sub-circulares vel angulosae, dispersae, in centro expallescentes, 2–3 perfolium,

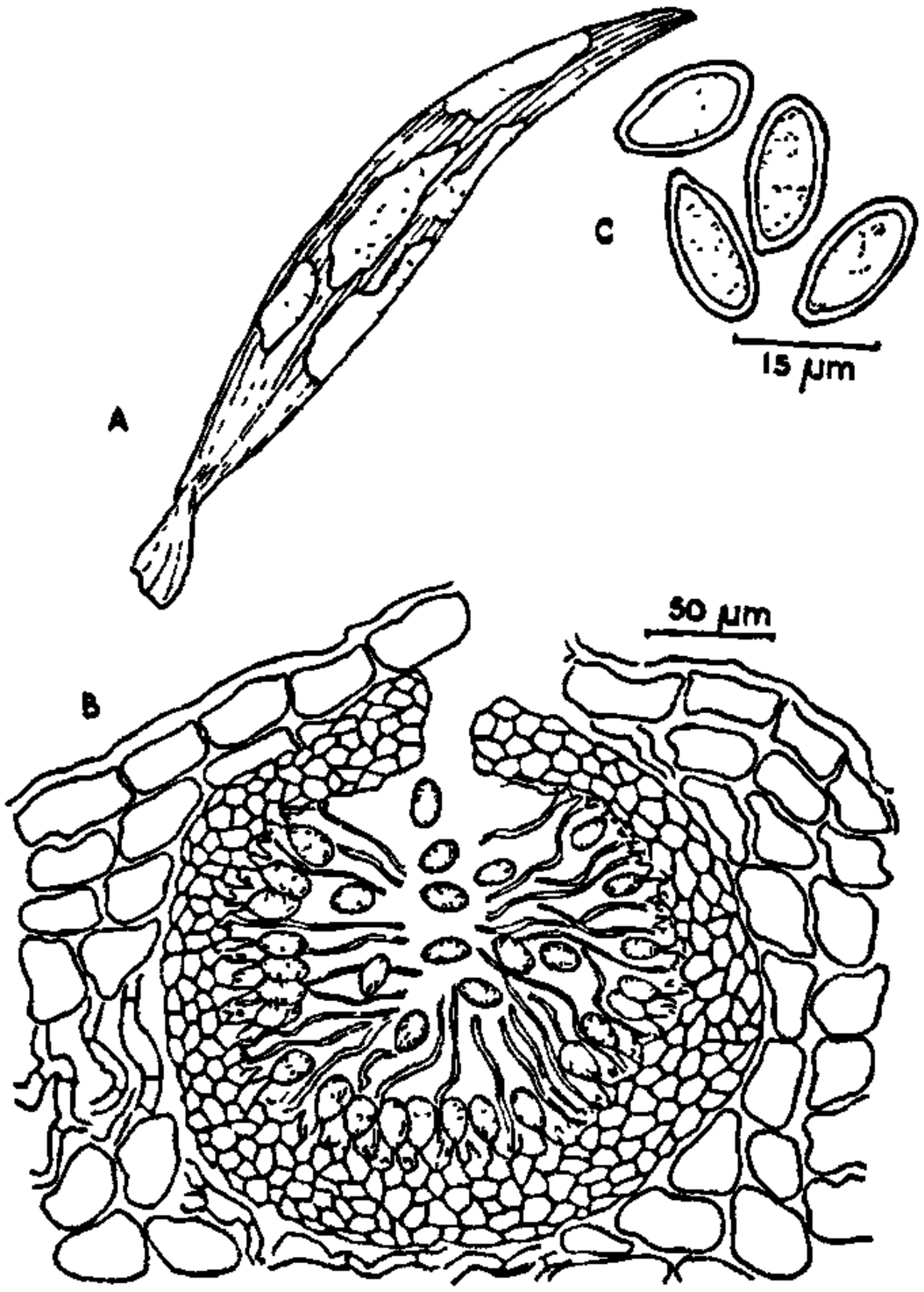

Figure 1. *Haplosporella cymbidii.* **A**, Habit; **B**, VS of pycnidium; **C**, pycnidiospores.

