

'Feather Frame'

Yashodhan Bhatia: Jamnagar. jamnagarbirds@gmail.com

Pellets: What is a pellet? 'A compact mass, composed of those undigested portions of a bird's food that has been retained in the stomach by a mechanical barrier for a period before being regurgitated and ejected through the mouth and not evacuated as droppings, is called a pellet'. Sometimes, it is also known as castings.

Pellets vary significantly from species to species with respect to size, colour, shape and the proportions of prey remains. They form an important research tool for ornithologists, who are examining the feeding habits and diet variations in birds according to season, year, region and also habitat. The process of the ejection of a pellet may be abrupt and effortless in some birds or take as long as an hour with nausea like appearance or visible discomfort in others. The process usually consists of several upward stretches of the neck and the head, known as convulsive movement, which is followed by lowering and shaking of the head with the bill open, thus discharging the pellet. Pellets also serve another significant purpose. While regurgitating on the way up, the pellets pass through the bird's gullet. On the way, it scours and cleanses the digestive tract, removing pathogens, thus keeping the bird healthy.

Pellets are very important ecological tools for ornithologists studying food preferences and its dynamics in birds. Pellets produced by large birds generally consists of a central core of hard materials such as bones, beaks, claws, scales, teeth etc. covered by softer substances like fur or feathers. Interestingly, hard food fragments such as beaks or legs and long bones of mammals or reptiles tend to align vertically for the ease in ejection. Mostly, the shape of pellets is oval, though it is round sometimes.

Owl (*Strigidae* & *Tytonidae*) pellets are most studied as they usually swallow food items entirely and thus their pellets retain the bones of their prey, which provide good evidence of the birds/mammals/reptiles eaten. Surprisingly, raptors are not so helpful to researchers, as they tear the flesh of their prey and many times, consume the prey partially. This gives an incomplete pellet record. Pellets of kestrels (*Falco* sp.) and some owls which consume small birds have also contained bird rings. Even materials like paper, plastic and cellophane have been discovered in pellets of some birds like gulls (*Laridae*) and albatrosses (*Diomedidae*). Owl pellets have also helped in finding rare or scarce small mammal species. Biologist Rita Gomes Rocha of Brazil was able to discover a couple of species of rice rats (Genus *Oecomys*) which were probably new to science with the help of Barn Owl (*Tyto alba*) pellets (<http://mentalfloss.com/article/64613/scientists-uncover-new-species-owl-pellets>).

The small sized pellets of waders (*Scolopacidae*) contain fragments of crustaceans and mollusks as major items. Similarly, that of Oriental Honey-buzzard (*Pernis ptilorhynchus*) may contain wax, fish bones in kingfishers (*Alcedinidae*), sand in dippers (*Cinclidae*), parts of hard exoskeleton of insects in flycatchers (*Muscicapidae*) and grain husks in small passerines. Interested readers can visit www.pellet.com for more information. This aspect of bird biology has not been studied in Gujarat and this is one area in which further research should be encouraged in our state. □



Gull regurgitating a pellet

Rajdeepsinh Jadeja



Shrike regurgitating a pellet

Yashodhan Bhatia



Redshank regurgitating a pellet

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The depression comes from the knowledge that though human beings have down the ages accumulated wisdom they also continue to burden themselves by their ignorance, fears, avarice and selfishness. The great forces of Nature which shaped our bodies and our minds are still feared and despite all the wisdom given to us by great thinkers: the broken piece of ancient pottery mutely highlights humanity's apparent incapacity of accepting the destiny as a sensate, intellectual organism. We continue to nurture in our consciousness the nameless fears of our prehuman ancestors. If every eagle can soar, if every tree can grow into its destined magnificence, why cannot every human being attain a lifestyle at once rich and vibrant. That each of us can indeed achieve a state of enlightenment is a promise enmeshed in the fabric of our culture yet all around us we see the rise of chaos, the erosion of values.

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- Lavkumar Khachar

