Termite Identification & Inspection

ENTOMOLOGICAL REFERENCE SHEET & STRUCTURAL RISK PROFILE

SPECIMEN ID: SUB-TER-04



Figure 1.0: High-resolution four-angle orthographic view (Dorsal, Lateral, Head Close-up, Ventral) of Subterranean Termite Soldier (Coptotermes spp.).

Morphological Diagnosis

Dorsal & Ventral Features

Head Capsule: Highly sclerotized, amber-brown, oblong-oval shape optimized for defense inside gallery channels.
Ventral View: Shows segmented sternites, prominent leg coxae, and central thoracic plate fusion without waist constriction.

Lateral & Frontal Diagnostics

Mandibular Structure: Powerful, crossed, non-dentate mandibles specialized for fighting competitor ants.
Antennae: Moniliform (bead-like) antennae extending directly from the anterior margin of the head capsule.

Key Distinctions: Termite vs. Winged Ant

Feature	Termite (Isoptera)	Ant (Hymenoptera)
Waist Structure	Broadly joined (no petiole/waist)	Pinched waist (constricted petiole)
Antennae	Straight, moniliform (bead-like)	Elbowed (geniculate)

Structural Risk & Detection Protocol

Subterranean termites account for over 80% of structural timber damage in residential and commercial properties. Because soldiers protect the foraging workers, visual detection of soldier individuals indicates an active, mature colony in direct proximity to the structure.

Key Indicators of Active Infestation

- **Mud Tubes:** Shelter tubes along foundation walls or sub-floor joists.
- **Hollow Wood:** Timber sounding dull when tapped with a rubber mallet.
- **Frass Accumulation:** Fine wood-colored fecal pellets near exit holes.
- **Swarming Events:** Reproductive alates emerging during warm spring rains.

Management & Remediation Standard

- **Chemical Barrier:** Non-repellent liquid termiticides applied to perimeter soil.
- **Baiting Systems:** In-ground chitin synthesis inhibitor stations.
- **Moisture Control:** Correcting sub-floor drainage and plumbing leaks.
- **Timber Treatment:** Borate application to accessible sub-floor framing.

Colony Caste Distribution

Caste Type	Population %	Primary Function	Key Features
Workers	80% – 90%	Foraging, nest building, feeding colony	Soft-bodied, pale, eyeless, soft mouthparts
Soldiers	2% – 5%	Colony defense against predators	Enlarged amber head, powerful mandibles
Reproductives	5% – 10%	Colony expansion, egg laying (Queen)	Darkened bodies, compound eyes, wings/scars

Inspection Checklist

- Inspect 300mm band around perimeter concrete slab edges for shelter tubes.
- Check crawl space posts, floor joists, and sub-floor framing using moisture meter and sounding tool.
- Verify minimum 400mm clearance between soil level and untreatable timber framing.
- Ensure weep holes in external masonry remain unobstructed by garden mulch or soil.