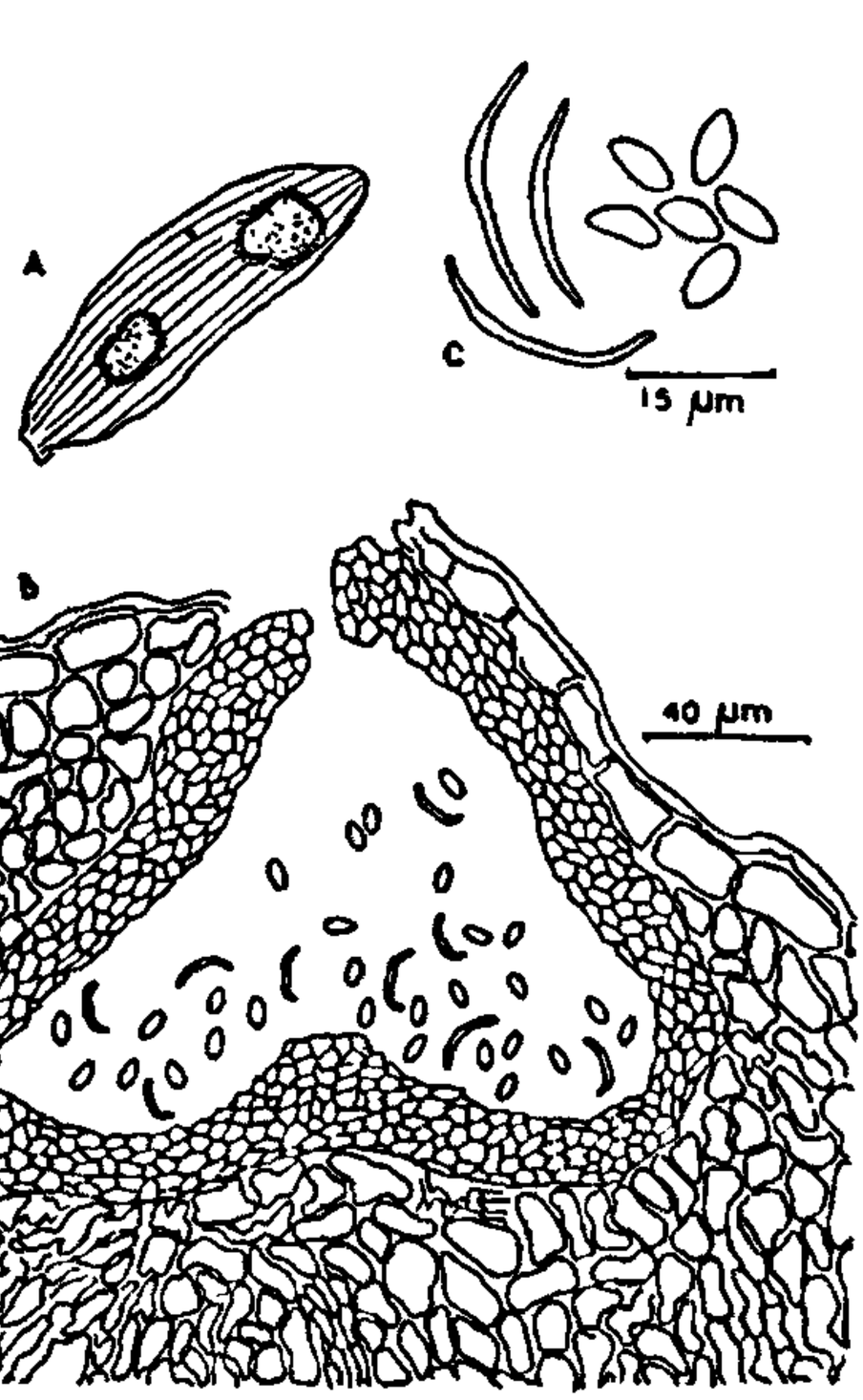

Figure 2. *Phomopsis dendrobii.* **A**, Habit; **B**, VS of pycnidium; **C**, the two types of pycnidiospores.